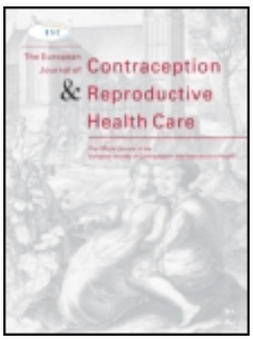

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Abstracts of Posters

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Abstracts of Posters

ABORTION

A-001

The feasibility of simplified follow-up after medical abortion using a low-sensitivity pregnancy test and a checklist in Rajasthan, India: A study protocol for a randomized control trial

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Objective: The aim of the adaptation phase was to establish the study protocol and to evaluate the feasibility of using a low-sensitivity pregnancy test and a checklist for self-assessment after medical abortion in Rajasthan, India.

Method: The randomized control trial will set out to evaluate the effectiveness and acceptability of self-assessment after medical abortion. To ensure feasibility of the intervention and study protocol an adaption phase took place. The pre-testing of the study procedures was conducted at the four clinics of Action Research & Training for Health, Udaipur. Their rural field area is characterized by poor road connections, poverty, and low literacy among women; while their urban clinic caters to a wider range of women from low socioeconomic strata. Throughout the adaptation phase qualitative interviews were conducted with women to assess acceptability of using the low-sensitivity test, and the means of follow-up: home, phone or clinic. A pictorial instruction sheet for how to use the low-sensitivity pregnancy test and a checklist showing danger signs after a medical abortion were developed accordingly. Eligibility criteria were established as follows: women opting for medical abortion with a gestational age not more than nine weeks and a hemoglobin value of > 85 mg/l. Additionally, women, who agree to follow-up with a minimum age of 18 years will be included. Eligible women consenting to the study will be randomly allocated to a group. If allocated to the intervention group, the woman will be provided the instruction sheet and low-sensitivity pregnancy test along with an explanation. The woman will carry out the low-sensitivity pregnancy test 10–14 days post abortion at her home and will further be followed-up over phone or at home. The assessment of the abortion outcome will depend on the result of the low-sensitivity pregnancy test, as reported by the woman. Women in the control group will follow clinical protocol, where a provider will assess the abortion outcome two weeks post abortion. To ensure successful follow-up, travel reimbursements will be provided.

Results: Rural women enrolled in the study had neither education nor phone and thus an adaptation phase was needed. The intervention was adjusted accordingly, creating alternative means of follow-up, increased measures ensuring confidentiality and a tailor-made pictorial checklist with instructions on how to use the low-sensitivity pregnancy test.

Conclusions: Since this intervention has not been carried out in a similar low-resource setting an adaptation phase was crucial. The study protocol was also established and field-tested in conjunction with the adaptation phase.

A-002

Characteristics of service providers and their Knowledge, Attitudes and Practice (KAP) on post-abortion contraception services: two cross-sectional studies in China

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Objectives: China has a high abortion rate with 19.0% - 57.9% repeated abortions between different populations. Post abortion contraception (PAC) is considered as an effective way of reducing the rates of unintended pregnancy and repeated abortions. Service providers (SPs) provide PAC services to abortion users play a crucial role in this system. However, published data concerning the characteristics and KAP of the abortion or PAC service providers is limited. We conducted two surveys in China aiming at identifying the characteristics of the SPs, determining their KAP in abortion and PAC services.

Method: Two cross-sectional surveys were conducted in 2009 and 2013 respectively. The methods used in the two time periods were similar: in each participating hospitals, abortion SPs were invited to fill out a structured questionnaire voluntarily and anonymously. Twenty-four hospitals from 3 cities in 2009 and 90 hospitals from 30 provinces in 2013 participated in the studies.

Results: Total of 654 respondents in 2009 and 593 in 2013 were included in the analysis. The characteristics of the participants were similar in the two studies, among them, 96% females with an average age of 38.2 years (SD 9.6). Most of them were experienced professionals with a mean seniority of 15,3 years (SD 9.8). The proportion of medical doctors among the abortion SPs changed from 53% in 2009 to 73% in 2013 ($p < 0.001$). The two studies showed that 95% participating SPs had positive attitudes and intentions on providing PAC counseling to clients. However, 50–80% SPs failed to answer questions on use of contraceptive methods and on PAC services. About 20% respondents have never or only occasionally provided PAC service to women and 45% never to the male partners. Perceived barriers for providing effective PAC services include time limitation [with a 10,8 minutes (SD 8.4) average counseling time, 22% SPs were overloaded in 2009 and 60% in 2013 ($p < 0.001$)], no/limited access to technical guidelines and appropriate education/counseling materials (nearly 30%), inadequate consulting rooms and consulting skills (21%), and lack of policy and management boards supports (68%).

Conclusions: Our data showed that abortion SPs have positive attitudes and intentions on providing PAC services to women and their male partners. There are possible barriers of providing PAC services due to the shortage of human resources, lack of knowledge, limited access to technical guidelines and counseling skills, inadequate friendly counseling environment and the demands of government and management supports.

A-003

The decision-making on elective abortion in a sample of Portuguese adolescents

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Objectives: About 35% of adolescents who become pregnant in Portugal engaged in elective abortion. However, given the recent legalization of elective abortion in Portugal, national research on the decision-making for engaging in elective abortion is scarce, namely regarding adolescents. Therefore, this study aimed to characterize the decision-making on elective abortion among a national sample of adolescents. Specifically, we were interested to explore the adolescents' autonomy in decision-making, the contribution and/or pressure of significant others, and the most important reasons involved in the decision to terminate a pregnancy.

Methods: The sample consisted of 175 adolescents aged 14–19 years who engaged in elective abortion. Data were collected through self-report measures, between 2011 and 2013, in 23 healthcare services.

Results: Most of the adolescents did not plan pregnancy (98.3%). Significant others were involved in adolescents' decisions in 64.6% of the cases (mother: 36.3%; parents and other family: 20.4%; parents: 16.8%; parents and siblings: 7.1%). When significant others were not involved, the main reasons for that were: "my parents would be disappointed", "shame", and "they did not need to know". Most of the adolescents did not feel pressure to terminate (83.4%) or to continue the pregnancy (81.1%). The final decision to terminate the pregnancy was made by the adolescent and her partner (59.4%), the adolescent (28.6%), other family members (9.7%), her partner (1.1%) or other persons (1.1%); the most frequent reasons for abortion were: "Education or job would be more difficult to continue" (57.7%), "Too young to have a child" (56.6%), "Cannot fulfill the task of being a mother" (45.7%), "A child should be wished for, this one is not" (41.7%) and "economic reasons" (38.9%).

Conclusion: Our findings provide specific knowledge about the decision-making for termination of pregnancy in Portuguese adolescents. Our results suggested the influence of several variables related to developmental characteristics and to the involvement of significant others on the decision-making. Thus, they may allow health care providers to establish specialized and developmentally appropriate practices to efficiently support adolescents during their reproductive decision-making.

A-004

Pain during medical abortion – a neglected issue?

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Objectives: The objective of this review was to evaluate the occurrence of early adverse events associated during medical abortion up to 9 weeks amenorrhea, pain in particular.

Methods: A large bibliographic search was performed looking for comparative studies of medical abortion using mifepristone followed by a prostaglandin (PG). Those publications which included pain assessment were further analysed.

Results: Out of the total initial 1459 publications on medical abortion, only 23 comparative, prospective studies corresponding to the pre-specified criteria were identified. All in these studies received a combination of mifepristone and the PG misoprostol with different dosages of mifepristone and different dosages and routes of administration of misoprostol. Information on pain level and/ or pain treatment was reported in 18/23 studies (78%), information regarding pain level in 12/23 studies (52%), information regarding systematic use of analgesics in 12 studies and information regarding analgesia used during the study was available for only 10/23 studies (43%).

Conclusions: Pain is not systematically reported in clinical trials evaluating protocols for medical abortion and data are too inconsistent to allow for any comparison between different treatment protocols. Standardised evaluation of pain is needed in future studies.

A-005

Retrospective analysis of questioning of women of reproductive age who had abortions in Kazakhstan

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Objectives: Study the reasons of abortions and characteristics of women with the history of abortion in anamnesis.

Methods: Questioning of women of reproductive age who live in Almaty and Almaty region and had an abortion history.

Results: Of all abortion cases, 91% of women were urban inhabitants, 75.4% belonged to the age range 26–40 years old, 37.7% were in the active reproductive age of 26–35 years old. The analysis revealed that 98% of studied women had a higher education or secondary special education, and only 2% didn't have any education. By social status 72% of women were attributed to the employed population group (46% - working population, 26% - students), 72% had history of repeated pregnancy. Among principal reasons of abortion were: socio-economic factors - 43%, fear to lose the job or fear to interrupt the study - 34%, medical indications - 13%. It was found out that 23% of women did not visit the family planning cabinets, and 43, 3% visited them only during an abortion operation. It was identified that 21% of women had negative perception about hormonal contraception and 15% considered that contraceptives were unreliable methods of family planning.

Conclusion: In all sudied cases, an abortion was used as the method of birth control. The decision about abortion depends on the information level of women and their attitude towards modern methods of contraception. It evidences the need in reinforcement of healthcare professionals work and efforts on information and counseling of population on family planning aspects.

A-006

Abortion access versus abortion rights: Envisioning a way forward for abortion programming by understanding SRH in context of resource and health service availability

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Objectives: In 2008, 43.8 million abortions are estimated to have occurred, nearly half of which were unsafe. To advance our capacity to bring meaningful change in this area, we have conducted an inquiry to better understand the best use of abortion programming funds, to inform donors and policy makers. Our assumption is that development programs must go beyond promotion of safe abortion services if they are to generate sustainable value for women.

Method: We conducted a desk review collecting articles published in the last five years regarding abortion, SRH, and countries' social and economic characteristics. We analyzed data from Population Reference Bureau comparing gross domestic product with maternal deaths, abortion policies, and sexual and reproductive health indicators including unmet need, fertility rates, and CPR as proxies for women's achievement of SRHR.

Results: Results suggest a positive association between countries where abortion is legal and lower risk for maternal death, as well as a correlation between high income countries and less restrictive abortion policy. This is a perverse portrait of how poverty and poor health outcomes generate and are generated by inequality. In developing countries, 97% of abortions are unsafe and virtually all abortion-related deaths happen in Africa. One third of these abortions occur among young women aged 15–24. Desk review findings suggest that economic and social factors are correlated with poor abortion and SRH outcomes.

Conclusions: Abortion advocacy arguments are typically articulated via the number of abortions per year and deaths related to unsafe abortion, yet this type of analysis may miss the point. By arguing for abortion through the lens of maternal death, advocacy efforts may extirpate abortion from global human rights advancement efforts by suggesting that the measure of "success" in abortion programming is reduced mortality, thereby divorcing abortion programs from efforts to challenge conservative legal frameworks and political agendas and address economic and social factors that forge women's inequality (efforts which are otherwise present in human rights work). Instead, this approach leaves intact the very inequalities that drive women and girls' poor SRHR outcomes. We propose a more intentional rights-based abortion programming platform to tackle social determinants, reinforce women's autonomy, and uphold their right to bodily integrity and self-determination. Based on review findings, this platform proposes an evidence-based means of supporting women to overcome the structural violence that perpetuates poor outcomes, and sustain this change into the future.

A-007

Late terminations of pregnancy - are they a safe bet?

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Objectives: To evaluate the outcomes of late terminations of pregnancy carried out by an established NHS service over two years in terms of evidence-based practice guidelines as set out by RCOG.

Design and methods: We evaluated sixty-four women referred to the service for terminations from 18–24 weeks gestation. Their demographics, contraception and obstetric history were analysed alongside their waiting time to procedure, procedure type, outcomes and contraception needs. We used an anonymised database from the service as well as electronic patient records and paper notes where required.

Results: 81.5% of referred patients went on to have terminations. Their average age was 28 and average gestation was 20.3 weeks. 11.5% of these were indicated for fetal anomaly. 85% were unplanned pregnancy of which more than half were due to unprotected sexual intercourse.

Of the 64 patients, 63.5% opted medical and the remaining opted surgical method for termination.

More than 90% of patients had their procedure within 10 days of being referred. Of the five patients that waited longer, one was due to a failed early medical procedure. The other four patients delayed their procedure for personal reasons. Post late medical

termination, six patients required an ERPC due to retained placenta or heavy bleeding. Following the procedures, 41.8% of patients accepted LARCs which were inserted either at the time of the procedure or within two weeks.

Conclusions: The results show overall safety of late terminations of pregnancy, with low rates of morbidity. In our group the number of terminations carried out for fetal anomaly make up a more significant number than fetal anomaly terminations over all gestations, not surprising for second trimester abortions following antenatal screening. These must be carried out sensitively, with clear signposting or access to specialist counselling available throughout. Counselors are essential in any abortion care service, especially when considering late terminations. Given that our results show a higher second intervention rate for late medical termination than the 5% quoted by RCOG 'for all gestations', thoroughly informing patients about risks of failure and complications is essential, even in an experienced and skilled unit. Over 85% of these pregnancies were due to condom accidents or unprotected sexual intercourse. There was a strong uptake of both LARCs (54.5%) and combined or progesterone-only pills (25.5%) in these patients, showing the importance of easily accessed contraception and staff trained to provide it.

A-008

Feasibility of a self-performed urinary test for the follow-up on medical abortion: the Betina study

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Background: Medical Termination of Pregnancy (MToP) implies a follow-up visit (14 to 21 days after mifepristone intake) to verify the effectiveness of the abortion procedure and the absence of any complication. Measuring the decrease of plasmatic β-hCG is a simple and objective mean, less prone to hazardous interpretation by both the woman and the physician than ultrasound images that may lead to unnecessary surgical procedure. Studies have shown that a level of hCG in the serum less than 1000 UI, two weeks after the intake of the mifepristone means the success of the method in 90% of the case. Therefore, some semi-quantitative β-hCG urinary test, testing zero and 1000 UI, was developed to detect residual levels of urinary B-hCG that could be useful to assess the MToP outcome, raise patient awareness and render the follow-up easier for both women and physicians.

Objectives and method: We set up an observational study among French specialized centres either private practice offices, academic hospital centres or family planning facilities. For the purpose of the study an existing β-hCG test was selected and provided to all centres. The objectives of the study were to assess the benefit of a urinary semi-quantitative test in the follow-up of MA, assessing the feasibility, acceptability, user-friendliness of the test as well as the women capacity to interpret it correctly. Concordance between qualitative results from the test and quantitative values from the blood β-hCG measurement will also be assessed. Patient selection criteria were as follows: women asking for a medical termination of their pregnancy within a maximum term of 49 Days of amenorrhea, the ability to understand the urinary testing, and the ability to fill out a questionnaire and agree to participate in the study.An inclusion visit was performed after the pregnancy was confirmed either by ultrasound or hCG dosage when women were given mifepristone. The HCG urinary kit was given to the patient with an information sheet on when and how to use it and a questionnaire to assess the user-friendliness of the test and its acceptability. Women were required to undergo in parallel a B-HCG blood test on the same day as the urinary test, that is, 2 or 3 weeks after the intake of the mifepristone.

Conclusion: The recruitment phase is over and 322 women have been included in the study by 21 centres.The main results of the study will be presented during the ESC.

A-009

Estroprogestative vs Long-Acting Reversible Contraceptive after abortion

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Background: Many women restart sexual activity shortly after abortion and because fertility may return early, thus, offering immediately effective contraceptive methods is crucial. The cause of an unintended pregnancy is frequently: lack of an effective contraceptive method, unsuccessful use or use of an inadequate method. Ideal contraceptive should be effective and well tolerated and in counseling we should include the presentation of reliable long-acting reversible contraceptive (LARC).

Objectives: In this study we compared demographic characteristics (age, nationality, marital status, education and job) as well as obstetric history, on women who opted for estroprogestative vs LARC methods, after abortion.

Design and methods: We performed a retrospective cohort study of women that opted for estroprogestative or LARC methods after abortion, between 2010–2012. Demographics and clinical data were collected from clinical records. Statistical analysis was performed with Excel and Statistical Package for the Social Sciences v17.

Results: 1642 abortions at women's request were performed in our maternity from 2010–2012. Estroprogestative (oral pill, vaginal ring or transdermal patch) was the contraceptive of choice by 1022 women (62%), and LARC methods by 177 (11%) women. In last group, 125 women chose etonogestrel implant and 52 intrauterine devices. No statistically significant difference was observed between: woman's age (28.08 ± 7 vs 28.7 ± 7 years, respectively in estroprogestative vs LARC group; $p = 0.308$); and nationality (portuguese nationality- 86 vs 85%, respectively in estroprogestative vs LARC group; $p = 0.709$). In both groups, women were mostly unmarried (67vs 55%), with predominance in estroprogestative group, and were married in 24% vs 35%, respectively in estroprogestative vs LARC group ($p = 0{,}006$). In relation to education level, women who chose LARC had a lower educational level (secondary plus superior-69 vs 52 %, respectively in estroprogestative vs LARC group; $p < 0.001$) 37.5% on estroprogestative group were unemployed or had unskilled jobs comparing to 55.9% of women in LARC group ($p < 0{,}001$). Finally, statistically significant difference was observed in relation to: nulliparity (53.4 vs 28%, respectively in estroprogestative vs LARC group; $p < 0.001$); and prior abortions (13.8 vs 29%, respectively in estroprogestative vs LARC group; $p < 0.001$).

Conclusions: In our study, LARC methods were preferred by women with less education level and unemployed or unskilled jobs. These methods were more often chosen by women with children or prior abortion.

A-010

Legal abortion among adolescents

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Objectives: Evaluate the sociodemographic characteristics, gestational age at appointment, contraceptive method used, abortion method and contraceptive advice after considering adolescents assisted for legal abortion at Centro Hospitalar do Baixo Vouga.

Method: Retrospective analysis of clinical processes of patients, with age up to 19, who requested an abortion in our service between July 2007 and December 2013.

Results: Since the beginning of this appointment, 297 adolescents solicited an abortion, which represents 13% of the female population that came for legal abortion in our service. The authors used as inclusion criteria: age less than 19 years old and conclusion of process of legal abortion; and as exclusion criteria: gestational age longer than 10 weeks, negative immunologic pregnancy test, miscarriage and decision of not interrupting the pregnancy or miss the appointment. Considering these criteria, 149 adolescents were included in the data set, representing 50% of those that requested an abortion. Of these, 87.3% were Portuguese, and only 22.1% were married or living together. The majority (66.4%) of the adolescents were students, and 69.8% already finished the basic school. Eighty-four percent did not have any family planning appointment in the last year. Considering contraceptive methods prior to abortion, 29.5% had used condoms and 43.7% had not used any contraceptive. It was a first pregnancy in 82.6% of the patients. The mean gestational age at first visit was 7.5 weeks. In 96.6% of the patients, medical treatment was used exclusively. After abortion, 22.8% of the patients choose etonogestrel implant and 63% an oral hormonal method.

Conclusions: In our service, adolescents represent a minority of women that requested an abortion. Nevertheless, the numbers are troubling. The major-

ity of those patients say that they did not have any family planning appointment in the last year, what is related to the low incidence of correct contraception use and results in a significant number of non planned pregnancies. There is then still much work to do for improving contraceptive planning in order to provide an adequate level of information about contraception in early ages and to make it effectiveness.

A-011

Knowledge and use of contraception in women undergoing repeat termination of pregnancy

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Objectives: The aim of this study was to assess the indications for termination of pregnancy (TOP), the knowledge of contraception and barriers to contraceptive use among women undergoing repeat TOP within our clinical services.

Methods: A descriptive cross-sectional study was conducted within our TOP clinic involving women requesting repeat TOP. An investigator–administered questionnaire was used to interview them and was completed at their initial assessment. The questionnaire included the participant's demographic details, investigation of her current and previous TOPs, knowledge and use of contraception and previous post-TOP care. The perceived barriers to contraceptive use were also explored.

Results: A total of 102 women were interviewed and there were no refusals to participate. The median age was 28yrs (range 18–44), 66 women were single and 36 married or cohabiting. The main reasons for requesting TOP were financial constraints (n = 40), the last child being too young (n = 15) and family complete (n = 13). Knowledge of contraception included the male condom (n = 100), injectable progestagens (n = 99) and the combined oral contraceptive pill [COC] (n = 92). The contraceptive methods they had ever used included injectable progestagens (n = 83), male condoms (n = 69) and the COC (n = 36). Prior to the current pregnancy 48 participants used the male condom, 35 used no contraception and 21 used hormonal contraception.

The contraceptive method most commonly recommended by the healthcare professionals following the previous TOP was injectable progestagens. Seventy two of the 76 women who received this advice initially utilized this contraceptive option. Seven women elected not to accept contraception after the TOP.

Only 87 participants had previously accessed our family planning services, and the majority of them (n = 73) found that these were helpful and approachable. Fifty four of the respondents indicated that contraceptive services could be improved, 31 were satisfied with the service and 17 were uncertain about the service. Participants suggested that avoiding long waiting periods (n = 16), health education for women (n = 13) and changes in the attitudes of health care practitioners (n = 11) would improve services.

Conclusions: The participants had reasonably good knowledge of contraception, but low contraceptive usage and adherence. Most unintended pregnancies in this study were related to either the non-use of contraception or the use of inefficient methods. The limited use of the highly effective long acting reversible contraception and emergency contraception was also highlighted. The opportunity for adequate contraceptive counselling after TOP was often missed.

A-012

Current contraceptive use among Brazilian women with and without a history of pregnancy loss

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Experience of an abortion may make women more likely to choose highly effective methods, once they have access to proper contraceptive counseling. This is not the case in Brazil due to its restricted laws towards pregnancy termination.

Objective: Considering that Brazilian women are not usually offered post-abortion family planning, we wanted to determine whether current contraceptive method use is affected by a pregnancy loss in our context.

Design and methods: This is a secondary analysis of 2006 Brazil Demographic Health Survey, which 15,575 women were interviewed. Non-pregnant women whose first pregnancy occurred in the previous five years were selected for this study (n = 2,181). Very few reported an induced abortion (n = 38), while 211 reported a spontaneous abortion, and the rest (n = 1878) no pregnancy loss. To allow for an assessment of differences in current contraceptive use among women with and without history of pregnancy loss, propensity score matching was used. It was constructed using a logit model to estimate the probability of exposure to a pregnancy loss on the basis of 13 sociodemographic and reproductive variables that were possible confounders in the relation between pregnancy loss and contraception use. Cases were divided in induced abortion and spontaneous abortion. Controls were all women that did not report any pregnancy loss. In Stata 12.0, women with and without history of pregnancy loss were matched on propensity score using the kernel matching approach. Dependent variable was current contraceptive use divided in six groups: 1) in use of any contraceptive method; 2) use of oral pill; 3) use of condom; 4) use of injectable; 5) use of traditional methods; and 6) use of female sterilization.

Results: In general, women who reported pregnancy loss reported less use of contraception. Women with history of induced abortion reported less use of pill than women without pregnancy loss ($p = 0.038$); women that reported spontaneous abortion reported less use of both pill and sterilization ($p = 0.025$ and $p = 0.005$ respectively). Balance was achieved in all models, which means that compared groups had no statistical significant differences in any socio-demographic and reproductive characteristics after matching on propensity score.

Conclusion: Women who reported a pregnancy loss did not use more current contraception neither more effective methods comparing to control group as we supposed they would. We can affirm that there were independent effects of pregnancy loss on subsequent contraceptive use.

A-013

Outcomes of legal induced abortion at 9–10 weeks' gestation in adult women

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Objectives: Gestational age is one of the most important factor affecting the risk of abortion. The objective of our study was two-fold: to compare abortion outcomes before and after 9 weeks' gestation; and to review medical abortion ≥ 9 weeks' (wks) practices, in order to determine our protocol's effectiveness and security.

Method: Retrospective analysis of all voluntary pregnancy terminations up to 10wks of pregnancy, in adult women, between June/2011-December/2012 at Maternidade Dr. Alfredo da Costa. Outcomes assessed included gestational age (GA) at pregnancy termination, abortion method and failure to achieve complete abortion; for medical abortion ≥ 9wks we also assessed mean expulsion time, misoprostol doses necessary to induce expulsion and vaginal hemorrhage frequency.

Results: 1856 legal abortions requested by women were included, 1472 (79%) before and 384 (21%) after 9wks. Before 9wks the abortion method was medical in 73% of the cases versus 76% ≥ 9wks. Before 9wks most medical abortions (95%) were conducted at home, as opposed to ≥ 9wks, when 98% of the women were hospitalized. Failure to achieve complete abortion occurred in 3.06% versus 7.44% of the cases before and after 9wks respectively; this difference was statistically significant ($p < 0.05$); vaginal hemorrhage was also statistically significantly higher ≥ 9 wks (2.27% vs 0.27%, $p < 0.05$).

For medical abortion ≥ 9wks, a combined regimen was used (200mg of oral mifepristone followed 24–72 hours after by 800 + 400 + 400mcg of buccal or vaginal misoprostol given during hospitalization). In this sub-group, mean time of hospitalization was 1 day (1–4 days) and mean doses of misoprostol administered were 3.49. Success rate was 89%. Reasons for taking > 3 doses of misoprostol were: as prescribed (19%), no expulsion yet observed (23%), considerable remnants of fetal tissue in uterus (52%), persistent nonviable pregnancy (3%) and ongoing pregnancy (3%). When pregnancy products expulsion was documented, 50% occurred after 2 doses of misoprostol, 11% after 1, 31% after 3 and 8% after 4 doses. Mean and median hours from first dose of misoprostol until pregnancy expulsion were 5,67 (1–13) and 5 respectively. 3% experienced vaginal hemorrhage. After 9wks, the group with successful versus the group with failed medical abortion, were similar when it comes to maternal age, GA, previous induced abortion, previous vaginal birth or time interval between mifepristone intake and first misoprostol administration.

Conclusions: Incomplete abortion and vaginal hemorrhage were significantly more frequent after 9wks of pregnancy; after that gestational age, none of the characteristics analyzed were associated with the probability of medical abortion failure.

A-014

Risk factors for repeat abortion

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Introduction: Since July 2007, the request of abortion by women up to 10 weeks of gestation is legal in Portuguese. According 2008 and 2012 there was an increase of 2% in the total number of legal abortions. In 2012, 20% of women had history of one previous abortion and 2% of the women had 2 abortions in the same year. Different factors (education level, marital status, economic level, number of children, access and contraception counseling) have been related to unwanted pregnancy and subsequent abortion. The factors that contribute to repeat abortion are not so well studied.

Objective: The aim of this study was to assess the factors that may influence the risk of repeat unwanted pregnancy and abortion.

Methods: Retrospective study of the clinical files of 4668 women (which had an unwanted pregnancy and requested for abortion at our institution, between 2007 and 2012). Two groups were created: Group 1-women without previous abortion; Group 2-women with one or more previous abortion. Statistical analysis (Chi square and T Test) was performed to compare sociodemographic and planning family factors between the groups.

Results: Among a total of 4668 women, 4204 (90%) had no previous abortions (Group 1) and 464 (10%) had one or more abortions (Group 2). The mean age was 28.5 vs 30.9 years old ($p = 0.0001$). Data analysis showed: Secondary or superior education level in 65.5% vs 64.5% ($p = n.s$), married woman in 39.7% vs 42.2% ($p = n.s$), remunerated work in 58.6% vs 64.9% ($p = 0.008$), multiparous in 53.9% vs 69% ($p = 0.000$), previous planning family consultation in 49.6 vs 48.9% ($p = n.s$), choice of long-acting reversible contraception (LARC) after abortion in 27.1% vs 45.9% ($p = 0.0001$).

Conclusions: Women with previous abortion are older than women with no previous abortion, multiparous and have a significantly better economic level. Other factors like education level and marital status had no significant association with repeat abortion. After repeated unplanned pregnancy and abortion, women's contraception choice favour LARC.

A-015

Legal abortion among immigrants in Portugal

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Introduction: Migration flows are responsible for a growing proportion of foreign women in Portugal, who have access to health care with the same rights as Portuguese. According to the 2011 Census, immigrants in Portugal represented 3.7% of the total residents. In our country since 2007, when the abortion became legal, an average of 17% of abortions per year, were made in immigrants.

Objective: Comparative analysis of the sociodemographic characteristics and contraception choices of Portuguese and immigrant women who had an abortion.

Methods: Retrospective analysis of 4625 cases of abortion requested in our unit between 2007 and 2012. The population was stratified in two groups: 1- Portuguese women; 2- immigrant women. Statistical analysis was performed using SPSS® version 21.

Results: Of the 4625 women, 4086 (88.3%) were Portuguese and 538 (11.7%) were immigrants (53.7% African, 18.8% Brazilian, 18.2% Eastern Europe and 9.3% Western Europe). The mean age was 29.04 ± 7.39 [13–49] and 26.49 ± 6.17 [16–44] years in group 1 and group 2, respectively ($p < 0.001$). Regarding education were illiterate 0.4% vs 1.3%, had completed

basic education 19.3% vs 14.4%, obligatory education 35% vs 43.4% and university 29.2% vs 30.2% ($p < 0.001$). Had a qualified job 36.4% vs 13%, unqualified job 25.5% vs 25.3%, were domestic 3.4% vs 4.3%, students 20.4% vs 46.2% and unemployed 14.3% vs 11.2% ($p < 0.001$). Were single 55.7% vs 70.6% and married 33.1% vs 23.8% ($p < 0.001$). Had no children 43.8% vs 51.9% and 29.8% vs 23.8% had 2 or more child ($p = 0.002$). Had a family planning appointment during the year that preceded the abortion 51.4% vs 35.1% ($p < 0.001$). The use of contraception previous to the abortion was mentioned by 87.5% vs 88.2% and the leading methods were oral contraception (29.8% vs 24.8%) and male condom (19.2% vs 18.8%), natural methods were used by 3.3% vs 4.1% ($p < 0.001$). Had no previous abortion 84.9% vs 76.2% ($p < 0.001$). After abortion the leading methods were oral contraception (58.4% vs 51.3%), intrauterine device and (12.6% vs 8.4%), hormonal implant (8.3% vs 18.4%), but 1.7% vs 3.7% opted to continue without contraception ($p < 0.001$).

Conclusion: Immigrants that requested abortion were younger and single, but with higher education than Portuguese women, being most of them students. Non-attendance of family planning counseling and inappropriate use of contraception were common in both groups. After abortion the use of contraceptives had increased, being the oral contraception the leading method in both groups. Nationality and cultural differences do not seems to be a barrier to contraceptive choices.

A-016

Pregnancy termination following prenatal diagnosis: emotional, cognitive and social impacts for women

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Objectives: Because fetal anomalies are usually detected at the second or third trimester of the pregnancy, terminations of pregnancy following prenatal diagnosis occur late in the gestational phase. This makes the event very hard to support and create traumatic responses (Kersting et al, 2005). We hypothesize that such interventions elicit high intensity emotional reactions that can persist for a long time and create a particular need of social support.

Method: This study's aim was to investigate the emotional, cognitive and social experiences of 123 women after pregnancy termination. Participants were recruited through French-speaking on-line forums having "pregnancy termination for medical reasons" as discussion topic. The questionnaire contained measures of social sharing of emotions (Rimé, 2009) and measures on emotional and cognitive impacts. The measures referred to two different moments in time: just after the intervention and at the moment of remembering the event.

Results: Participants' reported intensity of emotional reaction to the intervention reached an average of 8.98 on a scale 1–10 whereas the residual intensity still averaged 8.41 at the moment of their recall. Thus, the emotional intensity did not decrease significantly over time. Sadness, anxiety, guilt and anger were the prevalent emotions experienced following termination and at the recall. On the cognitive level, a negative impact was found on basic believes and self-image, and there was a growth of contra-factual beliefs and need for meaning. These emotional and cognitive impacts stayed constant in time, even after more than 3 years. Women experienced a great urge to speak about the termination after it happened with a mean of 4.86 on a scale 1–6, a value virtually unchanged at the time of their participation ($M = 4.55$). The social sharing of emotions is maximal at the moment of termination and it decreased with time even if the need for social sharing stayed high regardless of elapsed time. This means that the effective sharing of emotions is not in line with the need for sharing of emotions. Probably because of women's apprehension of social judgment leads them to restrain their emotional expression.

Conclusions: For most of the participants, this pregnancy termination was the most intense emotional experience of their life and most of them still manifested a need to find a meaning in what happened. Therefore, we insist of the necessity of considering the long-term psychological impacts that this kind of pregnancy termination can bring about.

A-017

Induced abortion in Algeria, victims and taboo

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The proposed study is to attach to a presentation on a phenomenon that is growing in Algeria, which is the Induced abortion or said "illegal", featuring the first time in a synthetic way the elements evaluation of a survey conducted in 2006 (frequency, socio-cultural and educational status of women, the reasons why women abort). Will then addressed the legal context in Algeria vis-à-vis this issue. For illustration: 80000 abortions occur each year, 80 deaths are recorded each year in Algiers alone, the cost of illegal abortion is 90,000 dinars, abortion is more prevalent in urban areas, in 70% of cases are educated women, the Algerian Islamic law and Sharia (main inspiration of the Family Code in Algeria) prohibit and criminalize abortion except in specific cases such as therapeutic abortion and also for women violated by the terrorists. In the case of denial of pregnancy, unwanted pregnancy and access to maternal health care for single women, the question still remains taboo, although it recorded a primer beginning of debate on these issues.

A-018

The use of misoprostol for treatment of incomplete abortion: a feasibility study in Nepal

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Objectives: Since legalization of abortion in 2002, the Nepal Ministry of Health and Population has increased access to safe, abortion services through facility improvements, provider training, and community education. At the primary level, auxiliary nurse midwives (ANMs) with skilled birth attendant (SBA) certification receive training in manual vacuum aspiration (MVA) to manage post abortion complications. However, limited clinical practice during training and infrequent presentation of women for this service leads to lack of confidence and clinical competence and few ANMs actually provide post abortion care (PAC). Medical management of abortion complications including incomplete and missed abortion treated with misoprostol is an effective alternative to surgical intervention. The purpose of this study was to determine the feasibility of misoprostol for PAC in Nepal.

Methods: A cross-sectional descriptive study of women presenting for PAC at 3 health facilities over a 4 month time period (April to June, 2013). Women were eligible for the study and underwent informed consent if they presented with vaginal bleeding or a history of vaginal bleeding during the current pregnancy with a uterine size of 12 weeks or less, had an open cervical os, stable vital signs and choose medical management (400mcg misoprostol sublingual). History and physical exam were performed and demographics obtained. Women were contacted by providers via telephone within 24–48 hours to determine well-being and an in-person visit scheduled at 6–10 days to confirm abortion completion.

Results: A total of 210 women presented for PAC during the study period; 62 women desired medical management with misoprostol and 100% were enrolled in the study. Women were young [25.6 years (SD = 25)], 50% were nulliparous and most reported not using contraception over the previous 6 months (79%). Providers were able to make contact by phone with 61 women (98%) within 24–48 hours of their treatment. Only 4 women reported any concerning issues (vomiting, bleeding, persistent pain, and no bleeding) and were recommended to seek care. Fifty-five women presented for their follow up visit; 52 [OU1] had completed their abortion and the 3 remaining underwent an uncomplicated MVA, 22 reported taking the pain management provided, and 20 accepted a contraceptive method. Over 90% reported that they would recommend this treatment to a friend or family member.

Conclusions: This study provides evidence that misoprostol for PAC appears safe in women with stable vital signs and may be a useful option in remote, low resource settings.

A-019

Pre-abortion mandatory counseling, how women feel about it?

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Objective: Quality of the pre-abortion counseling and evaluation of its impact on the psycho-emotional state of women.

Material and methods: 161 questionnaires received in 2013 from women in Yekaterinburg clinics prior to obtaining an abortion on request. The 40 questions tool was developed in order to measure the impact of new abortion related legislative changes in Russia. Respondents' average age was 30 years.

Results: 98 women had an abortion previously, for 63 it was the first time. 104 were informed by the doctor about obligatory visit for psychologist or a social worker counseling. A visit to pre-abortion consultations was found useful by 23%, in some way useful - 53%, not useful - 18% and it was not useful for 6%. For 71% of women it was easy to get to the clinic, some woman "lost" 1 day and 45% of women have "lost" 2080 rubles (100$). Prior to the counseling 69% were confident on their decision, only 28% - after, were not sure - 9%, after - 20%. Those who hesitated about abortion before and after counseling were 3%; no one thought to give the baby up for adoption. 71% of women believed abortion was a better outcome than the childbirth. This confidence retained 70% of the respondents after the consultation. Ultrasonic embryo picture was showed to 28 women, despite their request anyway it was shown to 18 and 12 reported that they did not feel anything about it, 4 felt sorrows, 12 were upset. Women noted that in 20% cases information given put pressure on them. Such counseling forced 70% of women to doubt their decision, 9% - fear an abortion. For 81% the «waiting period» did not impact their emotional state, 18% reported very negative effect. The degree of satisfaction with the counseling: very satisfied - 7%, satisfied - 43%, were not satisfied - 35%, no answer - 15%. The first notion and the abortion procedure took 14 days on average. The date for abortion was given in compliance with the records on a turn to 92, for 44 at the nearest available date, other conditions indicated 9, did not answer 16 patients.

Conclusions: Only half of women were satisfied with the pre-abortion counseling, every fifth woman was pressured to renounce their decision, two-thirds of women were forced to doubt it, and 9% felt fear; for 18% the «waiting period» had a negative effect on their psycho-emotional state.

A-020

Characteristics of women undergoing induced abortion: cross-sectional survey in 30 provinces in China

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Objectives: Galloping economic growth and reform in China over the past 30 years has led to dramatic social changes. Attitudes towards sex and sexual behaviour have changed, and premarital sex has become more acceptable. The methods of contraception have changed, while the use of highly effective or long acting contraceptive methods tends to decrease, especially in the urban area. The current National Family Planning Programme targets married couples only and young and unmarried people have little access to information or advice about contraception. Abortion is commonly used to end unintended pregnancy. This study aimed to examine the characteristics of women who had induced abortions in 30 provinces in China.

Methods: The data were collected as the first component of the project: Integrating Post-Abortion Family Planning services into China's existing abortion services in hospital settings (INPAC), supported by the 7th European Union (EU) Research and Development Framework Programme. This study has been conducted in 295 randomly selected hospitals across 30 provinces in China, between April and August 2013. Data were collected using a questionnaire filled by the abortion service providers for all women seeking abortion within 12 weeks of pregnancy during a period of two months; the information included self-reported demographic and economic characteristics, history of induced abortion and practices regarding contraception.

Results: Of those 79,174 participants, the mean age was 28, 9 years (SD, 1, 7; range 13–58). The rate of repeated induced abortions were high among par-

ticipants, 27134 (34.6%) were undergoing a first induced abortion, 28637 (36.5%) a second abortion, and 22682 (28.9%) a third or subsequent abortion. One third of participants (31.4%) were unmarried and more than half (61%) were not local residents. Near half of participants (49.7%) has completed junior or senior middle school, 46.3% had a college or higher levels education, only 3.9% of women had primary or less education. The primary reasons for the current unintended pregnancy were contraception failure (50.3%) and non-use of contraception (44.4%) respectively.

Conclusions: This study is the first nationwide large-scale investigation related to abortion services and was carried out in 30 provinces in China. The repeated induced abortion rate was high and unintended pregnancy was mainly due to contraception failure and non-use of contraception.

The INPAC PMT: Belgium: Marleen Temmerman, Wei-Hong Zhang; China: Jian Li, Xu Qian; Shangchun Wu; Lina Hu; Denmark: Jørn Olsen; United Kingdom: Rachel Tolhurst.

A-021

Contraceptive choices in women before unwanted pregnancies

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Introduction: In our country, since July 2007, abortion is legal by women's request until 10 weeks of gestation. There was noted a slight increase in the number of abortion between 2007 and 2011 and then a decrease until 2013. Several factors (personal, professional and economic) may contribute to the contraceptive choices of women and play a role in the number of unintended pregnancies.

Objective: This study wants to analyze the type of the contraceptive made by women before an unwanted pregnancy, and if their personal, familiar, and socioeconomic characteristics influence their choices.

Methods: Retrospective study of the clinical files of 3596 women, who had an unwanted pregnancy, between July 2007 and June 2013 and requested for abortion at our institution. Two groups were created: Group 1– women without previous contraceptive method; Group 2– women with previous contraceptive method. Statistical analysis (Excel and SPSS 21) was performed to compare and analyze different factors between the groups.

Results: Among a total of 3596 women, 1027 (28.6%) were not using any contraception method (Group 1) and 2569 (71.4%) had a contraceptive method (Group 2). In group 1, 9.2% referred they were in oral contraception pause; 5% were changing the method; 4.4% referred a sporadic sexual intercourse; 1.7% had history of sterility; 0.7% think they had menopause and 74.9% didn't appoint any reason. In group 2, 53.4% were with hormonal contraception (81% referred missed pills); 38.6% used condom; 1.7% had long-term methods (IUD, implants and tubal ligation); and 7.3% were using natural methods. The mean age in group 1 was 28.4 (minimum 13; maximum 48) vs 28.7 years old in group 2 (minimum 13; maximum 49) ($p = 0.330$). Other analyzed factors were (Group 1 vs Group 2): multiparous in 48.5% vs 55.9% ($p < 0.001$), Portuguese nationality in 84.3% vs 88.3% ($p = 0.001$), married woman in 26.5% vs 34.7% ($p < 0.001$), secondary or superior education level in 59.3% vs 72.2% ($p = 0.001$), and remunerated work in 53.3% vs 58.1% ($p = 0.004$).

Conclusions: Despite the common belief, in this study 75% of women who had unintended pregnancies were using some kind of contraceptive method, mostly hormonal methods. Excluding the factor of age, it can be said that women who use a contraceptive method have had more previous pregnancies, were in a higher percentage immigrants, were married, had an higher educational level and were linked to an remunerated work.

A-022

Who are the adolescents that engaged in elective abortion in Portugal?

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Objectives: The Portuguese abortion law allowing elective abortion is recent. Consequently, the research

on the characteristics of women who engaged in elective abortion is scarce, namely regarding adolescents. Usually, elective abortion was associated with unplanned pregnancies. Therefore, this study aimed to identify individual, relational, and reproductive characteristics of adolescents who engage in elective abortion in Portugal.

Methods: The sample consisted of 175 adolescents aged 14–19 years who engaged in elective abortion. Individual, relational, and reproductive data were collected through self-report measures, between 2011 and 2013, in 23 healthcare services.

Results: Adolescents were predominantly single (94.9%), of European ethnic origin (81.1%), of low socioeconomic status (74.9%), and did not report religious beliefs (59.4%). About 84.6% of them were in school at the time of the assessment; the mean grade level was the 10th grade ($M = 10.32$, $SD = 1.69$). At the time of the conception, the majority of adolescents were involved in a romantic relationship (95.4%); the average relationship length was 13 months. Adolescents' partners were 3 years younger to 29 years older than themselves ($M = 20.12$, $SD = 3.81$) and no longer in school (53.7%). The mean age at menarche was 12.1 years ($SD = 1.65$; range: 8–17). Adolescents engaged in sexual intercourse for the first time between the ages of 11–19 and had, on average, 2 sexual partners ($SD = 1.26$; range: 1–7). About 8.0% of adolescents had a previous abortion, and 98.3% did not plan the current pregnancy. About 80.5% reported the use of contraceptives at the time of the conception (condom: 52.9%; pill: 34.3%; pill and condom: 5.7%). Among them, 56.0% reported contraceptive failure (condom rupture: 31.0%; forgetting to take the pill: 15.0%; taking the pill but still pregnant: 4.0%). However, 44.0% did not identify contraceptive failure. The main reasons for non-contraceptive use were: "currently, not having active sex life/boyfriend" (22.2%), "not wanting/liking to use it" (22.2%) and "forgot to use contraception" (22.2%).

Conclusion: Our findings provide specific knowledge about the individual, relational, and reproductive characteristics of adolescents who engage in elective abortion in Portugal. Thus, they may contribute to identify those adolescents at greater risk to engaged on elective abortion and establish specific guidelines for family planning. Assessing how contraception is being used, identifying possible use errors, and providing alternative strategies to deal with them seems to be particular important to prevent unplanned pregnancies ending in abortion.

A-023

Outcomes of HIV testing in a NHS community abortion counselling clinic in West Midlands, United Kingdom (UK)

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Objectives: The British HIV Association (BHIVA) and the National Institute for Health and Clinical Excellence (NICE) guidelines recommend universal offering of HIV testing to all women attending abortion services to reduce prevalence of undiagnosed HIV. We report on the acceptability and effectiveness of introduction of routine offering of HIV testing in a NHS community abortion counselling clinic in Walsall UK, with a prevalence of diagnosed HIV infection of 1.38/1000 and where 7/1000 women per year have an abortion.

Design and methods: All women attending for pregnancy counselling prior to a potential referral for an abortion were offered an HIV test on an opt-out basis as part of sexually transmitted infections (STI) screening between November 2012 and May 2013. Two trained nurses carried out all the testing. Serum samples were tested using 4th generation assay (Abbott Architect HIV Ag/Ab Combo Assay). None of the patients was known to be HIV positive. A prospective record of basic demographics with HIV serology test results was maintained during the study period. This study was deemed to be a service evaluation, implementing established guidelines.

Results: One hundred seventy two women (74% White British; 15% Asian; 3% Black African) were offered HIV serology test. Fifty five (32%) women accepted HIV testing, of whom one (1.8%) was found to be positive (late presenter). The median age of women accepting HIV testing was 22 years (range 14–43), that of women declining testing was 26 years (range 14–44) ($p < 0.05$, Student two-sample t test). There was no statistical difference in ethnicity, parity or previous abortions between women accepting or declining HIV testing. Of the 117/172 who declined testing, 53% had recorded reasons for declining the test. 33% stated that they were in monogamous relationship and 20% stated they were tested recently for STIs.

Conclusions: This study illustrates that routine HIV testing is feasible and effective in community abortion counselling clinics to help reduce undiagnosed infection. The reasons for the lower uptake of HIV testing need to be elucidated. The uptake may be related to the experience of the staff offering testing, and in general increases over time when testing is first introduced. Offering the test as part of routine screening and a point of care finger prick test may increase the uptake of HIV testing in abortion clinics. Individuals undergoing HIV testing in abortion clinics should be informed and offered testing at the end of the window period.

A-024

Effects of a prolonged, 72 hours, interval between mifepristone and gemeprost in second trimester termination of pregnancy: a retrospective study

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Objective: To evaluate if the 72 hours interval between mifepristone and gemeprost has a similar efficacy compared to the 48 hours interval for second trimester termination of pregnancy in terms of gemeprost pessaries and abortion lenght.

Methods: 215 consecutive pregnant women, admitted to the TOP service of our hospital, for second trimester abortion, from January 2012 to October 2013, were included in this retrospective analysis. Our standard protocol was followed for all patients. On the first day of the TOP procedure oral mifepristone 200 mg was administered. After 72 (group A, n = 78) or 48 hours (group B, n = 113) women were admitted to the TOP unit where a gemeprost 1mg was administered vaginally as per protocol. The induction to abortion time was defined as the interval between the insertion of the first gemeprost pessary and the expulsion of the fetus.

Results: There are no significant differences in the number of pessaries in the two groups. The induction to abortion interval was longer in group A than in group B. Overall, 21 women required surgical evacuation of the uterus for retained placenta or incomplete abortion without a significant difference between groups.

Conclusion: In our retrospective analysis we found that a 48 hours interval between mifepristone and gemeprost leads to better results than a 72 hours interval, with a significantly shorter induction to abortion interval. In this study the rate of incomplete abortion is comparable to the regimen using mifepristone and misoprostol (9.4%).

A-025

Prevalence and predictors of effective contraceptive use 6 months after an abortion

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Objectives: To investigate the prevalence and predictors of effective contraception 6 months after an abortion.

Method: We analysed data from 287 women aged 16–45 years participating in an on-going randomised controlled trial designed to study the impact of contraceptive follow-up support to women undergoing abortion. 1006 women attending at three abortion clinics between October 2011- February 2013 were screened for eligibility. 921 were eligible, 569 consented to participate, who were allocated to an Intervention arm (n = 282) or Control arm (n = 287) through centre stratified randomisation. Participants completed a baseline questionnaire at recruitment and a telephone questionnaire at 6 months post-abortion. Baseline data included socio-demographics, previous obstetric history, contraceptive use immediately prior to abortion, intended method of contraception post-abortion, and type of abortion. The 6 month questionnaire included enquiry about contraceptive use, satisfaction with the method, contact with healthcare professionals for contraceptive advice since the abortion and pregnancy intentions in the next 2 years. Specialist contraceptive follow-up support at 2 to 4 weeks and 3 months post-abortion was provided to women in the intervention group only. In this presentation we report preliminary findings from the analysis of the control group. Effective contraception was

defined as regular and consistent use of oral contraceptive pills/patches/vaginal ring/injectable contraception or use of intrauterine contraception or the contraceptive implant.

Results: Of the 287 women in the control arm, 6 withdrew from the study and 148 were available for follow-up at 6 months post-abortion. 88 (60%) were black, 43 (29%) white and 17 (11%) from other ethnic groups, and 76 (51%) of women had previous abortion. 55% (95% confidence interval CI [46.4–62.9]) were using effective contraception at 6 months. In multivariate logistic regression analyses, use of an effective contraceptive method before abortion, and intended use after abortion were found to be significant predictors of effective contraceptive use at 6 months among baseline variables (Odds ratio OR: 3, 95% CI [1.2–7.9]; OR: 4, 95% CI [1.2–15.0] respectively), as was contact with a health professional following the abortion.

Conclusion: Prevalence of effective contraceptive use at 6 months post-abortion is low. Strategies aimed at influencing user intentions for effective contraception post abortion and encouraging contact with health care professionals to help translate intentions to actual use could potentially improve contraceptive use in the long term. Findings from this study will be compared with those from the intervention arm at a later stage.

A-026

Adolescent motherhood vs. induced abortion: individual and sociocultural influences on adolescents' decisions

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Objectives: In 2007, Portuguese law recognized the practice of abortion on women´s demand during the first 10 weeks of gestation. However, national research on women's decisions about continuing or terminating a pregnancy remains scarce, namely regarding vulnerable populations, such as adolescents. Therefore, the aim of the current study was to explore the simultaneous contribution of individual and sociocultural factors to adolescents' decision to continue or terminate an unplanned pregnancy.

Design and methods: The sample consisted of 276 adolescents who became unintentionally pregnant and attended healthcare services within the legal period for induced abortion: 133 of them chose to continue the pregnancy and 143 decided to terminate the pregnancy. Data were collected between 2008 and 2013 through a self-report questionnaire, in 53 healthcare centers of all country areas.

Results: Not having thought about both available options (i.e., continuing vs. terminating the pregnancy), belonging to families of low socioeconomic status and with adolescent pregnancy history, having dropped out of school, and having lived in areas with higher population density and less educated females predicted the decision to continue the pregnancy. Younger age was more frequently associated with the decision to continue the pregnancy, but only when adolescents' had not thought about both available options.

Conclusion: According to our findings, the decision to continue an unplanned adolescent pregnancy in Portugal is usually made without considering both available options and, thus, probably without assessing all the costs and benefits of each option. This decision also seems to be associated with poor family environments in which adolescent pregnancy is probably more acceptable due to previous history of adolescent motherhood. In conjunction with early school dropout, these familiar characteristics may also decrease adolescents' educational and career aspirations, particularly when they live in urban places where females are less educated. This knowledge may help healthcare providers to efficiently support adolescents during their decisions about pregnancy resolution. Providing adolescents with specialized interventions that may help them to think about the available options and their costs and benefits so that they can make informed and conscious decisions seems to be particularly important, namely when adolescents are younger. As previous studies have shown associations between several of the identified predictors of the decision and subsequent negative emotional reactions, our findings also highlight the need to establish specialized interventions

aimed to support adolescents after the abortion experience or during the transition to motherhood.

A-027

Ultrasound-guided surgical termination of pregnancy at less than 7 completed weeks

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Objective: Audit of continuous intra-operative ultrasound-guided surgical termination of pregnancy at less than 7 completed weeks of gestation.

Method: Audit of all cases of surgical termination of pregnancy performed by Manual Vacuum Aspiration (MVA) at less than 7 completed weeks of gestation under continuous intra-operative ultrasound guidance between 01 January 2009 and 30 June 2011 by a single operator. The RCOG's recommendation for performing surgical terminations at less than 7 weeks of gestation (RCOG 2011) was used as the standard.

Results: During the period of the audit, 323 women underwent surgical termination of pregnancy by Manual Vacuum Aspiration (MVA) at less than 7 completed weeks of gestation under continuous intra-operative ultrasound guidance plus inspection of the aspirate. Eleven case notes were unavailable for data extraction and analysis. Of the 323 case notes, 305 were available for data analysis. The women's age ranged from 13 to 44 years with a mean of 25.8 +/- 7.11 years. The gestational ages ranged from 4 to 6 completed weeks with a mean of 6 +/− 0.18 weeks. The gestational sac was seen on ultrasound examination in all cases but the yolk sac was seen in 195 cases and the fetal pole in only 98 cases. Performance of the operation, from cervical dilatation (where necessary), to complete evacuation of the uterine cavity, under continuous intra-operative ultrasound guidance, allowed for visual confirmation of removal of the gestation sac as well as avoidance of cervical and uterine injuries. At the end of each procedure, the aspirate was examined for presence of the gestation sac. There were no cases of cervical injury, uterine perforation, or retained products of conception. There was one case of continuing pregnancy in patient with a bicornuate uterus. Termination of the pregnancy was achieved with a combination of medical and surgical methods.

Conclusion: The findings suggest that performing surgical termination of pregnancy at less than 7 completed weeks of gestation under continuous intraoperative ultrasound guidance without the need for inspection of the aspirated tissue, may (with certain caveats) be a safe procedure. For those who are averse to inspecting the aspirate, this approach may be more agreeable.

A-028

Abortion - Stigma by association

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Objectives: To explore the perceptions of staff working in abortion care.

Method: Qualitative methodology using in depth semi structured face-to-face interviews with doctors and nurses (n = 8) working in NHS abortion services in the UK.

Results: Staff working in NHS abortion services often feel isolated from other medical and nursing colleagues because of their decision to work in abortion care. Staff 'glossed over' the fact they worked in abortion care, telling others they vaguely worked in women's health or gynaecology. Staff were reluctant to reveal what they actually did, in part because there was acknowledgement that at best they may be vilified or at worst may suffer from violence or attack.

Conclusions: It is argued that staff working in abortion services suffered from the moral taint and fear of consequences of their work. Staff were reluctant to openly share (much less celebrate) the value and worth of their work, except with those whom they trusted and who they felt understood and sympathised with their decision to work in abortion care. The perception of abortion care as "dirty work" is as much to do with the narrow definitions held by the general public of what 'nice' doctors and nurses do as well is the increasing exercise of the conscientious objection clause by medical and nursing staff. The powerful combination of stigma by association, fear of reprisals (whether actual or perceived) and moral objection is a toxic cocktail for the future of abortion services.

A-029

Induced abortion and its associated factors among post abortion patients in health institutions of Guraghe zone, Southern Ethiopia

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Objective: The aim of the study was to assess the magnitude of induced abortion and its associated factors among post abortion patients in health facilities of Guraghe zone, South Ethiopia.

Methods: Institution based cross sectional study was conducted in eleven health facilities in Guraghe zone, Southern Ethiopia. Client exit interview was done on 400 post abortion patients who sought care in the selected health facilities to collect data on their socio-demographic characteristics, reproductive history, use of post abortion family planning and their current experience of abortion using a structured questionnaire. Frequencies and cross tabulation of selected variables were done. Measure of association such as bivariate and multivariate analysis was performed to look for any association between different variables with the outcome variable.

Result: From the total interviewed women 302 (75.5%) responded that the current pregnancy that ended in abortion is unwanted. But only 49 (12.25%) of the respondents have admitted interference to the current pregnancy. Overall about 312 (78%) of the respondents have no intention to be pregnant at least within three months following the abortion. On the multivariate analysis, those patients who have greater than four pregnancies were more likely to have induced abortion than others (AOR = 4.275, CI: (1.243–14.707)). And those patients who report they want the current pregnancy were less likely to have induced abortion (AOR = 0.442, CI: (0.137–0.653)) than others. Those patients who were in primary school and age group 30–34 were less likely to have induced abortion with (AOR = 0.264, CI: (0.130–0.881)) and (AOR = 0.146, CI: (0.039–0.551)) than others.

Conclusion: The study revealed significantly high level of unsafely induced abortion in the area which is underpinned by unwanted pregnancy. There is requirement for wide spread expansion of increased access to high quality family planning ervice and comprehensive abortion care to those who seek care.

A-030

Assessing the sustainability of medical abortion services in the Republic of Georgia

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Objectives: To assess whether the provision of medical abortion services is ongoing and to evaluate the quality of care provided by former investigators and at former research sites.

Method: From 2007–2010, five clinics participated in clinical research studies to make medical abortion more accessible throughout the country. This assessment was designed to document whether provision of services is ongoing and to evaluate the quality of the care provided at these clinics. In addition to the five original research clinics, one non-research clinic in Tbilisi was included in the assessment because two former site investigators were providing medical abortion services at this location. Data was collected three times at six months intervals between December 2011-January 2013. We reviewed clinic policy manuals and protocols, as well as charts of medical abortion clients. In addition, we interviewed clinic administrators, clinic pharmacists, obstetrician/gynecologists and patients, and observed counseling sessions.

Results: Two clinics stopped providing abortion services due to a change in management and we were not able to collect three rounds of data. The remaining four sites are providing medical abortion with mifepristone and misoprostol up to 63 days' LMP using evidence-based regimens and achieved success rates of 95% or higher. Medical abortion made up about 40% of all abortion services provided to eligible women at all sites. All abortion providers interviewed were familiar with medical abortion, and over time, providers were more likely to report offering medical abortion to every abortion client. Cost was frequently cited by women as a key reason for choosing surgical abortion over medical abortion.

Conclusions: Four years after initial research and training on medical abortion in the capital city and two years after initiation of activities in the western region of Georgia, medical abortion services are well established at most sites, and the quality of services is

high. Imbalance in the cost of medical abortion compared to surgical abortion services strongly affects women's choice of method. The decision of management at two private clinics to stop providing all abortion services indicates a growing conservatism that may become a real threat to the access of abortion services in Georgia.

A-031

A study on integrating post-abortion family planning services in Shanghai, China

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Objective: To explore a new model of post-abortion family planning services.

Methods: 3200 early pregnancy women for abortion-seeking were recruited in five hospitals in Shanghai. Two hospitals were selected randomly into intervention group and other three as control group. The intervention group used the integrating post-abortion family planning services which including education, counseling, providing contraceptives and follow-up in one service package. The control group was used the existed services. All the women in both groups were follow upped for one year and evaluated the unintended pregnancies or repeated abortion among all women during the follow-up period. Providers were interviewed for their attitude to the integrating post-abortion family planning services.

Results: 1581women completed the one year follow-up and valid questionnaires were collected. Among them 865 were in the intervention group and 716 from the control group. In terms of knowledge about reproductive health and contraception, scores in the intervention group were significantly higher than the control group ($\chi^2 = 158.19$, $P = 0.00$ RR = 2.86 (95% CI: 2.29~3.57)),and the utilization of contraceptives was better in the intervention group as well ($\chi^2 = 10.16$ $P = 0.01$). In the 6-month follow-up, repeated abortion rate was 0.81% in the intervention group and 2.37% in the control group ($\chi^2 = 6.42$ $P = 0.01$ RR = 0.53 (95% CI 0.28~0.99)); in the 12-month follow-up, repeated abortion rate was 1.73% in the intervention group and 4.89% in the control group ($\chi^2 = 12.73$ $P = 0.00$ RR = 0.54 (95% CI 0.35~0.83)). 98.00% women were satisfied with the integrating post-abortion family planning services. Health care providers also accepted this model of services.

