O17.4 THE PERILS OF FORCED SEX WITHIN MARRIAGE IN INDIA: EXPLORING THE PSYCHOSEXUAL ASPECT OF SEXUAL BEHAVIOURS AND ATTITUDE AMONG YOUNG MARRIED MEN

Atreyee Sinha. *International Institute for Population Sciences (IIPS), Mumbai, India*

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Introduction Sexual coercion by husbands within marriage, 'marital rape', is till date a shadowy subject in India. Studies are limited on forced sex within marriage in Indian context where early marriage is common, sex that may not be perceived as forced but that is unwanted and awareness on sexual and reproductive matters is limited among women, making them increasingly vulnerable to innumerable sexual health problems.

The objective of the present study was to find out the extent of forced sex, explore the confounding factors and assess men's attitude towards sex within marriage.

Methods A sample of 7812 young married men (15–29 years) from Youth in India: Situation and Needs Study (2006–07) was analysed. Bi-variate and multivariate techniques were applied.

Results 15% of married men forced their wives to have sex ever in life and 45% did so in last one year. Around 19% justified wife beating if wife refuses to have sex. The perpetrators mostly belonged to rural areas, lower economic background and were illiterate. Sexual coercion was most prevalent in arranged marriages and among men who were unhappy in marriage. Poor spousal communication, acceptance of husbands' authoritarian role and wife beating norms for denial of sex were significantly associated ($p<0.001$) with forced sex. Exposure to pornographic materials and regular consumption of alcohol increased the risk of sexual coercion significantly. Men who had witnessed parental violence were 2 times more likely ($p<0.001$) to use force for sex. Those who had experienced gender biassed socialisation and held non-egalitarian gender role attitude were 1.4 times more likely to justify wife beating if wife denies to have sex.

Conclusion Non-equitable gender attitude in men and their belief that a wife has no right to contradict her husband's wish to have sex are the most important risk factors for sexual coercion in marriages in India. Proper orientation on gender issues, sexual

O17.5 POSITIVE ATTITUDES TOWARD UNDERGOING VOLUNTARY MALE MEDICAL CIRCUMCISION AMONG A MALAWIAN COHORT

[1]Alison Norris, [2]Kunuwo Fokong, [1]Elly Chemey, [1]Sarah Garver, [1]Abigail Norris Turner. *[1]Ohio State University, USA; [2]Child Legacy International, Malawi*

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Introduction Voluntary male medical circumcision (VMMC) is a safe, one-time intervention that provides up to 60% protection against HIV acquisition. Although this protection has led men in some communities to queue up for VMMC, in other places, including Malawi, demand remains low. Men report not undergoing VMMC fearing reduced sexual pleasure or performance, infections, bleeding, cosmetic unacceptability, and pain. VMMC can be a transformative intervention in high-HIV prevalence regions, if men decide to be circumcised. We assessed VMMC decision making during a longitudinal community-based cohort study of men and women in rural Malawi.

Methods Through our Umoyo wa Thanzi (UTHA, *Health for Life*) research program in rural Lilongwe District, we interviewed reproductive-age women (n=308) and their male partners (n=140) using a standardised instrument. We assessed knowledge about VMMC for HIV risk reduction, and, drawing from the Theory of Planned Behaviour, we assessed attitudes toward VMMC, subjective norms about VMMC, and perceived behavioural control over VMMC.

Results Most participants (77%) had heard about VMMC. More men (93%) than women (70%) had heard about VMMC, and more men (87%) than women (54%) knew about VMMC for HIV risk reduction. Only 6% of men reported being circumcised. Willingness to learn about VMMC was high (82%), with few participants expressing any concerns. Among male participants, a majority (70%) reported being willing to undergo VMMC. The main concern about undergoing VMMC was that it might hurt (16%). We found high willingness (69%) to undergo VMMC if it were recommended by a health care provider. Most men (71%) expressed confidence about being able to go to a health clinic for VMMC.

Conclusion While earlier VMMC interventions were not successful in Malawi, our findings indicate that in some communities, many rural men have positive attitudes toward VMMC, would learn about and accept health care provider advice to undertake VMMC, and believe they are able to seek VMMC. VMMC should be considered a viable HIV prevention strategy in rural Malawi.

O17.6 A MULTICENTER PILOT STUDY EVALUATING CEFTRIAXONE AND BENZATHINE PENICILLIN AS TREATMENT AGENTS FOR EARLY SYPHILIS IN JIANGSU, CHINA

Xiaohong Su, Yuping Cao, Qianqiu Wang, Huazhong Xue, Xiaofeng Zhu. *Institute of Dermatology, Chinese Academy of Medical Sciences and Peking Union Medical College, Nanjing – China Popular Republic*

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Introduction The aim of this study was to assess the efficacy of ceftriaxone and benzathine penicillin in non-pregnant, immunocompetent adults with early syphilis since there is a lack of clinical evidence supporting ceftriaxone as an alternative treatment for early syphilis without an HIV co-infection.

