

**Background** Vaginal epithelium thins during the luteal phase of the menstrual cycle, increasing susceptibility to vaginal infection. Exogenous oestrogen thickens vaginal epithelium in ovariectomized monkeys and protects against SIV transmission. While topical oestrogen has beneficial effects on vaginal health in postmenopausal women, its effects in pre-menopausal women are uncertain. This randomised controlled trial evaluated thickening and maturation effects of estradiol cream on vaginal epithelium and changes in microflora in premenopausal women.

**Methods** Eligible women made visits in follicular and luteal phases before and after randomization to estradiol cream (1mg estradiol/1ml cream) or matching placebo. Women applied 4mg cream 3 times weekly for approximately 6 weeks before follow-up visits. Vaginal biopsies were collected for analysis of epithelial thickness and cell layers. Swabs were collected for Gram stain (scored by Nugent's criteria) and for aerobic and anaerobic bacterial culture. Pearson's t-test was used to compare means, Fishers exact test to compare proportions, and generalised estimating equations to compare person-weeks of cream use to pre-cream person-weeks.

**Results** 102 eligible women were enrolled; 83% (85) completed the study. With estradiol, average epithelial thickness increased (27.5 µm, 95% CI 9.7–45.4), as did transitional cell layers (1.3, 95% CI 0.6–2.0), compared to baseline, with no changes among placebo users. *E. coli* colonisation increased among placebo users compared to baseline (OR 4.9, 95% CI 2.7–8.9), but not among estradiol users (OR 0.98, 95% CI 0.4–2.2). The presence of white blood cells decreased only with estradiol cream relative to baseline (OR 0.25 95% CI 0.11–0.55). No serious adverse events were reported and adverse events did not differ by study group.

**Conclusion** Vaginally-applied estradiol cream safely increases epithelial thickness in luteal phase, mitigates the *E. coli* colonisation associated with use of other vaginal products, and has favourable immunological effects. Estradiol holds promise to enhance vaginal infection prevention.

## P04 - Social and Behavioural Sciences Track

### P4.001 GENDER DIFFERENCES IN DETERMINANTS OF HIV/AIDS TRANSMISSION IN ALBANIA: DO THEY EXIST?

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Albania is a low HIV prevalence country with a strong focus on preventing the spread of HIV/AIDS. We used the 2008–09 Albania Demographic Health Survey (DHS) to investigate if there are gender differences in determinants of knowledge about HIV transmission. The Albania DHS is a nationally representative survey of 7584 women and 3013 men. The survey showed that the vast majority of Albanians (93%) have heard of AIDS. Responses to questions assessing correct knowledge about modes of transmission (during pregnancy, delivery, breastfeeding, sexual intercourse, single partner, condom use, mosquito bites, and sharing food) were used to create a score, which was dichotomized by a median split to create a binary 'knowledge' (poor/good) variable. Men were more likely to have poor knowledge (OR = 0.66) about the correct modes of transmission compared to women. To assess if there are any difference in the predictors of this knowledge, separate logistic regression models were constructed for men and women. Higher educational level (OR = 3.37), greater media exposure (OR = 1.15), being resident in Tirana (OR = 1.49), greater wealth (OR = 2.07) having health insurance (OR = 1.18) and having a smaller number of children (OR = 0.87) were associated with good knowledge of transmission modes in women. In males, being resident in Tirana (OR = 1.69), higher educational level (OR = 2.56), greater media exposure

(OR = 1.10), having health insurance (OR = 1.58) and having a smaller number of children (OR = 0.90) were associated with good knowledge of transmission modes. In contrast to women, wealth was not a significant predictor in men. Both regression models controlled for respondent's age, marital status, employment, rural/urban location, religion, and contact with the health care system. In conclusion, with the exception of wealth, there are no significant gender differences in the determinants of knowledge about HIV transmission in Albania.

### P4.002 MAJOR BARRIERS TO CONDOM USE AMONG CLIENTS RECEIVING COUNSELLING ON SEXUALLY TRANSMITTED DISEASES (STIS) PREVENTION -THE AIDS SUPPORT ORGANIZATION (TASO) OPERATIONAL RESEARCH FINDINGS, A NATIONAL NGO IN UGANDA

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**Background** HIV/AIDS is most common among those in long-standing stable relationships, where condom use would play preventive role on transmission of sexually transmitted infections (STIs). A study to assess STIs programme successes and major barriers to condom use among clients receiving routine counselling on STI prevention was conducted.

**Methods** The study was cross-sectional by design, using retrospective electronic data base review on all sexually active clients who had received at least one counselling session in the last six months by end of 31/02/2012.

**Results** A total of 3509 clients were sexually active, 37% were males, 1582 (45%) received counselling on STI prevention; only 36% were males. Of those counselled on STIs, 1081(68%) disclosed HIV status to partners with 60% females, 350 (22%) diagnosed and treated of STIs with 11% males and only 512(32%) reported condoms use, with 39% males.

Major barriers to condom use 546 (34%) did not use condoms, of which 297 (54%), partner refused condoms, 148(27%) were faithful to their partners and only 73(13%) reported religion as a barrier. Type of partner reporting barriers to condom use; 404(76%) spouse, 93(17%) steady, 49 (7%) casual.

**Conclusions** Being a spouse and faithfulness to the partner are major barriers to condom use as key STI prevention measure. People in spouse and steady partners are less likely to use condoms as opposed to those in casual sex partners. Regular counselling is a strong pillar for STI prevention, treatment success and enhancement of partner disclosure.

### P4.003 THE IMPACT OF EMOTIONAL DESIGN ON THE RETRIEVAL OF INFORMATION: THE CASE OF THE BRAZILIAN MINISTRY OF HEALTH'S DEPARTMENT OF STDs, AIDS AND VIRAL HEPATITIS HOME PAGE

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**Background** The home page of the Department of STDs, AIDS and Viral Hepatitis is an important tool for guiding the public on prevention and treatment campaigns, reaching up to 595,097 visits per month. The development of new web technologies highlighted the relevance of the Emotional Design of information. Understanding user-centred information behaviour, the nature of users' needs, the data they expect to find, and identifying the emotional relationship between the user and the information system may impact the search and the retrieval of information positively or negatively.