Conclusions: The integrating post-abortion family planning services has significant impact on promoting women's awareness, increasing contraceptive utilization, reducing unwanted pregnancies and repeated abortion. Moreover, this model of services has also been widely accepted by providers.

A-032

First pregnancy abortion as an infectious complications risk factor

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Objective: to determine the risk of the development of post-abortion endometritis after interruption of the first pregnancy by surgical or medical methods.

Method: abortion was performed in 6665 women at term less than 42 days of amenorrhea who were randomized into 2 groups according to the method chosen by women - VA (3479) or medical abortion (MA) (mifepristone and misoprostol) (3186). There were 930 primiparous women (PW) (26.7%) and 2549 multiparous women (MW) (73.3%) in the first group and 1859 PW (58.3%) ($p < 0.05$) and 1327 MW (41.7%) ($p < 0.05$) in the second group. The average age of women was 30.7 ± 0.2 years and 26.8 ± 0.2 years, respectively. Women under 25 years were 13.3% and 41.9% ($p < 0.05$), respectively. The average age of the PW was 23.7 ± 0.4 and 21.9 ± 0.4 years, respectively ($p > 0.05$). In VA group 51.2% of women had previously 1 abortion, 48.8% of women had 2 or more ones, in the MA – 69.3% ($p < 0.05$) and 30.7% ($p < 0.05$), respectively. 17.8% and 12.8% of women, respectively, had the history of the inflammatory diseases of the upper genital ($p > 0.05$), and 15.2% and 11.9% ($p > 0.05$), respectively, had the history of STI.

Results: The microscopy study of microflora composition of the lower genital tract before an abortion showed that it was normal in 42.4% and 42.6% of women in the test groups ($p > 0.05$). Bacterial vaginosis (BV) was diagnosed in 5.8%, the prevalence of

anaerobic microflora (without clinical picture of BV) - in 15.4% of the surveyed women. Identification of STI in groups was not performed. All women with a microflora violation were sanified before the abortion. In PW who underwent VA post-abortion endometritis rate was 3%, in the MA group - 0.5%. Among MW - 0.4% and 0.7%, respectively. The relative risk (RR) of the development of post-abortion endometritis in PW in group 1 was 2.7 relative to MW; odds ratio (OR) was 6.9 (95% CI 3.4–13.9). In group 2 RR was found to be 0.86, OR was 0.71 (95% CI 0.3–1.8), i.e. almost no difference.

Conclusion: The risk of post-abortion endometritis under the surgical termination of the first pregnancy was 2.5–3 times higher than in MW, on the contrary the risk was similar when the medical termination. These conclusions are to be considered when choosing an abortion method.

A-033

Does mifepristone really matter in second trimester abortion? A double-blind randomized controlled trial to asses the benefit of administering mifepristone prior to buccal misoprostol for second trimester abortion (14–21 weeks)

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Objective: To assess the benefit of adding mifepristone to a regimen of repeat doses of buccal misoprostol versus buccal misoprostol-alone for up to 48 hours.

Materials and methods: 120 eligible and consenting women presenting for medical pregnancy termination in a large maternity hospital in Tunisia with pregnancy gestation between 14–21 weeks were enrolled in a randomized, double-blind placebo-controlled, trial. Participants were randomized to one of two groups: the first received 200 mg mifepristone and the second recieved a placebo; both groups were instructed to take the pill at home. All women returned 24 hours later for repeat doses of 400 mcg buccal misoprostol every 3 hours (up to 10 doses in 48 hours) until fetal and placental expulsion. Main outcomes included rates of complete uterine evacuation, time to expulsion, side effects, and women's satisfaction.

Results: Adding mifepristone resulted in a significantly greater chance of complete uterine evacuation with 48 hours (RR = 1.28; 95% CI: 1.07–1.53) and a significantly shorter time to completion (mean time 10.4 hours vs. 20.6 hours in misoprostol-alone; $p < 0.001$). The side effect profiles for the two groups were similar, and acceptability was high for both groups.

Conclusion: The use of mifepristone prior to misoprostol can improve the quality of second trimester abortion care by making the process more successful over a shorter period of time, thereby potentially reducing the cost for both women and providers. Future efforts should advocate for broader availability and use of mifepristone in the second trimester globally.

A-034

Factors predicting uptake of long acting reversible methods of contraception amongst women presenting for abortion in Australian clinics

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Objectives: Compared with countries in Western Europe, Australia has a relatively high rate of abortion, yet a low uptake of the most effective methods of contraception: the long acting reversible contraceptive (LARC) methods. LARC methods, including injections, implants and intrauterine devices, provide highly effective user independent contraception. Increasing use of LARC methods immediately post abortion has been found to significantly reduce the chance of repeat unintended pregnancy. We aimed to examine the uptake of LARC methods after medical and surgical abortion in women attending Marie Stopes International clinics across Australia.

Method: We conducted a prospective audit of all women presenting for abortion to Marie Stopes Inter-

national clinics across Australia between September and December 2013. The audit form was completed by clinic staff using information collected from the medical records.

Results: We completed audit forms for 7267 of 9477 (77%) women presenting during the study time period of which 6348 had complete demographic information recorded. Overall just over a quarter of women (1742; 27.4%) chose one of the LARC methods and in multivariable analysis women aged under 20, those who had previously had at least one child or one abortion were more likely to opt for a LARC method. Asian and Middle-eastern born women were significantly less likely than women born in Australia to choose a LARC method. Seventy-one percent of women who indicated their choice of a LARC method had it inserted after the abortion. Age, birthplace, SEIFA quintile, number of previous abortions and type of abortion were associated with LARC insertion in multivariable analysis. Seventy-four percent of women opting for a LARC who had a surgical abortion had a LARC inserted, compared to 60% of women who had a medical abortion ($p < 0.001$).

Conclusion: Among women who opted for a LARC post-abortion, those under 30 or from low socio-economic backgrounds were less likely to have immediate provision of LARC. Compared to medical abortion, surgical abortion was associated with a greater likelihood of immediate LARC provision. Public health policy makers should support abortion service providers to be able to provide these methods for women to start immediately following the abortion, so that more women are able to avoid a further unintended pregnancy.

A-035

Health tourism for pregnancy termination - abortion tourism

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Introduction: The Portuguese legal framework for elective abortion up to 10 weeks of gestation brought the possibility of reducing illegal/unsafe abortion. However, there are countries that have restrictive legislation on abortion. As a result, women travels abroad in order to terminate their pregnancy without putting their lives at risk.

Objective: This study aims to analyse the *socio-demographic characteristics* of women who are non-resident in Portugal, who used the Clínica dos Arcos(CA) services between January and October 2013 in order to terminate their pregnancy under the Portuguese law no. 16 of 17 April 2007.

Methods: We performed a retrospective analysis of the clinical files and respective social data sheets of the identified cohort of women($n = 37$). The following variables were considered: age; nationality; marital status; education; labour status; no. of children; referral; no. of abortions performed; consultation for the use and control of contraception; abortion procedure; contraception used, and intent of future contraception.

Results: The women came to the CA completely on their own initiative. The average age of the cohort was 31.2 years. Out of the 37 women of the cohort, 48.6% were from Angola, 32.4% from Brazil, and the remaining women were from São Tomé and Príncipe (2.7%), Sudan (2.7%), Germany (2.7%), Estonia (2.7%), Netherlands (2.7%), Bulgaria (2.7%) and Uruguay (2.7%). 75.7% were married and 24.3% single, 59.4% lived in civil partnership. The majority has completed higher education (64.8%) and 78.4% are skilled workers. 54.1% were nulliparous and 45.9% had 1 or more children. With regards to history of abortion, 40.5% had a previous abortion; 78.4% had no consultation on the use and control of contraception methods in the last year. All women opted for the surgical method. Regarding contraception, 46% did not use any when they became pregnant, and after the intervention 97.3% intended to use.

Conclusions: The use of abortion services by non-resident women is a reality in Portugal. It was found that all women who used the CA services acted on their own initiative. They did not have a prior referral from primary care or from public hospitals. The socio-demographic analysis shows that the majority of women who come to Portugal to end a pregnancy is from communities of Portuguese-speaking Countries, has a higher education and is in employment. The continuation of the analysis of these cases will enable better provision of care, as well as a wider understanding of the reasons for choosing Portugal as a destination for Abortion Health Tourism.

A-036

Association of abortion rates among married women in China with contraceptive non-use and failure: trend analysis from 1996 to 2005

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Objectives: To compare and determine the relationship between the abortion rates because of non-use or due to contraceptive method failure.

Methods: We used data from the National Family Planning and Reproductive Health Surveys of 2001 and 2006, which included 39,530 and 33,257 women of reproductive age, respectively. We chose pregnancies dating from 5 years before the survey to avoid the problem of retrospective underreporting or misreporting of abortion. Multinomial logistic analysis was used to study the determinants of abortion due to non-use versus contraception failure.

Results: Multivariate analysis showed that with minor differences, abortion due to contraception failure and nonuse was higher in rural areas, lower in ethnic minorities- and among women with alive children, specially male child and it increased with educational level.

Discussion: To decrease incidence of abortion rates, the government still needs to invest more in family planning in rural areas to improve access to information, services and supplies as the abortion rates are still high due to both non-use and method failure. In urban areas, women with higher education needs to be properly counseled about contraception methods to ensure that they are able to choose the best type of birth control method , whether modern or traditional, for their needs and to use it consistently and correctly.

Keywords: Abortion, Contraception non-use, Contraception failure, China

A-037

Management of incomplete and inevitable second-trimester abortion: a systematic review

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Objectives: Postabortion care (PAC) programs are utilized worldwide to reduce maternal morbidity and mortality from inevitable or incomplete abortion, especially in areas where safe abortion access is restricted. The majority of PAC research and programs focus on women in the first trimester; however, where unsafe abortion is prevalent, as many as 40% of women needing PAC can present in the second trimester. As gestational age increases, so does the risk of morbidity and mortality. Because no global guidance exists to provide PAC at later gestations, we undertook a systematic review to determine from the literature recommendations for uterine evacuation for inevitable or incomplete abortion in the second trimester.

Methods: We search PubMed, Cochrane Central Register of Controlled Trials and Popline using terms related to second trimester abortion through the last quarter of 2013. We included studies that used World Health Organization (WHO) recommended methods of uterine evacuation where at least 50% of cases were incomplete or inevitable abortion. The main outcomes of interest were time to expulsion, success at 24- and 48- hours and safety.

Results: Of 3,794 titles returned on search, 14 clinical trials and 2 cohort studies with 1182 women met our inclusion criteria. The included studies were primarily about medical management of women presenting with fetal demise or ruptured membranes. We found no comparative studies of retained placenta management and no studies comparing medical management to dilation and evacuation. In studies where inevitable or incomplete abortion was compared to induced abortion, the expulsion time was shorter. As the methods of uterine evacuation described in the studies were heterogeneous, we could not perform a metaanalysis. Misoprostol doses ranged from 100 to 800 mcg, with a dose frequency of 3 to 12 hours. In general, higher doses of misoprostol dosing resulted in shorter time to expulsion. Vaginal and sublingual administration resulted in shorter times to expulsion than oral administration. One small cohort study showed that mifepristone may shorten the induction to abortion interval.

Conclusions: Little evidence exists regarding the best management of second trimester PAC. Misoprostol with or without mifepristone appears to be an effective method of uterine evacuation, but the optimal regimen has not been established. More

information is needed about the safety and efficacy of medicines compared to dilation and evacuation.

A-038

Introduction of second trimester medical abortion to rural Nepal: a demonstration project

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Objectives: In Nepal, abortion was legalized in 2002 permitting it for any reason up to 12 weeks, for rape or incest up to 18 weeks and for maternal or fetal indications at any gestational age. First trimester abortion services became more readily available in 2004 but second trimester services remained extremely limited. In 2007, Ministry of Health and Population, Nepal and Ipas Nepal collaborated to increase access to safe second trimester services [dilation and evacuation (D&E) and medical (mifepristone followed by misoprostol)]. To this day, twenty one second trimester abortion sites have been established; however, all of these sites are in the hill and lowland regions. Expansion to remote, mountainous sites with lower patient volume has not been attempted due to concerns regarding the ability to safely provide D&E. Modeled after Ipas's successful second trimester medical abortion-only program in Ethiopia, we sought to pilot a similar program at one site in the remote mountainous region of Nepal.

Methods: A standardized medical abortion regimen utilizing mifepristone and misoprostol (WHO 2012) was introduced at one site in Nepal. The program consisted of a site assessment, whole site values clarification workshop, team-based clinical training, and post-training follow-up and supportive supervision. Patient characteristics, success rates and complications were tracked using logbooks and findings were augmented through an onsite support and quality assurance visit. Key findings are presented here.

Results: Prior to this pilot, no routine second trimester services were being offered in this region and women were told to cross into India to receive care. The hospital team (1 physician and 1 nurse) underwent training in March 2013. Over a 6 month period, the team cared for 25 women. The characteristics of the women seeking care were as follows: mean age 28 years old (SD 6.8), 72% were parous, mean gestational age 16.6 weeks (SD 3.5), and the most common indication for abortion was mental health (72%). Twenty four women (96%) experienced successful uncomplicated abortions while one woman desired D&E and was referred following no expulsion in 48 hours. The median time to expulsion was 6.5 hours (range 3.25 to 66.25 hours) with an average of 2 doses of misoprostol.

Conclusions: Introduction of second trimester medical abortion can increase access in areas where D&E may not be feasible. Women offered this service had high success and low complication rates.

A-039

Unsafe abortion in Ghana: the way forward

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Background: Unsafe abortion has remained a major problem of public health concern in developing countries. The stigma, restrictive abortion laws, and negative connotation associated with abortion has led to provision of the service underground resulting in high unsafe abortion rates. It is one of the leading causes of maternal mortality worldwide, with developing countries suffering the most. 42 million abortion occur worldwide each year with 20million representing 48% being unsafe. Almost all of the unsafe abortion occurs in developing countries to which Ghana belongs. In Ghana unsafe abortion accounts for 11% of all maternal deaths making it the second major cause of maternal mortality.

Aim: To review the factors contributing to unsafe abortion seeking behaviour amongst women of reproductive age in Ghana and suggest how the practice can be reduced

Objectives:

- To assess the burden of unsafe abortion in Ghana.
- To critically analyze the factors contributing to unsafe abortion seeking behaviour among women of the reproductive age in Ghana.

- To identify and appraise interventions for reducing unsafe abortion in Ghana.
- To make recommendations and possibly propose further studies based on outcome of dissertation.

Methodology: The study is in-depth using secondary information from online databases and Ghana country reports. A conceptual framework was developed from Health Action Model and used to analyze the unsafe abortion seeking behaviour of women of reproductive age in Ghana. Interventions identified were appraised and further recommendations made.

Findings: Women still seek unsafe abortions even though the law in Ghana permits abortion under circumstances that can be considered as liberal. Two major factors have been found to inform this decision making process:

- **Fundamental factors:** Social Norms, Beliefs, Personal dimension, Attitudes and Values, Information and Knowledge, Experiences and Examples
- **Enabling and inhibiting factors:** Health Services Support, Accessible Information, Women's Education and Empowerment, Policies and Poverty.

Recommendations:

- Involving private doctors in the provision of safe abortion services
- Use of midlevel personnel to provide safe abortion services
- Values clarification and attitude transformation workshops
- Girl child education

Conclusion: There is the need for attitudinal changes in the community and the providers to recognize provision of safe abortion services as a right of women devoid of any religious, cultural or personal beliefs. Another important area of need is in addressing the shortage of personnel to provide safe abortion services.

Keywords: abortion, unsafe abortion, illegal abortion, wrongful termination of pregnancy, Ghana and Sub-Saharan Africa

A-040

Births and induced abortions in Slovenia since 1970s

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Objectives: Induced abortion rate reflects level of knowledge about modern contraception, access to contraception and quality of family planning services. In Slovenia induced abortion is available until gestational week 10 on woman's request, later only with the approval of a special committee. This legislation regarding induced abortion was adopted in 1977 and has not changed since then. Modern contraception use also influences birth rates which have changed significantly in the past decades in many developed countries and also in Slovenia. We experienced a major decline in number of births in 1980s and 1990s with an increase in the last decade. With this analysis we want to present what are the trends in induced abortions in Slovenia in relation to births in the last 40 years.

Method: For this analysis we used the data from Perinatal Information System and Information System on Fetal Deaths. Both information systems are national registries and contain data on all births and fetal deaths in Slovenia.

Results: The highest birth rate in the last 40 years in Slovenia was in the year 1979 (65.9 live born children per 1000 women in childbearing period) and has declined to almost half in 1999 (33.6 per 1000). In 2003 it started to grow again and reached 46.2 per 1000 in 2012. In the last three years the birth rates were rather stable. Induced abortion rate has reached its peak in 1982 when there were 41 legal abortions per 1000 women in childbearing period. Since then the abortion rate is steadily declining. In 2012 it was 8,7 per 1000. Teenage pregnancies are not prevalent in Slovenia, since both birth and abortion rate among teenagers are very low. The highest abortion rate is among women in the age group 25 to 34 years, where there is also the highest birth rate. In almost half of the cases induced abortions are performed in women with previous pregnancy that resulted as birth.

Conclusions: In Slovenia abortions are legal on woman's request since 1977. Since 1982 abortion rates are constantly declining. This decline reflects good availability and use of modern contraception. The highest prevalence of abortions is in women aged 25–34, teenage abortions are not prevalent.

A-041

Task-shifting treatment of incomplete abortion with misoprostol to lower-level providers in Mozambique

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Objectives: In Mozambique, abortion-related complications are a major cause of maternal mortality. Issues of supply and human resources limit the reach of manual vacuum aspiration (MVA) to treat incomplete abortion in Mozambique. Misoprostol is an effective, non-surgical alternative to MVA and has the potential to ensure PAC services are widely available.

Methods: An operations research project was conducted in two districts of Mozambique introduced misoprostol as a first line treatment of incomplete abortion for cases with a uterine size equivalent to gestational age up to 12 weeks without signs of complications in all health facilities within the health system (Centro de Saude or CS 2/3, CS 1, and hospital). All providers, including lower-level providers not previously trained in MVA, were trained to use misoprostol. MVA was reserved for more complicated cases, larger uterine size, and as a backup method if misoprostol was unsuccessful. A referral system and contraceptive services were fully integrated to ensure comprehensive services. Data for analysis comes from client records, client exit interviews, and provider interviews.

Results: From July 2010-January 2011, 300 women were treated with misoprostol. 188 women participated in the exit interview. Maternal and child health (MCH) nurses provided 86% of PAC services across all facility levels. At the lowest level facilities (CS 2/3), parteira elementar (low-level nurses not trained in MVA) treated 30% of women receiving misoprostol. Client records showed providers gave the correct dose and route of misoprostol in all cases. All providers participating in the provider interview (n = 28) agreed or strongly agreed that it was easy to learn how to use misoprostol to treat incomplete abortion, that they felt comfortable using misoprostol to treat incomplete abortion, and that they would recommend the use of misoprostol to other qualified health care providers.

Conclusions: This operations research demonstrated that quality PAC services can be provided at all levels of the Mozambican health care system. The introduction of misoprostol expanded access to PAC by building the capacity of providers not previously trained in MVA to treat incomplete abortion. We recommend that policymakers consider integrating the use of misoprostol for treatment of incomplete abortion and miscarriage as part of PAC at all levels of the health system.

A-042

Medical abortion after 9 weeks

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Objective: To assess the efficacy and safety of the medical method of abortion in pregnancies with ≥ 9 weeks of gestation using mifepristone 200 mg and misoprostol 800 mcg vaginal after 48 hours.

Design and methods: Retrospective and comparative analysis of 4669 women who requested an abortion between 2007 and 2012. We considered two groups: pregnancies with ≥ 9 weeks (group 1) and pregnancies with < 9 weeks (group 2 - control group). We compared the success and complication rates between the two groups. The efficacy rate was defined as complete expulsion of gestational sac at ultrasound exam. Complications were categorized as incomplete abortion (presence of hyperechogenic structures at ultrasound), haemorrhage that implied blood transfusion, infection, uterine rupture and others (thromboembolism and anxiety or other psychiatric problems that implied therapy. Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) version 20. Chi square and Fisher's exact tests were used for categorical outcomes. Student's t test was used to compare means of continuous outcomes.

Results: There were 711 (15.4%) women in group 1 and 3895 (84.6%) in group 2. The mean maternal age was higher in group 2 (28.1vs 28.8, p = 0.014). There were no differences between groups in previous abortion, as well as in number of gestations, with 13.6% of primiparas in group 1 and 15.1% in group 2. There were no differences between groups regard-

ing the acceptance of medical abortion. The efficacy rate was 96.4% in group 1 and 98.9% in group 2 ($p < 0.0001$). Odds of failure to achieve abortion (OR = 3.33; 95% CI: 1.9–5.4) were higher in group 1. The complication rate was higher in group 1 (10.8% vs 7.2%, $p < 0.01$). Incomplete abortion was the only complication responsible for this difference (OR = 1.56; 95% CI: 1.18–2.07). Groups were similar in haemorrhagic complications (0.6% vs 0.5%), infections (0.3% vs 0.1%), uterine rupture (no cases), and other complications, including thromboembolic and post-traumatic symptoms related with the procedure (0.3% vs 0.2%).

Conclusions: Medical abortion in pregnancies with ≥ 9 weeks seems to be as safe and well accepted as before 9 weeks pregnancy. However, the protocol of mifepristone 200 mg and misoprostol 800 mcg vaginal after 48 hours seems to be less efficacious for abortion after 9 weeks, which could presumably be improved using a higher dose or a different schedule of misoprostol.

BARRIER METHODS

A-043

Information about family planning of women, seasonal agricultural workers, and its applications

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Objectives: This study, in order to identify information and applications about family planning of women, were carried out as cross-sectional descriptive.

Methods: Study sample consisted of 300 women coming to Urfa as agricultural workers in the months of June, July, and August. The data and questionnaire revealing the socio-demographic features and information and applications about family planning were collected. For processing the data in SPSS package program, chi-square analysis was used as statistical and correlational test

Results: It was identified that 75% of the women participating in the study were in the ages of 35 or less, 31.3 of them illiterate, and 34.3% literate. The educational status of them is: the rate of illiterate spouses is 4.3%, and the rate of literate spouses 19.7%. 63.7% of their spouses were stated to be artisan or worker. It was seen that 69.7% of the women were married for 5 years and more; 77.3% of them got married in the ages of 20 or less; 61.0% of them fell pregnant in the ages of 20 or less; and 79.9% of them had 2 or more children. When regarding to the state of knowledge the women have, 40.7% of them expressed that the ideal age for having a child was 20 or less; 39.0%, the ideal number of children was 4; and 42%, the interval between two pregnancy should be less than 2 years. 50.3% of the women received information about family planning; 43.3% expressed that they had midwife and nurse. The method of family planning the women were the most familiar was contraceptive pill with 87.3% and it was identified that the most used method was again contraceptive pill. It was determined that nearly half of the women were familiar with withdrawal and vaginal douche and that the rates of use remained in 30s%. As the educational level of the women rises, the rate of having training about family planning increases ($p < 0.05$). The level of correctly knowing and applying family planning of the women having training about family planning increases ($p < 0.05$).

Conclusion: It was identified that the information and applications of the married women working as seasonal agricultural worker toward family planning was not in the desired level; that the early marriage and falling pregnant was most seen in this group; and that the health of woman was negatively affected due to more and very often birthing.

A-044

Is the SILCS Diaphragm appropriate for women in India?

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Objective: Evaluate opportunities and challenges for future introduction in India of the SILCS Diaphragm, a single-size contraceptive barrier, using a systems approach.

Method: Desk research and key-informant interviews among policymakers, regulatory representatives,

health officials, providers, and reproductive health organizations in India characterized the national policy and programmatic environments. Focus group discussions (FGDs) in the states of Karnataka and Rajasthan explored regional differences and perceptions among potential users and their partners (married women and sex workers from both urban and rural areas).

Results: Interviews with 22 national-level stakeholders and 9 FGDs were conducted between November 2012 and April 2013. National-level stakeholders expressed strong support for SILCS to expand the contraceptive mix for young women seeking reversible methods for birth spacing. Training and integration into service delivery were not considered problematic. A phased introduction along with awareness campaigns is recommended since knowledge of diaphragms in India is low. Across both urban and rural FGDs, women were enthusiastic about a contraceptive method that has no systemic side effects and is under their control. Sex workers already use male condoms with clients and will not switch to a method that is less protective from HIV and sexually transmitted infections, although they would welcome SILCS to use with regular partners. While some stakeholders felt that rural women would find the use of SILCS difficult, this perception was not borne out by rural women. Some stakeholders would like SILCS introduced in the public-sector program where contraception is free, but most agreed that introduction through private not-for-profit clinics should be a first step. All recommended that SILCS be positioned as a contraceptive method appropriate for any woman and not be targeted to high-risk groups which could stigmatize its use. Since no contraceptive gel is currently available in India, clinical testing of gel will be required as well as local acceptability data.

Conclusions: SILCS would be welcomed in India as an addition to the limited contraceptive options. Broad agreement suggests SILCS be introduced slowly through nongovernmental sectors (not-for-profit clinics, social and commercial marketing). Stakeholders suggest a bridging study in India to raise awareness of SILCS and better understand consumer interest. This reusable barrier method could help address unmet need for family planning, especially among women concerned about systemic side effects from hormonal methods and intrauterine devices. Despite the widespread enthusiasm among stakeholders, SILCS introduction will be delayed until an appropriate contraceptive gel is registered and available in India.

A-045

First year experience with a single – size contraceptive diaphragm (Caya®)

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Objectives: Explore preliminary consumer and provider experience with a new single-size contraceptive diaphragm, including adequacy of instructional materials, and compare markets where it provided over-the-counter (without fitting) to where it is by prescription.

Methods: A new contraceptive diaphragm being introduced in Europe has design innovations which eliminate the need for a provider exam to assess diaphragm size. The SILCS diaphragm received CE Mark certification in March 2013, and has been launched under the brand CAYA® contoured diaphragm. The Caya ® is approved as an over-the-counter (OTC) provision in most European countries, however, in France and Italy approved Caya® by prescription only. Consumer and provider feedback is being collected through several methods to monitor early experience with this new device, and assess whether the educational materials provided with the Caya® diaphragm are sufficient for women learn to use the Caya® successfully. A consumer survey was launched in Germany in October 2013 and will run for five months. Provider feedback has been collected at professional meetings over the past 12 months, and through a direct mailing to healthcare providers who requested information about this product. The manufacturer maintains a call-in number and a web-site where consumer and provider feedback and questions are being collected. This presentation will share preliminary feedback collected from these sources.

Results: Caya diaphragm was launched in eight countries during 2013, and used by more than 12.000 women. Feedback through the online survey, and direct responses at conferences and through the website suggest the instructional video and the printed instructions are sufficient to teach women use the Caya®. The consumer survey and outreach to providers will assess whether women meet with a provider for additional

counseling instructions, and what are common questions and concerns. Family planning providers see this a an option for younger women under 35years as well as for peri-menopausal women and also for women who cannot use other methods. During the first six months of consumer experience, few consumer complaints or questions were reported.

Conclusions: Based on preliminary feedback, the OTC delivery of the Caya® diaphragm seems successful, with fewer than expected consumer questions. The requirement in France and Italy for prescription is being monitored, but initial data suggest this has not significantly affected access. Additional outreach to providers and consumers is warranted to understand experiences with this new single size diaphragm.

A-046

Barrier contraceptives: evaluation after three years of counselling

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Objectives: This study evaluates first three years of counselling for a female vaginal contraceptive device FemCap. From 1980s until 2010 no female barrier contraception was marketed in the Czech Rep. apart from a female condom, and potential users and medical staff were lacking experience. As high efficiency of the FemCap depends on motivation and knowledge of an user, and on information given, we launched a counselling based on our professional background and personal experience.

Method: Received email queries were categorized to individual clusters, and evaluated.

Results: In three years we answered 426 emails, each with 1, 42 queries on average, 54% of questioners requested counselling prior purchase, 46% after reading the instructions of use. Of all the queries 27% related to insertion or removal, 19% to general strategy of contraception, 15% to medical issues, e.g. physiological discharge, ectropium, mycosis, reverted uterus etc., 13% to spermicides, 10% to appropriate size, 3% to susceptibility in men, 1% to failure, and 13% were classified as "Other".

Conclusions: Although the counselling was primarily intended as a support for FemCap users, almost 1/5 of the questioners welcomed it as an opportunity to consult nonhormonal contraceptive strategy in general. Based on this finding we suppose, that "ordinary" women, who are not a target group of any NGOs (not teens, not abused, not unwillingly pregnant), have unsolved questions about contraception and their sexual life, and appreciate a credible counseling, if there is any. We also suggest, that manufacturers and sellers of female barrier devices should not underestimate the importance of online counselling with regard to users´ comfort and almost immediate help, when it is needed.

CONTRACEPTION IN ADOLESCENCE

A-047

Contraceptive use in women under 20 years of age: rate, kind and related factors; a study in Iran

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Objective: The purpose of the present study was to evaluate the rate and kind of contraceptive methods used by women under 20 years of age and finding the related demographic factors.

Method: A prospective descriptive study was performed on women under 20 years of age in Tehran, Iran. The 500 women who finished the study were evaluated regarding the rate of contraceptive use, which method was used and finding the probable demographic related factors.

Results: More than half (51.6%) of the women used contraception. The most common method was breastfeeding (27.1%) although only 2.8% were aware of breastfeeding as a contraceptive method. Other common methods used were IUD (intrauterine device) (24.8%) and the withdrawal method (24.8%). The usage of contraception was directly related to the number of pregnancies, the age of marriage and the woman's age at the first pregnancy. It related indirectly to the level of education, the number of brothers and sisters and size of the family, socioeconomic status, the age of mother when married and the age of menarche.

Conclusion: Knowledge of the related factors of contraceptive use may help the public health organizers to make these factors correct.

A-048

Controversies on hormonal contraception in adolescence and bone metabolism

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Introduction: Peak bone mass in women is obtained during the transition from adolescence to young adulthood. It seems dependent on estrogens and multiple other factors. May hormonal contraception prevent the acquisition of peak bone mass? Do different routes of administration, doses and formulations have impact in terms of bone metabolism in this age group? As diminished peak bone mass augments fracture risk in peri and post-menopausal women, can changes in bone mineral density in adolescence translate into a higher risk later in life? What is the best contraceptive method in this particular age group, where preventing pregnancy and obtaining good cycle control is of uttermost importance? Should peak bone mass influence our choice?

Objective: Research of the current literature to answer practical questions about the impact of hormonal contraceptive methods use on bone metabolism of adolescent users.

Methods: Searching of medical databases (Pubmed, Web of Knowledge) using the terms "hormonal contraception", "peak bone mineral density", "peak bone mass", "adolescents", "fracture risk". Language: English. Time limit: last 5years.

Results: Hormonal contraceptive methods and its effects on bone metabolism are divided into neutral (combined oral $>30\mu g$ de ethinyl-estradiol (EE), combined transdermal patch, combined vaginal ring, oral progestin, subcutaneous progestin implant, intrauterine progestin releasing device) and controversial (injectable progestin, combined oral $<30\mu g$ de EE).

Conclusions: The influence of hormonal contraception on adolescents´ bone mass density is still a controversial subject, under actual debate and investigation. The balance bone mass density-fracture risk in pre-menopausal women is not yet fully established, and no epidemiologic study has shown a higher risk in hormonal contraceptive users. Nevertheless, specially in lean/low body mass index adolescents, combined oral contraceptives $<30\mu g$ de EE and injectable progestin-only should be set aside in favour of other contraceptives, in order to obtain maximum peak bone mass. Future studies are needed to clarify which progestins are more suitable, taking in account their androgenic properties and its possible beneficial effect on bone tissue. Preventing unwanted pregnancy is the sole most important factor in this particular age group, and as such, there are no contraindications for any kind of hormonal contraception in adolescence.

A-049

Health education and promotion

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Introduction: Health education in schools is a purposeful educational process not only with multidisciplinary nature, but also interdisciplinary, which helps to improve the connection between school and social reality. The purpose of Health Education and Promotion is to protect, improve and promote students' mental, physical and social health, in order to develop their skills and critical thinking on the one hand and to upgrade their social and physical environment on the other hand.

Discussion: The Health Education and Promotion is thought the primary prevention, namely prevention, which is directly related to the manner and way of life. The objectives of Health Education and Promotion are several. For example, upgrade of school life and connection to reality, prevention of exclusion young people of the society and the labor market, developing skills and configuration with critical stance, reducing school failure and dropping out of compulsory education. The modern methodology of Health Education and Promotion is not a simple accumulation of information and knowledge in special health issues, but also the development of skills to adopt positive behaviors that protect and promote health through active and experiential

learning. The implementation of Health Education and Promotion school programs based on active/ experiential learning, intends to change students' attitudes and behaviors enhancing accountability, communication, confidence, self-esteem, personality and students' ability to adopt healthy lifestyles. The first stage of the cycle of active learning act-experience is the stage of activities where information comes naturally through experience. The Health Education programs place students at the heart, specifically adapted to their needs and specific characteristics and encourage teamwork procedures and methods. The teacher's role in the implementation of these programs is important and catalytic. His role is coordinator role also. Indicates to students what they will do, but attempts to extract and to help them discover their personal needs.

Conclusion: Although useful reports of Health Education and Promotion in the individual matters of the program, have the disadvantage that the information is given fragmentary and incoherently, being subservient to the needs and practices of the promoted course. Surveys have shown that deliberate issues' negotiation such as nutrition, safety, sexual and in general, physical development, drug use and emotional health, as far as Health Education and Promotion programs concerned, have shown better results on students' cognitive and metacognitive subjects in regard with the negotiation of same subjects integrated in the daily school practice.

A-050

Examining disparities in modern contraceptive use in Mexico: the adolescent experience

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Objective: To examine disparities in modern contraceptive use, specifically of long-acting methods, and client-reported quality of contraceptive service provision by age (adolescents compared with women 20-49) in Mexico.

Method: We used a population-based demographic survey (Encuesta Nacional de la Dinamica Demografia, ENADID). We used multivariable methods, a matched sample, and calculated odds ratios and predicted probabilities for three binary outcomes: use of a modern contraceptive method, use of a long-acting reversible method, and a high quality score (indicating a yes response to five items about the client experience of service provision that focus on information provided and interpersonal quality). We included household and individual level indicators of socio-economic status, access to care via health insurance, and previous fertility in our models.

Results: Adolescents had a lower prevalence of modern contraceptive use in our sample (N = 38,096) (7% compared with 50% for women 20 and over), but greater use of long-acting reversible methods among all women using any modern method (n = 15,815; 51% compared with 25% among women 20 and over). Sterilization is used by 58% of women using any modern method overall, but only by 2% of adolescents. Married adolescents had lower odds of using any modern method compared with older women (OR = 0.48; 95% CI = 0.40 – 0.57), and this disparity was greater among unmarried adolescents. Rural adolescents had a predicted probability of using any modern method of 16.3% compared with 37.8% for non-rural women 20 and over, holding other covariates at the mean. Adolescent age was positively correlated with long-acting contraceptive method use among married women, but was not significant when restricted to non-sterilized women; unmarried adolescents had lower odds of long-acting method use. Adolescents had lower odds of a high quality score (OR = 0.73; 95% CI = 0.57 – 0.95) compared with women over 20, while health insurance was positively associated with a high quality score (OR = 1.29; 95% CI = 1.09 – 1.51).

Conclusion: Sterilization drives contraceptive prevalence in Mexico, but does not meet the needs of adolescents, who may desire pregnancy in the future. Married adolescents are at high risk for unplanned pregnancy, but are less likely to use any modern method than older women. Adolescents appear to be at greater risk of negative quality as measured by client experience of family planning service provision. Improving access and quality of services for adolescents is essential to reducing unmet need for contraception.

A-051

Self-reported health in adolescent girls varies according to the season and its relation to medication and hormonal contraception - A descriptive study

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Objectives: To study seasonal variations in self-rated health and depressive symptoms in adolescent girls and possible differences in reported health with regard to use of medications.

Method: The SF-36 questionnaire was completed by 1250 girls with a mean age of 17 years, who visited a health centre in the course of one year. From January to July inclusive, depressive symptoms in 453 of the participants were also assessed using MADRS-S (Montgomery Åsberg Depression Rating Scale-Self rating version). Age and regular medication data were recorded.

Results: Significantly better mental health and less depressive symptoms were reported during the summer, than in winter months. Seasonality was more related to the SF-36 mental, than physical health subscales. Respondents treated with hormonal contraceptives (HCs) only and those not taking any medication scored better on several SF-36 subscales, than girls on antidepressives and other medications. Respondents taking HCs tended to report better physical health and less depressive symptoms on MADRS-S than those taking no medication.

Conclusions: Adolescent girls showed seasonal variations in self-reported health and depressive symptoms, with more symptoms during winter months. HC users tended to report better physical health and less depressive symptoms than those on no medication. The high prevalence of suspected depression during the winter months deserves attention.

A-052

Emergency contraception in adolescent girls at the Mother and Child Health Care Institute of Annaba

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Aim: The objective of our study is to clarify the knowledge of emergency contraception regarding its role and side effects among adolescents in the Mother and Child Health Care Institute of Annaba in the period from 1 January 2010 31 December 2012.

Methods: During the period January 2010 to December 2012 the Mother and Child Health Care Institute of Annaba conducted a survey regarding the knowledge of emergency contraception. This survey was made by using anonymous questionnaires during the offered programmes on the field in different mother and child health care institute of Annaba.

Results: 240 adolescents aged from 15-18 years old were included in the study concerning emergency contraception. 180/240 had ever heard about emergency contraceptive pills and even less knew their role or side effects or the correct methods of use 102/240.

Conclusion: Greater effort should be made in informing Algerian adolescents regarding the role of emergency contraception.

A-053

A brief educational intervention changes knowledge and attitudes about contraception for adolescents in rural Ghan

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Objectives: The primary aim was to assess knowledge and attitudes about contraception among female adolescents and parents of adolescents in rural Ghana, before and after a brief educational intervention. The secondary aim was to measure knowledge and

attitudes toward education for females, particularly in the setting of pregnancy.

Methods: We administered a 26-item survey to 52 adolescent females aged 13-19 years and 48 parents of adolescent females in Manso Nkwanta, Ghana before and after an educational intervention. The survey was designed to evaluate knowledge and attitudes toward adolescent pregnancy, contraception, and education of women during and after pregnancy. The 30-minute intervention addressed the safety and effectiveness of contraception for teens, with emphasis on the intrauterine contraceptive device (IUD) and implant. It also addressed the importance of delayed pregnancy in women's ability to continue education. Pre- and post-intervention knowledge and attitudes were compared using descriptive, chi-square, and t-test statistics.

Results:

Knowledge:

At baseline, 58% of participants knew contraception is safe for teens. Most did not know whether IUDs and implants are safe (90% and 71% respectively). The majority knew teens are more likely to die in childbirth than other women (81%), most teen pregnancies are unintended (79%), and teen mothers are less likely to finish education (90%). After the intervention, more participants knew that contraception in general (84%), IUDs (54%), and implants (77%) are safe for teens compared to baseline ($p < 0.001$ for each). Parents answered more post-intervention knowledge questions correctly compared to teens (7.2 versus 5.8 out of 9, $p < 0.001$).

Attitudes:

At baseline, 94% thought adolescents should have access to contraception. Most had no opinion whether the IUD (93%) or implant (69%) was a good option for themselves or their daughters. Half (52%) of adolescents and 23% of parents thought a pregnant adolescent should stop school, though the majority of both groups (92% and 96%) thought she should return to school after birth. After the intervention, more participants had positive attitudes toward IUDs (54%) and implants (72%) compared to baseline ($p < 0.001$ for each).

Conclusions: Although knowledge was high regarding the medical and social risks of teen pregnancy, knowledge of contraceptive methods and their safety for teens was low. An educational intervention improved contraception knowledge and created favorable attitudes toward the most effective methods. Existing programs should be modified to include evidence-based information about contraception. Larger issues of educational parity for Ghanaian women emerged and should be addressed by future interventions.

A-054

Contraceptive methods used by adolescent and young women in northern Greece

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Objective: To investigate the contraception methods, sexual behavior and level of acquaintance with sexual health issues of young women in Northern Greece.

Method: A questionnaire consisting of 77 questions investigating individual attitudes, perceived behavioral control and subjective norms toward several sexual matters was filled in by 101 females, between the ages of 13 and 26. The young women were visitors of a Pediatric & Adolescent Gynecologic outpatient clinic of a university hospital. The questionnaires were obtained from January 2012 to September 2013.

Results: The results derive from the 68.3% of the respondents who have had complete sexual relationships at the time of the research. The average age of the first sexual intercourse is 17.6 years old (standard deviation [SD] 1.78). The most familiar contraceptive methods were the condom (95.7%) and the pill (95.7%) followed by IUD (79.7%), morning after pill (69.6%) and abstinence (37%). The most commonly practiced method was the condom (94.2%) followed by the pill (29%), coitus interruptus (29%) and morning after pill (27.5%). Only 1.4% did not use any contraception. Half of the respondents that used contraception pill combined it with condom.

Conclusions: Although young females tend to start their sex life earlier, they also visit earlier a gynecologist and they seem to be more comfortable with the use of condom, which is the most preferable contraception method, followed by the contraception pill.

They are more informed and more familiar with protecting themselves.

A-055

Adolescents perception on contraception and sexually transmitted infection

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Objective: The aim of this study was to compare knowledge on contraception and sexually transmitted infections (STI) of adolescents girls attending a Portuguese military school as boarding or day (semi-boarding) student.

Methods: Permission was taken and 90 students between ages 14–18 years participated in the study. Data was collected from a questionnaire with thirteen questions concerning contraception and STI. Two groups were defined: Group 1-boarding students; Group 2-day students.

Results: In our study, day students were older and attended military school longer than boarding ones,with statistical significance [G1: 15 vs G2: 16 years-$p < 0.0001$; G1: 4.24 ± 2.779 vs G2: 5.87 ± 1.885 years-$p = 0.006$]. In both groups, the majority acquired information on contraceptives through teachers [G1: 86.3% vs G2: 88.2%-p0.88], followed by friends [G1: 63% vs G2:76.5%-$p = 0.31$]. Boarding and semi-boarding adolescents knew on average ten contraceptive methods($p = 1.06$). All were aware of male condom and the least known was contraceptive injection [G1: 58.6% vs G2: 70.6%-$p = 0.29$]. About contraception, the majority admitted that contraceptives must be properly used to be effective [G1: 82.2% vs G2: 88.2%-$p = 0.59$] and were not suitable for all women [G1: 79.5% vs G2: 82.4%-$p = 0.83$]. About male condom, almost all adolescents knew it should be placed before intercourse [G1: 94.5 & vs G2: 100%], although in group 1, 11% still considered two condoms placed simultaneously more protective. Compared with boarding group, most day students believed that combined oral contraceptives (COC) could cause infertility, but considered it should only be started after medical consultation, with statistical significance [G1:19.2 vs G2: 52.9%-$p = 0.008$; G2: 21.9% vs G2: 47.1%-$p = 0.049$]. Students in both groups had knowledge on non-contraceptive benefits of COC [G1: 71.2% vs G2: 76.5%-$p = 0.69$]. Almost half (45.2%) of boarding group believed that COC increases weight against less than one third (29.4) of semi-boarding group ($p = 0.25$). In both groups, the majority thought that emergency contraception is a abortive method [G1: 69.9% vs G2: 76.5%-$p = 0.62$]. All day students knew tubal sterilization is a definitive method, against two thirds of boarding group, with statistical diference [G1:72.6% vs G2:100%-$p = 0.008$). About vaginal ring, 16.4% in group 1 and 5.9% in group 2 answered it is the new female condom ($p = 0.29$). Condom was considered the most effective contraceptive by the majority of adolescents [G1: 74% vs 82.4%-$p = 0.5$]. Surgical sterilization was most named in group 2, with statistical difference found in vasectomy [G1: 53.4% vs 82.4%-$p = 0.03$]. In both groups, most knew abortion is not a contraceptive method [G1: 72.6% vs G2: 70.6%-$p = 0.85$], but a quarter still believed is illegal [G1: 26% vs G2: 23.5%-$p = 0.86$].

Both groups claimed knowing five STI, on average ($p = 1.01$). HIV/AIDS and genital herpes were know by almost all students [G1: 100% vs G2: 100%; G1: 98.6% vs G2: 100%]. Semi-boarding group had more knowledge about HPV [G1:32.9 vs G2:47.1%-$p = 0.29$], although more boarding students associated STI with cancer [G1: 47.9% vs 23.5%-$p = 0.007$].

Conclusions: In this study,a majority of students from both groups got information on contraception from friends.That can lead to erroneous beliefs about contraceptive methods, specially in boarding students. Both boarding and semi-boarding adolescents need also more knowledge on HPV and STI consequences.

A-056

Post delivery IUD placement in young adolescents: clinical experience in Mexico

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In México, 19.3% of the births occurred in 2011 were in adolescent women (1). According previous estimates, from all that are discharged without a contraceptive method, 45% have intercourse in the first

6 weeks after the delivery and 35% are pregnant again in the first 24 weeks after the delivery (2). Adolescents maintain a high risk of unplanned pregnancy due to inconsistent or inadequate use of contraceptive methods that require her constant participation.

Objective: To show that IUD is an excellent contraceptive option for this population group.

Materials and methods: We made a descriptive, retrospective and observational study between January 2010 and June 2012, including 873 patients.

Results: Mean age of the group was 15.51 (+/− 1.077); mean age at sexual debut was 14.43 (+/− 1.183); 93.2% (812) had ever been pregnant before and 6.4% (56) were in her second pregnancy. The most commonly used contraceptive method before the pregnancy was the condom (18.2%, 159) and 75.6% (660) reported not been using any contraceptive method before. After the delivery, 665 adolescents (76.9%) elected IUD as contraceptive and 184 adolescents (21.3%) were discharged without any contraceptive method, for several reasons.

Conclusions: Counseling on contraception during prenatal control is highly relevant for adolescents. The period after delivery is a key moment for the acceptance and establishment of a contraceptive method, because the adolescent is highly motivated to prevent a new pregnancy.

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A-057

Subcutaneous Etonogestrel implant in puerperal adolescents

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Objective: To assess what happened after subcutaneous etonogestrel implant placement in puerperal adolescents.

Design and methods: We included patients aged 18 years or less, who received an etonogestrel implant during the postpartum period in our institution between February 2008 and September 2010 (31 months). We studied what happened in the three following years regarding: side effects, satisfaction, time and reason for implant removal and the desire for new method. Patients were contacted by telephone and clinical files were consulted for data collection.

Results: Fifty-eight patients were included. Mean age was 17.2 ± 0.9 years (range 14–18). Eighty-six percent of adolescents (n = 50) reported side effects, the most common were: weight gain (51.7%, n = 30), abnormal uterine bleeding (46.6%, n = 27), acne eruptions (29.3%, n = 17), hypertrichosis (13.7%, n = 8), pain at the insertion site (10.3%, n = 6). Amenorrhea was found in 48.2% of patients (n = 28) and 67.9% of those considered this as an unpleasant side effect of the method. Three years after the placement of the subcutaneous implant 21 patients (36.2%) were satisfied, and 9 of those (15.5%) wanted to keep the method for another three years. Nineteen patients (32.8%) had the implant removed before completing 3 years, the reasons mentioned were: weight gain n = 6; abnormal uterine bleeding n = 5; amenorrhoea = 4; and desire to get pregnant n = 4. The 15 patients in whom the implant was removed started combined oral contraception.

Conclusions: After delivering the information available on the various methods, in our institution adolescent mothers are encouraged to implement a reversible long-term contraceptive method. However, the high incidence of side effects and early withdrawal of the method should force us to rethink this approach. Larger studies should be performed to assess the risk-benefit of the subcutaneous etonogestrel implant in puerperal adolescents.

A-058

Teenage pregnancy: a review of patients accessing obstetric care

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Over a quarter of South African women have been pregnant by the age of 19 years.

Objectives: The objective of this study is to evaluate the socio-demographic and family background of pregnant teenagers in our clinical service as well as their contraceptive use and knowledge.

Method: This is a cross-sectional observational study, comprising 314 pregnant teenagers. Data were collected by means of an administered questionnaire, captured using Epidata and statistical analysis performed using STATA.

Results: The average age of respondents was 18.1 years. Of these women, 10% were in their second pregnancy, 61% of women were from non-nuclear families (mostly raised by a single parent) and 44% had mothers who reported a teen birth. Twenty one percent of women lived in informal housing with 33% not having indoor plumbing or a flush toilet. Over a third of women were screened as high risk for perinatal mental health problems. A third of women had suffered abuse in their lifetime and only 43.6% of the respondents were currently attending school. The most common reason for school leaving was pregnancy (31.1%). Most participants felt their pregnancies had occurred at the "wrong time" (n = 240, 76.4%) yet only 43% of women had been concerned about the possibility of an unintended pregnancy and only 12% were using contraception at the time of conception. Most of the respondents would have preferred to wait 5 years (68%) while 23% would have preferred to delay their first pregnancy by 10 years. Eighty three women (26%) had considered a termination of the current pregnancy. The most common form of contraception of which patients had knowledge was injectable hormonal contraception (87.3%), the male condom (62.7%), and the oral contraceptive pill (59.6%). Despite this knowledge, only 31% of women had ever used injectable contraception, 34% had used the male condom and 7% had used the combined oral contraceptive pill. Despite the low usage of contraception, most women reported that contraception and information regarding contraception was readily available (n = 233, 74.2%).

Conclusions: This study shows that the pregnant teenager in our community is likely to come from a disrupted home, from a low income family, be at risk for mental health problems, leave school prematurely, be a victim of abuse and use contraception unreliably. It highlights the need for intensive educational, counselling and social services within our school system from a young age.

A-059

Reproductive behaviour of the adolescent girls in the region of Annaba and choice of contraception

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Objective: To reduce the number of abortions in adolescents in Annaba region (Algeria) on the basis of the development and introduction of a system of regional measurs.

Design and methods: A prospective study; a group 562 studying adolescent girls aged 15-18 years; volunteer anonymous guestionnaire survey, descriptive statistics, one-way layout variance analysis.

Results: From the total number of the adolescent girls 59.3% were sexually active. 72.1% believed that sexual debut at the age of 17 and above was optimal. Almost half of the interviewed have remarked that they had not received sufficient sexual education. Though they were aware of several methods of contraception amongst which they have named: Condoms (98%), hormonal pills (54.3%), intrauterine devices (59.1%). Analysis of the sources on the methods of contraception have shown that they have discussed this theme with friend (62.1%), mother and relatives (20.3%), a medical worker (7.9%), or retrieved it from the special literature (9.4%). This points to the fact that they have quite insufficient sexual education and are inadequatly informed, or do not use the methods of contraception in the life. Accordingly, they represent the group with high risk of occurrence of non-desired pregnancy and in respect of possible abortion.

Conclusion: To reduce abortion amongst adolescent girls one should bring qualified consultative services nearer to them, provide these girls with better information and offer them a wider range of contraceptive choices.

A-060

Adolescents: what do they know about contraception and sexually transmitted infections?

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Objective: The aim of this study was to evaluate adolescent's knowledge regarding contraception and sexually transmitted infections (STI).

Methods: After informed consent, a thirteen questions questionnaire about contraceptive methods and STI was given to 90 highschool students. The studied population consisted of adolescent girls attending a female-only Portuguese military school, with both a boarding and a semi-boarding regime. The answers were evaluated and data were analysed using SPSS 21.0.

Results: In our sample ($n = 90$), the average age was 15.96 ± 0.947 years old [min14, max18]. The adolescents attended this school for 4.53 ± 2.706 years on average, 80% of them in a boarding regime. Most of the responders obtained information on contraceptives through teachers (86.7%), friends (65.6%) and their mothers (55.6%).Teenagers claimed to know ten contraceptive methods, on average. The most known methods were condoms (male-100%, female-94.4%) and combined oral contraceptive (COC-98.9%).The less known were conceptive injection (61.1%) and the implant (71.1%). The inquired knew contraceptives only provide protection from pregnancy when used properly (83.3%) and that not all methods are appropriate for all women (80%). For 96.5% of the responders, male condom should be placed before intercourse. However, 8.9% still believed that two condoms placed simultaneously protect more. 72.2% recognized non-contraceptive benefits of COC. However, 41.1% of responders still believed that COC increases weight (41.1%), is harmful (12.2%), causes infertility (11.1%) or dependence (10%) and should not be taken for a long period of time (22.2%). Concerning emergency contraception, the majority knew they could be bought without a prescription (77.8%) and 71.1% considered it as a form of abortion. Also 6.7% though that it is an injection and 4.4% considered emergency contraception as always effective. For one third of the adolescents,intra-uterine devices were just for older women. For 14.4%, vaginal ring is the new female condom and 7.8% thought vasectomy causes male impotence. 22.2% knew tubal ligation is a permanent method. About abortion, 72.2% knew it is not a contraceptive method, but a quarter of the responders considered it illegal. When asked about the more effective contraceptive, the majority voted in male condom and surgical sterilization.

Inquired claimed to know on average five STI and HIV/AIDS was the most known, followed by genital herpes and hepatitis. Just 35.6% knew HPV, but 43.3% admitted that STI can cause cancer.One fifth of adolescents considered STI as incurable and 43.3% said it causes infertility. Condom(male-95.6%, female-83.3%) was regarded as the most protective contraceptive against STI, but 6.7% still believed that vaginal ring also provides protection.

Conclusions: Results of the study showed that the majority of adolescents had heard about contraceptives at school or from friends and family. However they still have some misconceptions about the contraceptive methods and STI,needing more knowledge especially on emergency contraception and HPV.

A-061

Pregnancy in adolescence: planned or unplanned?

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Objectives: The majority of pregnancies in adolescents are unintended. Of these, most occur to girls who were practicing contraception in the month they conceived. The purpose of this study is to know the number of planned/unplanned pregnancies in the group of adolescents that gave birth in our hospital, a tertiary referral centre, and what was the contraceptive method used before pregnancy.

Design and methods: Data related to the cases of pregnancies in women aged less than 18 (N = 98) were collected between January 2011 and November 2013 in our hospital. In these cases, we assessed whether the pregnancy was planned or if it was due to a failure of contraception. In cases where the pregnancy was unplanned data were gathered from the patient's

records for descriptive evaluation of contraceptive methods that were used.

Results: Between January 2011 and November 2013, in our hospital, there was a total of 98 pregnancies in adolescents aged less than 18. These cases were distributed as follows: 1 with 14 years old, 5 with 15 years old, 8 with 16 years old, 33 with 17 years old and 51 with 18 years old. Seven percent of these were planned pregnancies. Among those who had an unplanned pregnancy (93%), approximately 22% were preceded by no contraception, 28% by condom use and 50% by oral contraception. None of them had a teen repeat birth.

Conclusion: Once pregnancy in this age group is in most cases unplanned, here is once again recognized the role of primary prevention and therefore the establishment of a kind of safe and effective contraception is essential. There is still a large percentage of adolescents without contraception (22%). Oral contraception is the contraceptive most commonly used (50%); we should take into account the importance of full compliance of adolescents, since the effectiveness of the contraceptive method is dependent on its proper use. So we should keep in mind the importance of establishing a contraceptive method in preventing teenage pregnancy which must be effective, safe and accepted by adolescents.

A-062

Contraceptive methods awareness and knowledge of adolescents in the region of Annaba

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Objectives: The aim of the study was detection of level of awareness and knowledge in contraceptive methods of the adolescents in Annaba.

Design and methods: Qualitative survey among 553 adolescents aged 15-18 in Annaba schools with the use of in-depth and key-informant interviews were carried out.

Results: 95% of repondents were aware about pregnancy, negative results of abortion as well as the possibilities of avoiding unwanted pregnancy. Awareness on particular methods of contraception was varying in wide range (0.4 -83.1%). Even for the most popular methods of contraception knowledge of correct use was significantly lower than awareness (by 50%, excluding condom). The use of condom seems to be familiar for the majority of the girls (63%). The knowledge about the hormonal pills turned out to be similar. A share of those informed about other means of contraception and aware of their application order is very small (about 2%). Among these, awareness about the traditional and the post-coital contraceptives tends to grow with the years. 87.6% of repondents consider casual sexual contracts as dangerous. Majority of repondents think that both sexual partners have to take care to avoid the unwanted pregnancy.

Conclusion: The results above should be taken into consideration during elaboration of educational and health programs of adolesecnt reproductive health.

A-063

Contraceptive behavior from teenagers at the time of abortion in Thrace

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Objective: Contraceptive advice at the time of abortion has great eminence in a way to prevent unintended pregnancies in teenagers. Information about contraceptive use in teenagers can be used to guide the development of state programs regarding unwanted pregnancies and the spread of sexually transmitted infections. The purpose of the present study was to investigate contraceptive behavior of teenagers of two different socioeconomic populations in Thrace area.

Method: In a retrospective study during 7 years (2003-2010) were included 125 teenagers, aged 14-19 years, 68 Christian Orthodox (Group A) and 57 Muslim (Group B) women living in Thrace and had an abortion in our Department of Obstetrics and Gynecology in Alexandroupolis. Attitudes concerning contraceptive practices previously to abortion and post abortion were assessed by means of a questionnaire. The participants gave detailed answers according to age, place of residence, religion, social, economic status and using of contraceptive method. Statistical analysis

was performed using Turkey s test, chi-square test. And on-way analysis of variance (ANOVA).

Results: In the Group A the prescribed contraceptive methods previously to abortion were as following: contraceptive pills especially low dose pills (26.8%), condom (24.2%), periodic abstinence (27.3%), coitus interrupted (21.3%). The findings in the Group B were contraceptive pills (15.3%) condom (35.8%) periodic abstinence (26.1%), coitus interrupted (22.3%). The interrupted coitus and periodic abstinence were the most common methods of contraception in both groups. The sexual partner in the Group B and the family consultant in Group A were the most usual sources of information. All participants were agreed about the necessity of contraceptive counseling after abortion taking recommendations from the doctor about the various contraception methods. The majority of the participants preferred the contraceptive pills, in second position the condoms referred as the best method to prevent of unintended pregnancies.

Discussion: The results of our study based on representative samples reveal that there are behavioral differences between the teenagers subgroups regarding contraceptive practices. Attitudes toward contraception reflect the time and the society in which the teenagers are living. Contraceptive counseling is very important for both subgroups.

A-064

Adolescence and contraception: myths and misconceptions

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Adolescent reproductive and sexual health continues to be a challenge, especially regarding unintended pregnancy. According to the literature the high risk behaviors can be minimized if the teenagers are informed and motivated to use contraception.

Objective: To evaluate the level of knowledge about contraception of high school students attending public Schools of our capital city.

Design and methods: We conducted a cross-sectional questionnaire survey of high-school students (14–18 years old) in reproductive and sexual health education sessions organized by our institution (N = 150).

