

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 estriol 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 estriol cream (1mg estriol/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 estriol, average epithelial thickness increased (27.5 μ m, 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 estriol users (OR 0.98, 95% CI 0.4–2.2). The presence of white blood cells decreased only with estriol 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 estriol 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. Estriol holds promise to enhance vaginal infection prevention.

P.04 - 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 like 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.

Methods An exploratory, descriptive study that surveyed 65 individuals aged 18 or older was conducted. The survey asked questions about users' perceptions of their own feelings, the relationship between their affective state and their ability to navigate, the influence of the interface design, and whether their needs were satisfied by the information retrieved, among others, in order to identify users' affective states while dealing with the interface, to determine the level of satisfaction regarding its emotional design, and to learn what types of information users look for on the Department's home page.

Results Analysis of the data showed that of the users 67% presented a negative affective state in relation to the interface, while 33% were positive; 66.15% stated that their affective state interferes with their ability to navigate (for 33.85% it did not); 81.54% stated positive correlation between affective state and navigability; 80% were satisfied with the search and retrieval of information, 10% were dissatisfied, and 10% did not answer.

Conclusion Based on the principles of emotional design, the results shows that the design of the Department's home page had an impact on users' emotional states, which strengthens its role as an important tool in the prevention, treatment and improvement of the quality of life of the users.

P4.004 **ACTOR AND PARTNER EFFECTS OF RELATIONSHIP AND SEXUAL SATISFACTION ON EXTRA-MARITAL PARTNERSHIPS AMONG MARRIED COUPLES IN FISHING COMMUNITIES ON LAKE VICTORIA IN KISUMU COUNTY, KENYA**

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Background Extra-marital partnerships have been associated with the spread of STIs including HIV among married couples. We sought to establish the actor and partner effects of relationship and sexual satisfactions on extra-marital partnerships among married couples.

Methods We conducted a cross-sectional survey of 545 couples. We contacted a proportion to size simple random sample of fishermen on each beach as our index participants and asked them to enrol with their spouses. The consenting couples were separated into different private rooms for simultaneous gender-matched interviews. In addition to socio-economic and behavioural data, we collected information on extra-marital sex partners as well as the scores of participants on a 7-item relationship satisfaction scale and 25-item sexual satisfaction scale. We analysed data using multilevel modelling under the framework of actor-partner interdependent model (APIM).

Results Men had a median score of 56 (IQR 52–61) and women 53 (IQR 47–59) on sexual satisfaction scale. Both men and women had same median score of 16 (IQR 14–18) on relationship satisfaction scale. We found a significant partner effect of men's relationship satisfaction on their spouses number extra-marital partnerships such that the more men are satisfied in their relationship the fewer the number of extra-marital partners their spouses report ($B = -0.10$; $p < 0.01$). Similarly, we found a negative effect of men's sexual satisfaction on their own number of extra-marital partners ($B = -0.46$; $p < 0.01$) and negative beta estimates for women ($B = -0.15$; $p < 0.01$) - meaning that if women are sexually satisfied, they report fewer number of extra-marital partnerships. Men's sexual satisfaction had a negative interaction with women's extra-marital partnerships ($B = -0.17$; $p < 0.01$) such that the more sexually satisfied men are, the fewer the number of extra-marital partnerships their spouses report.

Conclusion Inculcating and maintaining good relationship and sexual satisfaction within couples in this community reduces their own and their partners' number of extra-marital partnerships.

P4.005 **FROM POLICY TO PRACTICE: UTILIZING A HEALTH IN ALL POLICIES APPROACH TO ENHANCE PUBLIC HEALTH AND PROMOTE SEXUAL HEALTH IN COMMUNITIES AFFECTED BY STRUCTURAL CHANGE AND REDEVELOPMENT**

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Background The international framework, Health in All Policies (HiAP), can operationalize approaches to enhancing health by strengthening links between health and policies from non-health sectors (i.e. transportation, land use). Redevelopment can stimulate changes in SDs and health outcomes. From 2010 onward, contiguous projects examined the how structural changes can affect health outcomes and STIs in an area with high STI morbidity.

Methods Fort McPherson, a 488-acre military base in Georgia that closed in 2011, served as the case study. Participatory and community engagement approaches included Health Impact Assessment (HIA), Photovoice, and community ethnographic assessment. First, the inclusion of health as a policy consideration in redevelopment was operationalized and a land zoning HIA was conducted. Project two determined what data, local policy, and sexual health opportunities existed in the "healthy community" conceptualization. Finally, we assessed community and provider perspectives about sexual health services and the potential impact of redevelopment on services.

Results The HIA yielded recommendations that addressed physical changes that would support the adoption of healthy choices, and facilitate social capital and cohesion. Photovoice helped residents recognise community assets that are threatened by SDs. Interactive area maps confirmed comorbidities of SDs and STIs. The ethnographic assessment identified service gaps and community members' perceptions of SD impacts, and recommendations of how community and sexual health can be improved.

Conclusions The projects demonstrated how HiAP can be operationalized to examine SD and health outcomes. Aggregated results determined that: (1) there are discrete "windows of opportunity" for incorporating health considerations into redevelopment decision-making; (2) the use of community and participatory engagement approaches can facilitate the systematic and now longitudinal observation of changing SD impact on STIs, and (3) community-identified assets and policy opportunities can potentially mitigate SD's impact on health.

P4.006 **HIV, PSYCHOACTIVE SUBSTANCE USE AND ANXIETY: A STUDY OF THE DISCLOSURE FACTOR**

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Background The fear of disclosure remained a significant contribution to psychiatric morbidity among patients with HIV infection. This study aimed to determine which of the close associates did not know of the serostatus of the patients and how it influenced use of psychoactive substance and anxiety.

Method This was a prospective study among 159 patients with HIV infection attending outpatient clinic in of a teaching hospital in sokoto metropolis. They were interviewed using semi structured questionnaires which assessed individuals who were not aware of the serostatus of the patients and who patients would not want to be informed about their serostatus. Anxiety disorder was assessed using anxiety subscale of Hospital Anxiety and Depression Scale while CAGE questionnaire was used to assess for alcohol dependence state. Data obtained was analysed using SPSS for windows version 16.0.