Results: Six point eight percent think that elective abortion is an illegal procedure; 41% state that during one's menstruation there's no risk of getting pregnant; 12 and 25.7% consider, respectively, coitus interruptus and periodic abstinence very efficient contraception; 73% think that oral contraception cannot be used for long-term periods; 37.5% don't know about emergency contraception; 10.8%, 35.8% and 12.2% consider, respectively, that oral, vaginal ring and subcutaneous implant contraception protect against sexually transmitted diseases.

Conclusions: The results show that there are still important myths and misconceptions about contraception. When dealing with adolescents it's essential to know their level of knowledge, in order to improve educational actions. It's vital to give them correct and assertive information to prevent unintended pregnancy and help them have a healthy reproductive and sexual experience.

A-065

Pregnancy in adolescence

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Objetives: The aim of this study was to evaluate pregnancy surveillance, complications and delivery in adolescence.

Material and methods: Retrospective study including pregnant women aged less than twenty years, whose delivery occurred from January to December 2012. Statistical analysis was performed with IBM SPSS Statistics 19 software.

Results: Ninety women were included in this study, corresponding to 5.6% of the deliveries. Patients age was: 13 years (1%), 14 years (2%), 15 years (2%), 16 years (14%), 17 years (18%), 18 years (21%) and 19 years (41%). The surveillance of pregnancy was in medical specialty consultation in 51% of cases and in primary health care in 47%. The first consultation was performed in first trimester in 71% of women, in second trimester in 21% and in third trimester in 3%. The educational level was basic (until 6 years) in 45% of teenagers, 3° cycle (until 9

years) in 34% and secondary (until 12 years) in 8%. At the time of delivery, 43% of adolescents were unemployed, 16% had a job and 28% were students. Obstetrical complications were noted in twelve cases: oligoamnios (4), pre-eclampsia (2), fetal death (2), fetal growth restriction (1), hypertensive pathology in pregnancy (1), gestational diabetes (1) and abruptio placentae (1). Nineteen percent of teenagers already had been pregnant previously, 47% of whom had had an induced abortion. Term delivery occurred in 92% of cases and pre-term delivery in 8%. The type of delivery was: abdominal in 19% of pregnancies and vaginal in 81% (eutocic 66%, vacuum extraction 13% and forceps 2%). An Apgar score above 7 in the first minute was present in 90% of neonates.

Conclusions: 47% of adolescents were monitored in primary health care, and were not referenced to the hospital consultation, which are the recommendations. There was an early surveillance of pregnancy in 71% of teenagers, with de first consultation in the first trimester. The main obstetrical complications were: oligoamnios, pre-eclampsia and fetal death. Pre-term delivery was superior in this group of pregnant (8% vs 5.5%). However, the rate of caesareans was inferior in the adolescents (19% vs 29%). The conclusions will be able to suffer an error from bias due to dimension of the sample.

CONTRACEPTION IN MEDICAL CONDITIONS AND DISABILITY

A-066

Counseling and use of contraceptive methods by women with epilepsy

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Objectives: This study aimed to evaluate contraceptive counseling received and the actual use of methods by epileptic women managed at a single tertiary hospital.

Methods: This cross-sectional telephone survey involved epileptic reproductive age women (10-50 years) managed at the neurology clinic of Universidade Federal de São Paulo. All participants were using anticonvulsant medications. The study was approved by the institution´s ethics committee.

Results: 101 women were contacted, 41 were excluded because they were post-menopausal and 60 were included in the survey. The participants´ mean age was 32 years, mean age at menarche was 12.6 years and mean age at diagnosis of epilepsy was 11.2 years. Almost 40% of the women reported that epileptic crisis changed according to their menstrual cycle; most (78.3%) reported an increase in the number of convulsive episodes prior to menstruation (mean 1.5 days before bleeding). Only 25% of the women had started sexual activity before the diagnosis of epilepsy and 30% of the participants reported having received contraceptive counseling, although none had been informed about the possible interaction between hormonal contraceptives and anticonvulsants. The five most frequently reported contraceptive methods were: condoms 25%, tubal ligation 13.3%, monthly injectable contraceptives 6.7%, trimestral injectable contraceptives 5%, and condoms plus hormonal (oral or injectable) contraceptives 3.2%. A total of 38.3% reported they were not currently using any contraceptive method and 1.7% were pregnant. Half of the women had at least one previous pregnancy and only 16.7% of these had been planned.

Conclusion: Most reproductive age female epileptic were sexually active but a significant proportion of them were not formally counseled about the need to use contraception and many did not use any birth control method. Approximately 40% of these epileptic women used either definitive methods (sterilization) or condoms, while other modern reversible contraceptive methods were much less frequently used. Health professionals involved in the management of reproductive age epileptic women need to include contraceptive counseling as part of their routine care.

A-067

Contraceptive methods used by Brazilian women with sickle cell disease

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Introduction: Sickle cell disease is a monogenic disease that leads to the formation of hemoglobin S, causing a wide range of complications including death. Its prevalence varies according to the proportion of afro-descendants in the study population. Due to earlier diagnosis, new treatments and the improved management of complications, the lifespan of patients with sickle cell disease has increased. Treatment with hydroxyurea has led to decreased morbimortality. With the increased survival of patients, questions related to quality of life, including safe sex, pregnancy and contraception have been increasingly investigated.

Objective: Assess the use of contraceptive methods by women with sickle cell disease.

Methods: Retrospective cohort of the charts of women with sickle cell disease managed at a single tertiary center (São Paulo Federal University) during a one-year period.

Results: A total of 54 women were included. Their mean age was 32 years, and over 94% of them were Black. Many reported complications related to their disease: renal damage (50%), retinopathy (22%), pulmonary hypertension (15%), thrombotic episodes (17%), hypertension (9%) and cardiopathy (9%). Mean age at menarche was 15.2 years, and mean age at first intercourse and first pregnancy was at 19.8 and 25.2 years, respectively. On average, these women had started to use a contraceptive method at 22.1 years of age. Among sexually active women, 14.8% had a history of sexually transmitted diseases and 61.1% were currently using some form of contraception: 48.5% used progestagen-only contraceptives, 33.3% used combined hormonal contraceptives, 9.1% had a tubal ligation, 9.1% used condoms. There were no major complications associated with the use of hormonal contraceptives. Hemoglobin and hematocrit levels were significantly higher among those who used combined hormonal contraceptive ($P = 0.04$).

Conclusion: Most women with sickle cell disease report the use of a contraceptive method. However, 9.1% were using only condoms, a low efficiency method, while 33.3% of these patients reported the use of combined hormonal contraceptives, a method that would be contra-indicated due to their clinical complications. Health professionals involved in the management of reproductive age women with sickle cell disease need to include contraceptive counseling as part of their routine care.

A-068

Modern contraceptive utilization and associated factors among female ART attendees in health facilities of Gimbie town, West Ethiopia

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Objective: the purpose of the study was to assess modern contraceptive use and associated factors among females on ART in health facilities of Gimbie town, west Ethiopia.

Methods: A facility based cross-sectional study was conducted in Gimbie town, western Ethiopia. Systematic random sampling method was used to select HIV infected women of reproductive age group who came for follow up at ART clinics of the health facilities of the town. Data was collected using an interviewer administered structured questionnaire. Data was entered using Epi info and analyzed by SPSS software. Binary logistic regression and multivariate analysis were employed to see association between different variables.

Results: Three hundred ninety five women on ART have participated in the study. More than half, 224 (56.7%) of the respondents were using modern contraceptive, of whom 67 (30%) of them use dual contraceptive method. On the multivariate analysis having information on modern contraception is positively associated with modern contraceptive use with (AOR = 6.324, 95% CI (1.671, 24.067)). Respondents who have family size $<=4$ have 50% less contraceptive use than those who have family size >4 (AOR = 0.507, 95% CI (0.267, 0.963).

Conclusion: In this study although contraceptive use among HIV positive women is better than the general population, use of dual methods, long acting and permanent method of contraceptives were found to be low. HIV positive women who want to space and limit their desired number of children for longer period of time should be counseled to use long acting contraceptives, permanent methods and dual contraceptive methods.

A-069

Decision-making in contraception and state compliance with the human right to legal capacity of women with intellectual disabilities in the african region: a bridge too far?

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Objective: Historically, women with intellectual disabilities have been systematically excluded from decision-making in contraception on the claim that they lack capacity. Many have endured human rights abuses, including forced sterilization. The Convention on the Rights of Persons with Disabilities (CRPD) constitutes a paradigm shift in the treatment of people with disabilities. It requires the State to recognise that people with disabilities enjoy legal capacity on an equal basis with others to decide on matters pertaining to their welfare. The State is enjoined to take positive steps to implement measures to support the exercise of legal capacity by persons with disabilities. This paper assesses progress made by the African region in adopting and implementing legislative and administrative measures envisaged by the CRPD to recognise the legal capacity of women with intellectual disabilities. The focus is on decision-making in contraception.

Design and methods: The paper assesses progress through a desktop review of domestic laws and administrative procedures of ten selected countries made up of two countries from each of the following five subregions: Eastern Africa; Middle Africa; Northern Africa; Southern Africa; and Western Africa. The CRPD is used as a benchmark, including articles 12 and 25. The study is confined to countries that have ratified the CRPD.

Results: Over half of 54 Member States of the African Union have signed and ratified the CRPD. Ratification signifies a commitment to be bound by the obligations arising from the CRPD, except where a State enters reservations. However, whilst most of the constitutions of the countries studied are potentially enabling in their recognition of constitutional equality, legislative and administrative implementation is conspicuously lacking. There is no African State with legislation that is specifically compliant with the rights of women with intellectual disabilities under the CRPD. However, a few jurisdictions are in the process of considering reform or reforming their laws in order to be compliant.

Conclusion: The African region is still far from honouring its commitments under the CRPD. It is far from discharging the obligations to respect, protect and fulfil the right to legal capacity of women with intellectual disabilities. Civil society and national human rights institutions have an important role to play in galvanizing domestic reforms as well as holding States accountable for violations of human rights.

A-070

Sexual life and contraceptive use among Brazilian teenage girls with cancer: preliminary results

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Introduction: Due to improvements in diagnosis and treatment, the survival and quality of life of adolescent girls with cancer is improving. Adolescence is also a period of social interactions and sexual awakening. Unprotected sex during this period can lead to unplanned pregnancy with consequences for the treatment and prognosis of these girls.

Objectives: Assess the use of contraceptive methods by adolescent girls with cancer.

Methods: This observational cross sectional survey is interviewing adolescent girls (10-19 years) receiving treatment at the outpatient clinic at single instititution specialized in the treatment of cancer in Sao Paulo, Brazil (Oncologia Pediátrica - GRAACC/Escola Paulista de Medicina). A questionnaire specifically created for this study was used to collect information on gynecological and obstetric history and use of contraceptive methods.

Results: We present data on the first 19 participants. Mean age was 15 ($\pm$ 2.4) years, most were Caucasians (64%) and single (94.7 %), mean age at menarche was 11.6 $\pm$ 1.3 years and mean age at diagnosis of cancer was 13.3 $\pm$ 2.5 years; most had osteosarcoma (42%) or leukemia (36%). Approximately 26% were sexually active before the diagnosis of cancer and mean age at first intercourse was 13 $\pm$ 0.5 years. and Most girls (57.8%) informed that they had received contraceptive counseling. Among the sexually active

girls, the most frequently used methods were oral or injectable hormonal contraceptives (89%), followed by condoms (15%). Almost 70% of those who used hormonal contraception developed amenorrhea or irregular bleeding when they started cancer treatment; however, 61% of these girls reported that they had forgotten to take at least one pill before the onset of bleeding. A total of 21% had never used any contraceptive method and two (10.5%) had at least one previous unplanned pregnancy.

Conclusions: Most adolescent girls in treatment for cancer in a single Brazilian institution use hormonal contraceptives. However, over half of them report inadequate use of the method. There is a need for more information and counseling among this population.

A-071

Sexuality and contraceptive options in young people with cognitive disability: a comparative study

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Objectives: To characterize and evaluate the multiple components of a specific gynecology appointment for patients with cognitive disability and compare the reason for medical appointment, sexual activity and contraceptive methods (their complications and compliance) with young people without cognitive impairment. This study can contribute to improve the reproductive health of this population.

Method: A retrospective case-control study was conducted by consulting the medical information of patients aged ≤ 20 years old: 201 patients with cognitive disability (group A) and 206 patients without cognitive impairment (group B). The statistical analysis was performed with IBM SPSS statistics 20.0.

Results: In group A, there was a mild cognitive impairment in 29.4%, moderate in 38.8% and severe in 31.8%. The mean age was 14.1 years in group A and 16.0 in group B ($p < 0.001$). The need for contraception was one of the reasons for appointment in 47.3% in group A and 33.0% in group B ($p = 0.003$). In group A, 4.7% were sexually active and 60.2% in group B ($p < 0.001$). Contraception was prescribed in 79.6% of the cases in group A and 80.1% in group B ($p = 0.901$). There was a significant statistical difference between the contraceptive method in both groups ($p = 0.007$). In group A, 82.5% used oral estroprogestative (EP), 10.6% subcutaneous progestative (P), 6.3% transdermal EP and 0.6% tubal ligation. In group B, 91.5% used oral EP, 5.5% subcutaneous P, 1.8% vaginal EP, 0.6% transdermal EP and 0.6% intrauterine device. There was a poor compliance with the contraceptive method in 5.0% in group A and 6.1% in group B ($p = 0.704$), and a 10.9% complication rate in A vs. 12.2% in B ($p = 0.755$). There were no registered pregnancies in group A and 4.9% in group B ($p = 0.002$).

Conclusions: According to these results, one can conclude that in the group of the patients with cognitive disability, despite an earlier age on the first appointment and a lower rate of sexual activity, the need for contraception has a prominent position and contraception was prescribed in 79.6% of the cases. In both groups, the most common contraceptive method was oral EP. However, within the cognitively impaired patients, there is a larger percentage of non-user-dependent methods. Given all this particular features, it is of paramount importance to offer a specific medical appointment for young patients with disability.

A-072

Hormonal contraceptives and systemic lupus erythematosus and rheumatoid arthritis

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Objective(s): Women with systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA) and their clinicians may have unique concerns about hormonal methods of contraception, however pregnancy can be particularly risky in women with active disease or on teratogenic medications making contraception an important issue for women, particularly in the case of SLE. Furthermore, we believe that knowledge of disease flares and the influence of hormonal contraception could have implications for counselling patients

on prevention to control their disease if they are able to predict a flare, and though have impact on quality of life.The aim of our study is to evaluate the influence of hormonal contraception in systemic lupus erythematosus and rheumatoid arthritis disease course and study self-reported flares related to the use of hormonal contraceptives and when not under them.

Design and methods: This study was performed by evaluating the women's files attending the Autoimmune Diseases' medical appointment at Faro's hospital between January 2008 and December 2013. Additionally, these patients underwent a questionnaire precoded with an ID number to allow review of the data and confirmation of information provided by the patient when needed. Functional ability was assessed using the Health Assessment Questionnaire (HAQ). Before its beginning, this study got the Ethics' Commission approval. Statistical analysis was performed using SPSS 18.0.

Results: At the time of the call for abstracts, data were still being collected, so there is a lack of definitive results. These results are being collected into 2 groups: those with SLE and those with RA. Data collected, beyond women's demographic characteristics, is including information about the onset of disease and its relation with hormonal contraception, regularity and evolution of menstrual cycle and related flares with and without hormonal contraceptive methods. Signs of disease severity were taken in account.

Conclusions: Because results are still being collected and soon will be under statistical analysis, we do not have still definitive conclusions. However, we speculate from studying these patients in clinic that there were not more complains or adverse outcomes when using these contraceptive methods in selected cases. In what concerns specifically to RA, and in accordance to previous studies, hormonal contraception seems to have beneficial outcomes.

A-073

Gynecological morbidity and contraception use

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The population reproduction is determined by the state of fertile women reproductive health, attitudes to childbearing and the contraceptive behavior peculiarities.

Objective: To assess the frequency of use of modern contraceptives among women with various gynecological illnesses.

Material and methods: 740 women 19-49 years (34.0 ± 0.15 years), visited gynecologist.

Results and discussion: Randomized into groups: I - 19-29 years (the average of 24.5 ± 2.6 years) - 53%, II - 30-39 (33.7 ± 2.2) - 27%, III - 40-49 (43.8 ± 2.4) - 20%. The structure of morbidity: inflammatory diseases - 27% (85% of women I), menstrual irregularities - 31% (65% of I), hormonal dysfunctions (uterus tumors and endometriosis) - 16% (equally in groups II and III), menopausal disorders - 4% (group III), infertility - 13.5% (70% among II group). Births, abortions and miscarriages were respectively: in group I of 0.15, 0.18 and 0.08; in II - 0.4, and 0.15, 0.45; III - in 1.3, 1.8 and 0.17. The ratio of births to abortion (without miscarriages) - 1:1.3. 41%, 65% and 73% of women did not use contraception in their respective groups. 75% of the women in the group I did not use contraception, 19% and 11% - in groups I and II planned the pregnancy respectively. Hormonal contraception (COCs) was used by 5.4%, the IUDs - 1,4% of all females. The method–mix: condom - 62%, coitus interruptus - 32% (only in group I), the rhythm method - 25% (only in group III), COCs - 28% (group II) and 9% used for the medical purpose (I); IUDs - 14% (in group II). The modern contraceptives were not used among women over 40 years.

Conclusions: 1. In the structure of morbidity among childbearing women the menstrual irregularities (31%) and pelvic inflammatory diseases (27%) prevail. 2. Modern methods of contraception (COCs and IUDs) are used rarely (7%).

A-074

Low prevalence of contraceptive use among Brazilian women of reproductive age with systemic lupus erythematosus

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Objectives: Assess the prevalence of contraceptive counseling and use among women of reproductive age with systemic lupus erythematosus (SLE) at a university service in Salvador, Bahia, Brazil before and after the SLE diagnosis.

Methods: A cross-sectional study of women with SLE being treated at a single tertiary center (Rheumatology Service in the Ambulatory Care of the Bahiana School of Medicine and Public Health, in Salvador - Bahia – Brazil), from August to December 2013, was conducted. A questionnaire was administered and the results analyzed to identify the prevalence of contraceptive counseling and use before and after the SLE diagnosis.

Results: Eighty-three women with SLE were interviewed, mean age was 26.9 (± 9.9) years-old. Before the diagnosis of SLE, most of the patients used contraceptive method, predominantly combined oral contraceptive (79%), depot medroxyprogesterone acetate (DMPA) (31%) and condom (42%), followed by intrauterine device (IUD) with copper (8%), IUD with levonorgestrel (5%) and patch (2%). In the opposite, after the SLE diagnosis, 68% of patients reported that they didn't use any contraceptive method. The 32% of women who were currently using some form of contraception after SLE diagnosis: 16% used condoms, 11% used combined oral contraceptive, 5% used DMPA, 4% used IUD with levonorgestrel and 2% IUD with cooper. No one used vaginal ring and implant. Although 74% of the patients report to have follow-up with a gynecologist, more than half (58%) are unaware of what contraception can currently use. It's important to note that 42.2% of patients reported irregular menstrual cycles (37% of *oligomenorrhea and 31% of metrorrhagia). And*, referring to obstetric history: 24% were nulliparous, 46.1% reported at least one spontaneous abortion, 63.5% had had a natural delivery and 49.2% of caesarian section.

Conclusion: It is known that SLE is 9 to 10 times more common in women in the reproductive age. Previous studies concluded that women with SLE have more susceptibility to pregnancy complications, so they need to have a planned pregnancy. The survey results presented herein suggest that a multidisciplinary team is needed to improve patient knowledge regarding SLE as it affects on pregnancy and relatedly contraceptive counseling.

A-075

Human Immunodeficiency Virus infection, contraception and sexuality: what do we (not) know?

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Objective: With the increasing number of women of childbearing age infected by the human immunodeficiency virus (HIV), it is essential to provide them the information and education required to make an informed choice about pregnancy, contraception and transmission prevention. The aim of this study is to characterize a portuguese population of HIV-infected women, regarding sexuality and contraceptive methods and to review the eligibility criteria of the contraceptive methods.

Design and methods: Women infected with HIV observed in a gynecology consultation at a tertiary hospital, between February 2011 and May 2013, were evaluated regarding demographic, clinical, sexual and contraceptive data.

Results: 269 HIV-infected women were analyzed. The mean age at HIV diagnosis was 36.7 ± 12.4 years, and the mean age of patients during the study was 46.9 ± 12.4 years. The main route of HIV transmission (80%) was intercourse, 86% patients had less than 5 lifetime sexual partners and 41% were sexually active before the age of 18 years. 41.5% had history of sexual transmitted infections (STI) and 33% are current smokers (17% smoked more than 15 cigarettes). The majority of women were on antiretroviral treatment, had levels of CD4 lymphocytes more than 200 and indetectable circulating HIV viral loads (87.6%, 91.8% and 76.4% respectivelly). 68% were of childbearing age and 51% were serodiscordant couples. The most common contraceptive method was the male condom (30.4%), followed by female sterilization (23.3%), combined hormonal contraception (CHC, 15.8%), subcutaneous implant (5.8%) and intrauterine device (IUD, 4.1%). A dual contraception occurred in 21.6%, and

the overall use of condoms in childbearing age was 52.6%. A lower condom use was associated with smoking, menopause, seroconcordance and sterilization ($p < 0.05$); no relation was found with the level of education, history of other STI, CD4 + counts or viral load. With increasing age we found a lower condom use, CHC and subcutaneous implant; and a greater use of IUDs, option for tubal ligation or no method.

Conclusions: A significant number of HIV-infected women chose a permanent method, but the use of reversible forms of contraception was more common and has been increasing. Most contraceptive methods are safe and effective in HIV-infected women, despite some of them haven't been conveniently tested. However, dual protection remains the best option to prevent unintended pregnancy and minimize the risks of transmission.

A-076

Primary care use of combined hormonal contraceptives in women with migraine with aura

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Objectives: According to the UK Medical Eligibility Criteria for Contraceptive Use (UKMEC) guidelines, produced by the Faculty of Sexual and Reproductive Healthcare (FSRH), the use of combined hormonal contraceptives (CHCs) in women known to have migraine with aura is a UKMEC 4 (A condition which represents an **unacceptable health** risk if the contraceptive method is used). This is due to the increased risk of ischaemic stroke that CHC causes in women that have migraine with aura. The main objective of the audit was to assess whether the UKMEC guidelines were being adhered to in this particular primary care centre and if they weren't what the shortcomings were so that this could be rectified in future contraceptive prescribing policy.

Method: A thorough audit of the electronic healthcare records was carried out in a busy inner city General Practice. This involved studying the records of all women who had been prescribed CHCs in the preceding 12 months. The system was then used to check how many of these women had a known history of migraine, more specifically migraine with aura. A 'known history' was taken to be at least one recorded presentation in the electronic healthcare records. We then looked at the last consultation with each of the women when they were prescribed their annual supply of CHCs to elicit whether they were specifically asked about a history of migraine.

Results: We found that of the 750 women who were prescribed CHCs in the past 12 months, 36 of them had a known history of migraine, 17 of which had migraine with aura. In the consultations these 36 women had with health care professionals based at the practice, only on 4 occasions were they asked about a personal history of migraine.

Conclusions: It is clear that this practice was not adhering to the UKMEC guidelines about the prescription of CHCs in women who have migraine with aura. It is apparent that this needs addressing to ensure that women are not unnecessarily placed at increased risk of ischaemic stroke due to inappropriate contraception prescribing habits. This was a busy general practice that can be said to be fairly representative of other primary care centres in the UK, therefore a case can be argued to perform a nationwide audit of prescribing practices of contraception in General Practice to ensure adherence with UKMEC guidelines.

A-077

Investigation of the factors affecting the family decision of pregnant women who are recommended medical abortion because of fetal abnormalities

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Aim: To investigate the factors affecting the family decision of pregnant women who have been recommended medical abortion because of fetal abnormalities. The information will help healthcare workers to determine the scope and content of training programmes for pregnant women and their families. The study was conducted in an obstetrics

and gynecology service of an university hospital in Istanbul between 1 September 2012 and 1 September 2013. The research group featured pregnant women who had been recommended medical abortion because of fetal abnormalities. 122 of the women accepted medical abortion, 111 of the women chose to give birth. The questionnaire contained questions on socio-demographic characteristics, obstetric history, history of abnormality, presence of consanguineous marriage, diagnosing methods and description of anomalies.

The mean age of pregnant women accepting medical abortion was 29.42 years, and the mean age of their partners was 31.56 years. 48.4% of pregnant women and 59.8% of their partners were high school graduates (or higher education); 18.0% (n = 22) were in a consanguineous marriage; 19.7% (n = 24) had a history of anomaly in previous pregnancies, 58.3% (n = 14) had a history of termination due to anomalies in previous pregnancy; 16.7 (n = 4) had children living with disability. The mean age of women who chose to give birth to babies with abnormalities was 29.96 years, and the mean age of their partners was 31.93 years; 38.7% of pregnant women and 46.8% of their partners are high school graduates (or higher education), 13.5% (n = 15) are in a consanguineous relationship; 12,6% (n = 14) had a history of anomaly in previous pregnancies; 21.4% (n = 3) had a history of termination due to abnormalities in previous pregnancy.

Of the woman who chose medical abortion, 30.3% did so due to chromosomal abnormalities. Of the women who chose to give birth, 31.5% had abnormalities of the cardiovascular system. The information received from a healthcare professional was priority for the women who chose to have a medical abortion, where as the opinions of family members, friends and partners was priority for the women who chose to give birth.

Factors such as the health workers, difficulties associated with the care of babies with an abnormality, the level of difficulties that the baby will suffer, family members and believes about destiny all affect the decision that pregnant women make. Whereas the economic status, pregnancy type, knowledge level, religious orientation scale and the gender of the baby did not influence the decision made by women who chose to give birth to the baby with an abnormality.

CONTRACEPTION IN PREMENOPAUSAL WOMEN

A-078

Health care provider or user-self choice dependent: trends in contraceptive use among married women of reproductive age in China, 1988–2006

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Objectives: To explore trends in contraceptive use since the introduction of informed choice to reproductive health services in China in 1994 so as to assess reproductive health services needs among married women of reproductive age in China.

Material and methods: Data from Chinese nationwide surveys of family planning and reproductive health undertaken in 1988, 1997, 2001, and 2006 were used to analyze spatiotemporal changes in patterns of contraceptive use among reproductive married women by age, residence, and number of children. Contraceptive methods were classified into two categories: provider- and user-controlled methods.

Results: The provider-controlled pattern was predominant regardless of whether women were free to choose their own contraceptives. Older women, women living in rural areas, women living in south-central or northwest China, and women with more children preferred provider-controlled methods, and this changed little after 1997. The trend for user-controlled methods exhibited a small but significant increase after 1997. Women aged 15-29, women living in urban areas, women with no children or only one child, and women living in north or southwest China preferred user-controlled contraceptive methods.

Conclusion: Provider-controlled methods are applicable for Chinese women even in today's new reproductive health climate. The government should aim to provide appropriate contraceptive choices for different subpopulations and to improve the quality of reproductive health services.

Key words: contraception; informed choice; reproductive health service; women; China

A-079

Contraception in perimenopausal women

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Introduction: Contraceptive choice for women aged over 40 years may be influenced by many factors: frequency of intercourse, natural decline in fertility, sexual problems, the wish for noncontraceptive benefits, menstrual dysfunction and concurrent medical conditions. Perimenopause is a transition phase in women's reproductive life. Usually it's determined retrospectively after a woman has experienced 12 months of amenorrhea without any other obvious pathological or physiological cause. Oral estrogen-progestin contraceptives are considered to be safe in nonsmokers up to the age of menopause.

Objectives: Access the most effective and appropriate contraceptive methods in perimenopausal women.

Methods: A literature review in Pubmed database, of articles in English and Portuguese, published since 2003, using the MeSH terms "Contraception" and "Perimenopause".

Results: Estrogen-progestin contraceptives have important non-contraceptive benefits, including improved menstrual irregularities, decreased vasomotor symptoms and beneficial effect on bone mineral density. Progestin contraceptives are very effective in perimenopausal women and can be used in medical conditions that contraindicate estrogen use. Either copper intrauterine devices or the levonorgestrel-releasing intrauterine system are safe and suitable for this age group. Levonorgestrel-releasing intrauterine system presents local benefits in fibroids and endometrial pathology, which are more frequent in perimenopausal women.

Conclusions: When counseling the perimenopausal women, the risks of unintended conception and pregnancy should be weighed against the risks, advantages, and disadvantages associated with a particular contraceptive. In the absence of contraindications, estrogen-progestin contraceptives can be used up to 50 years old in healthy non-smoking women. Around this age, most women should consider suspending estrogen contraceptive and starting one with progestin only, a copper IUD, a levonorgestrel-releasing intrauterine system or a barrier method.

CONTRACEPTION IN SOCIALLY DISADVANTAGED GROUPS

A-080

Contraceptive knowledge and use among young Nepalese men and women in the Kathmandu valley, Nepal.

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Objectives: Inadequate knowledge about contraception is common among young people in developing countries and can influence utilisation of methods and increase the likelihood of them engaging in unprotected sex. Nepal has documented high rates of unintended pregnancies and risky sexual behaviour but few studies examining what young people know about contraception. The aim of this study was to describe knowledge and use of contraception among Nepalese men and women.

Design and methods: We used a two-stage cluster sampling design and undertook a cross-sectional household survey in urban area of the Katmandu Valley. We sampled 680 men and 720 women aged 15-24.

Results: Knowledge about contraceptive methods was high with over 99% of men and women recognising the name of at least one of the modern methods of contraception, but with some of the methods knowledge were poor. Of those that had heard of contraceptives the most widely recognised were condoms (98%), pills (79.3%) and injectables (73.9%). In contrast only half of young people had heard of the most reliable reversible methods, the implants (47%), and just over a quarter knew of the IUD (28.4%) There were gender differences in knowledge and men were more likely than women

to have heard of condoms ($p = 0.002$) and male sterilization ($p < 0.001$) whereas women were more likely to have heard of injectable contraception ($p < 0.001$), implants ($p = 0.003$) and female sterilization ($p = 0.002$). When asked about the most suitable methods for contraception for young people, men were significantly more likely to report the injectable method whereas women were more likely to name the pill, condoms, intrauterine contraceptive device and natural methods as suitable ($p < 0.001$). A significantly higher proportion of sexually active men (74.6%) than women (41.6%) used a contraceptive method at their first sexual intercourse ($p < 0.001$). A condom was the most common method used as reported by both men (25.2%) and women (10.2%) followed by withdrawal, pill and injectable reported by two or below percent.

Conclusion: The finding suggests that programs to increase young peoples' use are urgently needed. Whilst knowledge of some of the modern methods was high, young people were mostly unaware of the long acting reversible methods (implants and IUDs) and, less than half of women had used contraception with first intercourse. Given the demonstrated link between method knowledge and contraceptive use, such programs may be useful in addressing risky behaviour in this population.

A-081

Sexual and reproductive health education among Roma, Ashkali and Egyptian (RAE) communities in Kosovo

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Objectives: Roma, Ashkalia, and Egyptian communities are among the most vulnerable population in Kosovo that live in extreme poverty with poor nutrition and limited access to health care services. UNFPA in Kosovo in close collaboration with MoH since 2008 has focused its efforts towards improving RAE community practices in the area of sexual and reproductive health and to strengthen demand for SRH services through different activities, including community educational activities, theatre based activities and social mobilization campaigns. Activities are facilitated by youth RAE trainers and volunteers and target RAE women and men of reproductive age. Objective of the programe is increased utilization of SRH services, with focus on modern FP methods among disadvantaged RAE communities.

Method: Local RAE NGO implemented community education sessions, and outreach activities, during which following topics were covered: normal physiological development, menstrual cycle, puberty, reproductive rights, sexual and reproductive health including: adolescent pregnancy, family planning and usage of modern contraceptive methods, STI, GBV, personal and community hygiene. Sessions were implemented by RAE trainers and volunteers, who had undergone ToT training and refresher ToT training by National Institute of Public Health experts. In total, 4059 RAE community members attended community sessions; Condoms and hygienic packages were distributed for all participants. Activities covered Fushe Kosovo, Prishtina, Lipjan, Gadime, Magure, Ferizaj, Gjakova, Prizren and Peja municipalities.

Results: During the entire programme (2008-2013):

- 50 RAE youth have undergone Tot trainings;
- Over 4,309 RAE community members attended the educational sessions;
- Over 15,000 RAE community members Participated in different social mobilization small scale campaigns
- 7 theatre based education plays were prepared and played by RAE youth, facilitated by well-known film director;
- More than 7,000 condoms were distributed
- 1000 IEC materials distributed

Conclusions:

- The successful educational activities improved knowledge of RAE communites on SRH issues and better understanding of FP advantages;
- Implementation of different educational activities at community level by community members, using everyday language and approach is much more culturally accepted and gives better results in raising awareness and behaviour change;
- Building capacities of youth NGOs and activists in socialy excluded areas greatly contributes to social inclusion;

A-082

Improving the sexual health of homeless people: does providing nurse-led care within hostels improve contraceptive use and uptake of sexual health screening?

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Objective: The project aimed to establish and evaluate a Nurse-led Contraception & Sexual Health Service providing care within hostels for the homeless in London. Homelessness is a risk factor for poor health and particularly sexual ill-health. Homeless women are more likely to become pregnant and to have sexually transmitted infections. They often use drugs and alcohol and then need to sell sex to feed the habit. Little is known about the sexual health of homeless men.

Design and Methods: The service was established once a week in three hostels. Contraception and sexual health promotion, screening and treatment were offered by the Specialist nurses, health care workers and health promotion staff. The project was evaluated by analysis of service and epidemiological data (Sexual & Reproductive Health Activity Dataset (SHRAD) and Sexual Health & HIV Activity Property Type Coding (SHRAPT) extracted from electronic records between 1st June 2012 and 31st May 2103 and analysed using IBM SPSS v20. Primary outcomes were the number of people screened and treated for STIs and the number starting contraception. The project was part of a larger study which included questionnaires and interviews with residents and staff from the three hostels with the service and three hostels without a service.

Results: 151 clients (81 women, 67 men, 3 unknown) used the service with 367 attendances. 96 (63.5%) clients had full STI screens and 31 (20.5%) had chlamydia and gonorrhoea self-taken tests. 59 infections were diagnosed and treated including 3 Syphilis, 4 Gonorrhoea and 10 Chlamydia cases. Hepatitis testing was carried out on 63.6% (n = 96) of all clients. 167 tests for Hepatitis were performed as some were tested for more than one hepatitis virus and on more than one occasion. The percentage of women tested (56.6%) was higher than that of men (43.4%). Overall 23 % of clients tested for hepatitis A, B and or C had positive results for one or more of the viruses. 11 clients started contraception, 7 chose long acting methods including 2 IUDs, 4 implants and 1 Injection.

Conclusion: The service has demonstrated unmet need and an impact on men and women who would not normally attend mainstream services. UK Department of Health policy suggests that homeless people require targeted, specialist services. The service enables women and men at high risk of sexual ill-health to access appropriate care within a familiar non-threatening environment.

A-083

Healthcare needs assessement of family planning needs and provision in far western Nepal

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Objectives: Access to healthcare in rural Nepal is difficult due to the mountainous, geographically challenging terrain. Few doctors or healthcare workers are available to the residents of these isolated communities. There are nationally high infant and maternal mortaility rates, the highest rates found in rural areas. Education levels are low- particularly of women, which apperas to have a direct impact on the uptake of healthcare. The aim of this healthcare needs assessment was to look specifically at family planning knowledge and its use in the isolated rural mountainous district of Kalikot, in far western Nepal.

Method: The assessemnt was conducted through questionnaires to 92 residents of reproductive age in the district, through a small international team, with help from Nepalese medical students, and a translator. The residents were self-selecting; they were interviewed upon presentation to various health-posts. Healthcare workers in rural healthposts were also interviewed.

Results: The results showed a high parity within each age group, with a linear increase with each decade from ages 20-50. There was a childhood death rate of 15% in the sample interviewed. There was a direct

relationship shown between high parity and childhood mortaility. Knowledge of family planning was widespread in men (87% had heard of family planning methods), however 30% of women had no knowledge of the existance of family planning. Out of those with knowledge of family planning, only 63% had ever used any form of family planning. The most commonly cited reason for use of family planning, was that their family was now complete; it was less commonly used for child spacing. There were low levels of use of LARC, primarily due to lack of availability. Current contraceptive prevalence rate was 32%, considerably lower than the Nepalese national contraceptive prevalence rate of 48%. Education levels were found to be low in women (only 40% had any formal education). Training levels of healthworkers with respect to delivery of family planning was varied.

Conclusion: The assessment showed an unmet need. In order to increase the uptake and continuation of methods there needs to be more training of healthworkers, and education to the community, particularly of women

A-084

IRADA: Improving Reproductive Health through Awareness, Decision and Action to improve the impact of social franchising for family planning services in rural Pakistan

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Objectives: Pakistan has high fertility and high maternal mortality. Despite extensive Social Franchising (SF) of family planning (FP) services, Contraceptive Prevalence Rate (CPR) remains low. "IRADA" is aimed at accelerating uptake of modern FP methods by creating demand for Family Planning (FP) services, supported by a voucher based Reproductive Health Franchise (RHF) project.

Design & Methods: *IRADA* is a theory driven intervention informed by contextual evidence. Based on the Integrated Behaviour Model (IBM), IRADA encapsulates a strategic focus on intention to use family planning, the strongest determinant of actual use. The strategy addresses the determinants of intention to perform the behaviour as well as enabling factors leading to the target behaviour. It consists of two specific interventions: Intervention A consists of neighborhood meetings and client visits by field workers using participatory approaches for dissemination of key FP messages. Intervention B uses principles of community mobilization and social action theory to address underlying social hurdles for women to adopt FP. IRADA is being implemented in remote rural areas across 22 districts of the country with young married women in their early reproductive years as the primary target audience. IRADA is a Quasi-Experimental study with two intervention groups and one control group. Group A will receive IRADA Intervention A, while group B will receive both IRADA Intervention A and B. Quantitative measurement of IBM constructs and FP knowledge, Attitudes and Practices (IBM-KAP Survey) will be undertaken at baseline and at the end of 12 months to track "Intention Clients", "Action Clients" and "CPR". Correlation coefficients will be calculated for IBM constructs of attitudes, norms and personal agency with intention to perform behavior. Prevalence ratios will be calculated for key outcome indicators.

Results: Current data indicate that "Intention clients" account for 45 percent of the 50,000 clients served by RHF to date. Of these over 70 percent have adopted a modern FP method to become "Action clients". RHF has delivered approximately 300,000 couple-years of protection averting 96 maternal deaths since RHF inception.

Conclusion: IRADA is likely to accelerate uptake of modern FP methods and will generate crucial evidence for addressing the issue of low uptake of modern FP methods by women living in socially disadvantaged communities.

A-085

Integration of contraception services in a HIV care clinic serving most at risk populations in Phnom Penh, Cambodia

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Objective: The main objective of the study was to assess rates of contraceptive uptake and method choice among women living with HIV who attended an HIV care clinic serving most at risk women in Phnom Penh Cambodia, before and after the introduction of integrated contraception/family planning (FP) services.

Methods: A before-after design was used. Following a theoretical and on-site training on provision of FP, contraceptive methods (pills, injectables, implants, and IUDs) were made available at the HIV clinic from August 2011 onward. Baseline and endline assessments, using mixed-methods (quantitative and qualitative) including among clients and providers at the Chouk Sar clinic were conducted before (June-July 2011) and after (June-July 2012) the introduction of FP services.

Results: A total of 250 and 249 women living with HIV were interviewed at baseline and endline assessments, respectively. Twenty four percent of women reported selling sex for money during the last 6 months at baseline and 35% at endline. Awareness about contraceptive methods such as injectable, IUD, implant, male and female sterilization significantly increased among HIV positive clients at endline. Among sexually active women, the male condom remained the method of choice and the use of dual method (condom plus another method) was low (11% at baseline vs. 15% at endline ($p = 0.28$). Condom use during the last six months did not change significantly (91% at endline versus 95.6% at baseline, $p = 0.11$). The primary reason women reported for not using non-condom FP methods was that the majority (79.5% at endline) thought that condom use was sufficient to prevent unintended pregnancy. The use of non-condom FP methods increased but not significantly (16% at endline vs. 13% compared to baseline, $p = 0.8$). The use of implants, however, significantly increased at endline ($p < 0.05$). Pills and female sterilization were the most frequently used non-condom methods both at baseline and endline.

Conclusion: Our results show that FP practices of HIV positive women attending an HIV care clinic for most at risk populations in Phnom Penh, Cambodia did not significantly change after introducing on-site provision of a wide range of non-condom FP methods. Though some best practices for integrated services have emerged in generalized HIV epidemics, innovative strategies and further research is needed to better understand how to effectively promote non-condom and dual method contraceptive uptake among most at risk and HIV positive women in concentrated epidemics.

A-086

Knowledge, attitudes and sexual health behaviour of residents attending a nurse-led contraception and sexual health service within hostels for the homeless.

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Objective: The project aimed to establish and evaluate a Nurse-led Contraception & Sexual Health Service providing care within hostels for the homeless in London. Homelessness is a risk factor for poor health and particularly sexual ill-health. Homeless women are more likely to become pregnant and to have had a sexually transmitted infection. They often use drugs and alcohol and then need to sell sex to feed the habit. Little is known about the sexual health of homeless men.

Design and Methods: A nurse-led outreach sexual health service was established once a week in three hostels for the homeless. Contraception and sexual health promotion, screening and treatment were offered by the Specialist Reproductive Health nurses, health care workers and health promotion staff. Following consultations clients were asked to complete a questionnaire. Questionnaires were also given out at three hostels without a service. Interviews with residents (n = 12) and staff (n = 6) from the three hostels with the service and three hostels without a service explored knowledge, attitudes and sexual health behaviour. Quantitative data was analysed using IBM SPSS v20 and Qualitative data using NVivo 10 software.

Results: 161 clients (87 women and 71 men 3 unknown) used the service with 367 attendances. 42 completed questionnaires at hostels with a service and 28 at hostels without a service. Poor general health including long term conditions, mental health conditions, addiction and substance misuse was reported. Harrowing stories of past trauma, abuse and sex work emerged from the interviews. Key themes which made the hostel service attractive included issues with access to mainstream services, clients' unwillingness to travel and needing support to attend. Ensured confidentiality was another important factor in attendance. Clients also suggested incentivising vaccination programmes.

Staff were positive about the service in the hostels and highlighted the need for more joined up working due to clients complex health needs.

Conclusion: The service has demonstrated unmet need and an impact on men and women who would not normally attend mainstream services. It has also provided a valuable opportunity for health promotion both with residents and staff. UK Department of Health policy suggests that homeless people require targeted, specialist services. The service enables women & men at high risk of sexual ill-health to access appropriate care within a familiar non-threatening environment.

CULTURE, RELIGION, REPRODUCTION AND SEXUALITY

A-87

Evolution of family planning in Algeria

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Genesis, principles and objectives of the national population policy and a history of monitoring population growth and family planning in Algeria since the 1960s to the present day, will be addressed by the presentation. It will also highlight the importance of the availability of data and population figures in order to unite all the forces and actions in this context and thus to achieve the desired objectives, the example of the different surveys national multiple Indicator (1995, 2000 and 2006) as well as technical skills and financial resources deployed by the government for the implementation of programs in place that basically revolve around the protection of the family as the basic social unit, the advancement of women, the improvement of education and the fight against illiteracy and improving access to reproductive health care.

A-088

What do individuals aged 40-64 think about midlife events and their experiences: menopause and andropause

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To evaluate symptoms related to the menopause/andropause in the academic and administrative staff aged 40-64 years employed at a university. We included a section of the population in the study and evaluated their knowledge, thoughts and symptoms related to the menopause and andropause, both important events during middle age.

Method: This descriptive study aiming to evaluate menopause/andropause symptoms in the 57 females and 63 males aged 40-64 years. The data were collected using the Menopausal Quality of Life Scale (MQLS) and Aging Male Symptoms Questionnaire (AMS-QF). The data were analyzed with the chi-square test.

Results: 79.2% of participants were married, 68.9% had information on menopause/andropause, and 30% suffering any symptom. The 75.0% of participants believed relevant public education was required were for the menopause and 75.8% for the andropause. The percentages that believed these conditions required treatment were 43.3% for the menopause and 46.7% for the andropause while 55% felt the menopause and 54.2% felt the andropause affected the health status. The AMS scale scoring showed that 33.3% of males had no andropause symptom while 38.1% had it mildly, 22.2% moderately and 6.3% significantly (mean AMS score was 30.79). The mean MQLS scale score 49.78. Both males (mean 14.27 points) and females (mean 19.92 points) suffered most from physical/somatic symptoms. We found no statistically significant difference between experiencing symptoms and variables such as age, educational status, type of work, or having information on menopause/andropause ($p > 0.05$).

Conclusion: Individuals of both genders tried to cope with symptoms due to decreased sex hormones. Studies on the menopause are more common in our country we recommend more studies on the andropause and evaluation of the factors that influence the symptoms.

A-089

Views on the withdrawal method among Turkish couples

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Background: The withdrawal method is one of the most common traditional family planning methods.

Objectives: Qualitative study in which by means of interviews information was gathered for the purpose of determination of the couples' views on the withdrawal method.

Methods: The study group consisted of 25 couples (50 persons) aged 15-49 using the withdrawal method. Semi-structured questionnaire form was used for collection of data. The interviews were recorded on tape after getting consent from the couples and some notes were taken by the researcher when necessary. The content analysis, number and percentage were used for assessment of the data of the research.

Results: It has been determined in the study that 48,0% of the women were 30 years old and below, 36% of them finished primary school, meanwhile 52% of the men were between 31-40 years old and finished high school. The findings derived from the views of couples concerning the withdrawal method have been collected under 8 main themes. The couples have expressed that the withdrawal method was the healthiest method and appropriate in terms of religion. They stated that this method causes sexual reluctance, dissatisfaction and reduction of sexual intercourse frequency. The couples have expressed that the withdrawal method protects against pregnancy and Sexually Transmitted Diseases. In addition to these, while the men say that the withdrawal method causes knee, waist aches for them and they are afraid of making their wives pregnant when being protected with this method, and the women stated that their husbands suffer knee, leg, waist aches after ejaculation and being very nervous after ejaculation.

Conclusion: The withdrawal method is still one of the methods most commonly used by couples although it is a traditional method with a low protectiveness. In this respect, it is being thought that it is important to determine the attitudes of the couples regarding this method by identifying the social, cultural factors affecting the usage of withdrawal method.

Key words: withdrawal method, family planning, couples, Turkey

A-090

Influence of male decision-making and sociocultural factors in the use of contraceptive methods by women in Niger

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In the African context, the child is seen historically as a source of wealth and metaphysically as critical density which enhances the prestige and power of parents, increasing energy and the line number of descendants (BWALWEL JP, 1998).

A number of families begin to perceive the child as a burden rather than a source of wealth (Lecoh, 1982). But birth control is a slow process that requires education and is fraught with political and cultural obstacles, even more than religious ones. It must be considered as a choice and be offered to families in the context of gender equality, girls' education and family planning.

Thus in some countries such as Niger, fertility remains high. The 2012 DHS-MICS report of Niger indicates that the Fertility Rate (TFR) index is 7.6 children per woman, against 7.1 children per woman in 2006. In addition, if adolescents aged 15-19 account for only 10% of the total fertility in urban areas, they contribute 14% of the rural fertility. Among currently married women, 9% said they wanted no more children than they already had, against 86% of women who said they wanted a child or another child.

The use of contraceptive methods by women aged 15-49 in union is not very high: 14% use any contraceptive method against 11% in 2006. The level of education of women is another important differentiating factor. Among women with at least a secondary or higher education, 30% currently use a modern method, against 18% for those with a primary level and 10% for those with no education.

Moreover, it often appears from studies on the Family in Africa (Ngoy Kishimba 2000; Wakam 1994; Titi 1985; Yana, 1995) that women have roles in reproduction, the exercise of domestic chores and other non-profit work in the family. In African society, women must procreate more and as soon as possible. The more children a woman has, the more it is valued socially and the

better their social status (Wakam, 1994). This design has many consequences both demographic and socio-economic.

This study aimed to evaluate the influence of male decision-making on the use of contraceptive methods by women in Niger. We will use the method of simple linear regression to determine the influence of men in the use of contraception, as well as socio-cultural variables. We will also use our data for DHS-MICS 2012 of Niger to conduct our analyzes.

A-091

Are muslim women behind in their knowledge and use of contraception in India?

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This paper uses District level House Survey (DLHS) and National Family Health Survey (NFHS) data to investigate the use and knowledge of contraceptive methods within two religious communities in India, Muslim and Hindu. The religious obligation and tenets of their religion require Muslim women to defer from using any contraceptive method. Such commitments to one's faith may turn out to be a deterrent in the use of contraception by this community. Given the data for Hindu and Muslims, it was found that use and knowledge of Traditional methods was significantly higher within Muslim women compared to Hindu Women. Consequently, Traditional use also showed a higher prevalence among Muslims. Multivariate logistic regression was used to determine the factors affecting use of traditional methods. The results showed that education significantly contributed to the use of traditional contraception in India. Age, rural residence, and wanting another child were significant in the socio-economic factors examined. The results also suggest that education does not affect traditional method use among women contraception when controlling for other factors.

Key words: Muslim Women, Contraceptive usage, Traditional Methods, Trends,

A-092

Intimately intertwined: the challenges, opportunities, and capacity building of sexual reproductive health in response to the fundamentalist Christian objections toward sex

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Objective(s): This paper seeks to further understanding of the North American fundamentalist Christian opposition to sexual reproductive health (SRH) and the implications worldwide. This paper also seeks to identify the key arguments against SRH from a fundamentalist Christian worldview so as to effectively address the objections to increase rights and health while mitigating population growth.

Design and Methods: The methods utilized are content analysis and intersectionality feminist framework for analysis. This research used a comprehensive analysis of current materials published on the area SRH and Christian fundamentalist groups are teaching about SRH. Thorough analysis of relevant biblical writings, catholic catechism, best selling books on the topic of Christian sex, sexuality, purity, modesty, and gendered behavior, as well as academic literature on why this approach have failed in increasing SRH and bodily autonomy.

Results: The results are four key arguments that fundamentalist Christians in North America have against SRH: no non-procreative sex, no premarital sex, no abortions, no education about sex, sexuality, and sexual health. These objections have implications internationally. The results demonstrate the moral aspect of sexuality inconsistant with the health aspect of sex. There is a conflict of interest between public health, policy, education, and religious organizations. Conservative approaches to sexual health education, the implications are in need of being rectified today, both in Canada and the USA, and their influence internationally.

Conclusions: There are objections to SRH in fundamentalist Christian teachings. The research creates a context for these teaching and further understand how to address the objections. Reducing access to education, contraceptives and abortions limits women's experience and puts their rights and health at risk. By

following the approach of limited teachings of SRH, it also puts youth at a high risk for pregnancy and increased risk of transmitting STI. By incorporating an intersectionality framework, this research further identifies how the LGBTQPIA+ and People of Colour (PoC) are systematically ignored. Developing proactive SRH resources and access to health needs also decreases population growth. Developing capacity for individuals and groups to better address the SRH needs for people, but especially for people such as youth and women.

A-093

Family planning in Turkey, according to TPHR (Turkey Population and Health Research) 2008 data

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Objective: Turkey population and health research (TPHR) is a international research study, conducted by the Hacettepe University Institute of Population. The purpose of this research is to identify demographic indicators. It is conducted every five years, by collecting reliable data at the national level in the areas of population characteristics. Maternal and child health is carried out within the frame of model and standards of population and health research projects, as is performed world wide. The aim of this study is to discuss the effects of family planning regarding regional and cultural differences in Turkey, to see the choices and usage of the family planning (FP) methods in accordance with TPHR 2008 data and to propose an appropriate solution.

Design and methods: The study was conducted by Hacettepe University Institute of Population Studies in June and December 2008. Questionnaires and area listing studies in 634 sets were chosen in the manner that represents the country-city and geographical region levels nationwide and in 81 cities. Interviews were completed with 7,405 married women in 10,525 house holds.

Results: The total fertility rate was 2.16. 98% of the women in the study are aware of FP methods. Modern methods which are the least well-known are the female condom (17%) and urgent prevention pill (29%). 46% of the women have used one of the modern methods, whereas 27% of the women have used one of the traditional methods. The traditional method which is used most is withdrawal. Two thirds of the women did not want to have another child and as the number of children that women have increases, the desire of the women to bring their fertility to an end increases. There are differences between settlement and regions. As education level and level of welfare increases, the use of FP also noticeably increases.

Conclusion: Policies to eliminate the inter-regional differences should be developed in accordance with these results. Easy access to family planning methods for women from all strata of the society should be provided. Men should also be included in family planning education. Proposal of the contraceptive methods for men by the health care professional in our country and active participation by them in the regulation of fertility should also be provided. This has been worked on for many years and is been supported by evidence-based research.

A-094

The relatıonship between perceived social support and the level of coping with stress of the woman with a pregnancy at risk

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Objectives: The present research has been done with the aim of determining the relationship between perceived social support and the level of coping with stress of the woman with a pregnancy at risk and to develop suggestions for nursing services that are conducted in this field.

Method: Three hundred and fifty pregnant women with "risky pregnancy" staying in Turkey Republic Antenatal Clinic of Diyarbakır Obstetrics and Pediatric Hospital between November 2010 and January 2011 were taken as the sample of this descriptive and longitudinal type research. The Multidimensional Scale of Perceived Social Support and Ways of Coping Inventory was used, as well as the socio-demographic information form prepared by the researcher which provides information on patient. For the evaluation of the collated data, descriptive statistics (frequency, percentage, mean, and standard deviation), Independent

Sample t-test, ANOVA and Pearson's correlation analysis were used.

Results: According to the results of the study a statistically meaningful ($r = 0.354$, $p < 0.05$) relationship was found between the risky pregnant perceived social support points' means and the means of points of their coping with stress. It has been found that the perceived social support of those who have low-standard learning, have a low monthly income, did not have a planned pregnancy, those who are married to a relative or who have married unwillingly or those who have a multiparous pregnancy and those who have experienced a stressful life event and the means of their sub-points of coping with stress is meaningfully low ($p < 0.05$).

Conclusions: In light of these results it is suggested that health teams should, besides physical nursing, pay attention to their psychosocial care, give information especially to the husband and then to the family, about the support that the pregnant woman needs during pregnancy, provide the necessary support by nurses to the pregnant individual and liaise with psychiatry nurses. All this should help benefit the area of women's health and diseases.

A-095

Early marriage and maternity of the seasonal migratory agricultural workers

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Objectives: This study was conducted to determine the behaviour and attitude on early marriage and maternity of seasonal migratory agricultural workers (SMAW).

Design & Method: It was analysed the representative multi-purpose cross-sectional research data of 'The Need Assessment Survey of Migratory Seasonal Workers and Their Families - 2011' conducted by Harran University and United Nations Population Fund (UNFPA). In this survey, it was reached 2275 men and women in 1021 household (response rate was 85,2%), using by cluster sampling method, and evaluated the marriage variables. The university ethics committee approval was taken also the approval of the participants too. The data entry and the analyses were done by using the SPSS 11,5, and descriptive statistics were done.

Results: It was determined that 49.8% of the women, and 18.8% of the men were illiterate. 40.9% of the women reported that they gave birth before the age of 19, also 71.4% of 15-19 married women had a baby or pregnancy. 31.7% of the women, and 7.9% of men approved early maternity, and 13.3% of the women, and 2.7% of men approved early paternity. 9% of the 15–19 aged women became pregnant at least once, and 7.2% of them have already had live birth. It was found that there was a significant relation between educational level and maternity age.

Conclusions and Suggestions: In conclusion, seasonal women workers younger than 19 years of age have high risk in maternal health, therefore intervention programs should be develop urgently to reduce risk.

A-096

The role of traditional and religious leaders in facilitating family planning acceptance in Sokoto State, Nigeria: best practices

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Objective: To improve acceptance and utilization of modern family planning methods in the selected community

Method: Sokoto state is located in NW Nigeria. It is inhabited predominantly by Muslims of Hausa/Fulani decent with a population of 4.1 million (2006 NPopC). It has an overall literacy level of 45% (2008 NDHS) and 60% of the population live below the poverty line (2012 HDI). Virtually all aspect of the society are male dominated – politics, economy, commerce, education, culture and religion.

UNFPA supported the formation and engagement of Network of traditional and religious leaders on the reduction of maternal mortality, reproductive health

and gender equality. It is a 24 member high dignitaries led by a traditional title holder (Galadima Gari).

The team visited 30 health facilities in ten LGAs to conduct the following;

1. Advocacy to LGA policy makers
2. Assessment and gap analysis at LGA health facilities
3. Community dialogues and sensitization meetings with heads of households and community members

Results: Increased contraceptive prevalence rate (12%) in the 10 LGAs, and decreased total fertility rate (5.4) (DPRS, SMOH survey).

Conclusion: The result showcase key and best practices as result of engagement/involvement of the traditional and religious leaders in Sokoto State with an evidence of improved family planning knowledge and utilization.

A-097

Sexual behaviors and reproductive health outcomes associations with wife abuse in Iran

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Context: Wife abuse has been associated with a variety of health concerns. Associations between abuse and reproductive health in Iran are not well known.

Objective: To examine relationships between men's reports of wife abuse and reproductive health issues in iran.

Design: Structured face-to-face interviews were conducted as part of the male reproductive health supplement of the PERFORM System of Indicators Survey, a systematic multistage survey conducted in 2010-2013.

Participants: A total of 6632 married men aged 15 to 65 years who lived with their wives and completed all survey questions for the study variables reported here.

Main Measures: Physically and sexually abusive behaviors toward wives, sexual activities outside marriage, sexually transmitted disease (STD) symptoms, contraception use, unplanned pregnancies, and sociodemographic characteristics.

Results: Sixty-four percent of men reported not abusing their wives, while 12% reported physically but not sexually abusing their wives, 17% reported sexual abuse without physical force, and 7% reported sexual abuse with physical force. Abuse was more common among men who had extramarital sex (for sexual abuse using force: odds ratio [OR], 5.22; 95% confidence interval [CI], 3.98-9.72). Similarly, men who had STD symptoms were more likely to abuse their wives (with current symptoms: OR, 2.73; 95% CI, 1.73-3.42). Unplanned pregnancies were significantly more common among wives of abusive men, especially sexually abusive men who used force (OR, 2.81; 95% CI, 1.91-3.60).

Conclusions Wife abuse appears to be fairly common in northern India. Our findings that abusive men were more likely to engage in extramarital sex and have STD symptoms suggest that these men may be acquiring STDs from their extramarital relationships, thereby placing their wives at risk for STD acquisition, sometimes via sexual abuse. These abusive sexual behaviors also may result in an elevated rate of unplanned pregnancies.

A-098

The fertility characteristics of the seasonal migratory agricultural women in Turkey

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Objectives: The objective of this study was to determine the fertility characteristics of the seasonal migratory agricultural women (SMAW) in the high risk group of the agricultural sector.

Design and Method: It was analysed the representative multi-purpose cross-sectional research data of 'The Need Assessment Survey of Migratory Seasonal Workers and Their Families-2011' conducted by Harran University and United Nations Population Fund (UNFPA). In this survey, it was reached 1021 household (response rate was 85.2%), and 757 reproductive aged married women using by

cluster sampling method, and evaluated the fertility characteristics. The Fertility Questionanire was developed the research consultants, and conducted pilot test. The university ethics committee approval was taken also the approval of the participants too. The data entry and the analyses were done by using the SPSS 11.5, and fertility indicators were calculated.

Results: In this study, the crude birth rate of SAMW was 39.5‰, the total fertility rate was 4.94, and the avarage live bith was 6.36 in 40-49 aged women. It was also identified that 9.0% of the 15-19 women has already became pregnant at least once, and 7.2% of them had live birth at least once. It was also determined that 40.9% of the married women become mother before the age of 18, 71.0% of the married women under the age of 19. The mean ideal number of children was 4.5 ± 2.0. When the attitude of the interbirth of the women is being researched, %38.7 of them choose to give birth in less than 2 years. Also it was determined that %46.9 of the women have miscarriage and %19.9 of them have a story of still birth. %26.0 of the women indicated that they did not take antenatal care during their last pregnancy, %27.2 of them gave birth at their home or in the field area. There was a significant association between education level, duration of agricultural worker and antenatal care.

Conclusions: It was determined that the level of fertility of SMAW was very high, and 1 women in every 4 did not reach the antenatal care services because of working condition. All these indicators are higher than the Turkey average. When the results are considered, SMAWs are in the high risk group, therefore it should be given prioritize to access public health reproductive services for this group.

A-099

Are Roma people in Serbia disadvantaged regarding sexual and reproductive health?

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Objective: Roma population is the third largest ethnic group in Serbia, excluding Kosovo and Metohia. Their socio-economic status is worse in comparison to the average Serbian citizen and Roma people face many challenges in everyday life. The question is if similar differences between Roma and Serbian citizens exist in the sphere of sexual and reproductive health (SRH)?

Design and Methods: The research aimed to identify and analyze SRH indicators in women of reproductive age who belong either to the Roma or the general population in Serbia. As information source, the relevant findings of Multiple Indicator Cluster Survey 4, carried out in Serbia in 2010, on two samples were used. The first sample included 5,385 women and was representative of the whole population. The second one consisted of 2,118 women who were living in the Roma settlements. For the purpose of this research SRH data were compared between two respective groups of women. Some other aspects which might influence SRH were taken into consideration, like literacy and education.

Results: Considerable differences between women who belong to the Roma and those from the general population in Serbia were observed in relation to the total fertility rate (2.7 vs. 1.7), adolescent birth rate (158.5 vs. 23.9), having had a live birth before 15 (4.0% vs. 0.5%), having had a live birth before 18 (31.3% vs. 3.3%), modern contraceptive prevalence rate (5.9 vs. 21.5), the prevalence of male condom use (3.3 vs. 13.5), traditional contraceptive prevalence rate (57.6 vs. 39.3), as well as in sexual behaviour of women aged 15-24 years (percentage of never-married who had never had sex: 83.0 vs. 47.5; percentage who had sex with a non-married, non-cohabitating partner in the last 12 months: 8.9 vs. 41.2). Additionally, discrepancies existed in elementary literacy (76.5% vs. 99.3%), net primary school completion rate (35.0% vs. 92.0%), HIV/AIDS knowledge (13.3% vs. 52.7%) and approval of physical abuse of women by husbands/partners (20.1% vs. 2.9%). Differences were less apparent regarding no antenatal care received (5.5% vs. 1%) and assistance by skilled attendant during delivery (99.5% vs. 99.7%).

Conclusion: Although data on SRH of general population of women in Serbia are far from been satisfying, those for women who live in Roma settlements are much worse. Problems in the socio-economic sphere, like poor school enrolment and maintenance of traditional patterns would need to be

addressed, as well. The only exception is related to antenatal care.

DELIVERY OF SEXUAL AND REPRODUCTIVE HEALTH CARE

A-100

Investigation of the effects of mode of delivery n maternal antenatal anxiety

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Aim: The aim of this study is to compare the antenatal anxiety levels of pregnant women scheduled for vaginal delivery or cesarean delivery.

Material and Method: This is a descriptive study. The study population included all the women admitted to the department of obstetrics of Bağcılar Maternity Hospital for delivery. The study sample consisted of 83 women who volunteered to participate in the study. The data were collected with a Participant Information Form developed by the researchers, the State Anxiety Inventory, and face-to-face interviews conducted immediately after admission to the delivery room. The data obtained were calculated using percentage and t test.

Results: The mean ages of the cesarean group ($n = 37$) and the vaginal group ($n = 46$) were 25.95 ± 5.83 and 30.35 ± 6.88, respectively; the means of years of education for the cesarean group and the vaginal group were 5.0 ± 3.8 and 4.19 ± 3.91 years, respectively; and the majority of the women (94%) were housewives. Also, 28.9% of the women were nulliparous and 71.1% of them were multiparous, 66.3% of them preferred vaginal delivery, mode of delivery was decided by doctors alone by 50.6%, and only 32.5% of them received antenatal education. The anxiety scale mean scores of the vaginal and cesarean delivery groups were 45.93 ± 06.09 and 47.51 ± 8.3, respectively, but there was no significant difference between the overall anxiety scores of the two groups ($P > 0.05$, $p = 0.434$).

Conclusion: The study found that the pregnant women scheduled for vaginal delivery or cesarean delivery had similar levels of antenatal anxiety.

A-101

An audit of asymptomatic screening by health care assistants in all contraception and sexual health services in Haringey, North London

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Objectives: The primary objective was to audit asymptomatic consultations carried out by the Health Care Assistants (HCA) against twelve criteria drawn from the British Association for Sexual Health and HIV (BASHH) 2013 UK national guidelines, for consultations requiring sexual history taking.

Method: Health Care Assistants are a valuable part of the team at Haringey, north London Contraception and Sexual Health (CASH) Services. They have been undergoing training in taking asymptomatic patient histories. It is felt that this will benefit the service, patients and staff in several ways.

- Reduce the time that asymptomatic patients have to wait to be seen
- Increase the number of asymptomatic patients the service is able to help
- Reduce the burden on doctors and nurses who can deal with more complex cases
- The HCA develops new clinical skills

Data was collected retrospectively from electronic patient records (EPR) from June 2012 to December 2012. All "new" or "rebook" patients seen by the HCAs were included. As per BASHH recommendations 40 patients were selected; with equal number of male and female patients and weighted equally for each HCA. Data was analysed using excel spreadsheet.

Results: A total number of 538 asymptomatic screens were carried out by 4 HCAs over four clinical sites in the 6 month period. 192 were male and 346 were female. The 100 % standard was met in seven of the twelve criteria; including offering a urine naats for male patients and low vaginal swab in females, and a blood test for HIV and STS. However, there was incomplete recording of type of sex, previous sexual partner, menstrual and cytology history, and HIV and Hepatitis risk. BASHH guidelines recommend additional questions (such as hepatitis risk) which our HCAs do not currently ask.

Conclusion: Overall the HCAs are seeing a large number of asymptomatic patients and appropriately assessing them in the majority of cases. As a result of the audit we have

modified our templates to include the additional fields including hepatitis risk assessment

reviewed the role and training development plan for the HCAs

Each HCA will now be assigned a senior nurse who will meet monthly with them to individually review specific cases and EPR documentation.

They will have the opportunity to shadow senior nurses, doctors and Health Advisors.

They will be encouraged to keep a reflective diary of their clinical experiences as part of their annual appraisal.

A-102

The choice of contraceptive method in rural area of eastern China

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Objective(s): To describe and analyze contraceptive use among rural women in eastern China in the context of current social, family planning policy and service provision.

Methods: Qualitative methods were used to explore the pattern of contraceptive use in a rural county of Zhejiang Province, China. Two focused group discussions were held with 6 family planning service providers and 6 married women who had at least one child, respectively. Fifteen individual in-depth interviews were conducted with women, women's partners, service providers, health managers and health policy makers. A stenographer was invited to each interview to develop transcripts. Researchers checked the contents immediately after each interview. A framework approach was taken to analyze data, assisted by NVivo8.

Results: The selected rural county was a relative developed area in eastern China. There was a general consensus amongst most stakeholders on the contraceptive method used by people. Before childbirth, men usually take the responsibility to use condom. It was regarded as women's responsibility to adopt contraception after childbirth, and they are generally encouraged to use IUDs following the birth of the first or second child. Some women experienced unintended pregnancy and repeated induced abortions due to no-use of contraception or inconsistent use of unreliable methods such as rhythm after childbirth. There was no standard counseling procedure delivered by family planning service providers before women made decision on contraceptive choice. Women usually made decision based on simple communication with or listen to health providers, their female family members, friends and colleagues et al. Men were generally not included in contraceptive counselling service. Most of family planning service providers were not aware of the content of informed consent on contraceptive choice.

Conclusions: The choice of contraceptive method practices was not based on adequate counseling service and communication with family planning service providers. Face-to-face counseling is a key preferred method for receiving qualified family planning service and it needs to be introduced into rural areas of China.

A-103

The public health and economic consequences of unintended pregnancies in South Africa

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Unintended pregnancy (UIP) poses considerable humanistic and economic burden in both developed

and developing countries. Obtaining specific estimates on UIP in developing countries is difficult due to data limitations and differences in classifying and reporting of pregnancies.

Objective: To estimate the burden of UIP in a developing country.

Design and Methods: A decision-analytic model was developed using probabilities for pregnancy related outcomes related to UIPs in a single year. The model evaluates contraceptive methods that are currently in use in South Africa. The annual cases of UIP among women of reproductive age in South Africa were estimated using distribution of contraceptive use across methods and the associated failure rates. The major outcomes of UIP s evaluated in the model were induced abortion, miscarriage, ectopic pregnancy and live birth. Maternal mortality and related costs to the public health system were assessed for each of these outcomes.

Results: 636 040 annual UIP were estimated, resulting in 91 439 abortions, 6 996 ectopic pregnancies, 101 766 miscarriages and 435 838 births. The annual maternal deaths were estimated to be 1 134 of which 219 (19.3%) were attributed to abortions and 915 attributed to complications from miscarriages, ectopic pregnancies and deliveries. The costs attributed to UIP birth outcomes accounted for R3.42 billion annually. Annual costs of UIP live births were estimate to be 82.8% of the total costs with abortion and miscarriage accountable for 8.3% and 8.4%, respectively. The number of infant deaths attributed to UIP within 12-months following birth was estimated at 30 754. We estimated 76 272 preterm deliveries attributed to unintended pregnancies. The estimated number of neonatal admissions associated with UIP was 100 175, which included all preterm deliveries and 7.6% of term deliveries.

Conclusions: UIP are partly due to lack of service provision and not meeting women's contraceptive needs. However, a large proportion of these pregnancies also occur due to lack of knowledge and myths regarding contraception, failure and discontinuation of short-term hormonal contraception. Efficacy can also be impaired because women commonly switch methods, often with a period of delay before starting the new method rendering them susceptible to unintended pregnancies. In this context, long acting reversible contraceptive (LARC) methods combine reversibility with high effectiveness and do not depend so much on compliance or correct use.

A-104

Developing a model of sexual healthcare provision for substance-misusing women

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Objectives: This project sought to define a model of sexual healthcare provision for substance-misusing women (SMW), as they are known to experience disproportionate sexual health morbidities.

Method: Model development followed the first stage of the MRC Framework for developing and evaluating complex interventions. The model was developed in four sequential steps. Firstly a survey and qualitative interview study were conducted with SMW to determine sexual health needs and barriers to service use. Secondly these data were used to informally model services by determining critical service components and how they would inter-relate. Next, guidance on sexual health service standards and supporting at-risk and disenfranchised populations were reviewed to ensure the draft model was congruent with recommended policy and service delivery. Finally expert panel consultations were convened to 'trouble shoot' problematic elements of the model and to identify feasibility issues; before finalising the model in a commissioning framework format to facilitate uptake.

Results: The finalised model comprises:

1. Opportunistic fast-track single-site access to a range of sexual health interventions through CASH and GUM services, walk-in centres and GP surgeries where certain criteria are met.
2. Training in sexual health discussion and sign-posting, to drug workers and other non-sexual health providers who regularly engage with substance misusing women
3. Sexual health role expansion for drug workers and other non-sexual health providers who regularly engage with substance misusing women
4. Training for sexual healthcare providers in specific issues and barriers to sexual healthcare engagement affecting substance misusing women

5. Outreach sexual health (female) nurse services (including administration of contraception and pregnancy testing) to substance misusing women
6. Targeted and sustained advertisement of sexual health services and promotion messages through poster campaigns and 'Women's Health cards'
7. Travel reimbursement for substance misusing women attending sexual health services and Sexual Assault Referral Centres (SARCs)
8. Provision and advertisement of washing facilities at sites where genital examination may be required

Conclusions: The model carries a strong policy and evidence base, with clear actions and anticipated outcomes. The model highlights the importance of joined-up provision and skill sharing by substance misuse and sexual health service providers and practitioners; and the importance of emotional and practical support in enabling access to sexual health services for SMW. Further research to test the effectiveness of model provision should investigate which model components carry specific effects in improving service uptake and health outcomes; and explore the potential value of extending the intervention to other disenfranchised populations.

A-105

Improvement in contraception provision within a hospital genitourinary medicine clinic

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Background: In the UK progress has been made locally and nationally with the integration of Contraception and Genitourinary Medicine (GUM) services. A previous audit of our hospital GUM clinic demonstrated inadequate documentation and provision of contraceptive needs. This was, in particular, believed to be inefficient in meeting the needs of younger clients. Subsequently, the staff received additional training in contraception and a new clinical template with an integrated contraception history was created which enabled clinicians to better document contraceptive methods used and a pregnancy risk assessment. A re-audit was undertaken to assess the improvement in our services.

Methods: A retrospective case note analysis of 100 randomly selected female patients who attended from October to December 2012.

Results: The age range was 16-50 years (median age 24 years). Contraception history was documented in 99% (99/100) patients compared to 92% in the previous audit. Pregnancy risk assessment was evident in 97% compared to 29% previously. We identified 32 patients who were taking the combined pill, 12 using Depo Provera, 8 taking progestogen-only pills, 5 had a contraceptive implant and 3 women were each using IUD and IUS. There were 20 patients using only condoms, and 8 not using any method. In 72% (20/28) patients who were using condoms or no method, there was documentation of information given about methods of contraception along with leaflets, in the previous audit this was documented only in 27% of eligible patients. A discussion of long acting reversible (LARC) contraception was documented in 13/28 (46%) patients. Referral to a contraceptive clinic was arranged for 2 women while 3 declined referral; 6/20 (30%) women using condoms were started on a new method of contraception. Emergency contraception (EC) was given to 2/3 eligible patients along with 'quick start' regular hormonal contraception, 1 each were given Levonelle 1500 and ellaOne. An emergency IUD was discussed as the best method of EC in these patients. An offer of EC was missed in only 1 eligible patient in our study group.

Conclusion: Results showed an improvement in documentation of contraception history, pregnancy risk assessment and a discussion of available contraceptive methods in relevant patients. This re-audit demonstrates that contraceptive care improved after staff training and the introduction of the new clinical template. We are now better placed to address the contraceptive needs of young people, in particular, attending the hospital GUM clinic. The awareness of LARC methods still needs to improve in our patients.

A-106

Private sector in provision of modern contraceptive method in middle and low-income countries

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Objectives: Family planning in low-income countries has been neglected for almost two decades. Recently, renewed interest was sparked by the 2012 London Summit. We have identified previous efforts to describe the nature of provision of modern family planning methods. However, there is a gap in understanding of private sector family planning provision, in terms of its extent and its characteristics. The objective of this paper is three fold. Firstly, we characterize women with respect to their need for modern family planning methods. Secondly, we describe the sector where women are obtaining modern contraceptives (public, private, other) and thirdly, we test the hypothesis that women seeking care from private providers are more likely to obtain "easier methods" that involve less provider-training time; or less time needed to provide the item.

Method: We use nationally-representative population-based data collected since 2000 in 57 countries through Demographic and Health Surveys. We aggregate these data by world region and disaggregate them by wealth quintile, type of provider and family planning service/product. Modern contraceptive methods were grouped into three categories based on the ease of training and the time needed to deliver the method, excluding counselling. The resulting groups are 1 (easy) including male and female condoms, diaphragm, foam/jelly and oral contraceptive pills, 2 (medium) covering injections, implants and IUDs, and 3 (intensive) including male and female sterilisation.

Results: Data were obtained for 57 countries, with information on 865,547 women aged 15-49 years old, representing a population of 2.9 billion people. There were 30 countries in the Sub-Saharan Africa Region, 9 countries in the North Africa/Middle East Region, 10 countries in the South/Southeast Asia Region, and 8 countries in the Latin America/Caribbean Region. These represent 83%, 29%, 87%, and 20% percent of the populations of these regions. We show unmet need is highest in SSA. Across the regions, wealthier women in need of contraception were more likely to use it; the gradients in use of private care are similar.

Conclusions: We found 152 different types of providers and that in line with previous literature, the non-public sector is heterogeneous. We could classify these into 9 separate categories (commercial medical, commercial non-medical, religious medical, religious non-medical, NGO medical, NGO non-medical, non-commercial non-medical, other non-medical, other medical). We found the pattern of use of specific methods (easiest, medium and intensive) differed by type of provider and wealth quintile.

A-107

Challenges of Family planning (FP) service delivery in rural Malawi: the case of Mzimba district

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Objectives: This study aims at understanding the contextual factors that influence non-use of modern contraceptive methods in a rural Ngoni patriarchal society in Mzimba. Evidence from this study will help to fully understand the problems that are intricately linked to service environments in rural settings and how these can be addressed to increase contraceptive uptake.

Methods: Both qualitative and quantitative methods were used to collect data for this study. A survey was done among currently married women of child bearing age. Client Exit Interviews were done with women accessing FP services. 18 Focus Group Discussions (FGDs) and 24 in-depth interviews were done with key infomants which included service providers, women users andn non users of contraception, traditional leaders and policy makers.

Results: Disparities exist between the number of health care facilities and population size in Mzimba district. The health care facilities in the study serve a much higher population than the national estimates on average number of people per facility. Proximity of the health facilities to the population is another barrier to accessing services. Distances that women seeking FP services walk to get to the nearest facility range from 0.4 kilometres to 20 kilometres. Furthermore, the number of professional and community health workers supporting community FP service provision are very few. Often women seeking FP services go back home empty handed or with a contraceptive method that is not of their choice due to lack of an irregular supply of FP commodities.

Conclusion: The limited number of health care facilities and low staffing levels and scarce FP commodities affects the delivery of FP services in Mzimba district and this has negatively impacted on CPR (34.3 percent) which is lowest in Northern districts of Malawi and at national level CPR is at 46 percent. Individuals and couples who want to seek protection

from pregnancy are unable to access high quality FP services. This trend has encouraged use of traditional and natural methods of contraception in the area.

DIVERSITY AND SEXUAL/ REPRODUCTIVE HEALTH (SRH) IN MULTICULTURAL EUROPE

A-108

The dynamics and quality of the sexual activity during pregnancy

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Objectives: Body-image medical issues have been scarcely investigated in the cultural environment of Eastern Europe, so we focused on preparing screening instruments to be easily and reliably administered. Our objectives were fourfold: (1) assess the appropriateness and reliability of a translated version of Body Exposure during Sexual Activities Questionnaire (BESAQ); (2) ascertain the belief that a change occurs in the quality and dynamics of sexual activity during pregnancy; (3) investigate potential factors associated with the quality and dynamics in pregnancy and non-pregnancy periods; (4) examine the underlying motivational framework in body exposure avoidance during sexual activities.

Design & Methods: A cross-sectional study was conducted, applying a translated version of 28-item BESAQ to women recruited in a university hospital, while attending perinatal care. Participants filled-in a self-administered BESAQ-based questionnaire (initial translation was performed, followed by independent back-translation and subsequent revision), with separate sections for pregnancy and non-pregnancy attitudes and additional personal data (e.g. age, medical). Statistical analysis was conducted on de-identified data, using SPSS v15. Analysis was conducted using the largest valid sample possible for each measure (although few records were complete for the entire data set, no imputation was performed). Descriptive statistics were performed followed by reliability coefficients Cronbach's Alpha, non-parametric tests for BESAQ scores, multi-variable regression, and principal components analysis (PCA).

Results: The sample included 297 subjects, out of whom we collected partial data: 275 medical and/or anthropometrical, 114 sexual dynamics, about 180 BESAQ scores, with 29 full records. Mean age was 28.38 (StdErr = 0.322), BMI = 26.3 (StdErr = 0.498), 115 were pregnant, and 63 lying-in (42 having underwent a C-section). For non-pregnancy and pregnancy periods, respective Cronbach's Alpha coefficients were 0.795 and 0.775, respective median BESAQ scores 0.93 and 1.14, and respective median frequencies of sexual intercourse per week were 3 and 1 (for the latter two, Wilcoxon signed ranks test resulted in $p < 0.001$). A regressional model for sexual dynamics proved the significant influence of BESAQ score (R-squared = 0.111, $p = 0.001$). PCA with varimax rotation was performed to investigate the underlying motivational framework in the body exposure avoidance during sexual activities, i.e. its possible multifactorial origin (Kaiser-Meyer-Olkin adequacy = 0.849, Bartlett's sphericity test $p < 0.001$).

Conclusions: BESAQ translated version is an appropriate and reliable tool for screening; during pregnancy there is a significant decrease in the quality and dynamics of sexual activities (significantly influenced by BESAQ scores); PCA revealed a seven independent factors mix explaining more than 50% of the latent attitudes towards body exposure.

A-109

Use of sexual and reproductive health services and associated factors among immigrants in Portugal

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Objectives: This study aimed to describe the use of SRH services among immigrants in Portugal and identify associated factors.

Method: A participatory cross-sectional study was conducted with 1187 immigrants (52.2% women; 34.0% from Portuguese-speaking African countries, 33.8% Brazil, 32.3% Eastern Europe) living in the Lisbon Metropolitan Area. Participants were selected through snowball sampling. Data was collected through a questionnaire applied by trained interviewers in governmental and non-governmental organizations. The instrument included items on socio-demographics and SRH services use. A logistic regression analysis was performed. The magnitude of the associations was estimated by means of OR with 95% CI.

Results: Overall, 25.1% of participants reported having had a SRH consultation, more women (36.7% vs. 12.4% of men) ($p < 0.001$); no significant differences were found across origin. About 38% had no children. More Brazilians reported having no children, Eastern Europeans having 1-2 and Africans having > 2 ($p < 0.001$). Having children was positively associated with having had a SRH consultation ($p = 0.002$). Approximately 62% reported having ever been tested for HIV, more frequently women ($p < 0.001$) and Brazilians ($p < 0.001$). In the last SRH consultation, 53.1% had family planning, 44.0% had routine exams, 19.2% obtained SRH information and 9.9% had an HIV test. About 90% reported having been satisfied. Overall, 4.3% of participants reported having had an STI in the last 12 months, more frequently Africans (6.1%) than Brazilians (4.0%) and Eastern Europeans (2.8%) ($p = 0.072$). Among those, 56% reported haven't attended a SRH consultation. Among women, having had a SRH consultation was more likely among those younger (OR = 0.96, 95%CI = 0.95-0.98) and with higher length of stay in Portugal (OR = 1.03, 95%CI = 1.01-1.06). Among men, having had a SRH consultation was less likely among Africans (OR = 0.28, 95%CI = 0.13-0.59) and Brazilians (OR = 0.31, 95%CI = 0.16-0.61) compared to Eastern Europeans. Among both gender groups, HIV testing was positively associated with having had a SRH consultation (women: OR = 1.76, 95%CI = 1.18-2.63; men: OR = 3.19, 95%CI = 1.73-5.87). No significant association was found with immigration status.

Conclusions: The low proportion of immigrants attending a SRH consultation highlight the need of promoting SRH services use among this population addressing its specific needs. Cultural aspects should be disentangled as they appear to influence SRH services use, particularly among men. The fact that having a SRH consultation was independent of immigration status may be reflection of the current Portuguese legislation establishing universal access to healthcare. Integrated SRH and HIV health services entail opportunities for SRH promotion.

EDUCATION AND TRAINING FOR FAMILY PLANNING PROFESSIONALS

A-110

New recommendations for contraceptive counseling advice based on the lifestyle. Results of a Delphi study

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Introduction: The aim of contraceptive counseling advice should be the selection and prescription of the contraceptive method that best suits the individual needs of women.

Aims and objectives: Prepare a list of recommendations that go beyond the medical conditions established by the World Health Organization (WHO) to assist decision-making during the process of contraceptive counseling advice.

Methods: The Delphi methodology was used to perform this study with the aim of optimizing the consultation process of 27 scientific experts. The experts responded to 24 questions from the coordinators of the study. For questions with a nominal response scale, a consensus was established when at least 50% of the experts agreed or disagreed in a given question. In the case of questions with an ordinal response scale (from 1 to 9 points or from 0 to 10 points), the level of agreement required a median equal to or higher than 7 points and/or a relative interquartile range (RIR) equal to or lower than 25%. A consensus of disagreement with the wording of the question was established in all cases that achieved a median response equal to or less than 3 points.

Measurements and main outcomes: After the DELPHI process, 20 recommendations were made on issues related to contraceptive counseling advice

including medical conditions (endometriosis, diabetes mellitus type 1, malabsorption), life stage (adolescence, youth, breastfeeding, perimenopause), lifestyle, employment status, educational level, economic status, sexual activity, contraceptive methods and contraceptive adherence.

Conclusions: As is the case with medical conditions, contraceptive counseling advice must contemplate issues related to lifestyle and the life stage of women in order to improve the selection to the most appropriate contraceptive method (condom, contraceptive pill, intrauterine device, LNG-intrauterine system, contraceptive implant, contraceptive patch, vaginal ring). Among the different conclusions, the sole use of condoms is not a method recommended for women who want highly effective contraception; in order to achieve greater adherence by the user, the long-term hormonal methods (LNG-intrauterine system/contraceptive implant) or vaginal/transdermal pathway non-daily methods are recommended. Additionally, the use of the vaginal ring is recommended for women who wish to use the lowest level of hormones as possible to prevent pregnancy.

Key words: contraceptive counseling advice; Lifestyle; DELPHI Methodology

A-111

Is it time to reconsider the contraceptive recommendations to young women? Survey among Swedish prescribers of contraceptives

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Objective: To investigate which contraceptives Swedish prescribers recommend to women before, between and after child birth.

Methods: This study was conducted as a survey directed to prescribers of contraceptives at 13 lectures in 10 different Swedish cities between February and May 2013. The prescribers in the audience anonymously responded to 15 multiple choice questions presented on a screen by means of an audience response system (mentometer device). Participation was optional.

Results: In total, 399 were prescribers of contraceptives, 356 women and 38 men, answered the survey (5 subjects did not raise any gender). Regarding profession, 84% were midwives and 12% gynecologists. Overall, 89% of the prescribers recommended combined hormonal contraceptives, COMB-HM (pills, patch, ring) to nulliparous women, 36% recommended progestin-only pills between child birth and 81% recommended levonorgestrel-intrauterine systems (LNG-IUS) after child birth.

Out of 116 subjects reporting personal contraceptive use, 53% used LNG-IUS. However, COMB-HM was the most commonly recommended contraceptive choice to nulliparous women irrespective of prescribers' personal contraceptive use, represented by 97% of LNG-IUS users, 95% of COMB-HM users and 90% of condom users. *To nulliparous women*, the recommendation of COMB-HM was 1.3 times higher (95% CI; 1.01-1.6) among prescribers aged > 35 years than younger and 1.2 times higher (95% CI; 1.1-1.3) among prescribers working at maternal care center than those at outpatient clinics for gynaecologists. *Between child births*, midwives and prescribers at maternal care centers were both 2.2 times more prone to recommend intermediate-dose progestin-only pills than gynecologists (95% CI; 1.2-4.0) and prescribers and clinics for gynecology (95% CI; 1.4-3.6), respectively. In contrast, recommendation of COMB-HM to women between child birth was significantly higher among gynecologists than midwives (Ratio = 3.8: 95% CI; 2.3-6.3) and among prescribers at outpatient clinics of gynecology than at maternal care centers (Ratio = 3.4: 95% CI; 2.0-6.0).

Conclusions: The present survey showed that COMB-HM was the most commonly recommended contraceptive to nulliparous women irrespective of the prescribers' profession. Between child births, the recommendation of intermediate-dose progestin-only pills was higher, but COMB-HM lower, among midwives and prescribers at maternal care centers compared to gynecologists and clinics of gynecology. Since long acting reversible contraceptives were preferably used by prescribers and recent studies support advantages of its use, there is a need for better alignment between scientific knowledge and clinical practice.

A-112

Sexual and contraceptive behaviour

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Objectives: Promotion of primary prevention of reproduction health for adolescents stands only at the beginning in Romania. There is virtually no systematic consulting in that area. Adolescents often do not realize the value of reproduction health. However, they constitute the age group most frequently endangered by incidence driven primarily by risk behavior, such as unwanted pregnancy, sexual diseases transmission, drugs, AIDS, violence, etc.

Design and Methods: The pilot quantitative analysis of attitudes of adolescents to prevention of reproduction health helped us to get insight into an unexplored area. A short survey with 6 questions was filled in by 691 adolescents aged 15-19, studying at secondary schools.

Results: The respondents state most frequently not to talk to anybody about that topic; reproduction health is perceived as a very intimate topic. Information is exchanged most frequently among friends. The topic of reproduction health is not so important in partner communication at that age. But it has turned out beneficial to open the topic in mixed groups; girls suggest to boys that they should care more for their health. Physicians, together with parents, were appreciated the least, although the information should be transferred preferably by health care workers. International studies also show that physicians do not like discussing sexual health with the patients, and men and women do not like opening this topic with their physicians.

Conclusion: Adolescents wish and need information in the period of adolescence, but they still do not want to speak about it; they are rather passive recipients of information. It can be expected that it will take long time to motivate men to take positive approach to reproduction health. Success can be produced by programs at schools, high-quality information in the media and education of professionals

A-113

Improving of family planning practice in Kosovo through continuing professional program in family medicine

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Background: Since 1999 in Kosovo were introduce changes in the health care system including increasing of the professional skills as to Continuing Professional Development Program according the health law set up a year after. On September 2002 has been established the Centre for Development of Family Medicine of Kosovo-CDFMK in view of the needs to promote development of Family Medicine as the gate keeper to health services, as articulated in the *Health policy for Kosovo, 2001* supported by World Health Organisation, liaison office in Prishtina. In meanwhile has been set up eight Family Medicine Training Centres throughout Kosovo conducted by CDFMK. Everysince 2005 Specialisation Trainign Program under the lead of CDFMK has been shape up as a three years postgraduate program accredited by Royal College of General Practitioners -RCGP from UK.

Aim & Objectives: The aim of presentation is to present the quality improvement of Family Planning Practice through development of the Continuing Professional courses in the area of Reproductive Health Care as a compulsory module to all health care professionals in Primary Health Care.

Methodology: Five training cycles in Family Planning has been completed lead by CDFMK along witth Association of Family Physicians of Kosovo - AMFK while supported by UNFPA, liasson office in Prishtina and still to continue.

Results: Over 206 Family Doctors and 151 Family Nurses throughout Kosovo were trained and gain neccesity professional skills as improvement of the Reproductive Health care services emphasises Family Planning practiice accros Family Medicine Health Centres.

Conclusions: There is in the futire to get trained each Family Doctor,Nurse in Reproductive Health - Family Planning comes to the Family Health Centres including other health care profesionals profile operating in Primary Health Care adn further development of CPD package while Implement and Institutionalize Family Medicine

A-114

Evaluation of the teaching experience of trainers within an integrated contraception and sexual health service

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Background: The Training department within Haringey Contraception and Sexual Health services delivers the 'Course of 5' training module for doctors as part of the Diploma of the Faculty of Sexual and Reproductive Health on a monthly basis. It consists of 5 one hour workshops and assessments covering the core theoretical learning objectives in Contraception and Sexual Health and must be passed before progressing to clinical training. Between November 2012 to 2013, 236 doctors were trained within our training department with high rating on the course feedback from candidates.

Aim: We aimed to evaluate the quality of the teaching experience of trainers within our department who have delivered sessions within this course.

Method: All trainers were asked to complete an anonymous electronic survey about their experience teaching on the course. Results were analysed using an Excel database.

Results: Fifteen out of 18 (83%) of trainers responded; 7 doctors and 8 nurses. Some sessions are led singly by a Dr or nurse and some by both clinicians. The majority (55%) of the trainers enjoyed teaching on Session 1 (HIV pre-test discussion and sexual history taking) and Session 2 (STI screening) the most. They found these sessions most interactive and updated their knowledge. Two (13%) trainers indicated some difficulties in keeping the motivation of students high throughout the hour and in the amount of material which needed to be covered in the allocated time. Two (13%) trainers suggested that using more models or videos and one that using the same teacher for different sessions would improve the teaching experience. All trainers reported positive benefits from teaching within the course which included confidence building in teaching and communication, continued professional development, updating their knowledge, sharing expertise and improving multi- disciplinary team working in the department. The majority 14 (93%) felt that there were adequate resources and all felt that the administrative support was excellent. Five (33%) felt that more time was needed during the sessions for more detailed discussions.

Conclusion: This survey demonstrated a positive experience in teaching on the Course of 5 by all trainers working in our department. Suggestions for further improving the training experience will be discussed with all trainers in particular the timing of sessions and additional props for the sessions.

A-115

The vacuum-aspiration introduction into the ob\gyn out-patient practice: the role of training

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Modern technologies are rarely used for unwanted pregnancy termination in Russia. So, the vacuum aspiration (VA) is used for artificial abortion only in 24.6%, medical abortion is conducted in 6.2% (2011) - strictly up to 6 weeks. Due lacking skills among providers the use of methods is complicated even when administrative decision is made.

Objective: Training of ob\gyns in the VA technologies for up to 12 weeks pregnancy, introduction it into practice at Sverdlovsk region. It is an excerpt from the WHO's «Introduction of safe technologies of the first trimester abortion» an operational research - evaluating the effectiveness of the training for the service providers.

Material: Ob\gyns (n = 24) of the hospital (n = 12) and outpatient type of institutions (n = 12) at Sverdlovsk region.

Methods: The course consists of theoretical, practical models, work in the operating theatre. An anonymous testing was conducted before and after the training. The obtained data was processed by the qualitative and quantitative methods.

Results: Before the training 58.6% of participants gave the correct answers to the questions and 41.4% were incorrect (the score 3.1). After the course the correct answers were in 91.9% ($p < 0.001$) and incorrect - 8.1% ($p < 0.001$) (4,6 points - excellent) ($p < 0.001$). A satisfactory answer was in 44%. As a result of the training quality of doctors ' knowledge has substantially increased: excellent answers were given by 88% and 12% - satisfactory, with no wrong

answers. The difference of the obtained results was reliable in all cases (< 0.001). For all the issues the average assessment of the quality of knowledge grew by 1.5 points of the 1.9 possible that accounts for 80%.

Conclusions: The training results showed significant improvement of knowledge, confirming the fulfillment of the study objectives. Prospects: the survey is to be continued, the intermediate results will be presented in 6 months.

A-116

Can current pre-marital curriculum meet newlywed women's family planning educational needs?

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Objectives: Newly married women have significant information needs about family planning. They often know very little or have incorrect information about it. Family planning is very important for providing mother and child health also it prevents high risk and unwanted pregnancy. Access to family planning information and services is one of women's rights which should be provided by governments. In Iran, pre-marital training courses are regularly held in health centers of all cities to promote the engaged couples' reproductive health awareness especially family planning. This paper aimed to measure youth women's educational needs about family planning before and six months after attending in pre-marital curriculum in Tehran.

Methods: In a cohort study in 2011, 56 women who were participated in pre-marital counseling in Tehran randomly were selected. A researched-made questionnaire was used to measure rate of needs for education with 5 degree-Likert scale before and six months after marriage. Data were analyzed by Wilcoxon signed ranks test. A P-value less than 0.05 were considered to be significantly different.

Results: Mean age and standard deviation (SD) was 23.96 ± 3.82. Most subjects had university degrees and 42.9% of them were working. Before having pre-marriage counselling 66.1% and six months after 60.7% of women mentioned high or very high need for education. Mean and SD of score of need before and six months after attending in pre-marital curriculum were 3.79 ± 1.12 and 3.79 ± 1.11 and there was no difference between two stages.

Conclusion: Based on our findings scores of need for education in before and after attending the pre-marital curriculum were not different. Current premarital education can't meet women's need for education about family planning. This may be due to shortage in time, educational methods or limited educational contents. Also training educational methods for educators is necessary.

A-117

Specialist training in sexual and reproductive health in a generalist setting

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Objectives: Description of establishment and running of specialist training in sexual and reproductive health based in a UK general practice/primary care setting

Method: Descriptive

Results: The setting is a general practice for students in a large city in the UK. The population of the Practice at 30/12/13 stands at 36, 320 with 20,181 females over 17 registered for care. The size and age group of the population means that sexual and reproductive health matters commonly arise in consultations. A number of doctors working within the Practice developed an interest in sexual health building on the Diploma of the Faculty of Sexual and Reproductive Health (DFRSH) and then acquired the Letters of Competence in Sub Dermal Implants (LoC SDI) and in Intrauterine Techniques (LoC IUT). When one doctor, who already had the FSRH Letter of Competence in Medical Education (LoC Med) and had been involved in SRH training in previous posts,was employed by the practice the decision was made to apply to become a training programme.

Conclusions: The exposure of working in general practice is useful to those who will use their new skills in secondary care, as it gives greater insight in to the demands placed on primary care by both patients and secondary care. The feedback from trainees who come from primary care is that they appreciate the delivery of this specialist training in a setting that is comparable to their own. They feel that the trainers are fully aware of the challenges of being a generalist and delivering quality health care to standards agreed by specialists. The success of this training programme has resulted in an increase in the number clinicians who are able to provide LARC locally in addition to increasing specialist knowledge in sexual health.

EMERGENCY CONTRACEPTION

A-118

What do the working young girls know about emergency contraception?

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Objective: One of the important reproductive health problems in Turkey is unintended pregnancy. In this study, it is aimed to determine the knowledge of working young girls about emergency contraception.

Design and Methods: This research was conducted in the Vocational Training Centre in centre of Aydın in April, 2013. The young people studying at this school receives theoretical training a day of the week and in other days of the week they works in real workplaces. The research is a cross-sectional and descriptive study. The population of the research consists of 110 female students enrolled to Aydın Vocational Training Centre in the Spring Term of 2012-2013 Academic Year. The sample consists of all students (n = 87) aged between 15-24 who were present at school and willing to participate in the research. The data were obtained through a question form and in the evaluation of data were used descriptive statistics.

Results: The mean age of young girls was 18.3 ± 2.1 and 76% of them were between 15 and 19 age. 85% of them were primary school (8 years) graduates, 95% of them work at hairdresser and studies at hairdresser department. About 7% of girls stated as having a sexual experience and 29% (n = 25) knew/heard emergency contraception methods. However, when asked 72% (n = 18) of these girls stated that they didn't know the names of the emergency contraception, how and in what situations should be used, The others gave wrong answers by mentioning widely-known family planning methods such as pills, spiral and condom. 47% of girls (n = 41) stated that they wanted to obtain information about emergency contraception methods and wanted this information mostly from health personnel (63%) and with brochure (48%).

Conclusions: It was found that the most of the working young girls didn't hear/know of emergency contraception methods, interestingly, who stated that they knew/heard about emergency contraception methods, actually didn't have correct information. One of the important reproductive health problems in Turkey is unintended pregnancy. Therefore, it is very significant that especially the young women should be informed about emergency contraception methods. Vocational Training Centres can be an important center to obtain correct information about health education for those youngs who have to work and could not continue their school education. Therefore, appropriate programs should be prepared to inform these young people studying at these centers.

A-119

Emergence contraception: a survey among Portuguese media professionals working on health issues

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Objectives: The aim of this study was to evaluate knowledge and attitudes about Emergency Contraception (EC) among media professionals working on health.

Methods: This is a prospective observational study conducted through an online confidential inquiry sent to professional e-mail. Selection criteria were: being a media professional (newspaper, magazine, radio or TV programs), presently working on health, gender and Equality issues. A mail was sent explaining the aim of the study to a total of 68 potential participants. Those who consented to participate received an automatic e-mail with access to the questionnaire. Individual answers were blinded to enable confidentiality. Questionnaire included questions on professional and socio-demographic characteristics, knowledge about CE use and access; attitudes were tested using a 5–item Likert Scale. Data collection occurred from May 2013 to October 2013. Statistical analyses were performed using SPSS version 21.0.

Results: We received 21 answers which represents 30.9% of the initial 68 contacts. Among those who answer 90.5% were female; mean age was 39 years (range: 25-53 y); mean years of professional activity was 15.,5 y (3 – 26 y) and 65% (13) worked in written press. All participants knew the "morning after pill" expression, but 2 (9.5%) did not know the expression "emergency contraception". All agreed with the importance to approach this issue (CE) but only 47.6% had already written/worked on it. In our sample, 71% knew that CE was sold-over-the counter, but 62% did not know or was not sure if CE was available free of charge in National Health Services. 85.7% knew the some or all of EC indications. Regarding time for use of CE 38 % answered correctly and 61,9% answered that CE had the same contraindications as "regular pill". Most responders (80.9%) agreed at least partially with the expression that EC was a "hormonal bomb", that it was an important method to prevent pregnancy (57,2 %), that it was a safe method (57,2%). Among responders, 42,9% didn´t know or was not sure if CE had future impact on fertility. 66,7% at least partially disagree that CE is an abortive method. Professionals who had already written about CE had a better knowledge about its use and more frequently positive attitudes.

Conclusions: This was an exploratory study on Knowledge and Attitudes among a special professional group, which is frequently stated as reference for information. This information that can be used to implement more effective communication strategies on emergency contraception.

A-120

Repeat use of the emergency contraceptive ulipristal acetate 30 mg is safe — Results from a multicenter pharmacodynamic study

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Objectives: Ulipristal acetate (UPA) 30 mg is both safe and effective for emergency contraception (EC). The objective of this study was to evaluate the safety and tolerability of repeated use of ulipristal acetate, as well as to assess the pharmacodynamic effect of multiple intakes on ovulation and other parameters of the menstrual cycle. This is the first report of repeat use of UPA 30 mg in the same cycle.

Methods: Safety, tolerability and pharmacodynamics evaluation of repeat UPA 30 mg dosing was conducted in healthy volunteers at 2 sites. Treatment was administered either once a week (Q7D, n = 12) or once every 5 days (Q5D, n = 11) over 8 consecutive weeks. Subjects were administered UPA 30mg Q7D starting on day 7 (± 1) day of the cycle in the Dominican Republic site and Q5D starting on day 1 (+ 1) day of the cycle in the Chilean site. Laboratory safety parameters were assessed at baseline, at the end of treatment and at the end of study visit. Subjects were monitored 3 times a week with transvaginal ultrasounds and hormonal measurements during the period of treatment.

Results: Repeated use of UPA 30 mg, taken weekly or every 5 days for 8 consecutive weeks, was as well tolerated as a single dose in terms of clinical safety profile, the most frequently reported adverse event was headache (13%). Laboratory safety parameters remained without significant changes, including a full VTE risk markers panel. Inhibition of ovulation was not achieved with repeated dosing: 91.7% and 72.7% of the participants ovulated at least once during the 8 weeks of treatment, in the Q7D and Q5D treatment arms respectively. Ovulatory cycles had physiological levels of estradiol and progesterone.

Conclusion: Although product labeling cautions that EC is not to be used as a regular contraceptive method, women may find themselves in need of EC more than once in a given cycle. This study demonstrates that repeat use of UPA 30 mg in the same cycle is safe and well tolerated. However, inhibition of ovulation is not consistently achieved with repeat use and its contraceptive protection is likely lower than that of a regular method.

A-121

Offering Copper IUD as Emergency Contraception, a one-year project at the RFSU clinic in Stockholm

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Objectives: Insertion of Copper IUD is the most effective form of EC, with documented effect of preventing more than 99% of unintended pregnancies if inserted within five days after unprotected intercourse.Despite the evidence, C-IUD is rarely recommended as EC to women in Sweden.To address this, a one-year project was launched at the RFSU Clinic in September 2013. The aim of the project is to present numbers on inserted C-IUD as EC in comparison to prescribed ECP among women seeking for prescription or counselling on EC. It will show the importance and effects of good information about different options for EC and Copper IUD in particularand how the information affects the choice of method.

Method All women seeking the clinic for counselling on EC is actively offered insertion of a Copper IUD as an alternative to ECP. Follow up on all patients is done 3 and 6 months after insertion to investigate the incidence of pregnancies and use of effective contraception.

Results:This is an on-going study and the results are yet to come but increased availability of different forms of EC is expected to affect the numbers of unintended pregnancies and is an important part of the prevention work. We also aim to improve knowledge and acceptance among service providers of providing IUD:s to young and nulliparous women.The results will be used in our advocacy for improved SRHR at national and global level.

Conclusion Almost all women accept Copper IUD as EC when it is being offered as an alternative to ECP, indicating the importance of offering a variety of ECs to women for an improved SRHR and usage of LARC.

A-122

Obesity and emergency contraception

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Objective: In many European countries, the prevalence of obesity has tripled in the last two decades. There are little data on efficacy of emergency contraception among overweight and obese women. Obesity may impact the bioavailability of hormonal contraception, including the hormonal methods of emergency contraception.

Design and Methods: The authors proposed to review the literature regarding the subject and to examine the effectiveness of emergency contraception in preventing unplanned pregnancies among women who are overweight or obese. A MEDLINECENTRAL, POPLINE and ClinicalTrials.gov search was performed in November 2013.

Results: We only found two studies that investigated the effects of obesity on the efficacy of emergency contraception. Glasier et al. performed a meta-analysis including 3445 women and found that the use of levonorgestrel for emergency contraception in overweight and obese women was not associated with a significant reduction in pregnancy rate compared to no medication. Obese women treated with ulipristal acetate had a two-fold risk of pregnancy, while overweight women appeared to have no increase in risk. Moreau and Trussell performed a pooled analysis of ulipristal acetate efficacy and found that obese women were twice as likely to experience an emergency contraception failure compared with nonobese women.

Conclusions: Copper intrauterine device may be the first option for these women, because it is more effective than oral emergency contraceptives and its effectiveness is not reduced in overweight and obese women. Regarding the use of ulipristal or levonorgestrel, the studies revealed that this may be less effective or not effective. Nevertheless, more evidence is needed before specific recommendations can be made for obese women.

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A-123

Reasons for not using emergency contraception when indicated

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Objective: To identify the reasons and analyze the determinants of emergency contraception non-use when indicated.

Method: Cross-sectional, quantitative study conducted with a probabilistic sample of pregnant women from 12 Primary Health Facilities at the Health Supervision of Butantã, São Paulo, Brazil (n = 515), from March to June 2013. We considered an emergency contraception non-use when indicated women who were either in an unplanned or ambivalent pregnancy according to the *London Measure of Unplanned Pregnancy* (n = 366). In Stata 12.0, we used multinomial logistic regression to analyze the data. Women who used the method to prevent the current pregnancy were the reference and were compared to two groups of women: those who did not use emergency contraception, but used another method; and those who used no method at all.

Results: Although there was a high proportion of emergency contraception awareness (96.7%), only 9.8% used it to prevent the current pregnancy. The main reason for non-use was *believing that she would not become pregnant* (47.6%); but *wanting to become pregnant in the future* and *not remembering to use the method* were also largely reported. Associated aspects to emergency contraception non-use among women who used a method were not being aware of pregnancy risk [OR = 3,44; IC95%: 1,48-8,03] and cohabitation with a partner [OR = 3,23; IC95%: 1,43-7,28]. Among women that did not use any contraception, cohabitation with a partner [OR = 3,19; IC95%: 1,40-7,27], ambivalent pregnancy [OR: 3,40; IC95%: 1,56-8,54] and no previous use of emergency contraception [OR = 3,52; IC95%: 1,38-8,97] were associated with the method non-use.

Conclusions: Living with a partner can make a woman feel less concerned about preventing a pregnancy, which means, less likely to use emergency contraception. Eventually, having skills to recognize pregnancy risk situations, having experience on how to use and when to obtain the pill and a clear pregnancy intention can increase the use of emergency contraception when indicated.

A-124

In-vitro study on the effect of ulipristal acetate on human embryo implantation using a trophoblastic spheroid and endometrial cell co-culture model

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Objectives: Ulipristal acetate (UPA), a selective progesterone receptor modulator, has been introduced for use in emergency contraception. The main mechanism of action is inhibiting or delaying ovulation. Whether UPA can have secondary action by inhibiting implantation is still uncertain. The present study examined the effect of UPA on human embryo implantation using an in-vitro human trophoblastic spheroid and endometrial cell co-culture model.

Method: We studied the effect of UPA on implantation using a trophoblastic spheroids-endometrial cell attachment assay. The JAr (human choriocarcinoma) and Ishikawa (human endometrial adenocarcinoma) cell lines were treated with graded concentrations of UPA (0, 0.04, 0.4 and 4μM) for 24 hours. We took the peak serum drug level after oral administration of UPA 30 mg, i.e. 0.4 μM, as the pharmacological concentration, and our experimental range covered ten-times below and above this. After treatment, the JAr cells were trypsinized and gently shaken at 106rpm overnight to form spheroids of 100-150mm size, which were used as the embryo surrogate. A confluent monolayer of the

Ishikawa cells was used as the endometrium surrogate, onto which the spheroids were seeded and cultured for 1 hour at 37°C under 5% CO_2. The co-culture was then shaked at 140rpm for 10 minutes to remove any unattached spheroids. The number of attached JAr spheroid was then counted under light microscope. Attachment rate was defined as the ratio of the number of attached spheroids to the total number seeded. The experiment was also repeated using cultured primary human endometrial cells (aspirated 7 days after the LH surge) as the endometrium surrogate, which was co-cultured with trophoblastic spheroids for 3 hours after treating the respective cells with 4μM UPA. The results were pooled from 19 and 7 independent repeats for the Ishikawa and primary endometrial cell experiments respectively.

Results: In the Ishikawa experiments, there was no significant difference in the trophoblastic spheroid attachment rate after treatment with UPA at 0 (93.0%), 0.04 (93.6%), 0.4 (93.4%) and 4 (91.4%) μM concentrations ($p > 0.05$). In the primary endometrial cell experiments, again no significant difference was observed in trophoblastic spheroid attachment rate between the treatment group (UPA 4μM, 42.1%) compared to the control (without UPA treatment, 48.3%, $p > 0.05$). Significant suppression of spheroid attachment rate ($p < 0.001$) was observed in the positive controls which were set up with methotrexate 5μM treatment.

Conclusions: UPA at pharmacological concentration used for emergency contraception may not have inhibitory effect on embryo implantation.

GENDER ISSUES IN SEXUAL AND REPRODUCTIVE HEALTH

A-125

Male contribution to infertility among married couples in Ogun State, Nigeria

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Objective: This descriptive study was carried out to evaluate the contribution of males in cases of infertility among married couples.

Design & Methods: Semen samples from 520 men whose wives were attending ten randomly selected hospitals in the state, were collected and analysed, following their willingness to participate in the study and having signed the consent forms. The wives' major complaint was their inability to become pregnant after more than 5 years of marriage and unrestricted sexual intercourse with their husbands. Laboratory examinations of the seminal fluids were carried out for sperm analysis, microscopy, culture and sensitivity.

Results: Laboratory results showed that 36.5% of the tested samples had normal sperm count ($> 40x10^6$ sperm cells/ml), 41.1% were oligospermic while 4.8% were azoospermic. Also, 4% of the samples had significantly high white blood cell count/hpf. Out of the 190 subjects with normal sperm count, 150 (78.9%) had progressively motile sperm cells while 78.0% of the 91 subjects having between $20\text{-}40x10^6$ sperm cells/ml, had their sperm cells progressively motile. Morphologically, 57.3% of the semen samples had normal sperm cells while 42.7% were abnormal. The semen samples yielded growth of *Staphylococcus aureus*, *Klebsiella* spp, *E. coli*, *Pseudomonas* and *Proteus* spp. The bacteria isolates were sensitive to antibiotics including gentamycin, erythromycin, augmentin, tetracycline, amoxicillin, ciprofloxacin, and ofloxacin in various degrees.

Conclusion: The results showed that the male partners contributed substantially to infertility among the couples and should equally be investigated alongside their female counterparts.

Keywords: Infertility, semen, sperm count, oligospermic and azoospermic.

A-126

The invisibility of young black men in sexual health discourses- lost in transition?

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Introduction: Historically, young men have been marginalised in the United Kingdom (UK) in discourses around sexual health, reproduction and teenage pregnancy. Young black men are subject to a number of differing and contradictory constructions of masculinity in contemporary society where notions of masculinity and male privilige are challenged by young women and other socio-economic and cultural changes.

Objectives: The key objective of the study was to investigate the factors which influenced and shaped the

sexual health attitudes of young black men as they made their transition into adulthood. Factors included the role of the family, school and the wider community. Of particular interest was the role the school played in delivering sex education in terms of gender.

Method: Focus group and paired interviews were held over a period of six weeks with twenty young black men from a deprived part of Inner London and the narratives from the young men were recorded and trascribed later. The interview format was relaxed to allow free flow discussions by the young men.

Results: Drawing on the focus group interviews with the young men the thesis revealed how these young men's complex negociations with hegemonic masculinity, gender, ethnicity, culture and socio-economic status play a significant role in how they position themselves in relation to sexual subjects. The narratives were explored in a reflective way and the young men expressed tensions around the percieved sexual power held by young women and their attraction of the 'big' man. It was clear from the onset that this small group of young men wanted their voices heard.

Conclusions

The three key themes which emerged from the data focussed around the following:

a) the preservation of the dominat and powerful male
b) the 'all knowing' but at the same time 'not knowing' male
c) the attribution of sexual power of young women

Caught between a historcal macho past and an evolving feminist future, some of these young black men appear ill prepared for the competing tensions they experience. Many of them continue to adhere to rigid scripts of what it is to be a 'real' man, including models which propose that power, including sexual power lies with hetrosexual men

A-127

Socio-cultural factors affecting family planning (FP) use in Mzimba: a case of TA Mzukuzuku.

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Objectives: This study aims at understanding the contextual factors that influence non- use of modern contraceptive methods in a rural Ngoni community in Mzimba. Evidence from this study will help to fully understand the problems that are intricately linked to social and cultural environments and how these can be addressed to increase contraceptive uptake.

Methods: Both qualitative and quantitative methods were used to collect data for this study. 18 Focus Group Discussions (FGDs) were conducted with married women and men within the reproductive age group 15-49. 24 In depth interviews were done with key informants selected among traditional leaders, users and non-user of FP and service providers.

Results: The patriarchal society of Ngoni places more value on large households. FP use is postponed until a woman has proved her fertility. Men as household heads control most decisions. The extended family plays a large part in everyday lives of a conjugal household unit. In addition, son preference norms, marriage practices such as payment of lobola and polygamy exerts pressure on women to bear more children to satisfy demands of the lineage.

Conclusions: Culture has influence on reproductive behavior and the adoption and use of contraception. Structural organization of patriarchal societies in Mzimba is a barrier to contraceptive use since it promotes hierarchical and unequal power relations. In addition, social influences limit individuals' right to make autonomous decisions regarding fertility regulation.

A-128

Distorted sex ratios and population dynamics: the issue of gender-based prenatal sex selection in Southeastern Europe and the Southern Caucasus

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Objectives: Highly distorted sex ratios of up to 120 male per 100 female births could be observed in many countries across the globe and most recently also in Southeastern Europe and the Southern Caucasus. The aim of this project is to elaborate the current situation

of male preference and prenatal sex selection in the region. The reasons for prenatal discrimination as well as the effects on population dynamics and other potential consequences will be discussed.

Method: Intensive literature review including qualitative as well as quantitative studies available and the analysis of international census data is the main choice of method. In addition, analysis of reports of international organizations and participation at international conferences was part of the research to observe the international community's viewpoint and the global consequences of prenatal discrimination.

Results: The analysis of national census data has shown that the imbalance of sex ratios has increased which is due to a preference for male offspring, decreasing family size and family-balancing mechanisms. Patriarchal family systems and the lower social status of women in society make parents prefer boys over girls. In addition, appearing new technologies have made sex determination and induced abortion cheaper and available even in rural areas. In Albania, Armenia, Azerbaijan and Georgia, prenatal discrimination has already led to an imbalance in sex ratios for the population under 15 years. Without intervention the continuing discrimination will lead to distorted sex ratios in the overall population causing severe consequences for future generations. The intended killings of female fetuses raise numerous concerns. The violation of human rights and the promotion of gender inequality constitute key factors in this context. Increasing violence, psychological issues and trafficking in girls and women are further consequences which need to be dealt with.

Conclusions: Gender-based prenatal sex selection in Southeastern Europe and the Southern Caucasus is due to a combination of discriminating social, political, economic and cultural conditions. Intervention in the region is still lacking behind compared to affected Asian countries making further action and a stronger involvement of the international community inevitable.

HORMONAL CONTRACEPTION

A-129

Efficacy and tolerance of emergency contraception with levonorgestrel in a dose of 1,5 mg (Escapelle)

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Objectives: To assess efficacy and tolerance of levonorgestrel-containing contraceptive Escapelle in women for emergency contraception

Materials and Methods: We investigated 35 women, aged from 18 to 39 (mean age 23.4+/-1.1) coming to the Centre for emergency contraception. All women visited the Centre during 48-96 hours after the moment of unprotected sexual contact. Nineteen women (54.3%) had the 1st phase of menstrual cycle, 16 (45.7%) had the 2nd phase. To exclude contraindication for hormonal contraception we conducted examinations (clinical, ultrasound, test for pregnancy). One dose of Escapelle containing 1,5 mg of levonorgestrel was indicated to all patients.

Results: Efficacy of Escapelle made up 97.2%. Pregnancy occurred in one case (2.8%) that was associated with the time period of more than 96 hours since the intercourse. In the 1st group 11 (58%) out of 19 women were noted to have menstruation delay, 5 had profound menstruations (26.3%). In the 2nd group five women (31.2%) had menstruation delay for 3-5 days, shortening of the cycle was found in four)25%) women, profound menstruations were in two (12.5%). Side effects were registered in six women (17.1%). Out of them sickness was noted in four (11.4%), vomiting in one (2.8%), tension of mammary glands were found in one case (2.8%).

Conclusion: Escapelle is a highly efficient and tolerant method of emergency contraception. Taking into account the fact that side effects in the form of menstrual cycle disorders were found more often in women using Escapelle during the 2nd phase of it is necessary to recommend planned hormonal contraception. Efficacy decreases with the time period since the unprotected intercourse.

A-130

Ethnic differences in missing oral contraceptive pills: a mediation analysis

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Objective: In many reproductive health domains, non-Western minorities are less well-off. In the Netherlands, this has been found to be true for missing

oral contraceptive pills (OCPs) as well. Women from non-Western backgrounds miss pills more frequently than women from Dutch or Western backgrounds. There is little insight into possible reasons for this difference. This study is designed to test whether socio-cognitive determinants may account for ethnic differences.

Method: Data were collected as part of the 2011 Sexual Health in the Netherlands Survey, a panel-based internet survey. The data are weighted in order to reach maximum representativeness for the Dutch population on key demographic variables. In this panel, 904 women (unweighted) used OCPs. The women who indicated that they missed more than one pill from the same pack during the previous six months were compared with the other OCP users. Logistic regression analyses were done to determine whether ethnic differences were mediated by attitudes toward OCPs, perceived behavioural control with regard to pill-taking, risk perception, and desire to avoid pregnancy.

Results: Women from non-Western backgrounds were more likely than Dutch or Western women to indicate having missed more than one pill from the same pack (25% versus 15%, $p = .01$). Attitudes toward OCPs and perceived behavioural control were also found to be related to missing pills (both $p = .00$). However, risk perception and desire to avoid pregnancy were not (respectively $p = .72$ and $p = .42$). Differences in pill-taking behaviour between Western and non-Western women were mediated by differences between these women in their attitudes and perceived behavioural control.

Conclusions: Ethnic minority women appear to miss more pills because of less positive attitudes about OCPs and less sense of being able to take pills every day in difficult circumstances. This is encouraging for health educators. Attitudes and perceived behavioural control are susceptible to change, whereas ethnicity cannot be altered. Improving these socio-cognitive determinants may contribute to reducing health inequalities between ethnic groups.

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Breast cancer risk comparing estradiol and ethinylestradiol: what can be derived from experimental data?

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Objective: Data are scarce on the direct comparison between the natural estrogen 17beta-estradiol (E2), used for HRT and COC (combined oral contraceptives), and the synthetic estrogen 17alpha-ethinylestradiol (EE), used for COCs, on the proliferation of pre-existing breast cancer cells. In the present experiment we investigated for the first time the effect of both estrogens on the expression of apoptotic and proliferative markers in ZR 75-1 cells, a human breast cancer cell line.

Methods: ZR 75-1 cells were incubated with E2 and EE (each 10-9 M) for five days. Quantitative western blot was used for the following markers: ERK42-p, ERK44-p, proliferating cell nuclear antigen (PCNA) and Bcl2.

Results: The expression of the mitogenic markers ERK42p and ERK44p were strongly enhanced by both estrogens. Interestingly EE had a greater effect on the increase of ERK42p and ERK44p than E2. PCNA was slightly increased by the estrogens. Both E2 and EE enhanced the expression of the anti-apoptotic marker Bcl-2.

Conclusions: EE and E2 appear to elicit similar effects on proliferative and apoptotic markers in human breast cancer cells. However, derived from the much lower dosages of EE compared to E2 used in clinical practice, the risk of breast cancer using EE might be lower compared to the use of E2 which already has been suggested from epidemiological evidence.

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Effect of hormonal contraception on endothelial function

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Actuality. In the literature there is considerable debate about the relationship of hormonal contraception with the risk of developing cardiovascular disease. It is known that all cardiovascular risk factors

(hypertension, hypercholesterolemia, smoking, age, overweight etc.) lead to impairment of endothelial cells (endothelium is the target organ of these factors). Endothelial dysfunction usually develops over years before clinical manifestation of disease, in patients with concomitant risk factors. This requires objective evaluation criteria overall vascular health, early diagnosis of CC3, prevent their progression and risk stratification, which will develop an individual approach to the appointment of hormonal contraception with endothelial system to enhance its acceptability and safety.

The aim of this study was to investigate the influence of combined hormonal contraceptive containing estradiol valerate and dienogest on the endothelium, based on pulse wave velocity measurement in the brachial artery.

Materials and methods. The study included 30 women in the reproductive period, whose age ranged from 19 to 38 years. 20 patients were among them COC (Clira) scheme on contraceptive and 10 of the women were in the control group without hormonal contraception. Selection criterion was the absence of any contraindications to the use of hormonal contraception. The average age of the patients is 29.10 ± 4.98 years. The study conducted by the non-invasive diagnostic device "AngioScan" (Russia), before beginning the COC on 21-24 day menstrual cycle and after 6 and 9 cycles COC on 21-24 tablets. The appliance allows you to evaluate the stiffness of the arterial walls and State of the endothelium.

The results. The speed of pulse wave in the brachial artery in women taking COC, was comparable to the control group.

Conclusions. The results of the study showed that taking COC (6-9 months) containing estradiol valerate dienogest and not have a negative influence on the function of the endothelium.

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Contraception and sexual fulfillment in a couple

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Objective: To assess sexual health in a pair who used various methods of contraception. In this randomized, controlled, prospective study, we compared the effect of combined oral contraceptives and the traditional method of contraception - the coitus interruptus on sexual function.

Methods: 142 healthy, sexually active women with regular menstrual cycles (22-35 days) aged 18-45 years, were randomly divided into two groups. The inclusion criteria were the presence of the sexually active partner. The exclusion criteria were pregnancy and the period of 3 months after childbirth. The groups were matched according to the age, the socioeconomic status, the educational level status. 93 women (group 1) were taking the COC that contains estradiol valerate [E2V]/dienogest [DNG] (E2V/DNG) and 49 women (group 2) use the coitus interruptus for contraception in the couple. Patients filled a semi-structured interview for demographic and clinical variables. They were assessed with the Female Sexual Functioning Index (Russian version) (FSFI) at the beginning of the study and after 6 cycles of use of the contraceptive. Sexual function of their partners was assessed using the International Index of Erectile Function (IIEF). P values of less than 0.05 were significantly considered. All patients and their partners have received sex education on family planning, birth control methods, as well as information about some aspects of their sexuality.

Results: The mean of FSFI desire component score was 5.12 (SD 4.89) for group 1 and 4.29 (SD 4.15) for group 2. The mean of FSFI arousal domain score was 5.39 (SD 4.68) vs 4.36 (SD 3.59), the FSFI lubrication domain score was 5.72 (SD 5.68) vs 3.32 (SD 3.22), the FSFI pain domain score was 4.23 (SD 3.61) vs 3.54 (SD 2.82), the FSFI orgasm domain score was 5.52 (SD 5.11) vs 4.28 (SD 3.82), the FSFI satisfaction domain score was 5.02 (SD 4.36) vs 3.89 (SD 2.86). The mean increase in the sum of IIEF score was 6.23 (SD 4.68) vs 4.06 (SD 2.58).

Conclusion: Sex education, which is based on the generally accepted ethical ideas, helps to harmonize the sexual relationship in a couple improves and developes family relationships. The combination of sex education of the couple and use of modern contraceptive method is preferred over the combination of the traditional method of family planning. The use of COC that contains E2V/DNG showed high scores, according to the mean of FSFI, in comparison to the use of coitus interruptus.

A-134

Trends in hormonal contraception use in the last 20 years in Slovenia

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Objectives: In the last decades there was a major development in the field of contraception with new possibilities still emerging. With this analysis we want to present trends in the use of hormonal contraception in the last 20 years in Slovenia.

Method: We used the data from national database on prescription drugs which is operated by National Institute of Public health. This database includes data on all drugs that are prescribed by doctors. In Slovenia all hormonal contraception except urgent contraception ('the morning pill') is exclusively prescribed by medical doctors in an out-patient setting. For calculating the rate of contraception use we assumed that hormonal contraception was prescribed to a woman for a whole year. As a nominator we used all women in the childbearing period (15-49 years).

Results: Hormonal contraception is currently the most wide-spread form of contraception in Slovenia. In the 1990s there was a major increase in the use of hormonal contraception. Throughout the last decade the use remained rather stable but we observed significant changes in different age groups with an increase of 58 % in women aged 15-19 years, an increase of 24 % in the age group 20-24, and a decrease of 31 % in the age groups 30-34 years and 35-39 years. In 2012 162 per 1000 women in the childbearing period used hormonal contraception, most prevalently in the age group 20-24 years, where more than every third woman used this birth control method. In the year 2012 around 94 % of prescribed hormonal contraception was in a form of oral contraceptive pill, more than 5 % as a hormonal vaginal ring, and less than 1 % in a form of a hormonal patch. Among contraceptive pills 92 % were combined hormonal contraceptives, most commonly with a combination of ethinylestradiol and drospirenon.

Conclusions: In the last 20 years patterns of use of hormonal contraceptive methods have changed significantly in Slovenia. In the last decade the use of hormonal contraception is still increasing in younger women, but has fallen in women older than 30 years, which can be explained with increasing use of intrauterine contraception in these age groups. Combined hormonal contraceptive pill is still the most commonly used birth control method, but new forms of hormonal contraception are quickly gaining importance.

A-135

Prescribing combined hormonal contraception in relation to the UK national guidance in primary care and secondary specialist care.

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Objective: The Faculty of Sexual and Reproductive Healthcare (FSRH), UK, has published evidence based guidelines for the safe prescribing of combined hormonal contraception (CHC). An audit was carried out to determine if guidelines were correctly applied in primary care and a secondary care contraception and sexual health (CASH) service.

Method: Retrospective audit of health records for women prescribed a CHC between April 2012 and September 2013: 196 patients identified in primary care and 100 randomly selected records retrieved from CASH – 50 from a community clinic and 50 from the hospital based genitourinary medicine (GUM) clinic. The audit standards were: 100% blood pressure and body mass index recorded at first and repeat prescribing, smoking, migraine and venous thromboembolism history documented and no woman over 50 years should be taking a CHC.

Results: Of 296 patients, 104 were reviewed by a doctor and 192 by a nurse, average age was 26 years (12-49) in primary care and 23 years (14-40) in CASH. Overall, 72% (212) of the health records met all audit standards. For women commencing a CHC, 70% (46) and 77% (17) had documentation of all the audit criteria in primary care and CASH respectively. For those continuing CHC, 80% (104) in primary care and 59% (46) of CASH patients fulfilled the standards. There was a difference between the community CASH and the hospital GUM clinic results: documentation of new starters found 88% (7) met standards in the community clinic and 71% (10) in GUM, for those maintaining their method the result were 62% (26) and 56% (20) respectively. From the CASH

results the most frequently missed clinical standard was BMI (27%), and in primary care, venous thromboembolism was most frequently missed (19%). In 3 health records from GUM, BMI was documented as 'fine' or 'slim' but not accurately measured. Both groups prescribed a CHC to women who had a UK Medical Eligibility (UKMEC) criterion 3 or 4; 2 women had a documented BMI > 35 in primary care and 2 women in GUM were smokers over 35 years old.

Conclusions: Although the majority of prescriptions of CHC were adherent to clinical standards, both primary care and contraception and sexual health services fall below the expected standard of 100%. The service also had infrequent episodes of prescribing against UKMEC guidance. Recommendations to improve practice have been made: educating all clinicians on FRSH standards, documenting BMI specifically and amending current prescribing templates.

A-136

Combined oral contraceptive prescribing: is guidance enough?

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Use of the combined oral contraceptive pill (COCP) is very common; however there are numerous contraindications and potentially life threatening adverse effects associated with its use. There is detailed guidance available to guide the safe prescribing of the COCP, the UK Medical Eligibility Criteria (UKMEC), which categorises patients' risk of complications compared to the benefit of contraception within categories 1-4. Safe prescribing within a primary care setting would almost exclusively be comprised of patients within category 1 and 2. These categories denote, respectively, patients for whom there is no restriction for COCP use, and patients for whom the advantages of using the COCP generally outweigh the theoretical or proven risks.

Objectives: To assess how closely the practice conformed to the UKMEC guidance and establish whether the mere existence of the UKMEC appears to be enough to ensure patient safety. Potential methods for the facilitation of UKMEC use and safe contraceptive prescribing were also explored in interviews with practice staff.

Method: A retrospective audit was performed to determine the percentage of patients in a suburban GP practice that were prescribed the COCP within the last 6 months that were a UKMEC 1 or 2. The standard was set at 95%. As a secondary measure it was expected that no patients would have been prescribed the COCP whose risk was categorised as level 4 by the UKMEC guidelines, denoting an absolute contraindication.

Results: Within the practice the actual percentage of patients prescribed the COCP with a risk category of 1 or 2 was 85%. This was found to be significantly different from the standard, X^2 (1, $N = 68$) = 13.5, $p < 0.05$. The most common contraindication amongst those patients with a UKMEC risk category of 3 or 4 that were prescribed the COCP was elevated blood pressure readings, with obesity as the second most common.

Conclusions; In spite of clear guidance being available it appears that they are not always referred to when prescribing the COCP. This highlights the need for measures to be taken towards simplifying the process of contraception counselling and improving access to the UKMEC guidelines. Recommendations for change were provided which included both staff and patient education, and development of a pro-forma for contraception prescribing. This latter measure could be easily implemented to not only facilitate the consultation but also to help ensure that at-risk patients were not prescribed a treatment that could cause them serious harm.

A-137

Metabolic effects of hormonal contraception due to genetic polymorphisms cytochrome P-450 and aromatase

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Very topical remains the choice of contraceptives for women and their effect on liver function, hemostasis and lipid metabolism. The aim of the study was to

develop an algorithm of women of reproductive age using modern hormonal contraceptives, based on an assessment of some molecular - biological markers, as well as predicting the safety of their use and the possible impact on liver function, hemostasis and lipid metabolism and to explore the role of genetic polymorphism of cytochrome P-450 and enzyme aromatase in the occurrence of side effects of various methods of hormonal contraception.

Methods: We have observed 300 patients of reproductive age, who wish to use a reliable method of contraception. 257 women meeting the criteria for inclusion and exclusion were included in the study and the method of random numbers are divided into 3 groups. 1st group of women (n = 120) was appointed to a hormonal oral contraceptive containing 3 mg drospirenone and 20 mcg of ethinylestradiol, 1 tablet a day for 24 + 4 scheme, group 2 (n = 97) - a vaginal ring containing 11.7 mg etonogestrel and 2.7 mg of ethinylestradiol in scheme 1 time per month from 7 day break, group 3 (control group) - 40 women who used barrier methods of contraception. Term contraceptive use and observation of the patients was 12 months. Assessment of adverse events with the use of contraception was based on studying the impact of the role of genetic polymorphism of cytochrome p-450 isoenzymes and aromatase.

Results: The study confirmed the high efficiency (100%) of hormonal contraception. The risk of developing mastalgia, intermenstrual bleeding, tendency to hypercoagulation and hyperlipidemia increased in the presence of genotype A/A polymorphism aromatase gene. Of interest is the fact that in women with genotype A/G hemostasis changes tend to occur on the 3 and 6 month study, in women with genotype A/A these changes occur after 6 months of use hormonal contraceptives. Changes in serum observed in patients with genotype A/A all through the use of hormonal contraceptives, especially in women who use COCs that required careful monitoring of liver function during its use.

Conclusions. If the woman of the aromatase gene polymorphism with genotype A/A, a thorough dynamic monitoring of the hemostasis system adverse events, biochemical analysis of blood and lipid spectrum of blood all over the use of hormonal contraceptives, unlike women with genotype A/G, which requires more careful observation at the 3 and 6 month use hormonal contraceptive.

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Change in hormonal contraception practice: How do we ensure a shift without scaring women from these products

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Objectives. Previously, new scientific knowledge about thrombotic risks with use of hormonal contraception resulted in pill scares. In Denmark, a majority of women have in few years shifted from high to low risk products without an overall decline in use of hormonal contraception. Could other countries get inspiration from the Danish experiences?

Methods and Results. The strategy for the massive shift from high to low risk contraceptive products had six elements. First, the scientific community in Denmark relatively rapidly recognised the validity of a majority of new epidemiological studies, demonstrating a differential risk with different progestogen types. Secondly, the Danish Society of Obstetrics and Gynaecology at an early stage launched a summary of the new evidence together with updated clinical guidelines. Thirdly, the National Health Authorities asked clinical experts to elaborate a "dear doctor letter" which informed rather than warned about the thrombotic risks with use of hormonal contraception, and outlined simple clinical advises, e.g. to start women on low-risk products, and to shift women on high risk products to low risk products, unless they previously had bad experiences with the latter. Fourth, we convinced the media (television and newspapers) to bring sound information rather than dramatic soap on the new scientific evidence, including clear clinical messages. Fifth, the health authorities published on-line data on the success of the shift already a year after the efforts were initiated, with a further motivation for shifting as consequence. And finally, we informed about the significant reduction in venous thromboses in young women observed with the shift.

Conclusion. A massive shift in hormonal contraceptive practice is possible without a pill scare as consequence. It demands a coordinated effort from scientists, clinical societies, health authorities and media.

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The effect of combined oral contraceptives on adiponectin and resistin plasma levels in women with polycystic ovary syndrome

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Objectives: The polycystic ovary syndrome (PCOS) is the most common endocrine disorder among women of reproductive age and is frequently characterized by adiposity, insulin resistance and metabolic syndrome. Adiponectin and resistin, main cytokines of the adipose tissue, seem to play an important role in obesity and insulin resistance. Combined oral contraceptive pills (COCs) remain the cornerstone of the syndrome's treatment. Little data are available on the effect of COCs, especially those containing drosperinone, on the adipose tissue function in PCOS patients. The aim of this study was to examine the influence of COC administration on plasma levels of adiponectin and resistin in women with PCOS.

Method: This is an observational, prospective study performed in the outpatient department of gynecological endocrinology in "Attikon" University Hospital of Athens. The study group consisted of 31 women previously diagnosed with PCOS based on the Rotterdam criteria. All participants underwent a 2h oral glucose tolerance test and patients with insulin resistance (IR) were excluded from the study. A combined oral contraceptive pill containing 30 μg ethinyl-estradiol and 3 mg drosperinone was administered for six consecutive cycles. Plasma values of adiponectin, resistin, testosterone (T), SHBG, cortisol, CRP, cholesterol, LDL-cholesterol, HDL-cholesterol, triglycerides, TSH, T3, T4 and HOMA, QUICKI, as indices of IR, were estimated before and after the COC administration.

Results: The mean age of the study population was 25 years old and the mean BMI was 24 kg/m^2. The mean plasma values of adiponectin and resistin before and after the 6-month drug administration were 11,31μg/ml and 9,41μg/ml and 6,82ng/ml and 7,40ng/ml respectively. The changes in plasma level of both adipocytokines were not of statistical significance. Furthermore, T and QUICKI were statistically decreased while SHBG, cholesterol, LDL-cholesterol, triglycerides, T3, T4 and HOMA were statistically increased.

Conclusions: This is the first study, to our knowledge, investigating the effect of a drosperinone containing COC on adiponectin and resistin in patients with PCOS and without IR. Previous studies indicate that the antiandrogen of the COC is responsible for the possible interaction with adipose tissue activity. Our survey indicates that administration of contraceptive pills with drosperinone exerts no influence on circulating adiponectin and resisitin in PCOS patients without IR. Despite the fact that COC therapy resulted in amelioration of hyperandrogenemia, adipose tissue function of lean women with PCOS seems not to be affected by drosperinone. Furthermore, the lipid profile and insulin sensitivity seem to deteriorate in such patients.

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A novel mucosal pain relief drug candidate -SHACT – gives highly significant analgesia at insertion of intrauterine device (IUD)

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Objective: To evaluate the analgesic effect of a new formulation for topical application during insertion of intrauterine device (IUD).

Methods: SHACT is a proprietary 4 % Lidocaine formulation developed by Pharmanest AB. It is applied topically at the portio, in the cervical canal and into the uterus with a proprietary device developed by Pharmanest AB. SHACT is thermogelling and becomes a gel at body temperature, which minimizes the leakage after application. In a first study in women (Phase I) the pharmacokinetic properties of SHACT were investigated. The study showed that the majority of

women had measurable levels of Lidocaine after 5 minutes supporting a rapid onset of action. No toxicity was observed during the study. A confirmatory efficacy and safety study with SHACT was a randomized, controlled, double-blind trial involving 218 nulliparous women between 18 and 45 years of age. All were planned for insertion of an IUD.

Results: Data from the study show that women receiving SHACT during IUD insertion experienced an analgesic effect with less pain, measured on a visual analogue scale (VAS), compared to patients who received placebo. This effect was statistically significant ($p < 0.0001$). Overall this study clearly demonstrates significant reduction in pain during insertion of an IUD. The effect size is of clinical importance since on average 3 out of 4 patients will experience an advantage of SHACT compared to placebo.

Conclusion: SHACT has proven to achieve an effective analgesia, to be easy to apply and to have a fast onset of action at IUD insertion. Pharmanest AB can also see significant potential for other clinical use and plans to further explore other indications in clinical trials.

INTRAUTERINE CONTRACEPTION

A-141

Correlation of clinical assessment of intrauterine contraceptive device (IUCD) thread length with ultrasound findings

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Aims and Objectives: We performed a retrospective case-note analysis of 128 women presenting at a Sexual Health clinic over an 11 month period with reasons related to IUCD, with the aim of identifying the effectiveness of visual inspection of IUCD thread length in recognising device displacement and the extent to which clinicians can rely on this to provide reassurance to patients.

Method: We analysed the correlation between thread description, presenting symptoms and IUCD position on ultrasound scan. Of the 128 cases, 2 women reported using a thread-less contraceptive device (Chinese ring) and in 16 cases, the position of the IUCD was not known as they did not undergo an ultrasound scan. These 18 cases were excluded from the analysis.

Results: Of the 110 cases analysed, the examining clinician on speculum inspection reported 54% as having missing threads, 10% as having long threads, 6% as having short threads, 23% as having normal thread length, and 7% as uncertain thread length. The proportion of women who had a displaced IUCD on scan were 45%, 38%, 16%, 10 % and 14% for those with long threads, uncertain thread length, normal thread length, missing threads and short threads respectively. In patients with 'missing' threads, 85% had the device in the correct position and in 5% the device had been expelled. Correlating presenting symptoms with the position of the IUCD revealed that patients presenting with vaginal discharge or past history of IUCD displacement were more likely to have a displaced device ($p = 0.03$ and 0.01 respectively, Chi-square test).

Conclusion: From our case-series, we conclude that subjective assessment of IUCD thread length has a limited role in predicting position of IUCD. While 'long threads' were most associated with device displacement ($p = 0.02$, Fisher exact test), we cannot be reassured that 'normal' or 'short' threads indicate correct device position. Furthermore, while missing threads are a cause for anxiety for most IUCD users, our data shows that missing threads are significantly correlated with the IUCD being in the correct position ($p = 0.04$, Fisher exact test) in comparison to other reported thread lengths. We suggest that patients presenting with symptoms that could be related to IUCD displacement should also have a trans-vaginal ultrasound scan to check correct placement of the device irrespective of reported thread length. Additionally, further research is required in assessing the correlation of symptoms in predicting IUCD displacement.

A-142

Sublingual misoprostol prior to insertion of a T380A intrauterine device in women with no previous vaginal delivery

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Objective: To investigate whether sublingual misoprostol administered one hour before intrauterine

device (IUD) insertion reduces failed insertions, insertion-related complications and pain in parous women delivered only by elective caesarean section (CS).

Methods: Single-blind randomised controlled trial conducted in Ismailia, Egypt, between July 2010 and December 2011. Women who had never delivered otherwise than by elective CS and desirous of using an IUD were randomly allocated to receive sublingually 400 μg misoprostol and 100 mg diclofenac (misoprostol group) or 100 mg diclofenac alone (control group) one hour before IUD insertion. Outcome measures were failed insertion, ease of insertion judged by the investigators, insertion-related complications, and patients' satisfaction.

Results: In all, 255 women (130 and 125 in the study and control groups, respectively) had an IUD inserted. Seven insertions failed: fi ve in the control group, and two in the study group. Ease of insertion and patients' satisfaction were comparable in both groups. Abdominal pain and nausea were the commonest side effects reported in the misoprostol group.

Conclusion: Sublingual administration of misoprostol one hour before IUD insertion in parous women with no previous vaginal delivery does not facilitate the procedure and may cause undesirable side effects. This approach is not recommended as a standard treatment.

Keywords: Misoprostol, Intrauterine device, Insertion of intrauterine device, Pain, Cervical priming, Contraception

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Awareness, myths and misconceptions among Latin American women in comparison to women from 13 countries regarding their contraception options

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Objectives: To assess the awareness, misconceptions and myths about contraceptive options among 1,953 (1,308 nulliparous and 645 parous) women from four Latin American (LA) countries and compared to 6,884 (4,684 nulliparous and 2,200 parous) women from other 13 countries.

Methods: A survey was conducted online. Answers from LA women (Brazil, Colombia, Mexico, and Argentina) were compared with the information provided by women from other 13 countries (Australia, Austria, Belgium, Canada, France, Germany, Italy, South Korea, Sweden, Switzerland, UK, Ukraine, and USA).

Results: As overall results, ~40% of the interviewed women had not heard about an intrauterine device (IUD), only 1 in 5 feel very well informed about contraception, >30% of current pill users had forgotten to take their pill at least three times in the last six months, >50% of parous women have had an unplanned pregnancy and >1/3 of those were using contraception at that time. From all the women, 62% spontaneously recalled an IUD and only 4% spontaneously recalled an levonorgestrel-releasing intrauterine system (LNG-IUS). In LA countries, 74% of women spontaneously recalled an IUD. The level of information about contraceptives methods between women in LA countries was similar to that reported by the women in Asian and European countries; however, lower than USA women. Women from LA countries preferred monthly methods more often than women from the other countries, with similar level of preference for long acting reversible contraceptives (LARC) methods than women from the other countries. Across all regions apart from the USA, a quarter of women would consider using an LNG-IUS, with the highest share in Latin America (32%) and lowest in Asia/ Pacific (18%). Only close to half of the women reported their current contraceptive perfectly fits their current needs, and lower agreement was found in Colombia (12%) and Mexico (10%). Also, 72% of current pill users reported that they have forgotten to take a pill at least once or twice over the past 6 months, whereas 89% and 86% of Brazilian and Colombian women, respectively admitted this. Additionally, 36%-47% of the women do not know where an LNG-IUS or an IUD is placed and 42% of women in Latin America believe

IUDs are only suitable for women who have had children.

Conclusion: Misperceptions and myths regarding contraception and IUD/LNG-IUS are widespread between LA women, in some aspects higher than other countries in the world.

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Pain of IUD insertion: A comparison of different IUDs

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Objectives: The purpose of this study was to compare the pain scores of insertion of three types of IUDs, LNG-IUS, copper T IUDS and frameless IUDs. There have been reports of various ways of trying to reduce the pain of IUD ins ertion, including the use of NSAIDs, local anesthesia and misoprostol. The risk factors for increased pain include nulliparity (or no vaginal births) and a history of painful menstrual periods.

Methods: This was a retrospective chart review of women who had IUDs inserted in one clinic between February and October 2013 and included women in a clinical trial of frameless copper IUDs. We compared the pain of insertion of different IUDs, including LNG-IUS 20, copper T and frameless copper IUDs. The women rated the pain of insertion on a scale of 0-10 with 0 being no pain and 10 being the worst possible pain.

Results: Pain scores were recorded for 196 LNG-IUS, 151 copper T and 316 frameless IUD insertions, representing 89.5%, 84.8% and 95.5% inserted during the study period. For pain control, 99.7% of the women took ibuprofen 400-800 mg, 1.1% took misoprostol 400 mcg pv 3 hours prior, 1.9% took 5-10 mg oxycodone, 1.9% took 1-4 mg lorazepam and 99.7% had local anesthesia (5-10cc lidocaine 0.5-1%). There was no significant difference between the three groups with respect to pain control measures. The mean worst period pain score was lower in the Copper T patients, 4.1 vs 4.9 in the LNG-IUS and 5.2 in the frameless copper IUD patients. The proportion of women with no previous vaginal births was 64.6% in the LNG-IUS patients, 69.4% in the copper T patients and 89.6% in the frameless copper IUD patients. The mean worst pain scores for the insertions were lower for the Copper T insertions at 4.8 compared to the LNG-IUS at 5.4 and frameless IUDs at 5.7 ($p<.001$). When we compared the difference between worst period pain and IUD insertion pain for each woman, there were no significant differences; the mean differences were 0.9 for copper T, 0.5 for frameless IUDs and 0.5 for LNG-IUS.

Conclusions: The pain scores of inserting copper T IUDs were less than the LNG-IUS or frameless IUDs, but there were no significant differences between the pain of inserting LNG-IUS and frameless IUDs. The best predictor of the pain of insertion is the reported worst period pain.

A-145

A retrospective evaluation of the IUD in a Buenos Aires patient population

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Introduction: There are approximately 222 million women with an unmet need for contraception in developing countries worldwide. These women account for approximately 82% of all unintended pregnancies. Access to effective modern contraception is vital in meeting family planning needs as it reduces unintended pregnancies and may prevent pregnancy related deaths and disabilities. The intrauterine device (IUD) is recognized as one of the best contraceptive methods by virtue of its efficacy and extended period of use. It remains underutilized due to false perceptions and lack of information by both the public and providers. Regardless of some widespread resistance, the device is a popular form of contraception in an Argentinian family planning clinic. (Planificación Familiar del Hospital Bernardino Rivadavia; Buenos Aires, Argentina).

Objectives: The aims of this study were to assess long-term performance of the IUD and describe patient experiences with the device.

Methods: A retrospective evaluation of 1,050 IUD insertions between 2002 and 2007 with a follow up of five years. Rates of removal were assessed using survival analyses and reasons for removal using bivariate analyses. Both a logistic regression model and a cox proportional hazard model were created to assess the

correlation of IUD-depth (distance measured in millimeters from the device to the fundus of the uterus) with adverse outcomes such as IUD removal and symptoms of pain.

Results: The main reasons for IUD removal were the IUD descending, wanting pregnancy and menopause. A survival analysis found only 18% of women removed the IUD within five years and IUD discontinuation was greater for first time IUD recipients compared to former recipients. Furthermore, women with greater IUD depths were more likely to have their IUD descended or removed compared to women with an average IUD depth: A cox proportional hazard model reveals that women were 83% more likely to have their IUD removed.

Conclusion: This study encourages providers serving similar populations to recognize the IUD as a reliable alternative of contraception as it's efficacy is supported through overall good long-term performance and minimal adverse outcomes. Furthermore, IUD depth should be assessed more frequently as it may be indicative of an IUD dislocating.

A-146

Young Latin American women's misperceptions about intrauterine contraception and their beliefs and preferences regarding menstrual bleeding: results of an online survey

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Objectives: To gain a greater understanding of Latin American women's misperceptions regarding intrauterine contraception (IUC), and their beliefs and preferences about menstrual bleeding.

Methods: Nulliparous and parous women aged 20–30 years were recruited in Mexico, Brazil, Colombia and Argentina. Exclusion criteria included previous sterilization/hysterectomy, menopause, known infertility or a partner who has had a vasectomy. Thirty-minute web-based interviews were conducted between February and March 2012.

Results: Respondent demographics. In total, 1,953 women were surveyed in Mexico (n = 495), Brazil (n = 380), Colombia (n = 613) and Argentina (n = 465); 67% and 33% were nulliparous and parous, respectively. Unintended pregnancy had been experienced by 9% of nulliparous women and 66% of parous women surveyed.

Misperceptions regarding intrauterine contraception: The women surveyed believed that the hormonal intrauterine system (IUS) and copper intrauterine devices (Cu-IUDs), respectively, may cause pelvic infections (23% and 42%), may lead to infertility (20% and 16%) and may cause ectopic pregnancy (24% and 44%) and weight gain (38% and 14%). Overall, 54% and 74% of Latin American women correctly identified that the hormonal IUS and Cu-IUDs, respectively, are placed in the uterus. The most frequently reported incorrect locations for placement were in the vagina or arm.

Attitudes towards placement: Contraceptives that require placement by a healthcare professional (HCP) would be considered by 64% of women surveyed, and 62% reported that they would consider 'a method that might cause discomfort for up to 24 hours after placement, provided it was safe and effective'.

Attitudes and beliefs about menstruation: The percentage of Latin American women expressing a preference for 'regular monthly periods', 'shortened periods', 'lighter periods' and for their 'periods to stop completely', were 54%, 51%, 48% and 14%, respectively. The beliefs that skipping periods and having irregular periods are 'not healthy for a woman's body' were upheld by 53% and 49% of Latin American women, respectively.

Conclusions: Many of women's misperceptions concerning the safety of IUC are shared by HCPs. More than half of Latin American women would consider a contraceptive method placed by a HCP even if it is associated with some initial discomfort, indicating that they would be open to considering IUC methods. However, women's misperception that absent or irregular bleeding (while using contraception) is unhealthy needs to be addressed so that highly effective long-acting contraceptives, including IUC, are not disregarded as an option.

A-147

Post-abortion insertion of frameless copper IUDs: a comparison of early expulsion rates of IUDs inserted immediately post-abortion or at unrelated times

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Objectives: The purpose of this study was to compare the early expulsion rates and other complications in frameless copper IUDs (GyneFix Viz) inserted immediately after first trimester surgical abortions to those inserted into women who were not having abortions. Other studies with other IUDs have found higher early expulsion rates with immediate insertion but fewer unintended pregnancies in the following year compared with women who planned later insertions.

Methods: This was a retrospective chart review of women who had IUDs inserted by five experienced physicians in two clinics between February and October of 2013. At a follow-up visit 6-8 weeks post-insertion, ultrasound and pelvic examinations were performed. Women who did not come in for the follow-up visit were contacted by phone or email. We compared rates of expulsion, infection, perforation, pregnancy and removal.

Results: There were 152 women who had the IUDs inserted post-abortion and 331 who had insertions unrelated to abortion. There were follow-up data available on 377 women (87.3%); one clinic had 93.6% and the other 62.0% follow-ups. The two groups were similar with respect to mean age (28.0 vs 29.1 years) and history of dysmenorrhea (worst period pain score 5.2/10 vs 5.2/10). The women in the post abortion group were more likely to have had vaginal births (33.6% vs 10.4%). There were no significant differences with respect to expulsion rates or other complications. The post abortion group had two expulsions (2.0%), two pregnancies (2.0%), three removals (3.0%) and no perforations or infections. The unrelated group had four expulsions (1.4%), four removals (1.4%), two perforations (0.7%) and no infections or pregnancies. One removal was in a woman who wanted to get pregnant, one because she didn't like the idea of a foreign body in her uterus and the others for pain and bleeding. Both women who had perforations had the IUDs removed with a laparoscope and had no further complications.

Conclusions: Complications rates are so low after IUD insertion that over 2000 subjects in each group would be required to compare rates of expulsion with a power of .80 and α of .05. This study with only 152 women in the post abortion group gives us some reassurance that frameless copper IUDs can be a good choice for insertions immediately post abortion.

A-148

IUD strings: a comparison of male partners' reactions to different IUDs

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Objectives: The purpose of this study was to compare the male partners' reactions to the IUD strings of three types of IUDs: LNG-IUS, copper T IUDS and frameless IUDs. Anecdotally, we frequently needed to address this problem in our clinic during follow-up visits, but could not find any evidence in the medical literature.

Methods: This was a retrospective chart review of women who had IUDs inserted in one clinic and included women in a clinical trial of frameless copper IUDs plus other women that had IUDs inserted during the same timeframe of April to August of 2013. At a follow-up visit 6-8 weeks post-insertion, women were asked if their partners noticed or were bothered by the IUD strings. We compared the answers for the three different types of IUDs.

Results: There were 390 women who had had sex after the insertion, before the follow-up visit and provided data about their partners' reaction to the strings. Of these, 103 had LNG-IUS, 99 had copper T IUDs, and 288 had frameless copper IUDs. There were 46 women (11.8%) who said their partners were bothered by the strings and 53 women (13.4%) who said their partners noticed the strings but were not bothered. There was a significant difference between the three types of IUDs; there were no string complaints from partners of 93 women with LNG-IUS (90.3%), 92 women with copper T IUDs (92.9%) and 106 women with frameless copper IUDs (56.4%)($p<.001$). The five doctors in our clinic managed these string complaints with reassurance that it would improve with time (62.6%), shortening the string (30.3%) or tucking the string up inside the cervix (7.1%).

Conclusions: In this sample, 11.8% of the women said that their partners complained of the IUD strings bothering them during sex. This was more likely with frameless copper IUDs than with LNG-IUS or copper T IUDs. It is likely that the stiffer string of the frameless copper IUD is causing this problem. Clinicians must be aware of how to manage the strings, including tucking them into the cervix.

A-149

Outcomes of Intrauterine Device insertion training for general practitioners

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Objective(s): Limited access to practitioners who provide IUD insertion is a barrier to women seeking this safe and effective method of contraception. Training clinicians to insert IUDs is intensive and expensive, and little is known regarding whether general practitioners who are trained subsequently use these skills in their practices. The purpose of this study was to investigate the outcomes of the IUD insertion training model that is utilised by our service; currently the main provider of IUD insertion training in the country.

Design and Methods: The training process, which will be described in this presentation, consists of a home-based learning package that includes written and video materials and written activities to be submitted, a three-hour workshop, a simulation session using plastic models and IUD training devices, and undertaking of 4-10 IUD insertions under direct supervision of an experienced IUD-inserting doctor. All 30 doctors who undertook IUD insertion training from January to December 2012, most of whom were GPs, were invited to participate in the study, and 27 did so. Participants were asked to complete a pre-training questionnaire that assessed knowledge, attitudes and behaviour regarding IUD insertion, and were sent a follow-up questionnaire 12 months after completing training. The follow up questionnaire assessed knowledge, attitudes and behaviour regarding IUD insertion and number of insertions was validated by linking to the data available from the government health funding body (Medicare).

Results: Of the 13 doctors followed up to date, none were inserting IUDs when they began this training, but 92% had attempted to insert IUDs (range 2-84 insertions, mostly hormonal) in their own practice in the 12 months following training, nearly all of which were successful. A variety of infrequent problems were reported. The most common experienced barriers to IUD insertion were time pressures, not being cost-effective for the practice, shortage of appropriate patients, and need for unavailable equipment or nurse assistance. Many participants felt they were not adequately confident to attempt insertion in nulliparous women.

Conclusions: Encouraging uptake of LARCs is a public health priority in most countries. Easy access to clinicians trained in IUD insertion is an important strategy for achieving this. This study demonstrated that our training model achieves significant IUD insertion behaviour change among doctors. Further research on alternative IUD insertion training models would be valuable, such as looking at increased model simulation to determine whether training cost can be reduced while still delivering similar outcomes.

A-150

To assess Safety, Acceptability, Feasibility and Efficacy (SAFE project) of dedicated Inserter for immediate postpartum IUDs

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Objective: An intrauterine device (IUD) inserter specifically designed for immediate postpartum use will significantly reduce unmet need for contraception, by making postpartum intrauterine device (PPIUD) insertions easier to provide and more accessible to women of reproductive age in need of long-acting reversible contraception (LARCs).

Introduction and Methods: Immediate PPIUD insertion offers a novel, and convenient method to accelerate efforts to address the unmet need for contraception. However for Immediate postpartum intrauterine device insertions within 10 minutes to 48 hours post-delivery, a dedicated PPIUD inserter is currently not available. As a workaround, forceps are used-the IUD is taken out of the traditional interval inserter, and grasped with forceps before it is placed at the uterine fundus. Furthermore the string used in traditional IUD inserters is too short to be visible after PPIUD insertion. Having a dedicated inserter would: 1) avoid hand manipulation of the IUD; 2) facilitate and shorten training because the movements required are similar to those used for interval insertion; 3) be useful for both post-placental and morning-after-delivery insertions; 4) allow for a

longer IUD strings thus ensuring that the strings are visible in the cervix at follow-up visits; and 5) likely increase demand for PPIUDs in general due to the overall enabling effect that a convenient, easy to use device would convey to providers, clients and family planning programs. The study conducted was a proof of concept in two centres of Delhi and Bangalore. The clients recruited were from among women who delivered at these centres and had requested for a PPIUD insertion at the ANC visit. The Exclusion Criteria were -Rupture of Membranes more than 24 hours prior to delivery, Diagnosis of Chorio-amnionitis at the time of delivery and Post Partum Hemorrhage.

Result: Out of 106 enrolled, 38 (36%) had normal vaginal delivery, 04 (4%) assisted vaginal delivery and 64 (60%) had normal vaginal delivery with episiotomy. The insertion of IUCD was done within 10 minutes in 25 cases and in 81 cases done within 48hrs of delivery. The insertion of IUCD was easy in 81% cases and slightly difficult in 14% cases and difficult in 5% cases. Out of 106 cases 61 % came for follow up, expulsion reported in 8 cases and removal in 14 cases the reason in most of cases psychosocial. There was no case of perforation.

Conclusion: PPIUD inserter is convenient and easy to use for PPIUD.

A-151

Misperceptions about intrauterine contraception and beliefs and preferences regarding menstrual bleeding: results of an online survey of women in Europe and Canada

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Objectives: To gain a better understanding of young European and Canadian women's knowledge and misperceptions regarding intrauterine contraception (IUC), and their attitudes and beliefs about different patterns of menstrual bleeding.

Methods: Nulliparous and parous women aged 20-30 years were recruited in Canada and nine European countries. Women were selected by random sampling from existing market research panels and invited to participate by email. Data were captured during 30-minute web-based interviews conducted between February and March 2012.

Results: *Respondent demographic:* In total, 4,967 women were surveyed across Canada (n = 531), Germany (n = 450), France (n = 643), the UK (n = 529), Italy (n = 702), Switzerland (n = 376), Austria (n = 384), Belgium (n = 450), Sweden (n = 377) and Ukraine (n = 525). Of these, 68% were nulliparous.

Misperceptions about intrauterine contraception (subgroups who recalled these methods): Women surveyed believed the hormonal intrauterine system (IUS) and copper intrauterine devices (Cu-IUDs) may increase the risk of contracting sexually transmitted infections (STIs) (9% and 12%, respectively) and may cause the following: pelvic infections (19% and 29%), infertility (12% and 18%), ectopic pregnancy (19% and 26%) and weight gain (31% and 9%). Overall, 44% and 40% of women did not know that the hormonal IUS and Cu-IUDs, respectively, are placed in the uterus; correct knowledge was most prevalent in France and least prevalent in the UK. The most frequently reported incorrect locations for placement were in the vagina and arm.

Attitudes and beliefs about bleeding: The percentages of women who expressed a preference for 'shortened periods', 'lighter periods' and for 'their periods to stop completely' were 44%, 43% and 23%, respectively. The desire for 'shortened periods' and 'lighter periods' was most prevalent in Canada (54% and 55%, respectively), whereas the desire for amenorrhoea was most prevalent in Sweden (39%). The belief that 'skipping periods' was 'unhealthy for a woman's body' was reported by 47% of women and was most prevalent in Ukraine (78%) and Italy (67%). Additionally, 32% of women believed that irregular periods were 'unhealthy for a woman's body'; this belief was most prevalent in Ukraine (71%) and Italy (50%).

Conclusions: To prevent IUC from being disregarded as an option by young women, healthcare professionals need to overcome women's misperceptions that use of IUC may increase their risk of STIs, pelvic infections, ectopic pregnancy and weight gain. The ideal time to do this is during contraceptive counselling. Women's misperception that absent or irregular bleeding during contraceptive use is unhealthy also needs to be addressed.

A-152

Intrauterine devices in Human Immunodeficiency Virus-infected women: are they safe?

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Introduction and objective: The majority of Human Immunodeficiency Virus (HIV)-infected women are of childbearing age, so contraception and reproductive planning have become essential and a complex issue. Theoretical concerns such as increased risk of infection, bleeding and viral shedding limited the use of the intrauterine devices (IUD) in these women in the past. In 2009, the World Health Organization classified the use of IUD in women living with HIV/AIDS as category 2, except for initiators in AIDS without antiretroviral therapy (ART). Few studies have documented the use of IUD in HIV-infected women. Our objective was to assess the use of IUD and its safety in HIV-positive women.

Design and methods: Women infected with HIV observed in a gynecology consultation at a tertiary hospital, between February 2011 and December 2013, were evaluated regarding demographic, clinical, sexual and contraceptive data.

Results: 294 HIV women were observed. 16 women had an IUD: 81% (n = 13) a levonorgestrel-releasing intrauterine system (LNG-IUS) and 19% (n = 3) a copper device (Cu-IUD) inserted. The mean age of the patients was 41 years (min: 41; max: 48). All women who were submitted to IUD insertion were parous. 15 (94%) women acquired the infection via sexual intercourse. 38% (n = 6) had history of other sexual transmitted infections. 2 of 12 couples were serodiscordant and the concomitant use of condom was reported in 11 of 16 (69%). The majority (91%) of women were on antiretroviral treatment, and all had levels of CD4 lymphocytes more than 200 and indetectable circulating HIV viral loads, without significant changes during the period of study. 88% (14/16) had normal pap smear during the study. There were no cases of discontinuation, unintended pregnancy or pelvic infection.

Conclusions: IUDs are a safe and effective contraception for HIV-infected women. The main advantages include efficacy independent of user´s adhesion, reversibility and without concerns regarding drug interactions. LNG-IUS is particular promising since it is associated with improved blood hemoglobin levels and lower risk of potential sexual transmission of HIV. Dual protection with an IUD and condom might be an ideal contraceptive strategy for these women.

A-153

Intrauterine contraceptives: tips for insertion

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Objectives: Long acting reversible contraceptives (LARCs) included the copper-intrauterine device (IUD), the levonorgestrel-releasing intrauterine system (LNG-IUS) and subdermal implants. The objectives were to describe different tips and guidance for health professionals regarding intrauterine contraceptives (IUCs) insertion.

Methods: We interviewed several health professionals who inserted more than 30 IUCs per week about the common problems encountered during IUC insertion and tips for young professionals who are initiating IUC insertion.

Results:

Only open the IUC package when you are sure that the cervical canal is not narrow, after the uterine sound

Use in all the cases a tenaculum to fix the uterus. Reduce the possibility of uterine perforation

Have on hand a set of dilators of the cervix number 3, 4 and 5, better if tapered or if it is available a disposable, flexible, plastic tapered OsFinder. Few women, nulligravid or parous, require cervical dilatation for IUC insertion. Routine dilatation is not necessary because increase pain and the risk of a vasovagal episode.

When the IUC inserter is first applied to the cervical os, it is desirable that the health professional should

pause for a few moments to allow the os to slowly stretch and accommodate the inserter.

Have on hand a small warm-water bottle inside a disposable cover, held by the woman suprapubically which could be helpful to pain control.

Have a pair of good scissors to cut the treads

In women with heavy menstrual bleeding (HMB) try to avoid the insertion of an LNG-IUS until the last days of menses. Insertions during acute episode of HMB increase the expulsion rate.

Routine ultrasound is not necessary; however, in difficult cases it is desirable to be sure about the proper insertion.

In cases of perforation, remove the device immediately and schedule for a new insertion in the next cycle.

Anticipate to new users that IUC insertion will be associated with low pain and that general anesthesia or sedation is not needed and increase slightly the risk of perforation. Woman's anxiety can be addressed with appropriate counselling before the procedure and/or distraction during the procedure.

Have on hand a Hartman forceps to removed IUC without threads.

Conclusion: IUC insertion is a simple, outpatient procedure which can be done after proper training of the health provider. Follow the instructions of the manufacturer avoid further problems. Have an appropriate instruments allow to insert the devices without problems.

A-154

Randomised, multicentre, Phase III profiling study comparing a low-dose levonorgestrel intrauterine system with combined oral contraception: analysis of bleeding, discontinuation rates and adverse events in the 18-month comparative phase

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Objectives: To compare the levonorgestrel intrauterine system (LNG-IUS13.5mg [total content]; Jaydess) with the 30 μg ethinyl estradiol/3 mg drospirenone combined oral contraceptive (COC;Yasmin) regarding bleeding profiles, study discontinuation rates and adverse events (AEs).

Methods: Nulliparous and parous women (aged 18–29 years) with regular menstrual cycles (21–35 days), requesting contraception, were randomised to LNG-IUS13.5mg or COC and followed for up to 18 months of use.

Results: The full analysis set included 279 women who were randomised to LNG-IUS13.5mg and for whom placement was attempted (successful in 279/279), and 281 women who were randomised to COC and took ≥ 1 pills. At Month 18/end of study, 70/247 COC users (28.3%) reported that they 'sometimes missed pills' and 132/247 (53.4%) reported that they 'sometimes took a pill late'. Among LNG-IUS13.5mg users, the mean number of bleeding/spotting days declined over time, from 31.7 days in the first 90-day reference interval (RI) to 13.5 days in the 6th (final) 90-day RI. Among COC users, the mean number of bleeding/spotting days remained relatively constant over 18 months (range: 15.6–19.2 per 90-day RI). By the 6th 90-day RI, for LNG-IUS13.5mg and COC users, respectively, 13.6% and 0.5% had amenorrhoea; 29.5% and 16.6% had infrequent bleeding (1–2 bleeding/spotting episodes per 90-day RI); 21.8% and 7.5% had irregular bleeding (3–5 bleeding/spotting episodes and <3 bleeding/spotting-free intervals of ≥ 14 days per 90-day RI); 31.4% and 74.3% had normal bleeding; 3.6% and 0.5% had frequent bleeding (>5 bleeding/spotting episodes per 90-day RI); 3.6% and 0.5% had prolonged bleeding (bleeding/spotting episodes lasting >14 days). Among LNG-IUS13.5mg and COC users, respectively, 36.6% and 15.3% experienced study drug-related AEs, which is mainly explained by different incidences of acne (9.0% vs 0.4%), dysmenorrhoea (8.2% vs 1.1%), ovarian cyst (5.7% vs 0.0%) and abdominal pain (5.0% vs 0.0%). In the LNG-IUS13.5mg and COC groups, respectively, 19.5% and 28.4% discontinued the study by 18 months; 8.9% and 8.8% due to any AE; 0.7% and 2.1% due to pregnancy on-study; 1.4% and 2.1% wished to become pregnant; 0.4% and 0.7% due to protocol violation; 1.1% and 7.4% were lost to follow-up; 7.1% and 7.4% withdrew from the study. Overall satisfaction (primary outcome) data are presented elsewhere.

Conclusions: LNG-IUS13.5mg and COC were well tolerated. LNG-IUS13.5mg users were more likely to experience amenorrhoea and infrequent bleeding compared with COC users. The higher discontinuation rate among COC users is mainly explained by more women in this group being lost to follow-up.

A-155

Attitudes and knowledge of Latin American health care professionals (HCPs) comparing to HCPs from other countries regarding intrauterine contraception for nulliparous women

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Objective: To assess attitudes and knowledge about intrauterine contraceptives (IUC) for nulligravida women among 372 health care professionals (HCPs) in four Latin American (LA) countries and to compared with 1,415 HCPs from other 11 countries.

Methods: A survey was conducted online. Answers from LA HCPs (Argentina, Brazil, Colombia, and Mexico) were compared with information provided by HCPs from other 11 countries (Australia, Canada, France, Germany, Ireland, Netherlands, Russia, Sweden, Turkey, UK, USA).

Results: When asked about main drivers of IUC, the responses were very similar (long term contraception, convenience, high efficacy, additional benefits, and high compliance) in the 15 countries, and only cost-effectiveness seems to be comparatively more relevant in LA. When asking about barriers to use IUC in nullipara, the survey showed that HCPs from the 4 LA countries reported that concern about pain and difficulties at insertion were less frequent and concerns about infertility are more frequent, when compared with HCPs from the other 11 countries. However, when concerns about difficult insertion and future infertility are enquired, they were much higher when the woman is nulligravida than when she was parous (40% vs. 14% and 41% vs. 12%, respectively). The percentage of LA HCPs that consider high PID risk among nulligravidas using IUC (61%) was greater when compared to HCPs from the other countries. There was a greater level of knowledge about the category of use of IUC among nulliparous according to the MEC of WHO by LA HCPs (benefits outweigh risks). However, less than half of the LA HCPs consider IUC when counselling about contraception to nulliparous > 18 years old. The opinion of LA HCPs about a higher risk of perforation and expulsion among nulligravidas was similar than the HCPs from the other countries.

Conclusion: Misperceptions regarding IUC for nulligravidas women are widespread in LA and in some aspects higher than other countries.

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Bleeding profiles associated with two low-dose levonorgestrel intrauterine contraceptive systems over 3 years of use: results of a multicentre, open-label, randomized, Phase III study

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Objective: To assess the bleeding profiles associated with two lose-dose levonorgestrel intrauterine contraceptive systems (LNG-IUSs); LNG-IUS13.5mg (total content) and LNG-IUS19.5mg (total content).

Method: Nulliparous and parous women aged 18-35 years with regular menstrual cycles (21-35 days) requesting contraception were randomized 1:1 to LNG-IUS13.5mg or LNG-IUS19.5mg, placed within the first 7 days of the cycle. Women with a vaginal delivery, Caesarean section or abortion within 6 weeks before screening were excluded, in part, to assess the impact of lower levonorgestrel doses on vaginal bleeding pattern.

Results: The full analysis set included 1,432 and 1,452 women in the LNG-IUS13.5mg and LNG-IUS19.5mg groups, respectively, for whom at least one attempt at placement was made; 1,355 and 1,376, respectively, had ≥ 1 evaluable 30-day reference interval and 1,322 and 1,348, respectively, had ≥ 1 evaluable 90-day reference interval for the bleeding analysis. The

number of bleeding/spotting days decreased over time during use of LNG-IUS13.5mg and LNG-IUS19.5mg; the greatest reduction was between the first and second 30-day reference intervals (RIs); a trend towards fewer bleeding and spotting days was observed in the higher dose group. In both treatment groups, women who switched from hormonal methods (oral contraceptives, implants or LNG-IUS20μg/24hours) had fewer combined bleeding and spotting days in all 30-day RIs during the first 6 months of use compared with women who switched from non-hormonal methods. The percentage of women with amenorrhoea (WHO criteria) increased over time during use of LNG-IUS13.5mg and LNG-IUS19.5mg. By the penultimate (11^{th}) 90-day RI 10.0% and 19.3% of women in the LNG-IUS13.5mg and LNG-IUS19.5mg groups, respectively, were amenorrhoeic. Among women who developed amenorrhoea, ˜60-70% remained amenorrhoeic from one RI to the next, from the fifth 90-day RI onwards. Endometrial histology was evaluated at the end of 3 years of treatment in a subset of 48 women. Across both treatment groups combined, histology was secretory in 95.8%, proliferative in 2.1% and 'unclassified' in 2.1%. In both treatment groups, $<5\%$ of women discontinued because of bleeding change (including amenorrhoea). Approximately three-quarters of women in both treatment groups reported that they were 'very satisfied' or 'somewhat satisfied' with their bleeding pattern.

Conclusions: Bleeding profiles associated with LNG-IUS13.5mg/LNG-IUS19.5mg were commensurate with that expected of an LNG-IUS. Women switching from oral contraceptives, implants or LNG-IUS20μg/24hours had fewer bleeding and spotting days in the first 6 months of treatment. Bleeding pattern did not correlate with endometrial histology. Discontinuation rates for bleeding problems were low.

LONG-ACTING REVERSIBLE CONTRACEPTIVE METHODS

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Long-Acting Reversible Contraceptive methods after abortion

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Background: Women who seek an abortion are highly motivated to use contraceptive methods afterwards. Because unintended pregnancy results, most of the time, of inconsistent or irregular use of hormonal oral contraception, the method of choice should preferably be long-acting. Lastly, there is a need for effective and safe contraception promptly after the termination of pregnancy because the return of fertility is immediate.

Objectives: This study compares bleeding pattern, discontinuance and failure rate, satisfaction and method's complications, on women undergoing post-abortion intrauterine devices or etonogestrel implant insertion.

Design and Methods: We performed a retrospective cohort study of women undergoing post-abortion intrauterine devices or etonogestrel implant insertion between 2010-2012. Demographics and clinical data were collected from clinical records. We contacted women by phone to do a questionnaire assessing discontinuation, satisfaction, and bleeding patterns or by consultation clinical records, when telephone contact was impossible. Statistical analysis was performed with Excel and Statistical Package for the Social Sciences v17.

Results: From 1642 abortions at women's request performed in our maternity from 2010-2012, only 11% showed interest in a long-acting reversible contraceptive (LARC). 125 chose etonogestrel implant and 52 intrauterine devices (38 copper devices and 14 with levonogestrel). We observe statistically significant difference in groups age (34 ± 6 *vs* 27 ± 7 years, respectively in intrauterine devices vs etonogestrel implant group; $p < 0{,}001$). In etonogestrel implant group 38% were nulliparous (comparing to 4% in intrauterine devices group). 90% of etonogestrel implant were placed in consultation two weeks after abortion vs 31% in intrauterine devices group. The implant was associated to higher abnormality cycle control (33 vs 16%, $p < 0{,}001$), mainly metrorrhagia. In intrauterine device group occurred one case of pregnancy. Bad compliance to method (expulsion, remove for side effects or failure) was identical in two methods (17 vs 16%, $p = 0.836$). **Mean time** follow up was 23 ± 10 months vs 15.6 ± 11 months, with greater rate satisfaction in intrauterine devices group (89% with 4-5/5 satisfaction level, compared to 74% on women with implant, $p = 0.017$).

Conclusions: LARC methods are excellent option after abortion, having a high efficacy rate (in our study 99.3%). Implant is associated with worse cycle control. Compliance rate was identical in two groups, obtaining a higher level of satisfaction in intrauterine device group (89%).

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Experience and satisfaction with the levonorgestrel-releasing intrauterine system in China: a prospective multicenter survey

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Objectives: To identify the experience and satisfaction of Chinese women using levonorgestrel-releasing intrauterine system (LNG-IUS, Mirena).

Methods: Women attending the family planning clinics in South, North and West China for LNG-IUS insertion were asked to voluntarily complete a baseline questionnaire on their contraceptive choice. They were subsequently asked to complete two further questionnaires on their experience and satisfaction at 3-6 months and at approximately 1 year after insertion.

Results: One thousand and twenty-one women were invited to participate in this survey from twenty-two medical centers of China. The majority (59%) of women were aged 30–40 years, while 16% were aged < 30 and 25% aged > 40 years. The majority had one child (76%), and 8% were nulliparous. At baseline, 36% of women had self-reported heavy or very heavy bleeding, 41% reported normal bleeding and rest had light or no bleeding. Most women (98%) were satisfied with pre-insertion counseling "contraceptive reliability" was ranked as the most important reason for choosing the LNG-IUS. Most women were still using Mirena during the following up period. The continuation rate was 99% at appr. 3 month and 93% at appr. 12 month. 92 and 93% of the respondents experienced less bleeding at 3 and 12 months, respectively. 63% women thought LNG-IUS was better than previous contraceptive methods, while 10% rated the LNG-IUS as equally good and 3% as worse than previous methods. 24% of women had no previous contraceptive use. Overall, around 90% of respondents were very or rather satisfied with LNG-IUS, and only 1-2% were very dissatisfied Additionally, 64% of women reported that they would recommend LNG-IUS to their friend.

Conclusion: Pre-insertion counseling for LNG-IUS is also important for Chinese women. Among LNG-IUS users we observed high continuation-and satisfaction rates; these women were also very pleased with the quality of the counselling provided. All of these findings suggest that LNG-IUS is beneficial to- and well accepted by Chinese women.

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Annualized costs of contraceptive products in the United States: a comparison of long-acting and short-acting reversible methods

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Objectives: This study aimed to compare average annual costs of available reversible contraceptive methods in a cohort of young women in the United States from a payer's perspective.

Methods: An economic model was developed to estimate relative costs of "no method" (chance), four short-acting reversible (SARC) methods (oral contraceptive, ring, patch and injection) and four long-acting reversible (LARC) methods (implant, IUD, LNG-IUS 20mcg/24hrs (5-year-IUS), and LNG-IUS 13.5mg (total content), a new 3-year levonorgestrel IUS). The analysis was conducted over a 5-year time horizon in 1000 women aged 20-29 years. The model consisted of three mutually exclusive health states: initial method, unplanned pregnancy and subsequent method. Failure and discontinuation rates were based on published literature. Costs associated with drug acquisition, medical resource and failure were considered and taken from standard US databases. Key model outputs were the annual average cost per method and the minimum duration LARC methods would need to be used before proving cost-saving compared to SARC methods.

Results: The four least expensive methods were IUD ($314USD per women per year), 5-year-IUS ($317USD), implant ($403USD) and 3-year-IUS ($429USD). Average annual cost of SARC methods ranged between $448USD (injection) and $760USD (patch). The analysis found that an average of 1.77 years of LARC usage would result in cost-savings compared to SARC usage.

Conclusions: Annual costs of all LARC are lower than those of any SARC. This analysis finds that even if LARC methods are not used for their full durations of efficacy, they become cost-saving relative to SARC methods within 2 years of use.

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Use of Levonorgestrel Intrauterine System: a Portuguese university hospital experience

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Objectives: Despite the availability of a wide range of contraceptive options, unintended pregnancy rates remain high, particularly among young women. In fact, their most popular form of birth control are oral contraceptives which effectiveness is user dependent and may fail when multiple pills are dropped per month. The levonorgestrel intrauterine system (Mirena®) is an effective, reversible, long-acting contraceptive method, non-dependent of user's compliance, with many others health benefits. However, it is unlikely to be one of the provider's choices for adolescents' contraception. Concerns about difficult insertion, nulliparity, pelvic inflammatory disease or infertility consist in provider's barriers for this option while reduced menstrual bleeding or decreased dysmenorrhea that affect lot of teens are often neglected. The aim of this study is to quantify how many Mirena® devices were applied at one University Hospital between 2006 and 2012 and characterize its users by age, obstetric history and goal of Mirena®'s use.

Design and methods: This is an observational, transversal, analytical study which sample included women to whom Mirena® was applied at the Hospital between 1 January 2006 until 31 December 2012. The studied variables were user's age, obstetric index (nulliparous *vs* parous woman) and the main purpose for Mirena®'s choice (contraceptive option; heavy menstrual bleeding; endometriosis; endometrial hyperplasia therapy).

Results: The use of Mirena® at this University Hospital started in 2002. In the studied period, 3.965 Mirena® were applied. Since 2006, the use of Mirena® gradually increased from 375 in that year to 540 in 2009 and reaching the maximum of 745 along 2012. Most of the users were parous women whose age was between 40 to 49 years old. A minority referred to young woman aged about 20 years or less and that had never been pregnant. The main reason for Mirena®'s application was its contraceptive effect, followed by treatment of heavy menstrual bleeding and its role as endometrial hyperplasia therapy.

Conclusions: At this University Hospital, Mirena® remains as an underused contraceptive method in young women, particularly among nulliparous. Further education is needed to skip this barrier. Practical hands-on training should also be available in order to improve providers' confidence in performing Mirena®'s insertion in this population.

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Postpartum long-acting reversible contraception in adolescence – what matters?

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Objective: To evaluate which variables influence the choice of postpartum long-acting reversible contraception (LARC) in adolescence.

Method: Five-year retrospective study of adolescents with a recent delivery in a university tertiary hospital in Portugal capital city. All teenagers were followed at the hospital's adolescent outpatient unit, by the same multidisciplinary team, during pregnancy and in the postpartum period. Contraceptive counselling was systematically done by the same health professionals and all contraceptive methods were available and free of charge. Clinical files were reviewed and only those with information about contraceptive choices in the first postpartum evaluation were included. Age, ethnicity,

education level, profession, marital status, contraceptive use, parity, pregnancy planning and type of delivery were evaluated and compare between two groups: group 1 - teenagers who chose postpartum LARC methods and group 2 - those who didn't. Nonparametric tests were applied for mutual comparison of continuous variables and Qui-square - exact Fisher test to categorical variables. For parameters with p-value < 0.05, odds ratio (OR) - 95% Confidence Interval (CI) was calculated.

Results: 187 adolescents were included and 131 (70.1%) chose postpartum LARC. The implant was the method chosen in 93% of the cases. LARC methods were preferred by non-white teenagers [OR: 2.171 (95% CI - 1.081 to 4.360), p-value: 0.029], those with lower education level (inferior or equal to 9th degree) [OR: 2.325 (95% CI - 1.127 to 4.798), p-value: 0.022], married or living with a partner [OR: 2.552 (95% CI - 1.057 to 6.162), p-value: 0.037] and with an intended pregnancy [OR: 2.773 (95% IC - 1.011 to 7.606), p-value: 0.048]. No differences were identified between groups regarding age, profession, previous contraceptive use, parity and type of delivery.

Conclusions: We have a high rate of postpartum LARC, with intradermal implant being the most frequently chosen method. In our study ethnicity, education level, marital status and pregnancy planning were the main variables influencing postpartum LARC choice in adolescence.

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Long-acting reversible contraceptive use in Australia: factors associated with uptake 2008 – 2012

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Objectives This paper presents an analysis of a national database of prescriptions of Implanon and Mirena in Australia. Objectives were:

- to calculate age standardised prescribing rates for uptake of Implanon and Mirena in Australia between 2008 and 2012
- to investigate how rates vary by age, patient geographical location and the presence of family planning clinics or Aboriginal Medical Services (AMS)

Method: Prescription data was obtained from the Pharmaceutical Benefits Scheme (PBS), part of Australia's universal health-care system through which Implanon and Mirena are subsidised to patients. Number of prescriptions for each contraceptive were obtained according to patient age (5 year cohorts, 15 - 49) and geographic location for the years 2008 - 2012. Directly age standardised rates (ASR) of prescriptions were calculated for each year. Multivariate analysis was used to examine associations between age, geographic location, proximity to family planning clinics, aboriginal medical services and number of Implanon and Mirena prescriptions.

Results: ASR of Implanon prescriptions rose from 13.05 per 1000 in 2008 to 15.76 per 1000 in 2012. Rates were highest among 15-19 year-olds, increasing from 20.81 (2008) to 29.09 per 1000 (2012: $p < 0.01$) and lowest among 45-49 year-olds, increasing from 3.37 to 3.73 per 1000 ($p < 0.01$). ASR by location in 2012 were highest in Inner and Outer Regional areas and lowest in Major Cities. Multivariate analysis showed rates increased an average of 6% per year (OR1.06: 95%CI: 1.05, 1.06). ASR of Mirena prescriptions rose from 11.41 per 1000 woman in 2008 to 16.14 per 1000 women in 2012. Rates were highest among 35-39 year olds and 40 - 44 year olds at 18.46 and 16.79 per 1000 in 2008, increasing to 23.38 and 24.82 per 1000 in 2012. Rates were lowest among 15 - 19 year olds, increasing from 1.12 per 1000 in 2008 to 2.80 per 1000 in 2012. ASR by location in 2012 were highest in Inner and Outer Regional areas and lowest in Major Cities. Multivariate analysis showed rates increased an average of 9% per year (OR 1.09: 95%CI: 1.09, 1.10)

Conclusions: Uptake of both Implanon and Mirena is increasing every year. Implanon prescription is highest among younger women, while Mirena is more frequently prescribed to women 35 years and older. Prescriptions for LARCs are significantly higher for women in living regional areas than in Major Cities.

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Private providers' knowledge, attitude and practice related to long acting contraceptive method in India

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Objectives: This paper examines attitudes and practices of private providers in India, both members of the Population Service International (PSI) network and non-members, towards recommending the long acting contraceptive method IUD to reproductive age women.

Methods: A facility-based survey was conducted among private providers who were members of the PSI network and among similar non-network providers located within programme geographic area. The study consisted of total 1493 providers in programme geographic area among randomly 792 providers were interviewed in 20 programme geographic districts of three states of Uttar Pradesh, Delhi and Rajasthan in India. Bi-variate analysis were used to determine difference in the characteristics of members of the PSI Network and Non-Network, Logistic regression analysis was conducted to determine whether correct knowledge regarding the IUD, self confidence in being able to insert the IUD, attitudes towards suitability of candidates for the IUD and medical safety concerns were influenced by providers specialization, whether the provider had received clinical training in IUD insertion in the last six months, membership of the PSI network and experience in IUD insertion. OLS regression was used to identify predictors of provider productivity (measured by IUD insertions conducted in the month before the survey).

Results: The results from the Binary logistic regression shows knowledge about the effectiveness of the IUD and self-confidence in advising clients about the IUD by attended workshop during last six months, membership of the PSI network and provider's IUD insertion. There was significant effect on knowledge of IUD was provider's those who attended workshop in last six months 96% versus 91% OR 0.492 (0.262–0.923, $P < 0.027$). Similar pattern was observed among network provider's, PSI network were more likely to knowledge about the effectiveness of IUD 96% versus 90% OR 2.226 (1.195–4.149, $P < 0.012$). Attitudes regarding appropriate candidates for the IUD were very similar, those who attended workshop were less likely to consider nulliparous women suitable candidates for the IUD 3% versus 5% OR 0.295 (0.097–0.895, $P < 0.031$).

Conclusions: The paper reveals that technical training interventions has reduce the provider's attitudinal barriers towards long acting contraceptive method IUD, however training of interventions to provider's need to strengthen in India.

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Subdermal implant: features, acceptability and satisfaction in Argentina

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Objectives: This study assessed the characteristics and satisfaction of the first experience in the insertion of the single rod containing etonorgestrel in Argentina (SDIs) including the efficacy, side effects and continuation rates at one-year post-insertion.

Study Design: This was a retrospective and observational study of medical records of 50 patients aged between 13 to 45 who visited a health care provider at the Public Hospital in the Metropolitan area of Buenos Aires, Argentina.

Results: Of 50 insertions one ($n = 1$) was a failure procedure, we had to insert a new ESI. 72% were aged 13 to 19. 12% were aged 20 to 34.6% were aged 35 to 45. 24% of the selected patients were parous and 76% nuliparous. 46% used condoms, 22% used OCP. 2 patients reported weight gain, 5 of them had irregular bleeding, 9 amenorrhea, 3 oligomenorrhea. 1 patient reported local pain. Implant removal rate was 2.5%, with requesting removal for overweight ($n = 1$), cefalea ($n = 1$). No insertion or postinsertion complications or contraceptive failures were found. None of them get pregnant .

Conclusions: The insertion of the etonorgestrel implant represented an easy and practical office procedure, when carried on by trained physicians,with low side effects, high efficacy in preventing unintended pregnancy especially in a population with social disadvantages. Contraceptive counselling prior to starting a method, is thought to improve satisfaction with and adherence to the contraceptive method used.

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Continuation rates of etonogestrel contraceptive implant (Nexplanon®) in a university general practice.

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Objectives: The reliability of subdermal contraceptive implants has been clearly documented. We aimed to evaluate the continuation rates in our practice and the proportion of patients using medication for side effects.

Method: A prospective survey of 400 women who had an etonogestrel contraceptive implant (Nexplanon®) was initiated in September 2010 in a general practice, which provided services for university students and their dependants. A questionnaire was completed at fitting with telephone follow up at 3, 6 and 12 months.

Results: 400 women were recruited by March 2012 with a median age of 21 years (range 18-40) Contraceptive use prior to implant fitting was: 46% CHC, 15% POP, 14% condoms, 13% subdermal implants and 4% no regular method. Reasons for requesting an implant were: 54% LARC choice, 32% current contraceptive problems, 10% implant due replacement and 3% medical contraindications to other methods. At 3 months, 362/376 (96%) had the implant, and 14/376 (4%) had it removed. Of those who still had the implant 12% were using medication for side effects: 77% CHC, 14% progestogens and 4% mefenamic acid. At 6 months 322/355 (91%) had the implant and 33/355 (9%) had it removed. Of those who still had the implant 13% were using medication to control side effects: 71% CHC, 11% progestogens, 11% acne treatments, 2% mefenamic acid, and 2% paracetamol. At 12 months, 285/353 (81%) had the implant and 68/353 (19%) had it removed. Of those who still had the implant 13% were using medication for side effects: 68% CHC, 19% acne treatments, 11% progestogens, and 3% migraine medication.

Conclusions: The results show high early continuation rates with a slight reduction at 12 months. The majority of women in this study were already using another method of contraception but had chosen to change to the contraceptive implant. Counselling women appropriately and giving the opportunity to discuss and treat any side effects may improve tolerability of this reliable method of contraception. Medication was used predominantly for unscheduled bleeding and acne. Healthcare professionals also had the opportunity to discuss sexual health needs for the small number of women who subsequently chose to have the implant removed.

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Long-acting reversible contraception for adolescents and young adults – A cross-sectional study of women and general practitioners in Oslo, Norway

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Objectives: To investigate the current state of long-acting reversible contraception (LARC; i.e. implants, intrauterine devices/systems [IUD/S]) use and awareness in the Norwegian primary care sector.

Methods: Use, knowledge and impression of contraceptive methods, and content of contraceptive counseling was investigated by use of anonymous questionnaires in women aged 16-23 years (n = 359), and by anonymous web-based questionnaires among medical general practitioners (GPs; n = 140) in Oslo, Norway. Multiple comparisons were performed using Kruskal-Wallis analysis of variance with Dunn's post-hoc testing or Chi-square tests. Multivariable binary logistic regression was used to identify determinants of various LARC outcomes amongst both groups of participants. A two-sided p-value < 0.05 was considered significant.

Results: Of the 295 (82%) current contraceptors, 34 (11.5%) women were LARC users. Combined oral contraceptives (COC; n = 165, 56%) and condom only (n = 61, 21%) were the predominant methods used. The women reported good knowledge of condoms and COCs, but poor or average knowledge of all other methods. Knowledge of LARC and previous contraceptive use were independent predictors of current LARC use ($p < 0.001$ and $p = 0.048$). Approximately 35% of the GPs often included LARC methods in counseling, whereas COCs were often included by 93%. The GPs reported a high self-perceived knowledge of all contraceptive methods and had an unfavorable impression of LARC methods for use in the 16-23 year age group. A lack of insertion training was inversely

associated with frequent inclusion of implants in counseling (OR 0.12, $p = 0.013$). The main determinant for omitting IUD and IUS in counseling was nulliparity (OR 0.2, $p = 0.001$ and < 0.001, respectively).

Conclusion: LARC use is low among 16-23 year olds in Oslo, Norway, who need better counseling on their contraceptive options. Amelioration of misconceptions and improvement of provider training could see more GPs including LARC methods in contraceptive counseling.

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Long-acting reversible contraceptive uptake post-termination of pregnancy

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Introduction: Long-acting reversible contraception (LARC) can reduce unwanted pregnancies. Within our Fertility Control Unit we have a family planning nurse who discusses previous and future contraception with all women independent from termination of pregnancy (TOP) consultation. This minimises risk of coercion and promotes objectivity.

Objective: Review of LARC uptake in a Fertility Control Unit at a district general hospital.

Method: Five year retrospective review of 2019 terminations

Results: Mean age of 24.7 years (range 13 to 46 years). Under 16 years of age accounted for 2.9%. Majority (88%) were between 20 and 35 years. Thirty percent had undergone one or more terminations prior to presentation. Only 5% of the total had undergone previous TOP at our hospital. Prior to index pregnancy, most women < 16 years of age had not been on a form of contraception and 40% claimed to use sheaths. Oral contraceptive pill (OCP) was used by 8.5% however, 3.4% admitted to poor compliance with pill intake. One patient had an Implanon device. Majority of 16-19 year olds used no contraception or sheath only (39.6% and 34.5%, respectively). A total of 20.9% used OCP with 6.4% poor compliance. Seven used a LARC. In 20-35 year olds, 40.9% had unprotected intercourse and 30.9% claimed to use the sheath. The OCP was taken by 23.1% with 4.8% declaring poor compliance. Fourteen patients had LARC. Amongst the > 35 group, 42.5% had no contraception and 34.7% claimed to use the sheath. Thirteen percent used OCP and 2.4% had poor compliance. Five patients had LARC. Following termination, LARC update was 62.7%, 53.5%, 57.1% and 47.3% for < 16, 16-19, 20-35 and > 35 years, respectively. In addition, 4.5% of 20-35 and 16.2% of > 35 years opted for permanent contraception. Amongst women < 16 years, 81% of LARC users chose the contraceptive implant versus 17.7% of > 35. Intrauterine contraception was chosen by 2.7% versus 65.8% in these same age groups respectively. After TOP 15.3%, 12.3%, 13.0% and 14.4% of women in each increasing age group elected for non-reliable methods (no contraception, sheath, abstinence and undecided)

Conclusion: The presence of a Family Planning Nurse to discuss contraception prior to TOP consultation reduces the number of women attending for repeat termination. Uptake of LARC following termination is good, although significant improvement could be made. An area of particular concern is the proportion of women leaving the Fertility Control Unit without a reliable method of future contraception.

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The levonorgestrel intrauterine system: cohort study to assess satisfaction in a Kenyan population

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Objective(s): The levonorgestrel intrauterine system (LNG IUS) may be an ideal method for recent postpartum women in resource-poor countries of sub-Saharan Africa. New lower-cost LNG IUS products will be available soon. The objective of this study was to measure uptake and satisfaction with the product, compared to women choosing other long-acting methods.

Design & Methods: We conducted a prospective cohort study in Nairobi, Kenya and offered recent postpartum women the opportunity to try an LNG IUS. Women were eligible for the study if they were 6-12 weeks postpartum and 18-39 years of age. A total of 313 women enrolled and started use of a levonorgestrel subdermal implant ($n = 205$), the copper IUD

(n = 15), or the LNG IUS (n = 93). The one year follow-up period ended in July 2013. We used Kaplan-Meier techniques to estimate continuation rates and compared these long-acting reversible contraceptive methods on other factors such as overall satisfaction, impact on menses, and incidence of side effects.

Results: Only implant and LNG IUS groups had sufficient data for valid comparisons; mean/median duration of use were similar (335/367 days and 337/368 days, respectively). 12-month continuation rates for both products were 90%. Similar proportions of users were very satisfied with their contraceptive method at 12 months (84% for the implant and 87% for the LNG IUS). 12 months, 78% of LNG IUS users described their menstrual pattern as "highly acceptable", as compared to 66% of implant users. LNG IUS users reported more abdominal pain/cramping than implant users (22% versus 9%, respectively). However, at last visit, implant users had about twice the prevalence of each of the following complaints: dizziness, headaches, weight change, and appetite change.

Conclusions: In this postpartum population, LNG IUS use compared favorably to subdermal implant use. This suggests the LNG IUS has potential to become as widely acceptable as the implant in many sub-Saharan African countries. Because the LNG IUS and implant differ in how they impact menses and cause other changes, women may see distinct advantages and disadvantages in the two options. For example, in other studies it has been observed that women using the LNG IUS display reductions in blood loss and increases in hemoglobin and ferritin levels; this may help to alleviate anemia. Such a non-contraceptive benefit, although not assessed in this study, could be considered an important product feature to improve women's health in many regions of the world.

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Bleeding profile in users of an etonogestrel sub-dermal implant. Effects of anthropometric variables

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Objectives: To evaluate the menstrual bleeding profile of a healthy Italian population using etonogestrel (ENG) releasing implant for contraception and to identify possible correlation with different anthropometric and biological variables.

Method: A prospective observational study was conducted in the Contraception Clinics of our Departments. Ninety-two healthy, sexually active women, with childbearing potential, desiring long-term contraception were enrolled in the trial. Weight, height and BMI were measured for each patient at baseline and 3, 6, 9 and 12 months after implant positioning. Patients were asked to record every day the occurrence of any bleeding or spotting. The bleeding/spotting pattern (Amenorrhea/Infrequent/Normal/Frequent or Prolonged bleeding) was evaluated over consecutive 90-day intervals ("Reference Period" – RP. Patients who showed a favourable bleeding profile (amenorrhea, infrequent or normal bleeding) for 50% or more of the RPs were assigned to group A, while patients who showed a favourable bleeding profile for less than 50% of the RPs were assigned to group B. $\chi 2$ and Student t-test were used to compare categorical and continuous data between groups, respectively.

Results: Eighty-six women completed at least 6 months of follow up and were included in the analysis. In the first RP the most frequent bleeding profile was amenorrhea, during the other RPs there was an increase in the percentage of patients with bleeding/spotting. Sixty-eight women (79.1%) were assigned to group A and 18 women (20.9%) to group B. Group B had lower baseline BMI than group A (24.84 ± 4.95 vs 20.75 ± 4.41; $p < .005$). In group B, a higher percentage of women had 2 or more previous pregnancies in comparison with group (94% vs 82%; $p < .005$).

Conclusions: The ENG sub-dermal implant is an effective and well-tolerated contraceptive method, with a high percentage of women experiencing a favourable bleeding profile. The lower basal BMI in Group B in comparison to Group A may account for the higher percentage of irregular bleeding through an hormonal milieu characterized by lower endogenous estrogen levels leading to a reduced endometrial stability.

A-170

Bi-polar affective disorder and attempted self-removal of Implanon

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Objective: To report a case of attempted self-removal of Implanon in a patient with bi-polar affective disorder, consider the use of progestogen implants in such patients and review the literature.

Method: Case report and review of the literature. A 34-year-old woman, para 3 + 0, suffering from bi-polar affective disorder, was referred to us for localisation and removal of a deeply placed and impalpable Implanon in her left upper arm. The Implanon had been inserted at her own doctor's 2 months earlier but she had attended her own doctor a month later experiencing severe mood swings. The severe mood swings had caused her to attempt removal of the Implant with a pair of scissors and a screwdriver. There were several stab wounds where the Implanon was likely to be and the arm was very swollen and slightly infected. She was treated and followed up with the swelling settling spontaneously. Two months later, she requested removal of the implant and was referred because the implant was not palpable. Ultrasound examination of her left arm showed the implant to lie in the subcutaneous fat at a depth of 3 - 6mm below the skin surface. The implant was removed without any complications.

Conclusion: Emotional lability and depression are well recognised side effects of using Implanon. Such side effects may be less well tolerated by women with pre-existing depression or a psychiatric disorder. Women should therefore be screened for a history of depression or psychiatric disorder and suitable alternative forms of contraception provided if positive. Delays in removing Implanon in patients who become significantly depressed should be avoided as they may resort to self-removal as has been reported once.

A-171

Development of the Nestorone®/Ethinyl Estradiol Contraceptive Vaginal Ring (NES/EE CVR); Challenges, Opportunities and Obligations of the Public Sector

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Background: Bench to bedside development of new contraceptives requires commitment and support from a diverse team of individuals and organizations. When the public sector develops such products, ongoing support from donors sharing a common goal is essential along with efforts to begin the introductory process early in development. Identifying potential issues/obstacles associated with introduction, e.g. acceptability, cost and access, are critical components of development consistent with ethical obligations.

Methods: The process of discovery including compound/delivery system formulation, testing and gaining regulatory approval can span 15-20 years. Following successful development of several safe and effective long-acting methods requiring placement and removal by trained health care providers, e.g. the Cu IUD, the Population Council recognized the importance of developing long acting methods under a woman's control. A new CVR containing ethinyl estradiol and Nestorone® (NES), a new non androgenic progestin, was designed to be effective for a full year without requiring refrigeration. Since NES is a new chemical entity, this CVR required significant amounts of evidence of safety, efficacy, and quality controls for manufacturing. Additionally, identifying and addressing issues critical for introduction into countries with greatest need has required understanding aspects of acceptability, production costs and distribution.

Results: Donor support and collaboration was essential for enabling the Council to prepare the regulatory dossier with completion of 55 preclinical and 25 clinical studies. A new drug application with the USA FDA is in preparation for filing in 2014. Results reveal that safety and efficacy is comparable to recently approved contraceptives; bleeding patterns are favorable. Acceptability study data collected from > 900 women indicates users are highly satisfied with this method, find it easy to use, are willing to use it in the future and recommend it. The Council is studying ring acceptability in Kenya, Senegal, Nigeria and India with use of the progesterone vaginal ring, a product already approved in many Latin American countries and indicated for postpartum lactating women to space pregnancies. Simultaneously, work is ongoing with the NES/EE CVR to commercialize and lower production costs with the goal to ensure that purchasers can add this contraceptive to the method mix upon regulatory approvals.

Conclusions: Successful contraceptive development requires effective collaboration and management of complex systems. The mission is urgent and stakes

are high. Every component of development must be addressed sufficiently to meet ethical obligations and introduce into the field contraceptives that are safe, effective, acceptable and accessible.

A-172

Contraceptive use among U.S. family planning providers: placing results in an international context

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Objective: The objective of this survey study was to assess contraceptive use patterns among U.S. family planning providers.

Method: We surveyed a convenience sample of female family planning providers ages 25-44, including physicians and advanced practice clinicians, via a web-based survey portal from April-May 2013. Results were then compared to data from the U.S. National Survey of Family Growth, 2006-2010. We used Fisher's exact test to examine the hypothesis that family planning providers use long-acting reversible contraception (LARC) at a higher rate than the U.S. population as a whole. We will discuss these results in the context of published research on contraceptive use patterns among an international sample of family planning providers.

Results: After screening for exclusion criteria and incomplete data, 488 responses were eligible for analysis. Of these, 145 (30%) were physicians; 201 (41%) nurse practitioners; 36 (7%) certified nurse midwives; 25 (5%) physician assistants; and 81 (17%) nurses, health counselors, and other types of family planning providers. 331 of the 488 respondents reported current contraceptive use. Of these, 138 (42%) were using long-acting reversible contraception (LARC). By comparison, only 6.3% of women in the general U.S. population report current LARC use ($p<.001$). LARC users in our sample consisted of 132 women (40%) using intrauterine contraceptives and 6 (2%) using implants.

Conclusions: U.S. family planning providers use LARC methods at a higher rate than the general population in that country. In addition, our study contributes U.S. data to existing findings about contraceptive use among family planning providers. Examining our results alongside those of a similar survey conducted by Gemzell-Danielsson and colleagues in 2011 reveals that in 8 of 13 countries surveyed, the levonorgestel-releasing intrauterine system is the most popular method among family planning providers. Taken together, the results of these studies document family planning providers' preference for the most effective methods of birth control, regardless of variations in contraceptive access and funding policies between different countries. These findings can be used to inform discussions with individual patients, as well as policies and public health campaigns on contraception.

A-173

New view of contraceptive continuation rates: preliminary results from a partially randomized patient preference trial

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Objectives: To generate unbiased estimates of contraceptive continuation rates, make valid comparisons, and better understand the potential role that long-acting reversible contraception can play in reducing unintended pregnancy.

Methods: We are conducting a partially randomized patient preference trial to compare short acting and long acting methods on continuation rates and subsequent incidence of unintended pregnancy. We recruited only women aged 18-29 who were seeking a short-acting method (pills or injectable). Participants chose their preferred method or elected to be randomized to one of two method categories: short-acting reversible contraception (SARC) or long-acting reversible contraception (LARC). In the randomized arm, participants received free methods and chose any method in that category. Participants are being followed prospectively for two years to collect information on method discontinuation and pregnancy.

Results: We completed enrollment of 900 participants in December 2013. Approximately 45% chose randomization, and over 600 person-years of follow-up data are available. On the preference side, 79% chose

pills and in this group, 29% had lapses in use, and 6 unintended pregnancies occurred. On the randomized side, 50% were randomized to SARC and 50% to LARC. Among participants randomized to SARC, lapses in pill use were similar, and 4 unintended pregnancies occurred. The 12-month continuation rate is 67% for participants in the randomized group assigned to short-acting methods. The continuation rate for randomized LARC users is 75% and the rate for participants who did not choose randomization is 81%. (For the conference, preliminary results will be available for 900 participants and 525 will have 12-month data.)

Conclusions: Thus far, even in this study population limited to women seeking short-acting methods, LARC continuation rates appear high. Lapses in use of oral contraceptives in both study arms suggest that the propensity for unintended pregnancy will be similar.

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Innovative longer-acting contraceptive technologies: new directions

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Objectives: There is a need for new contraceptives of intermediate and long duration to expand the method mix and increase women's choices. Such methods would likely improve continuation rates, increase typical use effectiveness and reduce unintended pregnancies. Here we describe some of these options

Methods: In 2011, with financial support from the Bill & Melinda Gates Foundation, FHI 360 began work to develop a longer-acting injectable (LAI) that would provide six months of contraceptive protection. As part of this initiative, we conducted a landscape analysis to identify and select the most promising sustained drug delivery technologies for proof-of-concept (POC) testing. This included a comprehensive literature search, as well as interviews with relevant researchers and opinion leaders in the fields of drug delivery and contraceptive technology. In addition, we developed a Target Product Profile for an ideal LAI

Results: Our landscape analysis revealed that biodegradable microspheres and *in situ* forming systems made of poly (glycolide) (PLG), poly (lactide) (PLA) and their co-polymer, poly-lactic-co-glycolic acid (PLGA), are the most promising and well-studied sustained drug delivery systems for contraceptive hormones. Progestins with robust safety profile and a history of use in longer-acting contraceptive methods (e.g., levonorgestrel, etonogestrel), are the drugs of choice for the first generation of a six-month injectable. In collaboration with, and support from FHI 360, researchers at the Shanghai Institute of Planned Parenthood Research, Orbis Biosciences, Inc., the University of California San Diego, and the University of Tennessee Health Science Center, have been conducting preclinical POC testing since mid-2013 for the following respective drug delivery systems: 1) PLA/PLGA microspheres releasing levonorgestrel, 2) PLGA microspheres releasing etonogestrel, 3) nanostructured porous silicon microparticles releasing various contraceptive steroids and 4) an *in situ* polymeric gel releasing levonorgestrel. We will present interim results of the POC testing

Conclusions: The POC testing of the four promising LAI approaches has been conducted in parallel with ongoing work by FHI 360 to develop a new biodegradable contraceptive implant with funding from the US Agency for International Development. Combined, these two projects will contribute to efforts under the new Contraceptive Technology Innovation (CTI) Initiative at FHI 360, a 5-year grant from the Gates Foundation to develop innovative, long-acting contraceptives to help expand choice and access for women most in need in low-income countries. In addition to sharing early data for a six-month injectable project, we will provide a brief update regarding other research activities underway under the CTI Initiative

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Frequency and results of etonogestrel (ENG) assay requests pre- and post-switch from Implanon to Nexplanon in the United Kingdom

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Objectives: To describe changes in requests and results of etonogestrel (ENG) assay in the two years prior to and three years post the transition from Implanon to Nexplanon in the UK.

Design: Implanon is a long acting reversible contraceptive, consisting of 68mg ENG in a 40 x 2 mm non-biodegradable rod, implanted sub-dermally in the medial aspect of the upper arm, effective for up to 3 years. The implant is palpable after successful insertion.

Rare insertion-related complications have been reported and include:

Deep insertion, with the potential for the implant to penetrate muscle, resulting in difficulty locating it for removal. In this case, ENG assay is positive and continued imaging with ultrasound is necessary to locate the implant.

Non-insertion, where the implant was never inserted successfully in the first place. In this case, ENG assay is negative and further searching is unnecessary.

In October 2010, a new insertion device was introduced to the UK, Nexplanon, which consists of the same implant and active ingredient, but with the addition of barium to make it radio-opaque. The insertion device was improved, to allow one-handed insertion and designed to reduce the risk of deep- or non-insertion.

Methods: Historical record analysis held by Merck Sharp & Dohme Ltd.

Result: From 2009 to 2013, 157 requests for ENG assay were received, and 150 assays performed, representing 140 individual episodes (excluding re-tests). Median time from insertion to testing was 15.6 months. Requests fell from 14 per 100,000 in 2009 to 3.3 per 100,000 in 2013.

Conclusion: There has been a substantial fall in requests for ENG assay following the transition from Implanon to Nexplanon. The fall is consistent for both positive tests (a surrogate for deep insertion) and negative tests (a surrogate for non-insertion). The fall in positive results may be due fewer deep insertions or the radio-opacity reducing the need for an ENG assay. The fall in negative tests is likely to represent a true reduction in non-insertion. Nexplanon would therefore appear to be associated with fewer insertion-related complications than its predecessor Implanon.

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Three-dimensional ultrasound in intrauterine device: is there a relation between the abnormal location and the width of the uterine cavity?

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Objective: To determine whether the width of the uterine cavity observed in three-dimensional (3D) ultrasound could be related to intrauterine devices (IUDs) malpositioned or embedded in the myometrium.

Design and methods: A sonographer evaluated prospectively all women who underwent transvaginal ultrasound in a Gynecology Unit at a tertiary referral hospital, from October 2013 to December 2013. A 3D evaluation of the transverse uterine cavity diameter with a coronal plane and T-shaped IUDs position was performed in all cases. The IUD was considered normally placed if it was entirely within the confines of the endometrial cavity with the crossbar in the fundal portion of the cavity; in copper devices (Cu-IUD) a distance less than 5mm from the fundus of the cavity was the rule for normal placement. The IUD was termed embedded if any part of it extended into the myometrium.

Results: 103 consecutive women with IUD were observed. Of these, 19.4% had a Cu-IUD (Nova T®-Cu380A) and 80.6% had a levonorgestrel-releasing intrauterine system (LNG-IUS). A suboptimal visualization occurred in 2.3%, and a 3D acquisition was not performed in these cases. 13.9% of women had an IUD malpositioned and 32.7% had an IUD with side arms abnormally located within the myometrium. 84% with IUD embedded had a uterine cavity width of less than 32 mm (transverse diameter of T-shaped IUDs) compared to 7.8% with normally placed IUDs ($p < 0.001$). The mean of the fundal uterine cavity for the nonembedded and embedded IUDs was $35.2mm \pm 2.6mm$ and $29.4 \pm 2.9mm$, respectively ($p < 0.05$). We found no statistical relationship between the size of the cavity and IUD malposition or parity.

Conclusions: A 3D view of the uterus is useful in the visualization of IUDs, especially in accurate evaluation of misplaced or embedded IUD. We found that IUDs of which crossbar is significantly greater than the fundal transverse diameter have unfavorable geometric relationship with the uterine cavity. For malposition a relation with the cavity diameter was not seen, which may be due to the low number of cases, but the study will be extended. Some authors demonstrated an important relation between the abnormally location into the myometrium and symptoms like pelvic pain or bleeding. A 3D evaluation of the uterine cavity for women who are IUD candidates to prevent complications before its placement may be useful, but more studies are nedeed.

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Levonorgestrel intrauterine system continuation rate after induced abortion: a 5-year evaluation

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Objectives: Levonorgestrel intrauterine system (IUS LNG) is a well-known long acting contraceptive method (LARC); intrauterine devices have a 2% failure cumulative rate in 5 years and, for IUS LNG in particular, this rate is estimated to be 0.5%, with an efficacy comparable to surgical sterilization. Induction of abortion is legal in Portugal since 2007. One of our crucial concerns is repeat abortion, which can be minimized by a consistent strategy of contraception shortly after the abortion. The main purpose of this study was the evaluation of IUS LNG continuation rate in women from our Family Planning Unit after induced abortion.

Method: Women with a recent history of induced abortion were included. The IUS LNG insertion was performed 3 weeks after the abortion. Clinical files were evaluated from 2007 (July) to 2011 (December), with analysis for at least 5 years for a total of 122 cases. Data collection included: age, bleeding patterns, continuation rate and reasons for discontinuation. Descriptive statistics were conducted and data are presented as absolute values, percentages, mean and standard deviation (SD).

Results: The mean (± SD) age is this group was 35.7 ± 6.79 years (range 20-54). The continuation rate was 41.3 ± 13.57 months (range 12-97), with 94 women (77%) maintaining the same contraceptive method after 5 years. A change to a different contraceptive method occurred in 8 cases (6.5%), 4 of which were due to expulsion of the IUS LNG. Loss to follow-up was acknowledged in 20 women (16.3%). Of women for whom the bleeding pattern was registered at 12 months (n = 76), regular menses was reported is 34 cases, oligomenorrhea in 19, amenorrhea in 13, irregular bleeding in 6 and hypomenorrhea in 4 cases.

Discussion: Long acting reversible contraception is strongly recommended in women after induced abortion supposing that contraception methods with long duration will reinforce efficacy on contraception and therefore minimize repeated abortion. The results in this sample of women with induced abortion in a long term analysis, show a high continuation rate (77%, with a mean value of 41.3 months of use) of IUS LNG. As such, this method should be considered as an actual long acting contraceptive alternative for women after induced abortion.

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Intrauterine devices post abortion: what matters?

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Objectives: To compare expulsion rates of intrauterine devices (copper375-IUD and levonorgestrel-IUD) inserted immediately after surgical abortion by electric vacuum aspiration, up to 10 weeks of gestation.

Design and methods: We conducted a retrospective study of women that chose insertion of intrauterine contraception, immediately after surgical abortion by electric vacuum aspiration. The study was performed between January 2010 and December 2012 in Alfredo da Costa Maternity in Lisbon. Demographic characteristics, obstetrical past, previous contraception and rates of morbidity were compared between Group A (A): women choosing copper375-IUD (n = 128; 53.6%) and Group B (B): women choosing levonorgestrel-IUD (n = 111; 46.4%). Statistic significance ($p < 0.05$) was calculated using SPSS 20.0.

Results: The insertion of intrauterine devices was done immediately after surgical abortion by electric vacuum aspiration with ultrasound control. The median gestational age of abortion was similar in both groups (A: 8.0 ± 1.0 weeks versus B: 7.9 ± 0.9 weeks, $p = 0.725$). In what concerns demographic characteristics there were no differences between women age (A: 31.8 ± 5.9 versus B: 32.4 ± 6.6, $p = 0.454$), marital status or educational background. Before abortion similar rates of women had no use of contraception (A: 50.7% versus B: 47.7%, $p = 0.641$) and when using a contraceptive method before abortion, barrier methods and oral contraceptives were the most popular among women of both groups (A: 25% barrier methods; 21% oral contraceptives versus B: 24.3% barrier

methods, 22.5% oral contraceptives, p = 0.641). When looking at the obstetric history there were no differences regarding previous abortions (A: 41.4% versus B: 49.5%, p = 0.426) or deliveries (A: 88.2% versus B: 93.6%, p = 0.150). There was no statistically significant difference in expulsion rates of IUD, reported during the first year of use, between groups (A: 6.2% versus B: 4.5%, p = 0.408), although there was a higher expulsion rate when surgical abortion by electric vacuum aspiration was performed over 9 weeks of gestational age (12.5%, p = 0.016). In both groups there wasn´t any reported case of uterine perforation or infection.

Conclusions: After surgical abortion by electric vacuum aspiration, immediate insertion of IUD was shown to be a safe and effective form of contraception. In fact, this form of long-acting and reversible contraception could be widely implemented to reduce repeat unplanned pregnancies. Our study found no significant difference between copper-IUD and levonorgestrel-IUD expulsion rates, when inserted immediately after surgical abortion by electric vacuum aspiration. Although IUDs have low expulsion rates, when inserted after an abortion at 9 weeks of gestation, the expulsion rate becomes higher.

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Subcutaneous etonogestrel implant - continuation rate in standard indication and after induced abortion: a 3-year evaluation.

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Objectives: Etonogestrel subcutaneous implant (ETN SCI) is claimed as a long acting contraceptive method (LARC). Even though its contraception efficacy is very high, a possible disruption of the bleeding patterns can produce early discontinuation, particularly during the first year. In our previous data on ETN SCI for regular contraception, a low continuation rate was evident; 256 out of 504 women abandoned follow-up, with only 99 (39,9%) opting for renewal. The main purpose of this study was the evaluation of ETN SCI continuation rate in women from our Family Planning Unit with regular use for contraception and contraception after induce abortion.

Method: Women who chose implant for regular contraception and women with a recent history of induced abortion were included. Clinical files were evaluated from 2008 to 2010 (December), with analysis of at least 3 years. We included 166 cases, 88 regarding regular contraception (WRC) and 78 from women after induced abortion (WAIA). Data collection included: age, bleeding patterns, continuation rate and reasons for discontinuation. Descriptive statistics were conducted and data are presented as absolute values, percentages, mean and standard deviation (SD).

Results: The mean age (± SD) was 29.7 ± 9.16 years (range 13-52) for the WRC group and 27.8 ± 6.47 years (range 15-48) for the WAIA group. The renewal rate after 3 years was 17/88 in the WRC group and 10/78 in the WAIA group. In both groups, 26 women changed to a different contraceptive method or suspended contraception due to pregnancy desire. Losses to follow-up were 45/88 in the WRC group and 42/78 in the WAIA group. Among women who pursued their attendance at the Unit, the mean duration of use (± SD) was 33.5 ± 11.47 months (range 12-72) for the WRC group and 27.5 ± 10.92 months (range 12-48) for the WAIA group.

Discussion: Long acting reversible contraception is strongly recommended in women after induced abortion supposing that contraception methods with long duration will reinforce efficacy on contraception and therefore minimize repeated abortion. The results in this sample of women with regular indication for contraception and after induced abortion in a long term analysis, show low continuation rates (17/88 WRC, mean of duration 33.5 months, 10/78 WAIA and mean value of duration 27.5 months) of ETN SCI with an alarming rate of losses to follow-up. These rates must be borne in mind when considering ETN SCI as a long acting reversible contraception, particularly after induced abortion.

A-180

Variation in prescribing of long-acting reversible contraception in general practice in UK

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Introduction: In the UK most contraception is provided in General Practice. Long-acting reversible contraceptive (LARC) methods are more effective than the combined pill, and implantable methods are more cost effective than injectable contraception. Increasing the uptake of LARC methods will reduce the numbers of unintended pregnancies. This study examines the use and variation of LARC methods in general practice.

Methods: We use prescription data for individual general practices in England recently released under the Open Data Platform. From 8.8 million prescriptions for contraceptives in 2012 we extracted 323,000 for implantable methods – intrauterine devices (IUD), intrauterine system (IUS) and implants. We examine the geographical variation in method uptake in general practice and use Google Fusion Tables to map LARC provision.

Results: Of over 8,000 practices that provided some form of contraception in 2012, 6049, (66%) prescribed implantable LARCs. Amongst practices that provided IUDs the rates were mostly lower than 10/1,000 women aged 15-44. Practices in more deprived areas had lower rates of IUS insertions but similar rates for IUD and implant insertions compared to less deprived areas. When practices are aggregated into Primary Care Trusts the rates of insertions likewise correlate to deprivation. Prescription rates declined with increase deprivation for each of the three methods, more so for IUS. The relationship was statistically significant for each method. For IUS prescriptions, the association is partly explained by higher rates in rural areas.

Conclusions: One in 12 practices provided no implantable LARC methods in 2012. Practices in high areas of deprivation have lower rates of IUS provision. At PCT level, rates of provision of implantable contraceptive declined with increasing deprivation, partly a reflection of increased deprivation in urban areas. With the recent disruption in contraception provision following the reorganisation of sexual health services, regular monitoring of LARC prescribing is required to detect any fall off in provision.

MALE CONTRACEPTION

A-181

Correlates of vasectomy among males in Nigeria

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Studies have pointed that many men do believe that they need to share the responsibility of family planning and contraception with their partners. Men whose partners have experienced side effects from female methods of contraception may be even more interested about shared responsibility. However, the available methods of modern fertility regulation for men do not adequately meet the varied and changing personal needs of males in their reproductive ages.

Male condoms and vasectomy are the common methods of contraception currently most available. Vasectomy has proven to be a very effective contraceptive method for males but seldom patronized in Sub Saharan Africa. Males in Nigeria still have low contraceptive prevalence use of vasectomy due sometimes fear of side effects amongst other reasons. It is important to know the characteristics of the men who are likely to use vasectomy methods and to further ascertain if any, the need for more male choice of contraceptive methods. Who are the men who are likely to use vasectomy in Nigeria?

Using the Nigerian Demographic and Health Survey (NDHS) 2008 male datasets, study was done on males of 15-59 years-old. The dependent variable was current contraceptive use coded as 0 for not using, 1 for using condom and 2 for vasectomy. The study controlled for respondents' education, age, number of living children and region. Others are place of residence, wealth status and religion. The study used multinomial logistic regression at 95% confidence interval.

Results show that about 12% of males in the analysis were using condoms, less than 1% had vasectomy while 87% where not using any method. Study further shows that male education is the key factor that determines if a male will use vasectomy. The implication of the findings will be discussed.

There is need for male education and orientation as regards vasectomy uptake. With rising complain and imminent neglect of condoms even though it is the only effective contraceptive method so far that has dual purpose. Time is nigh when other acceptable means of male contraceptive method must be promoted. If condoms and vasectomy are the main method, and vasectomy is not taken, and condom is not used judicially, the family planning pressure will continue to mount on females and the aim of shared responsibility may not be achieved.

A-182

Modernising a community-based vasectomy service

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Background: Male and female sterilisation operations were once popular in the United Kingdom but since the introduction of a drive to increase the uptake of long acting methods of contraception, linked to the national target of reducing teenage pregnancies, the number of sterilisations has fallen dramatically: 26,400 vasectomies were performed in 2006-7 in England and Wales which decreased to 10,400 in 2011-12. The reorganisation of the National Health Service has also created financial pressures on community contraception services. Changes in society with more men having second families in later life may be another factor influencing decisions about permanent methods of contraception. In 2011 a community based vasectomy service decided to review its structure and organisation to maximise efficiency and effectiveness. We were determined to become even more patient centred. A number of changes were introduced and evaluated.

Method: One area of cost saving identified possible changes to the staffing structure: over a year the roles of the scrub and circulating nurses were changed from a specialist nurse post to a lower band health care assistant. An internal competency based training package was designed and introduced. Another major change was to identify ways of reducing the number of men who booked an appointment for counselling or an operation but then failed to attend on the day: the 'did not attend' (DNA) rate in a previous audit conducted in 2010 was 15%. Informal feedback from men suggested that Monday daytime was not the best time in the week to offer appointments. After negotiation with stakeholders we made three significant changes to the organisation of the community vasectomy service: we launched a same day counselling and operation service, changed the day from Monday to a Friday and became a self-referral service (no longer requiring men to be referred by their family doctor/GP).

Result: An audit of the first 8 months of the redesigned service found a significant reduction in DNA rates in both self-referrals (SR) and GP referrals. Total number of SR clients for counselling was 59 for counselling with only 2 DNAs (3.3%) and 64 for operations with no DNAs. Total number of GP referrals for counselling was 63, 7 DNAs (11.1%) and operations was 56, 6 DNAs (10.7%).

Conclusions: By modernising our vasectomy service it has become more efficient and patient centred. The same day Friday service has been shown to be convenient and highly acceptable to men.

NATURAL FAMILY PLANNING METHODS

A-183

Fertility Awareness – Evaluation of a new model of service delivery within an NHS contraception and sexual health service in the UK

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Objective: The project aimed to establish and evaluate a new model of delivery for a Nurse-led Fertility Awareness Service providing care within an NHS Contraception and Sexual Health Service in London UK.

Design and Methods: A service was established to provide care for women and men wanting to use 'natural family planning' methods to avoid or plan pregnancy. The service is provided by two Sexual and Reproductive Health Nurse Specialists trained in advanced fertility awareness methods by Fertility UK. Previously appointments were available on an irregular basis dependent on the availability of a fertility awareness practitioner. The new service consists of a one hour evening seminar given on a monthly basis by a Nurse Specialist and supported by a Health Care Worker. Clients attend the seminar before accessing individual consultations with a nurse specialist in dedicated clinic sessions. The seminars include information about reproductive anatomy and physiology and the menstrual cycle; avoiding pregnancy and achieving pregnancy using fertility awareness methods to determine the fertile period; preconception care for women and men. At the end of the seminar participants are asked to complete an evaluation questionnaire and then take away charts to record at least two indicators of fertility including temperature,

cervical secretions and cervical position for one cycle before accessing individual consultations. Evaluation is by analysis of Sexual & Reproductive Health Activity Dataset (SHRAD) and analysis of comments on the seminar evaluation forms.

Results: 44 clients attended for individual appointments over the 6 month period from April 2013 to September 2013. 48 participants attended the seminars from February 2013 to September 2013. 25% (12) attended with a partner. There was no seminar in August and not all participants made immediate individual appointments. The seminar evaluations were extremely positive. Participants felt comfortable to raise questions and emerging themes included: Lack of knowledge prior to the seminar; getting to know their body; commonly held myths dispelled; the need for wider promotion of fertility awareness. Both nurses found that clients who had attended the seminars came to individual consultations with background knowledge and completed charts that formed the basis for discussion tailored to their needs.

Conclusion: The seminar plus individual consultation model of delivery was popular with both clients and the nurses providing the service. There is a need for further research into client knowledge and subsequent use and efficacy of using the fertility awareness method.

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Playing to learn the variability of the menstrual cycle and to teach natural family planning methods.

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Objective: Literature speaks of a menstrual cycle of 28 days and places the ovulation on day 14. But reality is more varied. Learning by participation, by theatre, is a good way, because people remember 20% of what they hear, 30% of what they see, 50% of what they see and hear, 70% of what they say, and 90% of what they have done.

Design, Methods and Material: A group of people (28 persons or more). Bibs are prepared in red, white, brown or green tissues. We need 10 red, 15 white and 25 brown. People form a circle sitting down. Every participant represents a day of the cycle. The 5 first people receive a red bib, the 3 following a brown one, the next 8 a white bib, and the others a brown one. A cycle of 28 days is represented. Red are days of the period, dry days (in brown), cervical mucus days are in white and the last days of the cycle with dryness are represented by brown bib. To explain the temperature all the people with brown bib, after the last white, get up to represent the high level of temperature. After this 'ideal' 28 days cycle, a short cycle is represented. After the red days, the white days start, followed by the brown days. After that, a long cycle is portrayed. 4 Red days, 11 brown days, 7 white days followed by the brown days. Then, we look at a cycle ending in pregnancy (20 brown after the white days) and all those 20 people are standing up. Day 7 stands up, it is a day with disturbance (cold, drinking alcohol...). Day 8 vacant (this day the thermometer was not used). If the group is small, each participant represents 3 days: one with their head and two by their raised hands holding a bib.

Results: All the cycles can be represented. A follicular atresia: white days, but when brown return they are "sitting down" (because the absence of ovulation and corpus luteum), there follows a new episode of white days, following brown people standing, because this time ovulation occurs. A deficient corpus luteum $>$ 10 days, a spotting...

Conclusion: This play was useful to teach the variability of a normal menstrual cycle to young people, students of medicine of the University of Granada, Barcelona health workers (midwives, nurses...) and interested couples in natural family planning.

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Challenges in spreading knowledge about menstrual cycles. Usefulness for reproductive health

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Objective: To ascertain that the usual message about fertile window is correct. People who want to achieve a pregnancy or to avoid one receive the message that the fertile window is between days 10 to 19 of the menstrual cycle.

Design: We examined about 678 symptothermal charts from 95 women. For every chart we determined the fertile window. All fertile women had a biphasic pattern of basal body temperature. They could observe an evolution of cervical mucus before the ovulation and changes in the cervix by self palpation. The symptothermal method uses 2 indicators to determine the first day of the fertile window (the dryness and a calculation using the shortest cycle) and the last day of fertile window (by the third day of high temperature and the third day past peak of mucus).

Results: The cycles varied from 16 to 95 days, median 29'25 days, SD 6'31. (CI_{5-95}) 24-38. Women observed the change in mucus 6'44 days before peak day, SD 3'45; (1 day, maximum 25), (Ci_{5-95} 2-13). Median first day of high temperature was day 17 (SD 6'34; 8 to 50; IC_{5-95} 8'90-31), Median high level 12'47 (SD 2'12; IC_{5-95} 9-16). Those results indicate that all cycles are theoretically fertile. The fertile phase is 19 to 10 days before the next menstruation, in our study with cycles between 16 to 95 days; the really fertile phase of all the cycle was not "between days 10 to 19 of the menstrual cycle".

Conclusion: For people who seek to become pregnant the knowledge about the really fertile window helps to conceive. The divulgation of this knowledge will decrease the need for consultation with specialists; will reduce the waiting list for service, the cost and number of tests and examinations. To avoid conception, the knowledge about fertile window and infertile phases of the cycle, is another and effective option of contraception, often forgotten.

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Natural family planning: when smartphone and iPhones are used for contraception. A comparison study of 7 symptothermal apps

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The goal was to find out whether there are any apps on AppStore and Google Play that are able to indicate the fertile window as precisely as the best symptothermal method. This study was conducted in summer 2013 and has not been published yet.

This study compares the 7 symptothermal applications that can currently be found on the AppStore and Google Play among more than 50 fertility apps which have been excluded right from the beginning as they are not adapted at all for contraception and highly misleading for this purpose. The evaluation criteria were thoroughly examined; those who have been eliminated can be found in the annex of the overall study. Only quantifiable criteria were retained, such as the identification of false negatives and false positives days compared to an ideal solution (in which there is 0 false negative, 0 false positive day per cycle). A false negative day is a day that is wrongly indicated as infertile: it drastically increases the risk for unwanted pregnancy. A false positive day is a day that is indicated as fertile but which is not: too many false positive days are not interesting for the couple as it should use the condom or stay with abstinence during too many days of the cycles. The study focuses on the passage from the fertile window into the post-ovulatory infertile phase; it submits four typical cycles and then 4 more complicated ones to the 7 selected symptothermal applications.

The best results were found on sympto (AppStore and Google Play), followed by Lily (AppStore) and MyNFP (AppStore), which are far ahead compared to other symptothermal applications that have not yet reached a sufficient level in order to be used for contraception.

The entrance into the fertile window has not been systematically examined, as this kind of study needs examples of at least 13 continuously observed cycles per woman. This complementary research is scheduled for summer 2014. The main conclusion is that the best symptothermal methods are found among these three applications which enable a natural contraception to be as effective as any hormonal contraception.

NEW CONTRACEPTIVE METHODS

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Eco-sex/non-hormonal birth control-women´s unmet need a workshop presentation based on the book "Grönt Är Skönt- Miljösmart Födelsekontroll" (green is pleasant–eco-friendly birth control) Edited 2012

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The objectives of this workshop are:

1.To inform, present and give practical demonstrations of some of the methods presented in the book: NFP, modern barrier methods, fertility-computer and re-usable menstrual cup.

2.To discuss the advantages of non-hormonal methods with respect to their safety, efficiency and environmental impact.

3.To outline a sexual life free from chemicals and with few side effects.

Background There is an unmet need for other options than hormonal contraceptives. One of four women in fertile age does not use any contraceptive method at all. Despite great advances in intra-uterine devices (IUDs) and hormonal methods of contraception, there are still women who either have contraindications or who simply do not wish to use these methods.Western women discard billions of contaminated pads and tampons that pollute the environment and few have knowledge about the re-usable menstrual cup**.** Young women often have very limited knowledge about their own body and its reproductive functioning. When using a hormonal contraceptive a woman is always available for sex, feeling safe, and might forget to protect herself from STI.

Design and Methods In response to the vast unmet women's reproductive health needs, we wrote a book to educate Swedish women on reproductive health issues. The book is entitled "*Grönt är skönt -miljösmart födelsekontroll"*.The book is about the most recent advances in non- hormonal contraception and re-usable menstrual cups. The book also addresses the safety of these methods, as well as their efficacy and the protection to the environment. Data were collected from literature studies and Pub Med-based articles. In addition, clinically based observations, such as conversations, interviews and case studies were used.

Results We conducted several workshops, seminars and lectures in Sweden and Norway. The book was well received by midwives and was featured in newspapers, women's magazines and TV.

Conclusion It is a lifestyle to live in awareness of one's own body with non-hormonal contraception. This is empowering a woman to take control over her reproduction, how to avoid unplanned pregnancy, reduce the risk of sexually transmitted infections and to take better care of her menstrual sanitary hygiene. Some of the methods discussed may facilitate pregnancy whereas others may decrease the risk of HIV/ STIs.Educating and training midwives and family planning counselors is very critical to meeting this need. We plan to translate the book into other languages to teach midwives throughout the world to address women's unmet reproductive health needs.

A-188

Essure tubal sterilization: a tertiary level hospital experience in eleven years

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Hysteroscopic flexible micro-insert (Essure) is a minimally invasive alternative for permanent female sterilization, approved for use by the European Health Office in November 2001, and performed in our department since July 2002.

The purpose of this study was to present our experience in the use of Essure permanent birth control micro-insert device in an outpatient setting and evaluate safety and tolerance of the placement procedure, incidence of complications, device placement success rate, post-operative adverse events and effectiveness at preventing pregnancy.

An eleven year retrospective study was done, carried out between July 2002 and August 2013 in a tertiary level hospital. The data were collected from hospital records and patient files, descriptively.

It includes 136 women in reproductive age and proven fertility that requested for permanent contraception and accepted hysteroscopic sterilization with the Essure micro-insert. In 8%(11 cases/136) the insertion was not performed because of technical difficulties (8 cases) or intracavitary pathology (3 cases).The mean duration time of the device placement was 13minutes with a good tolerability (mean pain intensity score of 4), the great majority (14/125) without local anesthesia. The device placement success rate at three months was 81,6%.There was only one case reported of pregnancy, in a woman who missed the control.

Essure is a minimally invasive option for proximal tubal occlusion.The transcervical route avoids the need for general anesthesia and incisions, with short operative time. It is associated with minimal postoperative pain, allows faster recovery and resumption of normal

activities. Even though and due to the absence of a surgery waiting list in our hospital, this procedure carries out a higher cost and is only performed in women with co-morbidities and anesthetic risks. This is a safe and well tolerated procedure, with a high success rate.

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A dose-finding, cross-over study to evaluate the effect of a transdermal Nestorone®-Estradiol gel on ovulation suppression in young women

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Objective: To determine the lowest effective dose of Nestorone/Estradiol (NES/E2) transdermal gel delivery to suppress ovulation in healthy premenopausal women.

Study Design: This was a phase II, dose finding, randomized, triple cross-over study to evaluate the effect of NES/E2 transdermal gel delivery in 3 different doses in 18 volunteers.

Materials and Methods: Each woman received the 3 doses of the NES/E2 gel in random order, either high (4.5 mg NES/1.5 mg E2), medium (3.0 mg NES/1.0 mg E2) and low (1.5 mg NES/0.5 mg E2). Ten per cent of the steroid doses are absorbed after transdermal application. The gel was applied daily to a measured area of the abdomen for 21 consecutive days. Ovulation was confirmed in a baseline cycle. Between each treatment, recovery of ovulation was documented in a wash-out cycle before the next dose was tested. This was measured by transvaginal ultrasound and Progesterone serum levels. Estradiol measured assessed residual endogenous levels and exogenous therapy. SHBG was measured before and after each treatment.

Results: All doses of NES/E2 gel showed ovulation suppression in women who used the gel. The lower dose, although able to suppress ovulation, did not completely suppress follicle growth, as reflected by larger follicles and high levels of serum E2. The high dose gel led to levels of both hormones above target levels. The medium dose of the gel showed less intra individual variations for both steroids and led to stable levels of E2 within a mid-follicular range. A small percentage of large follicles indicated good ovarian suppression. There was minimal breakthrough bleeding during 3 weeks of use and no major differences between doses. No change in SHBG was observed with either dose

Conclusion: The concept of a transdermal contraceptive using Nestorone, a progestin close to progesterone, and natural estrogen (Estradiol) showed promising results and may represent a safe and effective novel hormonal method of contraception. Additional studies are required to establish safety and efficacy in a larger population of women.

A-190

An acceptability model for the Nestorone®/Ethinyl Estradiol contraceptive vaginal ring

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Objectives: Develop and test a theoretical acceptability model of the Nestorone®/ethinyl estradiol (NES/EE) contraceptive vaginal ring (CVR); explore whether domains of use within the model predict satisfaction, method adherence and CVR continuation.

Study Design: Four domains of use (ease of use, expulsions, sexual activity and side effects) were considered in relation to outcome markers of acceptability, i.e. method satisfaction, adherence and continuation. A questionnaire to measure these 4 domains, plus subjects' reports of satisfaction (SRS), and adherence to instructions for use was developed and administered to 1135 women enrolled in a 13 cycle (1 year) Phase 3 trial. All subjects provided informed consent. An overall satisfaction score (OSS) was derived per subject based on responses to questionnaire items pertaining to these 4 domains. Sensitivity and specificity was assessed. The association of SRS with outcome measures was assessed.

Results: A final model of acceptability was developed based on the following determinants of satisfaction with the CVR: ease of use and side effects;

expulsions and feeling the CVR, and sexual activity inclusive of physical effects during intercourse. The OSS had high sensitivity and specificity for predicting overall satisfaction. Reported satisfaction was high (89%) and significantly related to method adherence and continuation ($P < 0.001$). Satisfaction was not related to education or age.

Conclusion: Data from this model demonstrate that the NES/EE CVR is highly acceptable in relation to the four domains of use studied that influence user satisfaction, adherence to the regimen, and continuation. Results provide a scientific basis for guidance and support for new users and future research.

NON-CONTRACEPTIVE BENEFITS OF CONTRACEPTIVE METHODS

A-191

Eisenmenger syndrome: why contraception in these women?

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Eisenmenger syndrome (ES) is the triad of systemic-to-pulmonary cardiovascular communication, pulmonary arterial disease causing severe pulmonary hypertension and cyanosis. It requires the presence of congenital heart disease and, sometimes, the diagnosis is not established until adulthood.

Actually, the therapies are designed to improve patient survival and functional capacity. Pulmonary vasodilator therapy may improve hemodynamics and other important aspects of management include avoidance of high-risk situations such as pregnancy, among others, and a specific attention to hematologic issues. Pregnancy is absolutely contraindicated in women with ES. The reported rate of mortality has ranged from 30% to 50%. The fixed pulmonary arterial resistance cannot accommodate the hemodynamic fluctuations of labour, delivery and the puerperium. Most deaths are due to thromboembolism, volume depletion, which can augment the right-to-left shunt and precipitate intense cyanosis and preeclampsia. On order of this, the women and her partner should be educated regarding safe and appropriate method of contraception. Hysteroscpic sterilization is the ideal method, but, in a patient that declines non-reversible methods, other options are progestin-only contraception with depot medroxyprogesterone acetate injections, etonogestrel implant or an intrauterine device. This one is an option for acyanotic or mildly cyanotic women who are at low risk of acquiring a sexually transmitted infection and is the preferred method because it reduces menstrual blood loss by 50% and may induce amenorrhea. A copper-containing IUD is not recommended and estrogen-progestin contraceptives are contraindicated because of the increased risk of thromboembolism.

Patients with cyanosis develop secondary erythrocytosis in attempt to improve tissue oxygenation. Menorrhagia is a common problem in women with cyanotic heart disease and, if severe, can lead to iron deficiency and its suppression is often helpful.

The authors pretend to report a case of a 47 year-old women with ES, due to an auriculoventricular sept defect, with severe menorrhagia and consequent hemodynamic repercussion. In our case, contraception wasn't the primary gold. The main issue was to control the menorrhagia in order to avoid volume depletion and institute anticlotting agents. The menorrhagia were refractory to the use of desogestrel. Then, it was tried a levonogestrel-realising intrauterine device, which, however, was expelled after one week. Subsequently an etonogestrel implant was applied, that was effective in the control of menorrhagia and subsequent recovery to normal hemoglobin levels.

Conclusion: ES is a particular condition that requires medication which is used as a contraceptive, both to prevent pregnancy as to help control the hemodynamic state.

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The use of combined oral contraceptives in the treatment of acne in adolescents with polycystic ovary syndrome

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Objective(s): The aim is to evaluate the effect of administration of oral contraceptives to treat acne vulgaris in adolescents with PCOS. Combined oral contraceptive pills have been used in adolescents with

polycystic ovary syndrome (PCOS) for the treatment of menstrual disorders, acne and hirsutism In female adolescents androgen production increases at puberty, hyperandrogenic states, insulin resistance in skin tissue, and polycystic ovarian syndrome may contribute to the development of acne. Hyperandrogenism is generally manifested as hirsutism, acne, seborrhea..

Design and Methods: The study included 24 patients in the university student clinic. All patients confirmed the diagnosis of polycystic ovarian syndrome and acne vulgaris. Patients were tested clinically and in the laboratory. The treatment is determined individually with prescribing pharmacologic therapy, oral contraceptives, with a balanced diet rich in protein with little fat and carbohydrates and cosmetic procedures, peels, keratolisis azealin acid photodynamic therapy, abrasive methods, IPL treatment. The control group consisted of 11 patients who were treated with the standard protocol without the use of oral contraceptives.

Results: Evaluation of the effect of therapy was based on clinical assessment, the degree of reduction of inflammation, reduction of the affected skin changes in the number of comedones, pustules and scarring. The first control was at 3 months, the second after 6 months and the total effect after 9 months. The first review of the effects of therapy in the study group to inflammation showed a decrease in the percentage of 54.1% compared to 34.0% of the control group ($p < 0.05$), while the other changes observed decrease 43.2% in the study group compared 31.7% of control ($p < 0,05$). The second control effect of treatment in the study group 71.0% compared to control 42.5% ($p < 0.05$). Overall improvement at the end of the study in the control group, 79.3% versus 59.60% in the control group. ($P < 0.01$),

Conclusions: The effectiveness of therapy acne vulgaris in patients with polycystic ovary syndrome is significant in case of multi-disciplinary approach to creating treatments. The use of oral contraceptives showed a significant benefit in the treatment of acne vulgaris and menstrual disorders in patients with PSOS.

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Effect of combined microdose preparation containing 20 mcg of Ethinylestradiol and 3 mg of Drospirenon in treatment of premenstrual syndrome.

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Selective inhibitors of serotonin recapture, microdose hormonal contraceptives and alternative methods are used for treatment of premenstrual syndrome (PMS).

Objectives: To study efficiency of a preparation containing 20 mcg of EE and 3 mg of drospirenon applied in the regimen of 24/4 in PMS treatment.

We examined 122 patients, mean age was 28.3 years (from 16 to 38) with PMS. The main symptoms before treatment were as follows: anxiety or internal tension, irritability, anger, aggression, depressed mood or hopelessness, breast tender, marked change of appetite and other physical symptoms (headache, abdominal pain, bloating, swelling of extremities). The patients took preparation containing 20 mcg of ethinylestradiol and 3 mg of drospirenon (YAZ, Germany) in the regimen of 24/4 during three menstrual cycles.

Examination included assessment of anamnesis data, biochemical blood tests, blood lipid spectrum, gynecological and ultrasound examinations. The study involved women without clinically valuable mediations which corresponded to inclusion/exclusion criteria. Diagnosis of PMS and its degree were evaluated on the basis of DSM-IV questionnaire and visual analog scale indexes.

Anxiety or internal tensions were found in 92(75.4%) of women before treatment, after it these symptoms were noted in 46 (39.7%). Irritability, aggression before treatment were registered in 83 (68%), after in 51(41.8%) women. Depressed mood and hopelessness before treatment were in 72 (59.0%) and three months later in 55 (45.1%) women ($p < 0.05$) By the end of treatment changes in appetite were found in 42.5% (52) meanwhile before treatment they were noted in 50.8% (62) (> 0.05). Headaches, abdominal pains before treatment were noted in 67 (54.9%), and in 32 (26.2%) ($p < 0.05$) after it, mastalgia, mastodynia before treatment were found in 76 (62.3%), and in 61 (50%) on women ($p = 0.0523$). Thai is during COC use the more pronounced effect was found in the sphere of psychological symptoms and less in physical ones. Within three months of treatment 71.3% (87) women had improved status, no effect was registered in 11 (9.0%). Severe side effects were not noted in any woman during the therapy.

Conclusion. Preparation containing 20 mcg of EE and 3 mg of drospirenon in the regimen of 24/4 is an efficient method of treatment of PMS, and psychological signs in particular.

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The effects of benign gynecologic tumor in use of combined oral contraceptives, 30 ug drospirenone + 3 mg ethinylestradiol (YASMIN®)

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Objectives: To evaluate the efficacy and safety of combined oral contraceptives (COC) containing 30 ug drospirenone and 3 mg ethinylestradiol (YASMIN®) in benign gynecologic tumor.

Methods: Between July 2010 and June 2013, we had 184 women who had been prescribed COC for fertility control. All women have performed pelvic ultrasonography to evaluate the presence of uterine fibroids and thickness of endometrial. Presence of ovarian cyst over 3.0cm in diameter was also checked through the sonography. Pap smear for cervical cancer screening and blood test for liver function and lipid profiles were conducted on all women. Those who have gynecologic symptoms such as menorrhea, dysmenorrhea, and irregular menstruation were identified. After 3 months administration of COC, 153 patients performed pelvic ultrasonography to investigate the change in lesion size. Also, laboratory test and the questionnaire of subjective symptoms were taken to evaluate the efficacy of COC.

Results: There were 28 uterine fibroids (18.3%) and 19 ovarian cyst over 3 cm in diameter (12.4%) and 7(4.6%) for both. After 3 months administration of COC, the size of uterine fibroids have decreased by 40% (from 1.14 cm to 0.9 cm; $p < 0.01$), and the size of ovarian cyst have also decreased by 47% (from 1.63 cm to 0.66; $p < 0.01$). 104 patients had the clinical symptoms such as dysmenorrhea, menorrhea and irregular menstruation, and after 3 months administration of COC, improvements were shown by 92%, 76% and 71% respectively. However, 9% of patients with menorrhea and 22% of patients with irregular menstruation were shown no improvements. On the other hand, clinical symptoms were aggravated in 8% of dysmenorrhea, 5% of menorrhea and 7% of irregular menstruation.

Conclusion: COC(YASMIN®) which contains 30 ug drospirenone + 3 mg ethinylestradiol is effective in decreasing the size of benign gynecologic tumor and improving clinical symptoms.

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Pilot study to evaluate a new delivery system comparing the cervical cap to the conventional vaginal applicator for topical treatment of sexually transmitted infections, vaginitis and cervicitis.

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Objectives:

A) To test the use of a new delivery system for topical prevention and treatment of STIs such as HPV, HIV, Gonorrhea, Chlamydia, Bacterial Vaginosis (BV), Candida, and Trichomoniasis.

B) To eliminate the use of destructive surgery on the cervix when treating HPV infection.

C) To enhance the safety and efficacy of topical treatment.

Background: The vast majority of STIs and cervicitis are treated with drugs that come with systemic side effects. The few infections that are treated topically require gels or creams inserted into the vagina via conventional vaginal applicators. The vagina expels these gels and creams shortly after insertion, rendering them less effective.

Design and Methods: We used vaginal applicators and cervical caps to apply stained vaginal gel over the cervices and vaginal walls of 28 women. The cervical cap is designed to deliver gel or cream on its cervical and vaginal sides. Women applied the stained gel via vaginal applicator. Seven-ten days later they crossed over and applied the same gel via cervical cap. We then compared retention by photographing the cervix and vagina for the presence of the stained gel at 12, 24 and 48 hours after its application. Currently there is NO topical, non-surgical treatment for **HPV** of the cervix. The Norwegian company, *Photocure*, treated precancerous lesions of the cervix by using the FemCap cervical cap to deliver a cream to the cervix then activate it with special light.

Results: The stained gel was present over the cervix after 48 hours when applied by the cervical cap, while it was absent after 12 hours when women used the vaginal applicator. The Norwegian company, *Photocure*, was successful in treating the precancerous lesions of the cervix using the FemCap cervical cap.

Conclusion: This pilot study has demonstrated that gels or creams inserted into the vagina using conventional vaginal applicators will soon be expelled. However, gels or creams inserted using cervical caps will have much better retention and prolonged contact with the offending pathogenic agent, and thus have higher efficacy. This study may lead to clinical application in the prevention and treatment of STIs including, HPV, and HIV infections. Topical treatment may also lead to better safety and higher efficacy than systemic treatment.

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Comparison of the effects of dianogest/ethinyl estradiol and metformin on metabolic parameters in non-obese women with polycystic ovary syndrome

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There is the growing evidence that polycystic ovary syndrome (PCOS) is proinflammatory state, prior to diabetic state and the state with high risk potential for cardiovascular disease.

Objectives: To compare dianogest/ethinyl estradiol (DNG/EE) effects on metabolic parameters in non obese women with PCOS, with metabolic effects of metformin.

Method: The prospective, randomized study was done, conducted in the University Clinic for Gynecology and Obstetrics. Patients: In 60 non-obese women, PCOS was diagnosed, according to the Rotterdam criteria and patients were randomized in two groups of 30 persons. Primary outcome measures: area under the curve (AUC) for insulin and glucose during oral glucose tolerance test (OGTT), HOMA index, triglycerides (TGL), total cholesterol, LDL cholesterol, HDL cholesterol; all parameters were measured before and 6 months after beginning the therapy. Statistical analysis was done with computer version 16 of SPSS for Windows.

Results: Results are presented as values before therapy vs. values 6 months after therapy: DNG/EE: AUC for glucose ($34,6 \pm 4,7$ vs. $35,9 \pm 7,02$ mmol/l $p > 0,05$) AUC for insulin ($394 \pm 194,3$ vs. $281,2 \pm 77,9$ mU/l $p < 0,05$) Metformin: AUC for glucose ($37,29 \pm 6,85$ vs. $34,07 \pm 5,92$ mmol/l $p < 0,05$), AUC for insulin ($660, 97 \pm 522,55$ vs. $300,13 \pm 115,2$ $p < 0,05$ mU/l) HOMA index: DNG/EE: $3,62 \pm 2,19$ vs. $3,07 \pm 1,45$ $p < 0,05$ Metformin: $4,02 \pm 2,32$ vs. $2,82 \pm 1,8$ $p < 0,01$. Significant difference were documented in both groups for TGL concentrations: rise in DNG/EE group ($1,0 \pm 0,51$ vs. $1,31 \pm 0,59$ mmol/l) and fall in Metformin group ($1,49 \pm 1,93$ vs. $0,98 \pm 0,36$ mmol/l $p < 0,01$).

Conclusion: In non obese women with PCOS, DNG/EE therapy does not impair metabolic parameters. These data are important when the decision is making which oral contraceptive will be used for contraception, for therapy or because of non contraceptive benefits in women with PCOS. In insulin resistant PCOS women, the simultaneous use of metformin and oral contraceptive should be considered.

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Serum LH/FSH ratio is a more useful marker for representing the status of ovarian volume than serum AMH level in Korean women with polycystic ovary syndrome before treatment with oral contraceptives

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Objective: Combined oral contraceptives are the most common treatment for the menstrual abnormalities associated with polycystic ovary syndrome (PCOS), which is one of the most common endocrinopathies among females. The aim of this study was to investigate the relationships between basal serum hormonal parameters and ovarian ultrasound volumetric parameters in Korean women with PCOS

before treatment with oral contraceptive for restoring the menstrual cycle.

Methods: A total of 90 Korean women aged 16-33 years who were newly diagnosed with PCOS and planning to receive oral contraceptives at a university hospital were included in this study. On day 3 of the menstrual cycle before treatment, measurements of serum anti-Müllerian hormone (AMH), follicle-stimulating hormone (FSH), luteinizing hormone (LH), and ultrasound evaluation of antral follicle count (AFC) and ovarian volume were performed. The correlations between hormonal parameters and ultrasound parameters were evaluated by using Pearson's correlation coefficients.

Results: Serum AMH levels and LH/FSH ratios were significantly correlated with each other ($P < 0.001$, $\gamma = 0.850$). Serum AMH, LH, and LH/FSH ratio were significantly correlated with AFC, but serum AMH and LH level were not significantly correlated with ovarian volume. There was a statistical significant correlation between ovarian volume and LH/FSH ratio only ($P = 0.025$, $\gamma = 0.248$). These results were not changed after adjusting for age and body mass index.

Conclusion: Our results suggest that basal serum LH/FSH ratio may be more useful for representing the status of ovarian volume than serum AMH level in PCOS patients before treatment with oral contraceptive, although serum AMH level is known to be the most useful marker for representing the status of ovarian reserve.

A-198

The effect of a combination of vaginal danazol with pycnogenol on pelvic pain in patients with deep endometriosis using Mirena®

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Objective: The objective of this study was to compare the effect of Mirena® either alone or in combination with vaginal administration of low doses of danazol and a natural NF-Kappa.b inhibitor, Pycnogenol, on pain scores in patients of reproductive age with deep endometriosis and adenomyosis.

Methods: Fourteen patients were enrolled and divided into two groups. In Group I ($n = 8$) the patients had already been using Mirena® for 3-6 months before commencing the use of vaginal danazol with pycnogenol (Pinus pinaster extract, Fagron, the Netherlands). In Group II ($n = 6$), the patients initiated the treatment with danazol and pycnogenol at the time of Mirena® insertion. Pain scores were determined using a visual analogic scale prior to and following treatment. Danazol was used in pentravan emulsion (Fagron, the Netherlands) at the dose of 100 mg associated with 100 mg of pinus pinaster extract (Fagron, the Netherlands). The patients were instructed to insert the cream into the vagina daily.

Results: In Group I, the insertion of Mirena® alone resulted in a significant reduction in pain scores from a mean of 9.8 to a mean of 7.6 ($p = 0.0003$) after the third month of use. However, when danazol + pinus pinaster extract was introduced, the pain scores were further reduced to a mean of 2.4 by the second month of treatment ($p = 0.002$). Four patients in this group became pain-free. In Group II, insertion of Mirena® followed immediately by daily use of danazol + pinus pinaster extract led to a significant reduction in pain scores from 9.6 to 1 ($p = 0.001$) after two months of treatment, with two patients becoming completely pain-free. There were no statistically significant differences in pain scores between Groups I and II following the use of danazol with pinus pinaster. No untoward systemic effects were found with these low doses of danazol and ovulation was not inhibited. One patient in Group II developed a follicular cyst. Uterine volu**me decreased during treatment in both groups.**

Conclusion: The association of low doses of danazol with pinus pinaster extract in pentravan by the vaginal route effectively reduced pain in patients with deep endometriosis using Mirena®. This association may be beneficial for the treatment of dysmenorrhea and pelvic pain in patients with deep endometriosis who do not wish to get pregnant in the immediate future, thus avoiding more radical surgery.

POSTPARTUM CONTRACEPTION

A-199

Postpartum family planning in Burkina Faso

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Objective: This is a formative study aiming to identify the main barriers to the provision and uptake of quality postpartum family planning (PPFP) services at the supply, access, demand and policy levels in Burkina Faso.

Design & Methods: A combination of three methods was used: a review of relevant literature, policy and clinical guidelines; observations of client-provider interactions in government-run primary health care centres in and around the city of Bobo-Dioulasso; and semi-structured interviews with stakeholders and key informants, including service providers and users.

Results: At the supply level, this study reveals that there are substantial shortfalls in the availability of quality postpartum family planning (PPFP). Individual counselling and the quality of information provided are often inadequate and occasions to advise women on family planning are wasted, resulting in low uptake of contraception during routine postnatal care. Providers appear to have an ambivalent and largely resigned attitude towards the possibility of enabling women to make informed choices, and towards the potential involvement of men. Services offer a limited range of methods due to a variety of factors including the lack of competent staff, stock issues, and provider biases. Furthermore, legal barriers are in place which prevent the majority of maternity staff from providing long-acting reversible contraception (LARC). The accessibility of services is limited by geographical and cost barriers. Cultural traditions and practices and high desired family size place limits on the demand for modern contraception, which is not well understood or acceptable to many people. Notable policy gaps exist in relation to user fees and to authorising maternity staff to provide LARC, and some national clinical guidelines are in need of improvement. However, most of the difficulties observed in the provision of PPFP services are in fact due to the failure to translate largely sound policies and guidelines into practice.

Conclusions: This study contributes to identifying priority areas and makes recommendations for improvement in order to respond to unmet need for family planning in the postpartum. Furthermore, it suggests that there may be a margin for the expansion of demand, and that improving quality of care could play a role in this.

A-200

Increasing rural access to post-partum intrauterine devices in Uganda

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Background: High unmet need for modern contraception (42%) is common in rural Uganda. Immediate postpartum placement of intrauterine devices (inserted within 48-hours post-partum-PPIUD) is a safe, effective but underutilized family planning approach that optimizes the use of peripartum health services. Negative provider attitudes have historically been a barrier to using IUDs and PPIUDs. Such attitudes are based, in part, on limited knowledge about the method. This study was designed to assess provider knowledge, attitudes and practices concerning IUD and PPIUD use in rural Uganda – with the long-term goal of increasing access to PPIUD as a family planning option in such settings.

Objectives: 1) Assess baseline knowledge, attitudes and practices (KAP) concerning IUDs/PPIUDs among providers and community-based distributors of contraceptive methods (CBDs) at a rural Ugandan hospital. 2) Assess whether the KAPs of both groups change over a one-year period after educational and training interventions focused on these methods. 3) Assess if these interventions could lead to the increased uptake of IUDs in a rural developing country facility.

Methods: KAP surveys were administered to providers and CBDs before and after educational and training interventions. Data were analyzed using paired analyses. A facility-based needs assessment was also performed to determine the feasibility of introducing PPIUD as a new service.

Results: Provider and CBD knowledge and attitudes improved significantly (p value < 0.001) immediately after the educational and training interventions and these improvements were sustained at eight-months. After the interventions, PPIUDs were successfully integrated into the maternity ward services and the overall number of IUD insertions, including PPIUDs, measurably increased over the study period.

Conclusions: Short ($<$1week) educational and training interventions can sustainably change CBD

and provider knowledge and attitudes regarding IUDs/PPIUDs. Resulting positive attitudes can lead to successful introduction of PPIUD as a new service in a rural setting.

A-201

Postpartum contraception in high risk women's groups

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Objectives: The aim of this study was to analyze the postpartum contraception in high risk women's groups, particularly, the option for long-acting reversible contraceptives (LARCs), such as intrauterine device (IUD) and hormonal implant.

Material and methods: A retrospective and comparative study of women's postpartum contraceptive options whose medical surveillance was between 2003 and 2013 at our unit (n = 3649). We compare the different high risk groups (adolescents, women with substance-related disorders, social risk, psychological disorders and psychiatric diseases) with a control group (postpartum healthy women). Data analysis was done using o SPSS Statistics 21.0.

Results: In the control group (n = 744) the postpartum mean age was 31,0 ± 4,2 [20-45] years; the majority of these women chose hormonal oral contraception (88,8%), 8,9% chose LARCs and 2,2% chose a definitive contraception (with tubal sterilization). In the adolescents' group (n = 462) the postpartum mean age was 17,5 ± 1,3 [13-19] years; 50,6% chose hormonal oral contraception (p < 0,001), 38,3% LARCs (37,7% hormonal implant vs 0,6% IUD) (p < 0,001) and none of them chose definitive contraception (p < 0,001). In the group of women with substance-related disorders (n = 139) the postpartum mean age was 29,7 ± 5,1 [19-49] years; 53,2% chose hormonal oral contraception (p < 0,001), 38,8% LARCs (38,1% hormonal implant vs 0,7% IUD) (p < 0,001) and 7,2% definitive contraception (p < 0,001). In the social risk women's group (n = 1371) the postpartum mean age was 27,9 ± 6,1 [19-46] years; 62,1% chose hormonal oral contraception (p < 0,001), 30,3% LARCs (28,0% hormonal implant vs 2,3% IUD) (p < 0,001) and 6,3% definitive contraception (p < 0,001). In the psychological disorders women's group (n = 415) the postpartum mean age was 28,8 ± 5,7 [19-44] years; 76,1% chose hormonal oral contraception (p < 0,001), 18,8% LARCs (15,7% hormonal implant vs 3,1% IUD) (p < 0,001) and 4,6% definitive contraception (p < 0,001). In the group of women with psychiatric diseases (n = 518) the postpartum mean age was 31,4 ± 5,4 [19-46] years; 68,9% chose hormonal oral contraception (p < 0,001), 23,2% LARCs (20,7% hormonal implant vs 2,5% IUD) (p < 0,001) and 7,5% definitive contraception (p < 0,001).

Conclusions: In the high risk women's groups, the option for LARCs (particularly, hormonal implant) was very frequent. LARCs are more effective than hormonal oral contraception and condoms, and require minimal effort for perfect compliance. The use of one of these methods has great potential to avoid unintended pregnancies. The care providers should have an active role in increasing awareness of LARCs in high risk groups, rather than relying on patient request for methods of which they have little knowledge.

A-202

Correlates of early postpartum contraceptive use

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Objectives: The postpartum period presents a time of risk for unwanted conception because contraceptive use may be inconsistent or delayed. Short pregnancy intervals are associated with social vulnerability and with maternal and offspring health risks. We identified correlates of contraceptive use in women at 2 to 4 months postpartum.

Method: Data were from 7,392 adult respondents of Minnesota's 2004-2008 Pregnancy Risk Assessment Monitoring System (PRAMS) survey. Respondents were randomly selected from their infants' Minnesota birth certificate at 2-4 months' postpartum. Postpartum contraceptive was assessed by a question about whether the respondent (or partner) was doing anything to prevent pregnancy at the time of the survey. The variables in multivariable logistic regression analyses included pre-conception contraception; sociodemographics; pregnancy health, health care, and substance use; pre-conception stressors; infant size for

gestation; and postpartum depressive symptoms. Because breastfeeding may be associated with contraceptive use (or interpreted as contraception), we also conducted stratified analyses by breastfeeding duration (more than one week and one week or less).

Results: Eighty-seven percent of the respondents reported doing something to prevent pregnancy postpartum and 21% reported they were doing something to prevent pregnancy when they became pregnant. Associations between postpartum contraceptive use and its correlates were similar in combined and in breastfeeding-stratified models: pre-pregnancy contraceptive use, prenatal contraceptive counseling, and having had a postpartum well-woman visit were positively associated while having other/no source of income versus wages and having experienced intimate partner violence prior to pregnancy were negatively associated. For women who did not breastfeed, the number of stressors experienced in the 12 months before their infants' birth was positively associated with not using postpartum contraception ($p = .01$ for trend). For those who breastfed, parity of 2 + compared to none prior to this pregnancy was negatively associated (adjusted odds ratio 0.76; 95% confidence interval, 0.6,0.9)

Conclusions: Eighty-seven percent of PRAMS respondents reported postpartum contraceptive use, but the survey data were insufficient to determine how women defined contraceptive use, when they began use, type(s) of contraceptives they used, and how efficiently and consistently they used them. Despite limitations, our data showed that pre-pregnancy contraceptive use and prenatal contraceptive counseling were positively associated with postpartum contraceptive use. Postpartum contraceptive use was also associated with having had a postpartum maternal health care visit, suggesting the need for both prenatal and postpartum contraceptive counseling to reduce their risk for rapid repeat pregnancy.

ROLE OF MIDLEVEL PROVIDERS

A-203

The acceptability of contraception task-sharing among Canadian pharmacists: the ACT-Pharm Study

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Objectives: Access to prescription contraceptives in rural areas is often limited by the hours and location of physician or youth clinic services. Pharmacists are trusted, available professionals. This study aimed to explore the acceptability and feasibility for independent provision of contraception by pharmacists in rural British Columbia (BC), Canada.

Methods: This mixed methods study mailed surveys to all 333 rural pharmacies in BC, as well as to a purposive cluster-randomized sample of 32 urban pharmacies near Vancouver (August-October 2012) with fax and telephone reminders at one month. Participants were invited to a structured telephone interview. Questions followed Rogers Diffusion of Innovations theory, were reviewed by a panel of experts and refined by focus group and pilot testing among community pharmacists.

Results: Among 374 invited community pharmacies 145 (38.8%) responded, including 127 of 333 (38.1%) rural and 15/42 (35.7%) of invited urban community pharmacies. Nearly half (49%) of responding pharmacies volunteered for interviews, among whom 17 rural and 2 urban respondents were interviewed. Respondents represented the five geographic health authority regions of BC, were half (74/142) male, one-quarter (95/142) managers or owner-pharmacists, and reported a mean of 16 years in practice. Seventy percent of rural (53% of urban) pharmacies reported a private counselling area. Over 84% (107/127) of rural pharmacists indicated interest to prescribe hormonal contraceptives. Factors associated through logistic regression with willingness to prescribe were: comfort using a protocol, presence of a confidential counselling room, certification in special skills such as immunization, and fewer years in practice. Pharmacists indicated a need to clearly understand assessment protocols and liability issues, prior to implementation.

Conclusion: Pharmacists in rural BC, Canada, report a high degree of acceptability and feasibility for independent prescription of hormonal contraceptives. As pharmacists are often the most accessible health professional in rural areas, pharmacist provision of hormonal contraceptives carries the potential to improve timely access to contraception.

A-204

Midwives as drivers of Reproductive Health Commodity Security (RHCS) in Kaduna state, Nigeria

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Objectives

1. To review and collect family planning service utilization data from the health facilities
2. To ensure regular resupply of modern contraceptives to Service Delivery Points (SDP)

Method: Nigeria reported one of the highest maternal mortality ratios in sub-Saharan Africa (545/100,000: 2008 NDHS). With a fertility rate of 5.7, this is not unconnected with the low Contraceptive Prevalence Rate (CPR) of 17.5 (MICS 2011) and a high unmet need of 19.4 (MICS 2011) for modern contraceptives. The Federal Government of Nigeria had set a target to increase the CPR to 36% by the year 2018. In order to achieve this it had continuously funded procurement of modern contraceptives to the tune of $3.1 million USD since April 2011. In order to remove the perennial stock-out syndrome and poor data quality for planning, UNFPA adopted and support the country to institute the bi-monthly REVIEW RESUPPLY(RR) meetings. These meetings are facilitated by the midwives at the states and Local Government Areas (LGAs) as family planning coordinators. They directly convey commodities sent to the states down to the LGAs for distribution to 6974/25,000 health facilities across the country in line with the previous two months utilization data. They in return will review and collect Requisition and Resupply Form (RIRF) data of previous two months for local collation/analysis and onward transmission to the Federal Ministry of Health. The success of this best practice can be depicted with the result from Kaduna state, Nigeria.

Results: In 2013 the bimonthly data timeliness was 33% and the completeness was 100%. An improvement in data quality was also noticed over the months (80% of the RIRF forms received were original copies). There was a steep reduction in number of SDPs reporting stock out in 2013. This range from zero for IUCD to 17% for female condom (FC), Depo provera and Excluton. Total number of commodities issued to clients increased from 31,866 in 2012 to 177, 828 in 2013. Regular supportive supervision of the SDPs by the state FP coordinator has also improved the knowledge and skill of providers, their morale and impacted positively on quality of services delivered. All these increased the Couple year protection from 3,408 in 2012 to 102,207 in 2013.

Conclusion: The increasing quantity and types of commodity available to clients over the months has improved access to services and choices for women.

SEXUAL AND CONTRACEPTIVE BEHAVIOUR

A-205

Factors influencing modern contraceptive use in Georgia

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Objective: The objective of the study was to research the tendencies and nature of misconceptions in use of contraceptives. Furthermore, reveal the causes and factors influencing contraceptive use in population of Georgia.

Methods: To meet the objectives, quantitative and qualitative research methods were used in this study. Qualitative, literature review, was conducted in order to evaluate international experience and to adapt international questionnaires for use in quantitative study. Quantitative study included interviews and focus group discussions with reproductive health services providers, women and men in fertility. Interviewees were chosen by different profiles such as: ages, gender, urban and rural, education level, income and region.

Results: In total, 15 focus group discussions among women and men in fertility age (18-44) with different profiles in Kutaisi, Senaki, Akhaltsikhe and Tbilisi. Furthermore, face to face interviews were performed with, 22 medical providers of various disciplines, 18 representatives from governmental and non-governmental agencies, and 10 representa-

tives from pharmaceutical companies. It was found that most popular methods of contraception in Georgia are: condoms (42%), withdrawal method (27%) and calendar/rhythm methods (25%). The causes of popularity are high accessibility and relatively low price. Overall knowledge of population about contraceptive methods varies by region, age, sex and education. For example almost 100% of women are aware about contraception, and 80% know about modern methods of contraception whereas less than half questioned men possess knowledge. Furthermore, usage of contraception in men is directly associated only with condom. Psycho-emotional factor, such as "shame" during purchase and/or inability of using oral pills regularly, was found to negatively influence people's perception about contraception and its use. False perception is not handled by service providers. On controversy, inappropriate doctor patient communication is additional hurdle for patients.

Conclusion: Research conclusions about modern contraceptives use in Georgia can be separated in two levels. From social perspective, there are psychological, economic and geographical barriers which result in unequal availability and high cost of contraceptives. Whereas second is, non-friendly service provision and counseling. Doctor-gynecologists and family physicians still are most reliable qualified source of information. In other words, there are monopolistic environment among medical professionals in Georgia where there are no incentive for quality especially in regions and rural areas. All above mentioned indicates that the existing environment cannot ensure patients' sexual and reproductive rights as an integral part of human rights.

A-206

Sexual and contraceptive behavior in a population of female universitary students

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Objective(s): To analyze the knowledge, sexual behavior and contraceptive habits in a population of female universitary students.

Methods: We conducted a cross sectional survey study in a population of 428 female university students, with ages between 17 and 26 years. The data were collected through an online confidential inquiry, from May 2012 to April 2013. Variables related to demographic aspects, sexual activity, use of contraception and concern about the possibility of sexually transmitted infection (STI) were analyzed and statistical analysis was performed with IBM SPSS statistics 20.0.

Results: The mean age was 21,3 years. Our population consisted of medical students in 41,1 %, science and technology in 30,4%, 15% in economics, pharmacy students in 6,1% and 7,3% in other areas. About 16% were smokers and 12,1% reported using drugs. We found that 72,3% reported occasional alcohol consumption, 76,6% had been to at least one family planning consultation and 60% had been vaccinated against HPV. The mean age of first intercourse was 17,5 years and 86,2% were sexually active. About 12% of the students denied use of contraception at first intercourse and for those who used, the condom was the method of choice in 63,1 % of cases. We found that oral contraceptives (the pill) are the preferred method of contraception in 66,8 %, and its association with condoms occurs in 26,6%. In our population, when change of sexual partner occurred, the co-use of condoms was seen in 86,7% of cases. About 31% had a history of suspected pregnancy and 33,2% reported use of emergency contraception and 80,6 % report greater concern about the possibility of sexually transmitted infection (STI) than about pregnancy (19,4%).

Conclusions: The majority of our population was sexually active and contraceptive methods most frequently used were condoms and the pill. However, about 12% denied the use of any contraceptive method during first intercourse. Most of these females use a condom when they change sexual partner and demonstrate a greater concern about STI than pregnancy. Nevertheless, only 26,6% report the use of a condom in association with oral contraceptives. This study helps to better understand the sexual risk behaviors of female university students and want to be a tool to develop future strategies to prevent them.

A-207

Accidental pregnancy and contraceptive practices in contemporary Australia: preliminary results from a national population-based survey

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Objectives: Australia faces the contradictory problems of high rates of unintended pregnancy and of infertility. These population patterns are well documented in demographic surveys, but little is known about how they are experienced in individual lives. The objective of this study, funded in partnership by the Australian Research Council, the Royal Women's Hospital, The Victorian Government Department of Health, Family Planning Victoria and Melbourne IVF, was to investigate how Australians manage fertility. The aim of this paper was to describe the circumstances of unintended, mistimed, or unwanted first pregnancies in an Australian national sample of women and men of reproductive age.

Design and methods: A population-based cross-sectional survey was conducted. The survey and a letter of invitation to participate were mailed to a random sample of people aged 18 to 45 extracted from the Australian Electoral Roll. Information was collected about management of fertility across the life-course, including about the circumstances of any accidental pregnancies. Responsibility for contraception and self-assessed risk of conception at the time of intercourse that led to the accidental first pregnancy were each assessed in separate single questions. Respondents were invited to endorse up to 18 fixed-choice reasons for the accidental pregnancy. Responses from women and men, and from three age cohorts (18-25; 26-40; > 40) were compared.

Results: The survey was sent to 15,590 people (7795 women; 7795 men), yielding a nationally-representative sample (recruitment fraction 16%). Of the 18, reporting an accidental first pregnancy, most agreed that men and women should share responsibility for contraception. Despite the fact that all but 1% had access to affordable contraception, approximately half reported awareness of the risk of pregnancy from sexual intercourse at the time. Ninety one percent reported one or two reasons for the accidental first pregnancy; the three most common reasons were "using contraception correctly but it didn't work", "forgot to take or use contraception"; and "withdrawal too late" and were similar in the three age cohorts. Differences in women's and men's responses will be reported.

Conclusions: These preliminary findings confirm that availability of contraception is insufficient to ensure that pregnancies are intended and not mistimed or unwanted. The results will contribute to a comprehensive model of the factors associated with conception at the wrong time in the lives of Australian women and men and to national gender-informed sexual and reproductive health policy and promotion.

A-208

Effect of post abortion care on contraception behavior in women seeking induced abortion

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Objective: To investigate the requirement and effect of post abortion care on contraceptive behavior in women seeking induced abortion.

Methods: Non concurrent clinical trial. Participants: women come to the Outpatient Department of Obstetrics & Gynecology, West China Second University Hospital, Sichuan University and seeking for induced abortion due to unintended pregnancy or fetal anomaly. Control group: those came from August 1, 2011 to September 30, 2011 and accepted routine post abortion care. Treatment group: those came from October 25, 2011 to April 10, 2012 and accepted both routine care and strengthening post abortion care which included intensive consultation, education, and demonstration of selection and use of different contraceptive methods correctly.

All women were interviewed at entrance and followed at 1, 3, and 6 months after abortion. Questionnaire specially designed was used for baseline interview and follow up. Comparisons between treatment and control group were conducted by chi-square test.

Results: 200 women in each group were included, the age ranged from 15 to 45 years old. Among them 30(7.5%) were due to fetal anomaly, others were due to unintended pregnancy. The total previous abortion rate at the baseline interview was 58.5%. Among those with previous abortion, 56.2% did not use any contraceptive methods. While among those who used contraceptive methods, 52.5% unintended pregnancy occurred due to rhythm method or coitus interruptus. Among all included women, 24.2% did not have any knowledge of contraception, 67.2% did not know how to select appropriate contraceptive methods for them even they had general information about contraception, 97.5% think it is necessary to include special consultation service in post abortion care. Compared to control group, the treatment group had higher follow up rate (143 person vs. 92 person, $P < 0.01$), lower sexual activity rate within 4 weeks after abortion (3.5% vs. 10.8%, $P < 0.05$), higher contraceptive methods use rate at 1st coitus after abortion (92.7% vs. 82%, $P < 0.05$), higher continuous condom use rate (70.9% vs. 53.4%, $P < 0.01$), higher correct use rate of condom (81.3% vs. 60.3%, $P < 0.01$), lower unintended pregnancy rate within half year of this abortion (1.5% vs. 7.0%, $P > 0.05$).

Conclusion: Strengthening care after abortion is necessary and might improve the correct and continuous rate of contraception use in women.

A-209

Pregnancy and sexual behavior among a universitary feminine population

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Objectives: To characterize and study female universitary students in terms of sexual and behavioral habits in order to improve the reproductive health of this group.

Method: A cross-sectional study was conducted, using a confidential online inquiry, among the female universitary students aged between 17 and 26 years old. Over a 12-month period were obtained 428 answers. This study analyzed the social and economical data of that population, sexual activity, pregnancy and STD rates and the students' perception about those items. The statistical analysis was performed with IBM SPSS statistics 20.0.

Results: The mean age was 21.3 years. This population consisted of medical students in 41.1%, science and technology in 30.4%, economics in 15.0%, pharmacy in 6.1% and others in 7.3%. Their parental monthly income was less than 1500€ in 52.6%. Most of the students lived with other students (47.7%) or with relatives (39.7%). In terms of habits, 16.3% smoked, 12.1% used drugs sporadically, 11.4% consumed alcohol frequently and 72.3% consumed alcohol only in academic parties. About 75.8% of the study group have had at least one birth control appointment and 60.0% had been immunized for the HPV. By the time of the study, 59.2% were in a relationship and 86.2% were sexually active. The mean age at the first intercourse was 17.5 years. About 31.0% of the students had already suspected to be pregnant and 33.2% have used emergency contraception. None of the students were pregnant at the time of the questionnaire, but 0.7% ($n = 3$) had performed an abortion in the past. In 70.8% of the cases, the students stated that would have support from their family if they got pregnant. However, only 31.0% believed that they would be able to take care of a child. In 80.6% of the study group, there was a higher concern about a possible STD than with a pregnancy (19.4%). There was a false rate of "STD" of 4.7% ($n = 20$) although, only 1.6% ($n = 7$) were actually STD.

Conclusions: According to these results, there was a low pregnancy and STD rate among female Portuguese university students. This might result of the large number of sexual planning campaigns targeted to this risk group. However, despite the high number of medical surveillance, there is still some lack of knowledge regarding some clinical aspects, such as STD. Overall, it is important to maintain and improve the measures related to a healthy reproductive outcome.

A-210

Adolescent pregnancy in Portugal: Relational context, contraceptive behavior, and decisions about the course of pregnancy

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Introduction: Although much effort is being made worldwide to provide access to counselling and contraception, to promote efficient contraceptive behaviour, and to prevent early pregnancy, adolescent motherhood remains a public health concern. In Portugal, sex education is integrated in primary and secondary curricula in public schools. Family planning centres for adolescents, contraceptive methods, and abortion are provided free of charge by public healthcare centers. However, the Portuguese adolescent motherhood rate remains above the European Union average.

Objectives: Descriptive study of the relational context and the contraceptive behaviors leading to adolescent pregnancy and the decisional process underlying its continuation.

Design and Methods: Participants included a nationally representative group of 462 pregnant adolescents. Data were collected between 2008 and 2013, in 42 public health services.

Results: Regardless of having had one (60%) or multiple sexual partners (40%), the majority of adolescents became unintentionally pregnant (77%) in the context of a romantic relationship (99%). On average, relationships were longer than 12 months and adolescents' partners were older than themselves (>4 years) and no longer in school (75%). About 72% of adolescents used contraception, and 71% knew the contraceptive failure which led to pregnancy. The condom (48%) and the pill (35%) were the mostly used methods. The most frequent causes for contraceptive failure were: "the condom broke" and "I forgot to take the pill". About 54% of adolescents did not contact with healthcare services before the tenth gestational week; thus, they had no legal opportunity to terminate their pregnancies. Among the adolescents who had legal opportunity to terminate the pregnancy, only 15% considered that option: 44% were forced/influenced by others to continue the pregnancy and 56% decided to do so on their own.

Conclusions:The knowledge gained with this study may guide policymakers, educators, and healthcare providers to prevent adolescent motherhood more effectively. Educating adolescents about the availability and action of contraception, contraceptive failure during typical use, and the subsequent risk of pregnancy seems to be particularly important to prevent adolescent pregnancy in Portugal. Partners' characteristics may also help explain the insufficient results observed in several preventive programs provided exclusively at school and/or that focused on peer-aged couples. Early pregnancy diagnosis seems to be necessary to increase adolescents' chances of being involved in legal and supported decisions about pregnancy resolution. Further investigation is needed to clarify the conditions under which decisions about pregnancy continuation are made.

A-211

Sexual behaviour, contraceptive practice and reproductive health among school adolescents

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Objectives:To determine the patterns of sexual maturation, sexual behaviour, contraceptive practice and reproductive health among Iranian adolescents.

Design: Cross-sectional descriptive study, using self administered questionnaires.

Setting: Twenty-six schools in 22 rural districts of Iran.

Subjects: Standard 5, 6 and 7 pupils of both sexes.

Results: Data from 1,121 girls and 999 boys were analysed. Overall, 36% of the girls and 66.1% of the boys in this survey were already sexually experienced.

The age of initiation at sexual activity was positively correlated with the age at first dating and the age at menarche and semenarche. The boys initiated sexual activity at an earlier age (13.43 v. 14.86 years, P = 0.0000), had sexual intercourse more regularly (61.6% v. 42.3%, P = 0.0000) and more frequently, and had more lifetime sexual partners (mean of 3.27 v. 1.35, P = 0.0000) than the girls did. Nearly twice as many sexually experienced boys as girls had a history of STD (48% v. 25%, P = 0.0000) and, of these, 12,1% of the boys and 3.5% of the girls had a history of genital ulcer disease. The prevalence of whether contraceptives had ever been used was only 13% among sexually experienced girls and, of these, only 10.4% used condoms. Surprisingly42.1% of the sexually experienced boys had used condoms, and of these nearly one-third enjoyed using them. The prevalence of adolescent schoolgirl pregnancy was4.3%.

Conclusions: Sexual maturation occurs at an earlier age than previously among adolescents. This is associated with early initiation and a high level of sexual activity, low contraceptive usage, and a high rate of adolescent pregnancy and STDs, which therefore expose adolescents to a high risk of HIV infection.

A-212

Prevalence and correlates of contraceptive use and abortion in Québec (Canada): results from the UQÀM students Sexual Health Survey

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In Québec (Canada), the health and social services system is public, allowing the whole population free of charge hospital access and medical services. Through the Public Prescription Drug Insurance Plan, hormonal contraception (HC) as well as emergency contraception (EC) are available at no cost for students aged 25 and under, and at little cost for other women. Following a recent initiative to facilitate access to HC, nurses and pharmacists are now allowed to prescribe it. Reproductive rights are also promoted through a better access to abortion; since 2006, following a class action, abortion is paid by the state.

Objectives: Following the implementation of these initiatives and in the absence of recent data on young adults contraceptive trends, a clearer picture of sexual and reproductive health was required in order to guide action. Our goal was to explore: 1) desire of parenthood and recourse to contraceptive methods; 2) knowledge of EC, its accessibility and its use and, 3) prevalence of abortion and its correlates.

Methods: More than 3100 young adult University students participated in the on-line multidimensional study, « *UQÀM students Sexual Health Survey* », from October to November 2013. This cross-sectional study covers many aspects of sexual health, including sexual attitudes and experiences, sexual diversity, STI's and reproductive health, sexual satisfaction, victimisation, intimidation and discrimination.

Results: Statistical analyses on a sub-sample of sexually active women (n = 1992) show that, although a high proportion of young adults do wish to become parents, three-quarters of them wish to postpone such a project. However, among the sexually active respondents not wanting a child now, withdrawal is the 3rd most used contraceptive method (used by almost one out of five young adult). Some respondents reported having never used a contraceptive method in the past 2 years, even if they did not want to become parents. Knowledge of EC is low among the respondents: a minority was unaware of the hormonal methods while the majority didn't know about the non-hormonal EC. More than 9 out of 10 was ignorant of the recommended delays when using EC. Finally, while its prevalence is low among the sampled group, recourse to abortion is linked, among others, to victimisation and age at first intercourse. Iterative abortions are infrequent among the sample study.

Conclusion: While considerable work has been done in the past years by public health authorities, results of this study are revealing of a higher need towards awareness and education in the contraceptive field.

A-213

Sexual risk behaviours among rural learners at Mdutshane senior secondary school, Eastern Cape Province, South Africa

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In South Africa, the fundamental drivers of the HIV epidemic, sexually transmitted infections (STIs), and juvenile pregnancy or parenthood are deeply rooted in sexual risk behaviours and attitudes among the youths.

Objective: The purpose of this study was to determine and describe the prevalence of risk behaviours among the learners in a rural secondary school in the Eastern Cape Province of South Africa.

Design and Methods: A cross-sectional survey design was used to collect data from150 learners (mean age of 18.8 ± 1.73 years) recruited randomly from grades 10, 11 and 12 in a rural senior secondary school. The sample comprised 96(65.1%) females. The study used a self-administered questionnaire which was structured to collect data on demographic information, risk behaviours and practices. The Statistical Package of Social Science (SPSS) version 14 was used to carry out a descriptive statistical analysis of the data.

Results: The study found that an overwhelming proportion 128(86%) of the participants were sexually active; and of these, 4(3.2%) reported having their sexual debut at age 10. Furthermore, whilst 51(39.8%) of the participants disclosed having been pregnant or made someone pregnant, 59(46.1%) reported contracting sexually transmitted infections which was far higher than the 2002 South African national average prevalence of 7.4%. In addition, 54(43.2%) of the participants indicated that they had more than one sexual partner, and 74(57.8%) reported that they did not use a condom during their last sexual encounter. Other risky social practices found in the study included alcohol use before sexual intercourse (21.3%; n = 27) and engaging in sexual activities in exchange for money or gifts (20.3%; n = 26).

Conclusion: The study found that learners in this setting indulged in different sexual risk behaviours such as early sexual debut, multiple sexual relationships, engagement in unprotected sexual intercourse etc. Against this background, it is not surprising, therefore, to note that about 46% contracted STIs and about 2 in every 5 participants admitted having been pregnant or made someone pregnant. Since South Africa has one of the fastest HIV-infection rates in the world the results emanating from this study must be viewed in a serious light, more especially when youths are involved. In the light of this, serious sexual health education programmes targeting youths at schools and in communities must be considered as an urgent intervention measure.

A-214

Correlates and barriers of dual-method contraception among college youths

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Objective: The dual problems of unintended pregnancies and sexually transmitted infections/Human Immunodeficiency virus are of public health significance globally, particularly amongst youths in Sub-Saharan Africa (SSA). Although the simultaneous use of two contraception methods - dual method contraception (DMC) - is highly effective in preventing these problems, our understanding of DMC is still limited. Thus, this study aims to assess the correlates and barriers of DMC amongst youths in Nigeria, the most populous SSA nation.

Method: Data were collected via self-completion questionnaires administered to 412 male and female undergraduates (mean age: 22.3 ± 3.5years)that were selected via multi-stage cluster sampling from three universities.Thereafter, bivariate Chi-square (χ^2) and multivariate logistic regression analyses were performed to identify significant DMC variables.

Results: The prevalence of DMC at last sex was 20.6%, and the commonest DMC combination was condom-Oral Pills, but only 5.4% respondents were consistent DMC-users. When compared with non-users, DMC-users were twice or more likely to have: commenced intercourse at age 16 and above (OR = 2.335; 95% CI: 1.036-5.261; p = 0.041); had more than one partner in the past year (OR = 1.913; 95% CI: 1.033-3.543; p = 0.039); been currently not seeking pregnancy (OR = 2.412; 95% CI: 1.021-5.698; p = 0.045); had previous unintended pregnancies (OR = 2.220; 95% CI: 1.093-4.513; p = 0.027); and reported supportive social norms (OR = 2.204; 95% CI: 1.107-4.387; p = 0.025). However, during multivariate analysis, only older age at first sex (AOR = 3.081; 95% CI: 1.053-9.013; p = 0.040) and pregnancy avoidance (AOR = 2.929; 95% CI: 1.035-8.292; p = 0.043), remained significant.

The reported barriers to DMC use were: difficulty with accessing contraceptives

χ^2 (1, N = 246) = 5.600, p = 0.018; and limited/infrequent counselling on contraception during

consultations with health professionals χ^2 (1, N = 246) = 3.941, p = 0.047.

Conclusion : These findings indicate that the practice of DMC is uncommon amongst Nigerian youths. However, results suggest that college students are highly motivated to prevent unintended pregnancies and that such desires are buoyed by interpersonal supports and accessible contraceptives. Consequently, a multi-level focused approach that incorporates stakeholders' education and improved service delivery is proposed.

Key words: safer sex, dual protection, dual method contraception, youths, Nigeria.

A-215

Postpartum sexuality: a study from Turkish women's perspectives

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Objectives: This is a descriptive study carried out in order to determine women's perspectives on postpartum sexuality

Method: The study was carried out at the postpartum clinic of a state hospital in Sivas which is one of the major cities in the Central Anatolia Region of Turkey. With 95% reliability and 5% error margin; 355 women are included in the study sample. The data was collected through surveys which were conducted face to face, after the written consent was taken from the hospital and the verbal consent was taken from the women. The data were evaluated through the number, percentage, average and chi-square tests

Results: The average age of participant women is 26.31 (SD = 5.54) and 64.5% of them are the graduates of secondary school or above. 36,1% of women stated that they have had a problem about their sex life during pregnancy. The 82.0% of women stated that they have not received any consultancy during their pregnancy, 80,3% stated they have not received any consultancy about their post-partum sex life. Only 16.6% of women stated they have received information about sex life within the scope of postpartum discharge instructions. The 33.5% of women agreed with the statement that "women who breastfeed does not become pregnant", 51.3% agreed that "it is a sin to have sexual intercourse within 40 days following the birth-giving", 38% agreed that "women who just gave birth are not sexually attractive ", 36,9% agreed that "it is a sin to have sexual intercourse for a breastfeeding mother". There is no significant difference between primipara and multipara women in the sense of agreement frequency of these statements ($p > 0.05$). On the other hand, the 46.8% of women agreed with the statement that "it is difficult to restart sexual intercourse after birth-giving", 41.1% agreed that "sexual intercourse after birth-giving is more problematic than other times", 46.5% agreed that "sexual intercourse can be painful after giving birth", 41.1% agreed that "the sexual drive of women decreases after birth-giving". There was a statistically significant difference between multipara and primipara women in the rate of acceptance to these statements ($p < 0.05$).

Conclusions: Postpartum sexuality is not analyzed effectively within postpartum care services. Especially multipara women have negative views about postpartum sexuality According to these results, it is suggested that the issue of sexual life should be considered within the pregnancy and postpartum care services, health care workers should be included within in-service training programs.

A-216

Is pregnancy intention associated with postpartum depressive symptoms?

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Objectives: Half of all pregnancies in the United States are unintended, the result of no or ineffective use of contraceptives. It is not clear how unintended pregnancy is associated with maternal mental health, specifically postpartum depression (PPD). Both unintended childbearing (30% of all births) and PPD are disproportionately concentrated among socially vulnerable women and have long-lasting negative effects on maternal and offspring well

being. We assessed the nature of the association between PPD presence and severity with maternal and partner intention, as well as couple discordance in pregnancy intention.

Method: Data were from 7,339 adult female respondents to Minnesota's 2004-2008 Pregnancy Risk Assessment Monitoring System survey. Respondents were randomly selected from their infants' birth certificate 2 to 4 months' postpartum. We assessed three pregnancy intention variables: maternal and perceived partner satisfaction with the timing of pregnancy (coded "intended," "mistimed/unwanted"); and couple concordance (coded "both intended," "partner intended," "mother intended," "neither intended"). We assessed PPD symptoms with the Patient Health Questionnaire-2 that asked how often respondents felt "down, depressed, or hopeless" and "had little interest or pleasure in doing things" since their infant's birth. We examined PPD presence (responses of "always" or "often" to either question) and severity ("no," "occasional," "intermediate," "severe" symptoms) relative to pregnancy intention (maternal and partner) and partner concordance with multivariable and polytomous logistic regression models that included covariates for sociodemographics and prenatal health, substance use, and stressors.

Results: In crude analyses, each pregnancy intention variable was associated with a two-fold increase in risk for PPD symptoms. In adjusted analyses only partner intended/maternal not intended versus both intended was associated with increased risk (adjusted odds ratio (AOR), 1.45; 95% confidence interval (CI), 1.1, 2.0). Discordance in parental pregnancy intention was also associated with PPD symptom severity. Compared to parents who both intended this pregnancy, mothers who reported this pregnancy was unintended by them and intended by their partners were more likely to have intermediate PPD symptoms than no depressive symptoms (AOR, 1.68; 95% CI, 1.1,2.8).

Conclusions: The perception that a partner wanted a pregnancy that was not intended by the mother was a risk factor for the presence and severity of PPD symptoms, independent of measures of social vulnerability. Further research is warranted to (1) understand the contraceptive patterns of couples with discordant pregnancy intentions; and (2) investigate how to encourage partner (assumed to be mostly male in this sample) involvement in family planning.

SEXUAL DYSFUNCTION

A-217

Breast cancer and sexual dysfunction – What we know?

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Sexuality is not only something we do, in fact, is something we are. There is a multiplicity of definitions, in brief, sexuality is a continuous construction through life, based on the psychosocial resources that each of us have to maintain an intimacy relationship and retrieve sexual pleasure from it.

Breast cancer is the lead cancer in women worldwide. Each year there are about 1,38 million new cases and 45800 deaths, mostly in low and middle income countries.

This is not a cancer of the elderly and the incidence keeps rising in young women, meaning that with the advances in early diagnoses and more efficient treatments, also there is a rise of survivors, having to deal with disfigurement; fertility loss; early menopause and many other consequences.

Nowadays, sexual health is seen as a crucial aspect in cancer patients,through and after treatment.

Sexual dysfunction may be caused by the disease itself, but also because of the treatments and indirect psychologal reactions to both of them. Many factors interfere in the severity of dysfunction, namely: the severity of disease; the existance of a partner; the previous sexual satisfaction; the type of surgery performed, among others. About 60% of women with breast cancer refer sexual dysfunction, and in all phases of the sexual cycle.

In young women it is crucial to inform about fertility preservation options. In all women is mandatory to do the least invasive surgery and oncoplastic surgery must be considered part of the treatment and not a secundary issue.menopause symptoms must be controlled, namelly vaginal dryness.

We must understand that despite having a cancer, there is life beyond it, and that it includes sexuality. Most patients will feel uncomfortable mentioning this subject. It is our duty to give attention to it and show that there are solutions

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The impact of infertility and its treatment on sexual function

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Objective: The burden of infertility is physical, psychological, emotional, and financial. However, few studies examined the impact of infertility-related stress on sexuality. The aim of this study was to evaluate that infertility and its treatment may result in sexual dysfunction.

Methods: Women seeking treatment for infertility were asked to complete standardized validated questionnaires assessing sexual function (Female Sexual Function Index, FSFI). Healthy women seeking general health screening served as the control.

Results: Forty infertile women and forty control women participated in this study. The mean age, duration of marriage, height, weight and BMI were comparable. Total FSFI score of infertile women was 22.33 and score of control was 24.64. No statistically significant impact on sexual function in infertile women was noted. The mean scores of desire (3.09), arousal (3.48), lubrication (4.39), satisfaction (3.94), and pain (3.96) in infertile women were not statistically different compared to control. However, mean score of orgasm in infertile women was 3.16, which was significantly lower than that of control. No correlation was observed between the duration of marriage and FSFI scores. Duration, etiology, and treatment method of infertility did not influence FSFI score either.

Conclusion: Infertility and its treatment did not evoke the sexual dysfunction entirely. Infertile women may experience less orgasm, perhaps because of the psychological pressure to conceive or the forced timing of intercourse.

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Description of the parameters of sexual health and sexual habits of gynecological patients

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Objectives: Sexuality is a fundamental part of the human life cycle and satisfaction with sex life is a major quality of life indicator. While sexual health has been recognized as an integral part of overall health, it is often ignored in routine visits. The matter is not being discussed because of underreporting by the patient and inadequate assessment by the health care provider. Objective of this study was to promote more active involvement of gynecologists in assessment of patients' sexual health by improving understanding of sexual life habits of their patients and clarifying the most frequent problematic fields of gynecological patients' sexual function.

Method: 209 patients of wide spectrum Gynecology clinic (except oncology) were recruited to participate. Inclusion criteria were: age 18-50 years, sexually active during last four weeks. Standardized Female Sexual Function Questionnaire (FSFQ28) was used to collect data about habits of sexual life and to evaluate eight main fields of female sexual function, allowing to divide sexual function in three levels: normal function, borderline function, sexual dysfunction. Study was approved by the Committee of Ethics. SPSS software (version 20, IBM) was used for the analyses.

Results: The most frequent answers (percentage) about sexual habits during last four weeks: have often wanted to be sensually touched by partner (42.58%); sometimes have initiated sexual activity (45.93%); sometimes felt arousal sensations in genitals during sexual activities (44.98%); sometimes felt lubrication (35.41%); sometimes felt emotional arousal (37.80%); took part in sexual activity 5-8 times (32.06%); took part in sexual activities without penetration (77.99%) and it was mostly Very enjoyable (47.85%); often had an orgasm during sexual activity (26.79%); often felt emotionally close to partner (32.06%); in most cases did not feel any pain during sexual activities (59.33%); felt moderately confident about themselves during sexual activities (42.11%); in most cases there were no negative feelings about partner (69.86%). Frequency of sexual dysfunction of each parameter was: desire 26.79%, arousal sensations 46.41%, lubrication 40.67%, cognitive excitement 38.76%, orgasm 29.67%, pain 6.22%, satisfaction 15.31%. Borderline function in the partner domain was 11.96%.

Conclusions: Gynecological patients of the study group willingly took part in sexual activities, accepted different ways of sexual activities and mostly got satisfaction, although not always felt sufficient excitement. The most frequent fields of sexual dysfunction were disorders of arousal and lubrication, the uncommon were pain disorders.

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Sexual problems of the couples using withdrawal method

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Background: Sexual problems are common problems for the couples using contraceptive Methods. The withdrawal method, which is also one of the traditional family planning methods, can cause the problems such as reduction of sexual satisfaction by causing interruption of plateau phase of the sexual intercourse, especially women can't have an orgasm.

Objectives: A methodological/sectional field study has been conducted for the purpose of identification of sexual problems of the couples using withdrawal method.

Methods: The study sample was consisted of a total of 155 couples (310 persons) aged 15-49 who use the withdrawal method. Semi-structured questionnaire form and Glombok Rust Inventory of Sexual Satisfaction (GRISS) were used for collection of data. T test and Analysis of variance (ANOVA), average, standard deviation, number and percentage has been used for assessment of the data of the research.

Results: It has been determined in the study that the withdrawal method reduces sexual satisfaction of 40,6% of women using withdrawal method, and increases sexual satisfaction of 38,1% of men. It has been found out that the withdrawal method decreased the sexual desire of 41,9% of women, and didn't affect the sexual desire of 43,2% of men. It has been specified that while the withdrawal method caused reduction of sexual intercourse frequency of 17,4% of women, didn't affect 56,1% of men. It has been determined that both sexes experienced problems at the communication sub-dimension of Glombok Rust Inventory of Sexual Satisfaction. However the inventory; it has been determined that the women experienced problems more than the men in conjunction with the sexual dysfunctions at the sub-dimensions such as frequency in sexual intercourse, sexual satisfaction, avoidance and sensuality.

Conclusions: As a result, it is important to organize consulting services for both minimizing the sexual problems experienced and using the method effectively by the couples, with consideration of these problems experienced by individuals using this method.

Key words: Withdrawal method, couples, sexuality, sexual problems, Turkey

A-221

Investigation of sexual activity dysfunction and quality of life of the couples having infertility problem

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Objective: This study of has been performed in order to investigate effects of the infertility in couples suffering infertility problem on their sexual activities and life quality.

Design and method: This cross-sectional sample of this research with improbable sampling method among the 52 women and 55 men who had applied to Adnan Menderes University Faculty of Medicine, Department of Obstetrics and Gynecology, Urology Policlinic. Data is based on the answers obtanied by the questionnaire which is prepared considering the related literature survey, Arizona Sexual Experiences Scale and WHOQOL-BREF quality of life scale. Statistical characteristics of data have been done by under consideration of Pearson correlation test, t-test.

Results: It has been determined that the avarage age of infertile women who participated in the study is $28,21 \pm 6,45$ and of infertile men is $32,36 \pm 5,96$. The cause of infertelity is not know for the 38,5 % of all the cases for women, and %28,8 of them indicated that they blame themselves as the root cause of infertelity. The same number goes down to %34,5 for all men and also %30,9 of them indicated that they blame

themselves as the root cause of infertelity. When the sexual activities and the quality of life in infertile women and men are take in the consideration, it can be seen that 82.7% of infertile women and 49.1% of infertile men are suffering from sexual activity dysfunctions. Sexual activities of the women having infertility problem are less than the men suffering for the same problem. The difference between the ratings of sexual activities of infertile women and men has been found statistically correlated, while the difference between ratings of quality of life in infertile women and men not. Quality of life rating in infertile women is lower than that of men. There is no statistically correlation between the quality of life ratings and sexual activities in infertile men, life quality decreases with the increasing sexual activity dysfunctions.

Conclusions: It has been seen that it is a problem that affects couples sexual activities and quality of lives. Nurses are in the process of infertility, holistic approach to assess the status of the couples, the problem and identify the needs of couples in increasing sexual function and quality of life should be a professional role.

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Prevalence of sexual dysfunction symptoms among brazilian adolescents using contraceptive methods

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Introduction: Few studies have analyzed the sexual lives of female adolescents in developing countries. Our aim was to assess the rate of and identify possible risk factors for sexual dysfunction symptoms among Brazilian adolescents using contraceptive methods.

Patient and Methods: Cross-sectional study involving 130 adolescents (10-19 years) managed at a free family planning clinic (09/2012- 09/2013). The Female Sexual Function Index (FSFI), a self- responsive questionnaire, was used to assess desire, arousal, orgasm, lubrication and dyspareunia. Women scoring ≤ 26 were classified as being at risk for sexual dysfunction.

Results: Mean age was 18 years (± 1.4 standard deviation) 50% were of mixed race (black and white ancestry), most were single (76.9%) and had 8-12 years of schooling (84.6%). Mean age at first sexual intercourse was 14 years, and almost half reported having only one sexual partner (49.9%). Oral hormonal contraceptives (36.9%) and monthly hormonal injectable (30.8%) were the most frequently used contraceptive methods. Mean overall FSFI score was 24.6 (± 2.5) and desire was the domain with the lowest mean scores (3.0 ± 0.85). Over 60% of the adolescents (80/131) were classified as being at risk for sexual dysfunction symptoms (FSFI ≤ 26) and almost 90% (113/130) were under the cut off for sexual desire dysfunction symptom (desire score ≤ 5).

Conclusions: A large proportion of sexually active Brazilian adolescents using hormonal contraceptives and managed at a public family planning clinic were at risk for sexual desire dysfunction symptoms and had sexual desire dysfunction .

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The effects of interactive biofeedback treatment on sexual function and quality of life for women with sexual dysfunction

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Objective: This study was designed to determine the effect of interactive biofeedback treatment on sexual function and quality of life for women with sexual dysfunction.

Design & Methods: This is a prospective clinical surveillance study. The study was conducted at Istanbul University, Istanbul Faculty of Medicine Obstetrics and Gynecology Outpatient Clinic. The institution provided the necessary permissions and ethical board approval. Verbal and written consent was taken from the participants. The study group consisted of women who consulted the outpatient clinic between March, 2012 and March, 2013. The study's sample included sexually active women, between the ages of 20-45, who did not have any psychological and physical problem in using the biofeedback device and in communicating, who were at least primary school graduates and who agreed to

participate in the study. Women with prolapse who were determined on stage ≥ 2 and above according to the Simple POP-Q quantification system, and whose pelvic muscle strength was < 3/5 according to the digital palpation method during gynecological control, were excluded from the study. The participants used a biofeedback device (Femiscan Home Trainer) which was supplied by the researcher for ten weeks, five times a week and two times per day. The results were reevaluated after 14 weeks. Data was gathered using the Female Sexual Function Index Questionnaire (FSFI) and the World Health Organization Quality of Life Scale Brief (WHOQOL- BREF-TR). They were evaluated with SPSS 16.0 packaged software, by using percentage, average, standard deviation, the Mann Whitney U test and the Wilcoxon test.

Results: The average participant age was 35.79 ± 6.84, 71.4% received an education for 8 years or less, and 57.1% were working. The FSFI total and domains scores, pelvic floor muscle activity, and WHOQOL- BREF-TR domain scores for study participants significantly increased when compared with the results prior to treatment.

Conclusions: Interactive biofeedback treatment made a positive contribution to the sexual function and quality of life for the participants. Furthermore, pelvic muscle strength was increased.

Key words: Biofeedback; Pelvic Floor Exercises; Sexual Dysfunction; Quality of Life

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Structure of sexual function of 26-36 -year-old Lithuanian men with type 1 diabetes: comparison with age matched healthy men with excellent reproductive health

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Objectives: 1. To investigate the structure of sexual function of 26-36-year-old type 1 diabetes (T1D) men, using European Male Ageing Study-Sexual Function Questionnaire, (EMAS-SFQ). 2.To investigate sexual function of 26-36-year-old Lithuanian men from the list of participants of the study "The reproductive function of Estonian, Latvian and Lithuanian Young men" (ELLY), conducted in 2003/2004, using them as control group with previously established excellent clinical sperm quality and hormonal background.

Method: 300 T1D patients from Lithuanian diabetes register were recruited to participate in the study. 122 completed questionnaires were eligible for evaluation of sexuality. Eighty ELLY men aged 26-36 years were recruited from the list of participants of the project conducted in 2003/2004. Only individuals with excellent reproductive health were enrolled. All the 202 individuals completed EMAS-SFQ. Descriptive statistical data analysis and all the calculations were performed exactly as the EMAS group calculations.

Results: Masturbation index was lower in all the duration of disease time periods. Sexual functioning distress becomes statistically significantly higher from 5 years duration, and was extremely expressed later. Decrease of overall sexuality in T1D becomes apparent after 10 years duration of diabetes. Changes of sexual function during 1 year were never observed neither in diabetes nor in control group. Only increase of sexual functioning distress and no other sexual domains was higher in patients with proliferative rethinopathy. Clinical, hormonal and semen quality results of healthy control (ELLY) men were simillar or better as compared of reproductive health parameters established using the same methodology at the same time in Copenhagen (Denmark), Turku (Finland), Tartu (Estonia), Riga (Latvia), Hamburg and Leipzig (Germany), Almeria (Southern Spain) and Kawasaki, Osaka, Kanazawa, Nagasaki (Japan).

Conclusions: 1.Sexual functioning domains of 26-36-year-old T1D patients differed from the healthy control (ELLY) group with excellent reproductive health: overall sexual functioning becomes lower after 10 years from the begining of the disease, sexual functioning distress increase after the first 5 years of the disease and masturbation is lower from the beginning

of diabetes.2. Sexual functioning distress is the only increased sexual function domain in patients with proliferative retinopathy.

A-225

Generalized vs. localized vulvodynia: role of oral contraceptives

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Objectives: Vulvodynia is a clinical entity defined as vulvar pain, burning or chronic discomfort, without an identifiable cause. The role of oral contraceptives (OC) in vulvodynia still remains controversial. Some studies suggest an association between OC and the risk of developing vulvodynia, even though their role in the different types of vulvodynia (generalized and localized) has not been studied. The present study aimed to evaluate the possible role of OC in generalized and localized vulvodynia.

Materials and Methods: retrospective cross-sectional study, including 49 women with the diagnosis of vulvodynia

Results: out of 49 women, 26 (53.1%) had generalized vulvodynia and 23 (46.9%) had localized vulvodynia. Regarding triggers, 57.2% of cases (25) were provoked, 2% (1) spontaneous and 40.8% (20) mixed. Seventy-six percent of women reported previous or current use of OC, with an average duration of use of 97.3 months. A higher frequency of OC users was found in localized vulvodynia group (86.4% vs. 65.2%, $p = 0.099$), corresponding to a RR of 2.1 (IC 95%: 0.75-5.63) in this group. Regarding OC usage length, we found a statistically significant higher duration of use in localized vulvodynia, when compared to generalized vulvodynia group (97.5 months vs. 25.6 months, $p = 0.008$). No difference was found in the frequency or duration of OC use between spontaneous, provoked or mixed vulvodynia groups.

Discussion and Conclusions: Women with localized vulvodynia use more often and for longer periods oral contraceptives, compared to women with generalized vulvodynia, thus suggesting an association between this contraceptive method and localized vulvodynia.

A-226

The sexuality of women treated for infertility

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Objectives: It was the aim of this work to analyse the sense of general satisfaction with life and the assessment of its influence on the occurrence of sexual disorders in women suffering from polycystic ovary syndrome (PCOS).

Method: The research was carried out on 234 patients of the infertility clinic in Lublin, in the period between October 2012 and June 2013. The research implemented the WHOQOL questionnaire, and the FSQ-28 scale. The questionnaires for the survey were sent by email or handed out in person. The following study draws on the test results gathered from 72 female participants who have been recognised as suffering from PCOS. Statistical analysis was performed with the use of the Chi-squared test, the Shapiro-Wilk test, Mann-Whitney U and Spearman's rank correlation coefficient, on the basis of the computer program Statistica 10.0 (StatSoft, Poland).

Results: The average age of the researched group was estimated at 26.53. The average value of the BMI in the surveyed group equalled 24.68, SD 4.45, where 26.39%, ($n = 19$) of the respondents were found to be overweight, and 13.89%, ($n = 10$) obese. The average quality of life of the surveyed group members was good (Median 4.00), however, the general perception of one's health had been assessed to be worse (Median 3.00). The period of the infertility treatment proved to be the decisive influence on the particular spheres of life. The surveyed women who have been undergoing treatment for the period between 4 to 6 years experienced a statistically important worse quality of life when juxtaposed with the females who have undergone a therapy for up to 3 or longer than 6 years. The aforementioned correlation has been asserted in the sphere of the general perception of health,

($p = 0.02$), the assessment of the quality of life in the physical domain, ($p = 0.02$), psychological, ($p = 0.01$), social relations, ($p = 0.02$) and society, ($p = 0.01$). In the assessment of the sexual activity and the disorders associated with it, it was observed that desire (avg.18.68), arousal (avg. 12.69), orgasm (avg. 9.66), pleasure (avg. 19.61) were within the score range indicating borderline sexual function.

Conclusions: Women suffering from PCOS and being treated for infertility are characterised by a generally good quality of life and are within the score range indicating borderline sexual function. The feeling of satisfaction with one's life conditions the occurrence of sexual disorders in women at particular stages of the sexual response.

SEXUAL HEALTH EDUCATION

A-227

Sexual and reproductive health education of school-based in China

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Objectives: To comprehensively describe and understand the status and the effectiveness of school-based Sexual and Reproductive Health (SRH) education in mainland China.

Method: This study was conducted through the systematic analysis. An electronic search was performed to identify studies addressing SRH education of school-based. Databases searched included four largest and most comprehensive Chinese literature databases. Search terms used were "reproductive health," "health education," "sex education", "student," etc.. In addition, all the references cited in the articles retrieved as a result of the above efforts were scanned for additional potentially relevant articles. Retrieved studies were subjected to given inclusion criteria.

Results: Fifty-five articles were finally identified, they were published between 1995 and 2010, and 66.1% (37/56) published after 2006. The total sample size ranged from 120 to 11556. The study sites of overall 56 studies were distributed in 33 large and medium-sized cities in China. 25 studies were conducted on college/university students, for primary and secondary school students were 3 and 28 studies respectively. Among 56 studies, 21 studies adopted comparative research design, 35 adopted self-control design. Of the former, 94.7% (18/19) and 64.3% (9/14) studies respectively reported there were knowledge and attitudes improvement, but no one study showed behavior changing. Of the latter, 3 studies indicted that earlier and/or unmarried sex behaviors were decreasing after intervention besides the improvement in SRH knowledge and attitudes. According to the International Guidance of Sexuality Education recommended by UNESCO, the contents of overall studies mainly focused on the topic of SRH (54/56), values/attitude and skills (17/56), and human development (14/56). Teaching approaches were mostly the formal curriculum (i.e..optional or required course), theme lectures, and some propaganda (e.g broadcast). Meanwhile, the peer education, parents' participation and internet were also used.

Conclusions:

1. SRH education for school students have been developed and supported on school-based in China. Its contents covered various topics recommended by UNESCO.
2. The majority of students acquired information and knowledge about SRH predominantly from school-based subjects, and books, schoolmates, and the Internet were as supplementary canals of SRH information for students.
3. SRH education of school-based in China played an important role in improving students' knowledge, attitude, and behavior changing, although this kind of evidence involving in sex behavior decreasing were still insufficient. Thus it is suggested that SRH education in China should be strengthened, especially emphasize the skill-based education to help students develop safety and healthy sex behaviors.

A-228

First sexual intercourse: age, coercion, and later regrets reported by students aged 14-19 years

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Introduction: Social-psychological theories of health behavior suggest that adolescent's sexual behaviors are

influenced by the sexual attitudes and behaviors of their friends. Early sex is associated with high-risk behaviors and outcomes, including sexual risk behaviors

Objectives: To determine the prevalence of sexual intercourse among high schools students; to determine the mean age at first sexual intercourse and to analyze the reasons behind first sexual intercourse and regret.

Methodology: This is a cross-sectional survey conducted on 860 high schools students aged 14-19 years residing in Portugal based on a structured questionnaire.

Results: The study showed that 47,3 percent of the total sample were reported to have had sexual intercourse (45.1 percent of females and 51,1 percent of males). On average, young people have sex for the first time at about age 15 (SD = 1,3). Sexual intercourse was significantly associated with age ($p < 0,01$). The majority of sexually experienced teens (93,2% of females and 87,3% of males) used contraceptives first time they had sex. 88,5 percent said when they had sexual intercourse for the first time it was because they "met the right person," 8,3 percent said it was because "the boy/girls friends wanted to," and 3,2 percent said it was because "many of their friends already had." This study revealed that regrets concerning sexual intercourse for the first time were common for both men (7,5%) and women (12,5%).

Conclusions: The findings can inform the development of policies and practices for sexual education

SEXUALLY TRANSMITTED INFECTIONS

A-229

Cervical smears with atypical glandular cells: diagnostic and treatment algorithms

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Objectives: The purpose of our survey was to compare cytological and histological features of cervical samples and to develop the diagnostic and treatment algorithms for such patients.

Methods: 36 patients (reproductive age) were recruited for the investigation due to atypical glandular cells **(**AGC) cytological diagnosis and were examined clinically (including colposcopy), cytologically (liquid-based cytology, àD Sureph T.M), immunocytochemically (p16INK4a, Ki-67, CINtec PLUS Cytology Kit), hystologically (hematoxylin and eosin staining of paraffin sections). Also PCR-RT was done for HPV detection (samples were obtained from transformation zone and endocervical low part with Endobrush®).

Results: The wide transformation zone around the external os with atypical changes, hypertrophy, cervical cicatricial deformity and multiple retention cysts were detected in 55.6% (20 patients). High risk HPV type (18) was revealed in 11.1% patients, low-risk types (6,11) - in 2 patients. All cytological smears showed atypical glandular cells involving endocervical cells complexes demonstrating hyperchromic enlarged nuclei with different shape and polarity disturbance. AGC and cervicitis were frequently diagnosed simultaneously. Also the squamous abnormalities (ASCUS, L-SIL, H-SIL) were revealed with AGC in 10% of cases. Immonohystochemical staining with double-labeling staining (p16INK4a, Ki-67) were done in 6 liquid-based smears while 5 smears were positive for both markers and 1 was positive only for Ki-67. The biopsy and cervical curettage were performed in 20 patients; the histological diagnoses involved endocervical adenocarcinoma (n = 1), microinvasive squamous carcinoma (n = 1), atypical proliferation of endocervical epithelium with immature squamous metaplasia (n = 2), giant condyloma acuminatum (n-1), chronic cervicitis (n = 15). So AGC accompanied cervical lesions with different oncogenic potential. Our data showed that AGC was frequently diagnosed in patients with chronic endocervicitis (in 75% of cases), although the proliferative index in such smears was low. So these patients should be treated with anti-inflammatory therapy without endocervical curettage. At the same time simultaneous detection AGC and the squamous lesions with high p16INK4a and Ki-67 expression (10% in our investigation) is an indication for endocervical curettage. Moreover, sometimes cone biopsy should be done in such patients because the squamous lesions frequently localize in cervical crypts. Endocervical adenocarcinoma was diagnosed in 5% of patients who were sent into an oncological hospital.

Conclusion Thus, when AGC is revealed with high p16INK4a and Ki-67 expression, it can be an indication for endocervical curretage and target biopsy while low proliferative index points to chronic cervicitis and such cases require only anti-inflammatory treatment.

A-230

Disseminated gonococcal infection - a case report

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Introduction: Disseminated gonococcal infection results from bacteremia caused by *Neisseria gonorrhoeae*, and occurs in 0.5-3 % of patients infected with this bacterium, transmitted by sexual contact. It can lead to a variety of clinical symptoms and signs, such as dermatitis, polyarthralgias, tenosynovitis and fever. We present a clinical case of this rare condition, whose rapid resolution depended on the appropriate therapeutic institution.

Case report: 42 years-old female patient, with irrelevant history with exception of skin reaction in childhood after penicillin administration. She complained of atypical vaginal discharge for three months, resistant to topical therapy with metronidazole and dequalinium chloride, and oral therapy with fluconazole and tinidazole; associated with malaise and dermatitis for the last four days. After presenting with asymmetrical arthralgias and erythema nodosum and *Neisseria gonorrhoeae* being isolated in a cultural vaginal specimen, she initiated antibiotherapy. As she refused hospitalization she did the treatment, a single oral dose of 1g of azithromycin and daily intravenous ceftriaxone 1g, on an outpatient basis. Three days later, the patient was admitted to hospital because of persisting arthralgias, dermatitis, and fever onset. At this time she presented no vaginal discharge and the screening for other STDs (B and C hepatitis, HIV, and syphilis) was negative. She completed seven days of ceftriaxone (1g/day), with rapid clinical and analytic recovery (C-reactive-protein decreased from 257 mg /L 108mg/L)

Conclusion: Although rare, a disseminated gonococcal infection should be considered in the differential diagnosis of a patient presenting with arthralgias, cutaneous lesions and suspicious cervical-vaginal infection.

A-231

Knowledge and opinion of adolescent girls and their mothers regarding HPV vaccine

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Objective: This research is conducted with the purpose of determining knowledge and opinion of adolescent girls and their mothers regarding HPV vaccine and knowledge requirements about the subject.

Design and method: The research was made as descriptive. High schools to be included in the research were selected from simple random chart. 582 adolescent girls and 480 mothers participated in the research. Research data was collected with the questionnaire form consisting of socio-demographic features of tenth grade adolescent girls and their mothers and questions intended for the purposes of the research. Questionnaire is based on the literature. 2 different questionnaire forms were prepared to be implemented to adolescent girls and their mothers. Data obtained from the research was analyzed with Statistical PackageforSocialScience (SPSS) 11.5. Data of the research was assessed with complementary statistics and chi-squared test.

Results: The average age of the girls in the research was found as 15.62 ± 0.61 and the average age of the mothers was found as $40,59 \pm 4,8$. It was determined that 41,9% of the girls heard the HPV infection, 34,14% knew that the vaccine was for cancer treatment, 4,59% knew that the vaccine was for genital warts, 5,6% knew that the vaccine was expensive and 92,1% did not know that the vaccine was not included within the scope of social security. It was determined that 39,2% of the mothers heard the HPV infection, 31,57% knew that the vaccine was for cancer treatment, 7% knew that the vaccine was for genital warts, 8% knew that the vaccine was expensive and 85% did not know that the vaccine was not included within the scope of social security. It was determined that 69,4% of the mothers thought that the vaccine was harmless and 63,5% consider the HPV vaccine as protective. 40,5% of the girls stated that they wanted to have the HPV vaccine. It was determined that 58,5% of the mothers wanted to have their daughters vaccinated. It was determined that 42% of the mothers did not want their daughters vaccinated since they do not have any information about the vaccine. The majority of the girls and mothers stated that they want to have information about the reliability of the vaccine.

Conclusions: As a result of this research, it was seen that girl students wanted to be vaccinated and their

mothers wanted their daughters vaccinated to be protected from cervical cancer, but they need information abouthuman papilloma virus vaccine.

A-232

Treatment as prevention among men who have sex with men in Ghana

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Background: To review the evidence for antiretroviral 'treatment as prevention' for HIV transmission among MSM.

Methods: We reviewed studies that assess the biological plausibility that virally suppressive antiretroviral therapy (ART) reduces HIV infectiousness via anal intercourse and the epidemiologic evidence of whether ART has played a role in attenuating HIV incidence among MSM.

Results: Although ART treatment among MSM is likely to provide some preventive benefit, it is unknown whether it will reduce HIV infectiousness via anal intercourse to the same extent as via penile-vaginal intercourse. Additional research is needed on the pharmacokinetic properties of specific antiretroviral agents in the gastrointestinal tract. Estimates of risk behaviors and the incidence of HIV among MSM before and after the introduction and expansion of ART suggest that the population-level protective benefits of ART may be attenuated by a number of factors, most notably, continuing or increasing frequency of condom less anal intercourse and incidence of other sexually transmitted infections (STIs). Additional studies are needed on the impact of ART on HIV sexual risk behaviors and transmission among MSM in Ghana

Conclusions: The benefits of treatment as prevention for MSM are highly plausible, but not certain. In the face of these unknowns, treatment guidelines for earlier ART initiation should be considered within a combination prevention strategy that includes earlier diagnosis, expanded STI treatment, and structural and behavioral interventions.

A-233

Knowledge of sexually transmitted diseases of seasonal migratory agricultural worker's in Turkey

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Objective: This study was conducted to determine the knowledge of the seasonal migratory agricultural worker's (SMAW) on sexually transmitted diseases.

Design & Method: It was analysed the representative multi-purpose cross-sectional research data of 'The Need Assessment Survey of Migratory Seasonal Workers and Their Families-2011' conducted by Harran University and United Nations Population Fund (UNFPA). In this survey, it was reached 2275 participants older than 18 age (1064 men;1211 women) in 1021 SMAWs' households (response rate was 85,2%) using by probability cluster sampling method selected by Turkish Statistical Institution. In this study, the variables of Sexually Transmitted Diseases Questinnaire were analysed. The University Ethics Committee approval was taken, also the approval of the participants too. The data entry and the analyses were done by using the SPSS 11,5 and descriptive statistics were calculated.

Results: 46.8 % of the SMAW was men, and 53.2% was women. The mean age of the participants; women was 29.5 ± 10.6, men was 33.1 ± 14.0. 28.3% of the women, and 57,7% men reported that they have heard about sexually transmitted diseases (STDs). The often-heard STDs by female were HIV/AIDS (22%), hepatitis (8.5%), fungal infections (7.8%), papilloma (2.7%), gonorrhea (1.4%), syphilis (1.2%); men reported 47.1%, 20.4%, 7.3%, 4.3%, 8.1%, 3.3% respectively. 26.4% of women, and 54,2% men reported that there is effective prevention method againts STDs. The most reported preventive methods from women and men were not to have sexual intercourse, condom usage, reliable partner. When the health problems caused by STDs asked all participants. Women reports were; 11.5 % was cancer, 5.5% was infertility, 3% was infection diseases, 2.1% was inguinal pain, 1.7% was sexual anorexia. Also %14 of men stated that it would cause cancer, 6.8%

was infertility, 3% was sexual anorexia, 1.7% was inguinal pain, and 1.7% was infection diseases.

Conclusions: Consequently, it is clear that the SMAW are highly under the risk in view of lack of knowledge on sexually transmitted diseases and prevention methods. It should be conduct awareness program and community health education interventios.

A-234

Soa Aids Nederland Social Media approach

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Objectives: Using social media for co-creation purposes with the target population to develop (safe) sex campaigns.

Method: Dutch research by van der Putte (University Amsterdam, 2011) showed a relationship between discussing safe sex (or even: discussing a safe sex campaign) and actual condom use.

In interviews with young couples we discovered that the best moment to bring up the subject of condoms is right before you take of your pants. So we communicated a cue; at this moment you should act this was to adher to the social norm, making use of R. Cialdini's theory of heuristics. For this strategy to work,we needed to be as lively as possible so our target audience could project themselves into the situation we showed them. To make this possible we decided to ask the audience to describe these situations. Where would the sex have place? With whom? how would the subject of condooms be brought up? And where would the condom be kept. We made use of a social media strategy to ask as many youths as we could. We co-operated with several smaller community sites and the vlogging community. We were completely open and honoust about our intentions and promised no rewards for participation. The only promises we made were that we would take them seriously and that we would use their input in tv-commercials in the following phase of the campaign.

Results: Our advertorials reached an audience of over 3 million readers, our videos were watched over 2 million times. We received 21.000 handwritten responses and over 60.000 votes on polls. We also found that during our campaign the interactivity with and and between our target audience rose instead of declined. This co-creation led to three tv commercials showing 6 possible scenarios and 3 radio commercials consisting of quotes from the input of the target audience. These commercials reached 91% of our target audience. Not only was the campaign very well received, it was also very effective (message transfer of 98%). The number of youths who reported bringing up the subject of condoms before they took of their pants rose from 56% before the start of the campaign to 74% three months later.

Conclusions: We have learned a lot of techniques and validated many theories about being succesful in social media and using it for co-creation purposes. These learnings can be used for safe sex promotion, but for other health prevention programmes as well.

A-235

Prevalence, risk factors, and genotype distribution of human papillomavirus infection among sexually active students in Japan

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Objectives: Epidemiological information on risk factors for infection and the distribution of HPV genotypes in young women, who are at higher risk for HPV infection-induced cervical cancer, is essential for promoting cervical cancer prevention. We undertook a community-based analysis of the prevalence of, risk factors for, and genotype distribution of high-risk HPV in young, asymptomatic, female college students.

Method:This community-based, cross-sectional study investigated potentially carcinogenic high-risk HPV infection among young, asymptomatic, female students.à They were female students 18 years of age or older who were attending 3 universities and 6 vocational schools in a prefecture in south Japan. Self-administered surveys and self-collected vaginal swabs were distributed. The samples were screened for HPV infection with the Digene Hybrid Capture 2 assay, which includes probes for high-risk HPV (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, and 68).

Results: The subjects were 1183 female student volunteers who provided valid specimens and tested positive for beta globin. 770 of these women were

sexually active, and 125 (16.2%) of them had high-risk HPV infections. Logistic regression analysis revealed that HR-HPV infection was related to smoking history (odds ratio (OR) 2.13; 95% confidence interval (95%CI) 1.98 to 5.05; $p < 0.01$), total number of partners (OR 4.72; 95% CI 1.97 to 11.32 if partners > 5; $p < 0.001$), number of partners in the past 6 months (OR 3.12; 95% CI 1.42 to 6.87; $p < 0.01$), improper use of condoms (OR 2.21; 95% CI 1.25 to 3.90; $p < 0.01$), and Chlamydia infection (OR 2.61; 95% CI 1.28 to 5.34; $p < 0.01$) .The most common HR-HPV genotype was HPV 52 (6.4%), followed by HPV 16 (3.1%), HPV 56 (3.0%) and HPV58 (2.6%).

Conclusions: This study did provide community-based basic epidemiological information on HPV infection and genotype distribution in young women. The prevalence of HR-HPV infection among young, asymptomatic, female students in East Asian countries was in the intermediate range. Before the widespread use of vaccination, the most common HR-HPV genotypes were HPV 52, 16, 56, and 58. These findings will hopefully be used to track changes in HPV prevalence and HPV genotype distribution, as well as changes in the prevalence of HPV-induced cervical cancer, that may occur in Japan with the introduction of HVP vaccines.

SIDE EFFECTS AND RISKS OF CONTRACEPTIVES

A-236

Hormonal contraception, polycystic ovary syndrome, and venous thrombosis

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Objectives: Two recent studies have found a doubled risk of venous thrombosis in women with polycystic ovary syndrome (**PCOS**). The aim of this study was to assess the risk of venous thrombosis in women with PCOS and to explore how PCOS influences the risk estimates of venous thrombosis for different types of hormonal contraception.

Methods: In this historical national cohort study, all Danish non-pregnant women 15-49 years old (n = 1,528,171), free of previous thrombotic disease or cancer, were followed from January 2001 through December 2012 in four national registries for use of hormonal contraception, a PCOS diagnosis, and a first ever venous thrombosis. Included confounders were age, year, education and body mass index.

Results. Within 11,332,675 observation years, 4,184 had a confirmed first venous thrombosis, 54 of these in women with PCOS. After adjustment for use of hormonal contraception, women with PCOS had a 1.9 (95% CI 1.5-2.5) times increased risk of venous thrombosis. After further adjustment for body mass index, this risk was reduced to 1.4 (0.8-2.3). Without/with adjustment for PCOS and body mass index current users of combined pills with 30 μg oestrogen and levonorgestrel, desogestrel, and drospirenone had a relative risk of venous thrombosis of 3.3/3.7, 6.7/6.5, and 6.3/7.4, respectively.

Conclusion. About one half of the increased risk of venous thrombosis among women with PCOS is explained by their higher body mass index. Adjustment for PCOS and body mass index did not materially change the risk estimates of venous thrombosis with use of different types of hormonal contraception.

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Intrauterine devices and severe pelvic inflammatory disease: are they associated? – a case–control study

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Objectives::Pelvic inflammatory disease (PID) is associated with long-term sequelae such as infertility, ectopic pregnancy and chronic pelvic pain, accounting for significant direct and indirect healthcare costs. Intrauterine devices (IUDs) are long-acting, secure and highly effective methods of contraception. However, the relation between IUDs and PID is controversial and still remains subject of several studies. The aim of this study was to evaluate the association between IUD use and severe pelvic inflammatory disease.

Methods: Case-control study, including 24 cases of premenopausal females with severe PID (inpatient treatment) and 99 premenopausal female controls. Statistical analysis, including odds ratios calculation

(95% confidence intervals) for the association of different contraceptive methods with severe PID were performed using IBM® SPSS® Statistics 20.0 for OS X.

Results: Both cases and controls were similar in terms of age (37.0 ± 8.99 and 36.0 ± 9.02, respectively; p = 0.648) and marital status (59.1% married, 31.8% single, 9.1% divorced in cases and 52.0% married, 29.6% single, 5.1% divorced in controls; p = 0.462). All women were sexually active. The rate of contraceptive use was similar in both groups: 72.7% in cases (n = 16) and 81.6% (n = 80) in controls. There was a statistically significant difference in the frequency of IUD users: 62.5% (n = 10) of cases *versus* 15.0% (n = 12) of controls (p = 0.000). IUD use was identified as a risk factor for severe PID, with an OR of 9.44 (95% CI: 2.89 to 30.85). Regarding IUDs users, there was a similar distribution of hormonal devices (Mirena®) and copper devices in both cases and controls (50.0% of hormonal devices in cases and 58.3% in controls; p = 1.000). A tubo-ovarian complex/abscess was diagnosed in 70.8% (n = 17) of cases, being a tendentiously more frequent finding among IUDs users (90.0% versus 42.9% in non-users: p = 0.101), which is translated into an odds ratio of 12.00 (95% CI: 0.94 to 153.89). We found a significantly lower rate of oral contraceptives (OC) use among severe PID cases (18.8% *versus* 57.6%; p = 0.006), with an OR of 0.17 (95% CI: 0.05-0.65).

Conclusions: IUDs may play a role in severe PID, being a risk factor for the disease (OR 9.44) and, possibly, for tubo-ovarian complex/abscess (OR 12.00). Unlike IUDs, oral contraceptives seem to be a protective factor for severe PID (OR 0.17).

STERILISATION: MALE AND FEMALE

A-238

Hysteroscopic sterilization: our unit experience

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Objective: To review the outcomes of patients submitted to hysteroscopic sterilization in our Unit.

Design and Methods: Retrospective study including 79 women submitted to hysteroscopic tubal sterilization using Essure® between 2007-2013 at our Hospital. We evaluate age, parity, method of contraception used, type of anesthesia, duration of the procedure, pain during the procedure, complications and detection of incorrect Essure® micro-insert localization at follow-up after apparent successful bilateral placement.

Results: Mean age was 38 years; all women were multiparas. The contraceptive methods used were: condom (n = 17), oral contraceptives (n = 45), intrauterine devices (n = 6), subcutaneous depot medroxyprogesterone acetate (n = 2), contraceptive implants (n = 3) and none (n = 6). All the procedures were performed without need for anesthesia. The mean time for procedure was 3,66 minutes. Using the verbal analog scale of pain, the mean score was 2. The success rate of bilateral Essure® microinserts placement in one session was 83,5% (n = 66). In another 3 cases two sessions were needed. With a total success placement of 87%. The tubal device was successfully placed in 3 patients without the need to remove intrauterine device. There was one case of uterine perforation and one of Essure® micro-insert placement in a women which later was found to be in an early stage of pregnancy. In 46 of these women (66,7%), tubal obstruction was proven at 3 months follow-up. Incorrect placement was found in three cases. Twenty women (29%) missed follow up appointments. No unintended pregnancy was reported. Thirteen women (16,5%) were proposed to laparoscopic sterilization due to failure in Essure® micro-insert placement or incorrect position at follow-up.

Conclusions: According to our Unit results hysteroscopic tubal sterilization using Essure® is a safe contraception method and viable alternative to laparoscopic tubal sterilization.

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Hysteroscopic sterilization with Essure® - 8 years of our experience

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Objectives: The authors' objective consists in evaluating retrospectively the results and complications of hysteroscopic tubal with the Essure® devices.

Method: Retrospective analysis of medical records of women who underwent hysteroscopic sterilization using Essure® between February 2006 and December 2013. The authors analyzed some data including age, parity, reason of choice of this method, anesthesia, successful bilateral device placement, associated complications and results after confirmatory exam.

Results: This device was applied in 518 patients. The mean age of the patients undergoing the procedure was 38.7 years old (range 26-48). Analyzing the parity, 23.5% of women had only one or any children and only 12.9% had more than 3 children. Permanent contraception was the reason of choice this method in 73.9%.Successful bilateral device was achieved in 475 women (91.7%), 1.9% during the second attempt. During the first 2 years, 96.6% of procedures were performed under general anesthesia in an operating room. Since 2009 most of the women underwent placement of Essure® in an outpatient setting and without sedation, using only oral ibuprofen. At last 2 years only 3 procedures were done at operating room with general anesthesia. In the first years of this procedure, the follow up was made, 3 months later, with pelvic radiography and when inconclusive, the women were submitted to histerosalpingopraphy. Since 2011, we add the pelvic ultrasound to the follow up. The results obtained in the last 2 years with the pelvic ultrasound have been similar to those with the pelvic radiography. Successful bilateral device placement was obtained at majority of women, with no mortality and no major complications. The most detected complication was mild to moderate pain, reported by 27% of women. Two cases of pregnancy were detected, one secondary of misinterpreted histerosalpingopraphy and one after missed follow up.

Conclusions: In our series, the hysteroscopic tubal sterilization with Essure®, showed to be an effective procedure with low morbidity. This procedure can be safe and effectively performed in an outpatient basis with a low rate of complications. Pelvic ultrasound has been a reliable confirmatory test in cases of satisfactory placement and appears to have similar results to previously used methods.

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Tubal ligation in Turkey: findings from a national survey

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Objective: Ever since it was legalized in 1983 the prevalence of tubal ligation has been increasing in Turkey. The most recent Demographic and Health Survey (2008) data shows that the use of this method is 8% among ever married women. Despite its importance as a nonreversible contraceptive method, there is a lack of national studies on this topic. We aim to study the characteristics of female sterilization users in Turkey and thus try to fill this gap.

Design and Methods: Turkey Demographic and Health Survey 2008 data was used for this study. This was a national complex sample survey including 7405 completed interviews with ever married women. Age at sterilization, postpartum/interval sterilization, informed choice, first contraceptive method used, current contraceptive method, as well as socio-demographic variables as age, education, urban/rural residence, region, household wealth, ideal number of children, total number of children ever born variables were used for descriptive analysis.

Results: Among all ever married women, tubal ligation was mostly preferred by women with no formal education (%12), and was rarely preferred by women with high school or higher education (4%). The proportion of sterilized women was 9% among the poorest household quintile compared to 7% among the richest quintile. The mean age of women who had tubal ligation was 34.5. For women who had this operation, the proportion of women with no formal education was 27% and the proportion of women with primary education was 62%. 76% of women were residing in urban areas. They reported their ideal number of children as 2.8 and their mean number of live births was 3.8. 35% of women had their tubal ligation operation between the ages of 30-34. 8% of these women reported that they did not know that they could no longer have children after this operation. The first contraceptive used by 28% of sterilized women was withdrawal, a traditional method. A striking finding was that for 17% of sterilized women, the first contraceptive ever used was in fact tubal ligation.

Conclusion: Our preliminary analysis provides the basic characteristics of women who had tubal ligations. Tubal ligation was observed to be preferred by more disadvantaged groups and women who had this operation had one more child than their ideal number of children. We argue the necessity of qualitative research

to further understand the reasons behind the choice of tubal ligation in Turkey for potential reproductive health policy implications.

MISCELLANEOUS

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Intrapartum Group B Streptococcus Infection: a report of three cases in the Philippine setting

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Background: *Group B Streptococcus* (GBS) is a gram-positive bacterium that is commonly seen in the gastrointestinal tract. In pregnant women, GBS colonization in the vaginal tract is an intrapartum cause of concern due to the high probability of vertical transmission of GBS to the infant during passage upon delivery. Transmission of the bacteria to the infant may also happen intrauterine via ascending infection even with intact membranes. The burden of the disease concerns GBS being the leading cause of worldwide neonatal morbidity and mortality. In the Philippines, the true incidence of GBS disease among pregnant women is generally unknown since GBS screening is not a routine procedure that is being done intrapartum. The objective of this paper is to present cases which are given GBS prophylaxis and to recommend routine use of GBS culture to identify cases needing antibiotics.

Method: In this paper, three cases are presented which are assessed via risk-based approach in identifying patients needing intrapartum antibiotic prophylaxis (IAP). Literature search was done using PubMed and Herdin using the keywords *group B streptococcus*, *GBS intrapartum infection*.

Results: All three cases reported were given IAP. Two presented with watery vaginal discharge, one at term and the other at preterm. The other one had GBS colonization confirmed via urine culture and sensitivity. Neonatal outcomes for the three cases were unremarkable.

Conclusions: In the Philippine setting, to address the threat posed by the continuing lead of GBS as a cause of worldwide neonatal morbidity and mortlity, it is recommended to screen pregnant women with GBS colonization via GBS rectovaginal culture in order to detect patients qualified for administration of intrapartum antibiotic prophylaxis (IAP).

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Effects of Estrogen on hearing impairment

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Objectives: Estrogen 17b-estradiol (E2) is a steroid hormone whose actions involve genomic and non-genomic mechanisms. It is generally accepted that a majority of its effects are mediated *via* two estrogen receptors (ERs), ER-α and ER-β, which belong to a nuclear receptor superfamily, by regulating nuclear estrogen responsive genes.

Method: The purpose of the present study is to investigate the protective effect of E2 against hydrogen peroxide-induced toxicity in organotypic cultures of cochlear explants from three-day postnatal rats (P3). In addition, we also examined the expression of ER-α and ER-β protein in the inner ear of mice by immunohistochemistry. Pre-treatment with E2 ameliorated cell death induced by hydrogen peroxide in organotypic cultures of Corti's organ.

Results: Pretreatment with E2 also significantly suppressed hydrogen peroxide-induced increases in the intracellular accumulation of calcium. Treatment with E2 resulted in an increased expression of ER-α and ER-β.

Conclusions: These results suggest that E2 induced ER-mediated signaling pathway which is useful to prevents free radical stresses and to further protect the auditory sensory hair cells from free radicals.

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Breast cancer risk comparing pre- and postmenopausal women derived from predictive estrogen metabolites - a case-control study

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Objectives: Two main estradiol metabolites have different biological behaviour with antiproliferative characteristics of 2-hydroxyestrone (2OHE1) and tumorigenic features of 16-alpha-hydroxyestrone (16OHE1). It is thought that the increase of the ratio is predictive for a decreased breast cancer risk. We investigated the ratio of these estradiol metabolites in patients with breast cancer (BC) and with benign diseases.

Patients and methods: From 2001 to 2003 in 41 premenopausal pts. with (cases) and without (controls n = 211) BC and 207 postmenopausal pts with and without BC (n = 206) urine samples were collected at the University womens clinic of Tuebingen. The control group comprised following diagnoses: fibroadenoma, mastopathy, hysteromyoma, urinary incontinence, benign ovarian cysts. Urine samples were collected prior to surgery and stored at -20C until measurement. 2OHE1 and 16OHE1 were measured by ELISA (Estramet, Immuna Care, Bethlehem, USA). Absolute values expressed in ug steroid hormone/mg creatinine were compared after logarithmic transformation (log ratio 2OHE1 to 16OHE1) by t-test. The multiple linear regression test with two interactions was performed to evaluate the influence of different factors on the metabolic ratio.

Results: In premenopausal pts. log ratio was 0.25 (CI 0.20;0.29) and 0.21 (CI 0.11;0.31) for controls and cases without significant difference. In postmenopausal pts log ratio was 0.22 (CI 0.17;0.26) and 0.11 (CI 0.07;0.15) in controls and cases respectively and was statistically significant lower (p = 0,0002). In multiple linear regression test log ratio was significantly influenced by BMI, but only in postmenopausal pts. In these pts an increased BMI resulted in a significantly (p < 0,042) decreased ratio of 2OHE1 to 16OHE1.

Conclusions: The data of our case control study suggest that in postmenopausal women a different metabolism of estrogens may play an important role in the tumorigenesis of breast cancer. This genetically determined metabolism could be influenced by the exogenic factor BMI. In premenopausal women different hormone levels at different time points of the menstrual cycle may be an explanation that we could not find an influence of estrogen metabolism in this population.

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Sex therapy with herbal drugs in Iranian traditional medicine

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Background: The Iranian Traditional Medicine has been originated from more than 2000 years ago. The theory of four temperaments and their relations to human sexual health were introduced in the first time by Iranian Traditional physician. According to Islamic emphasis on sexual health, physicians had observations and extensive experiences for treating sexual disorders especially with herbal therapy. They knew the effects of foods and plants on sexual activities very well. Effects, side effects and treatment methods of herbal therapy in sexual medicine are the aim of this research.

Design and Method: We have studied the therapeutic effects of Iranian Traditional Medicine in sexual disorders and fertility subjects (erectile dysfunction, premature ejaculation, loss of desire, orgasmic problems, dysparunia, vaginismus, BPH, menstrual disorders, abortion and contraception). Application forms of herbal medicine in sex therapy are stewing, boiled, crude, inhalation, pickles, suppository, jam, concentrate, salad, medication forms and fruit juice.

Results: In this field, we could find more than 93 specific plants for sexual disorders treatment (such as Salix capraea, Amomum zerumber, Cannabis sativa, Ajuga reptans, Graecum, Zizyphora tenuior, Satureia hortensis for erectile dysfunction and premature ejaculation or Crocus Stivus, Ptychotis,Nymphaea alba for treating orgasmic problems and loss of desire. Aesculus hippocastanum, Urtica dioica, Helianthus annuus, Agrimonia eupatoria in BPH and Nasturtium officinale, Physalis alkekengi and Anthriscus cerefolium as a contraceptive agent).

Conclusion: Psychotherapy cannot be substituted by herbal medications. Although some of herbal medications are toxic and they should be prescribed by physician's order, most of them can be placed in the diets to improve sexual health and reducing sexual problems in society.

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Sanitary surveillance of male condoms natural latex sold in the city of Rio de Janeiro, Brazil

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Objectives: The increased importance of condom use as a tool to protect men and women against sexually transmitted diseases and HIV infection has raised awareness among health authorities regarding the quality of condoms. In Brazil, male condoms, like other products that may cause some kind of impact on health, consumer safety and the environment, have compulsory certificates, i.e., they can move to marketing or distribution with the seal of conformity which certifies that the product meets minimum established quality standards that predict their use. However, although the certification process to assess in detail the production and the final product manufacturing, does not address the issue of marketing in various establishments such as pharmacies, drugstores, supermarkets, typically because it considered issues of Health Surveillance.

Methods: We evaluated 20 brands of male condoms, domestic and imported, from eight manufacturers that are marketed in the city of Rio de Janeiro, Brazil.

Results: All brands met the criteria established in Brazilian National Health Oversight Agency Resolution no. RDC 62/2008. However, nonconforming units were identified in 12 of the brands tested.

Conclusions: From a perspective view of Sanitary Surveillance, not as a unit has serious implications for public health.

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Menopause symptoms and thyroid diseases: a prospective cohort study in 48-50 year old Lithuanian women

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Objectives: To evaluate relation of menopausal symptoms and thyroid status in perimenopausal women

Design and methods: During the period 2012-2013 241 randomly selected 48-50 year old women from general population were enrolled into the study. 21 question *The Greene Climacteric Scale,* GCS was used to survey their menopausal symptoms. GCS contains psychological, somatic (physical) and vasomotor symptoms domains and one sexual function probe. Psychological symptoms score can be divided to anxiety and depression scales. Standard thyroid ultrasound examination, evaluating thyroid lobes size, echotexture, number of nodes and their structure was performed. The thyroid gland was considered as enlarged if its volume was greater than 18 ml. Hormonal analyses were performed using radioimmunoassay method (kits manufacturer - Izotop, Hungary). Statistical analysis was performed using SPSS 20.0 statistical package. Frequencies, means (M) and standard deviations (SD) were calculated. Data was considered as statistically significant at a confidence level of $p < 0.05$.

Results: Females' psychological symptoms mean score was 8.07(5.20), anxiety score 4.70(0.75) and depression score 3.37(2.64). In 17(3.9%) of cases clinical anxiety and in 7(1.7%) of cases clinical depression could be suspected. Somatic symptoms mean score was 4.41(3.34), vasomotor symptoms mean score - 1.29(1.48). Sexual dysfunctions mean score was 0.61(0.75). GCS mean score in the study group was 13.42(8.09). 53(23%) females self reported a present thyroid disease in the questionnaire. Medium thyroid volume in study subjects was 12.1(0.33) ml, 38(15.8%) females had enlarged thyroid gland. After ultrasound examination, 62(25.9%) – US signs of thyroiditis, 61(25.5%) – thyroid nodes, 21(8.8%) – nodes and thyroiditis signs. Mean women thyroid hormones levels were as follows: TSH 1.770(0.028) mU/l, FT4 14.449(0.175) pmol/l. Anti-TPO antibodies level was 52.283(9.162) kU/l, 39(14.9%) had positive anti-TPO antibodies. 10(3.8%) subjects had TSH levels at hypothyrosis level ($TSH > 3.75$ mU/l), 2(0.8%) – at thyrotoxicosis level ($TSH < 0.27$ mU/l). Significant correlations of self reported thyroid diseases and GCS subscales were as follows: anxiety -0.18235 ($p < 0.01$), depression -0.20424 ($p < 0.01$), psychological -0.21657 ($p < 0.01$), somatic -0.16263 ($p < 0.05$) and vasomotor -0.15216 ($p < 0.05$). Mann-Whitney U test analysis in groups of females with or without self reported

thyroid disease showed that females with self reported thyroid disease had higher anti-TPO levels and scored more points in all GCS subscales.

Conclusions: Perimenopausal women with self reported thyroid disease had higher anti-TPO levels and more expressed menopausal symptoms. This study shows the need to differentiate menopausal symptoms from those of thyroid diseases, so thyroid examination should be considered for perimenopausal women.

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The welfare of children in same sex families: a review of the evidence

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Objective: In Europe SSM is legal only in 9 countries; 13 allow same sex couples (SSC) to enter into a registered partnership; and 28 still do not provide any legal recognition of SSC. Outside Europe, a very diverse situation exists but, in the developing world, almost as a rule, same sex couples are not recognized. Access to assisted reproduction and adoption by SSC is extremely diversified: a number of European countries now permit both, but barriers still exist; outside the Western world adoption by SSC is simply not permitted.Since the early eighties, a fairly large number of studies have invariably concluded that there is no evidence that psychosocial development among children of lesbian or gay men couples is compromised. Then, in 2012, a large investigation provided evidence in a multivariate context that young-adult children of parents with a same-sex relationship fared worse in a variety of outcomes: in general young-adult children of a lesbian mother seem to display more significantly different behaviors than children of a gay father. This study elicited a variety of reactions and - as of today - the issue is not settled.Methods: A search of PubMed and EMBASE databases using the terms "same-sex marriages," "same-sex unions," "same-sex families," "laws on homosexual unions," "same sex parenting," "children in same sex unions," and "children in same sex families" was performed without publication date or language restriction in July 2012, and repeated in October 2013. Additional studies were identified through hand searches of ESI review reference lists.

Results: This systematic review followed recent methodological guidelines. Among 182 potentially eligible studies, 76 duplicate references were excluded leaving 106 studies for evaluation, with another 65 deemed ineligible after initial abstract screening. This left 41 articles for final review.

Conclusion: Critics of same-sex marriage argue that the right to marry with its consequences of adoption and access to IVF should be restricted to heterosexuals because growing in a SSF deprives children of the two indispensable figures: a mother and a father. Refusal of SSC and SSM is usually a matter of principle rather than an issue to be resolved through scientific investigation. Therefore, additional studies are unlikely to affect the views of those opposed.

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Review of methodology for determining the day of urinary luteinising hormone surge

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Objective: Many different methodologies have been described for determining the day of urinary luteinising hormone (LH) surge in pre-menopausal women. This study examined published methodologies proposed for allocation of LH surge day to determine the most appropriate method for routine evaluation of ovulatory menstrual cycles.

Methods: A literature review was conducted and identified 12 important publications describing LH surge determination. Surge was always defined as a substantive rise above baseline, but there were a variety of methods for assigning baseline. Most required an initial estimate of the LH surge prior to characterisation, usually day of peak LH concentration or an initial estimate of LH surge. Baseline LH would then be calculated using a varying number of preceding days from initial estimate. Alternatively, some authors used fixed days within the cycle as baseline. The substantive rise (i.e. surge) was also defined in different ways, for example, multiples of baseline level or a number of standard deviations above baseline level. These methodologies were assessed on 254 cycles of daily urine samples (106

non pregnant and 148 conception cycles) from 227 women who were trying to conceive. Results of these methodologies were compared to reference LH surge as determined by expert panel review of LH profiles (LH measured by AutoDELFIA).

Results: Using fixed days within the cycle to assign baseline was a poor method, as it was only able to correctly identify the LH surge, within +/− 1 day of reference day, in 58% of the cycles. The method using the day of the peak LH concentration as the initial estimate performed much better, correctly identifying the LH surge, within +/− 1 day, in 90% of the cycles. Finally, the method using an initial estimate of the LH surge correctly identified the LH surge in 97% of the cycles

Conclusion: A reliable method for the routine determination of the LH surge in ovulatory menstrual cycles is possible using an initial estimate of the LH surge.

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First urinary reproductive hormone normograms referenced to independently determined ovulation day

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Objective: Normograms have been prepared based on true ovulation day for urinary lutenising hormone (LH), estrone-3-glucuronide (E3G), follicle stimulating hormone (FSH) and pregnanendiol-3-glucuronide (P3). Although, normograms have been prepared for serum and urine reproductive hormones referenced against day of peak lutenising hormones, no study has previously referenced levels to actual day of ovulation.

Methods: 40 women with normal menstrual cycle history, completed a study where they collected daily urine samples for one complete menstrual cycle (NCT01802060). They had frequent analysis of serum reproductive hormones and ultrasonography to observe follicle development and collapse, which allowed accurate assignment of day of ovulation. Urinary hormones were measured using AutoDELFIA and normograms prepared centred on day of ovulation.

Results: Ovulation was observed using ultrasound/serum hormones in 38 women (2 women had anovular cycles). Peak LH levels were seen a median of 0.5 days prior to ovulation (5^{th}-95^{th} centile: -2.5 to + 1.5 days). Median peak E3G levels were also 0.5 days prior to ovulation (5^{th}-95^{th} centile: - 4 to + 10 days) and the same median peak day was seen for FSH levels (−0.5, 5^{th}-95^{th} centile: -13 to + 0.5). P3G levels rose to peak levels a median of 7.5 days following ovulation, with a wide 5^{th}-95^{th} centile range of + 3 to + 11 days.

Conclusion: These normograms provide the first reference for urinary reproductive hormones referenced to actual day of ovulation.

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Barriers to family planning service use among the urban women in India

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Objective: This paper examines the barriers to family planning service utilization among urban women areas in India. The aim of this paper is firstly to identify the factors associated with family planning service use and to identify the barriers to service utilization. Secondly, the paper identifies the homogeneity of those barriers among women in urban, and identifies the characteristics of women who report different types of barriers to using family planning services.

Methods: Data from the District Level Household Survey (DLHS-3, 2007-08) of India were been used for this paper. They covered a nationally representative sample of 6,43,944 ever married women aged 15-49 years. The analysis examines two areas: the use of family planning services and the reasons for the non-use of family planning services. Model one examines the determinants of family planning service utilization by fitting a logistic model to a binary outcome coded one if the respondent reports having ever used a modern family planning service. Model two examines factors associated with the reasons for not using a family planning service. Although it is possible that the decision not to use family planning services is the product of a number of factors, women were asked to report the main reason for their non-use of family planning

services. The reasons for the non-use as reported by the respondents, were then categorized according to Foreit and others' (1978) five dimensions of access: economic, psychosocial, cognitive, physical and administrative.

Results: The distribution of the reasons for the non-use of family planning services among urban area women categorized into Foreit and others' (1978) five dimensions. Psychosocial barriers, which include husband's opposition and religious opposition, account for 82 per cent of reported barriers to family planning service use, administrative barriers accounted for nine per cent, cognitive barriers for five per cent and economic barriers for three per cent. Physical distance was reported as a barrier to service use by only one per cent respondents.

Conclusion: The results demonstrate the influence of each of Foreit and others' (1978) five dimensions of access on the propensity of urban area women to use family planning services, and in particular it clearly indicates that the five dimensions have differential impact on women's ability to use family planning services according to individual and household characteristics.

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Demographic warfare: reconceptualizing unmet contraceptive needs among rural indigenous Khasi men and women in Meghalaya, North-East India

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Objectives: This qualitative study explores the reasons for the low uptake of contraceptives and the desired family size in a rural Khasi district in Meghalaya, North-East India. Meghalaya state, in North-East India has some of the poorest health indices in India for maternal and infant mortality. The majority of Meghalayan citizens are Khasi, an indigenous, matrilocal mostly Christian group, of around 1 million people. Commercial mining, state militarization and illegal migration are rapidly bringing in mainland non-indigenous people to Khasi territories. The fertility rates for rural Meghalaya in surveys is 4.38, one of the highest in the country, with the highest unmet need for contraception at 40% and lowest contraceptive prevalence rate of 24% in India. The state promotes family planning especially through the IUD, the pill and injections of hormones.

Methods: An international research team with 6 Khasi indigenous social science researchers conducted action research in three Khasi villages in Pynursla Block, East Khasi Hills with high unmet contraceptive needs. The team conducted 8 focus group discussion using participatory techniques and tools with more than 75 men and women of reproductive ages. Researchers also interviewed health staff at Pynursla CHC, and informal health providers (ASHA workers) and conducted a PRA among healers.

Results: The study found medically and socially articulated preferences for natural contraceptives among women and men to protect women's bodies. For Khasi respondents the purpose of marriage is to have children and form a family. In this matrilocal rural society girls are traditionally preferred to preserve lineage and land. Couples achieve a desired family size between 4 and 6 children, mostly by using natural contraceptive methods, including withdrawal, rhythm methods (calculating ovulation) extensive continuous breastfeeding (3 years), delaying sex by putting children in between husband and wife and sleeping in separate rooms. Having large families fits with Khasi perceptions of the Christian religion. Preference for large families was also articulated as reflecting a need for agricultural labour and demographic resistance against encroachment on indigenous Khasi territory. Contraceptives offered by health workers, especially IUD, pills and injectables are seen as invasive foreign objects that are harmful to women's bodies.

Conclusions: Rural Khasi men and women already practice many family planning techniques; they want support to improve the techniques they prefer and increase their knowledge about other options.