Methods A randomised, open-label controlled study evaluating the efficacy of ceftriaxone and benzathine penicillin was performed in four hospitals in Jiangsu Province. Treatment comprised either ceftriaxone (1.0 g, intravenously, once daily for 10 days) or benzathine penicillin (2.4 million units, intramuscularly, once per week for two weeks). Serological response was defined as at least a 4-fold decline in rapid plasma regain (RPR) titer.

Results In all, 301 patients with early syphilis were enrolled in this study; 230 subjects completed the follow-ups. The median follow-up period was 9 months. Among these 230 patients, a serological response was observed in 83.9% and 86.5% at the 6- and 12 month follow-ups, respectively. There were significant differences between the ceftriaxone- and penicillin-treated groups at both the 6- (90.2% vs 80.0%; $p=0.012$) and 12 month follow-ups (92.0% vs 81.4%; $p=0.021$), especially in patients with secondary syphilis ($p<0.05$). Moreover, the

Jarisch–Herzheimer reaction was positively associated with treatment regimen prognosis ($p<0.05$).

Conclusion Our serological data demonstrate that this ceftriaxone regimen is more effective than the currently recommended benzathine penicillin regimen for early syphilis in non-pregnant, immunocompetent patients, especially for secondary syphilis.

LB1 – Late Breakers Oral Sesssion

LB1.1 INSIGHTS INTO THE EVOLUTION OF SYPHILIS SPIROCHETES WITHIN AT-RISK POPULATIONS: SEQUENCE VARIATION OF OUTER MEMBRANE PROTEIN β-BARREL DOMAINS IN CLINICAL SAMPLES

[1]Justin Radolf, [1]Sanjiv Kumar, [2]David Smajs, [1]Abhishek Dey, [1]Arvind Anand, [1]Morgan Ledoyt, [1]Carson Karanian, [3]Adriana Cruz, [3]Lady Ramirez, [1]Melissa Caimano, [1]Juan Salazar. *[1]Uconn Health, Farmington, CT, USA; [2]Masaryk University, BRNO – Czech Republic; [3]Cideim, Cali – Colombia*

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Introduction Outer membrane proteins (OMPs) play critical roles in disease pathogenesis and are vaccinogens. Topologic characterisation of surface-exposed β-barrels of *Treponema pallidum* (*Tp*) Nichols rare OMPs enabled a novel strategy to assess sequence diversity and evolution of *Tp* in geographically diverse locations.

Methods Through early 2017, sequences encoding TprC (TP0117), TprD (TP0131), and BamA (TP0326) β-barrels were amplified from secondary syphilis patients from Cali (n=16) and swabs from patients in San Francisco (SF, n=6) and Czech Republic (CZ, n=9). Strains were assigned to the Nichols or SS14 clade based on *tp0548* and/or *tp0558* sequences.

Results 23 assignable CZ and Cali strains belonged to either the SS14 or Nichols clade (SS14 predominant), while all 6 SF strains belong to the SS14 clade. Sequence diversity at the three OMP loci was greatest in Cali, with evidence of recombination within *tprC* and *bamA* alleles, as well as between strains and clades at all 3 genetic loci. SF strains contained nearly identical sequences at all 3 genetic loci. The SS14 and Mexico A reference strains, both belonging to the SS14 clade, have identical *tprDs* (*tprD2*) but different *tprC* and *bamA* alleles. Mexico A *tprC*s were common at all three geographic locations, including Nichols clade strains from Cali. Mexico A *bamA*s were prevalent in Cali and SF, while CZ SS14 clades contained only SS14 *bamA*s. OMP sequences were obtained from all three loci in 7 of 8 Nichols clade strains. Of these 7, only 1 matched the Nichols reference strain, while the other 6 contained Mexico A alleles in at least 1 OMP locus. Of the 21 SS14 clade strains, 10 contained Mexico A alleles at all 3 loci; 2 contained Mexico A *trpCs* and Nichols *bamAs*; and 9 contained Mexico A *tprCs* and SS14 *bamAs*.

Conclusion OMP loci are evolving independently within *Tp*. Recombination of OMP sequences appears to be occurring between *Tp* strains and clades within patients. Mexico A OMP alleles are circulating widely among *Tp* strains. These findings have major ramifications for syphilis vaccine development.

LB1.2 WHAT IS THE STRENGTH OF EVIDENCE FOR HIV AND HPV INTERACTIONS? RESULTS FROM SYSTEMATIC REVIEWS AND META-ANALYSES OF LONGITUDINAL STUDIES

[1]katharine j Looker, [2]Minttu M Rönn, [3]Patrick M Brock, [4]Marc Brisson, [4]Melanie Drolet, [5]Philippe Mayaud, [6]Marie-Claude Boily. *[1]University of Bristol, Bristol, UK; [2]Harvard T. H. Chan School of Public Health, Boston, USA; [3]University of Glasgow, Glasgow, UK; [4]Université Laval, Québec, Canada; [5]London School of Hygiene and Tropical Medicine, London, UK; [6]Imperial College London, London, UK*

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Introduction We conducted two systematic reviews. Review 1 (R1) summarised evidence for the influence of HIV on HPV acquisition and clearance. Review 2 (R2) summarised the evidence for the influence of HPV on HIV acquisition. R1 is the first meta-analytic review to quantify the impact of HIV on HPV infection. R2 updates two earlier meta-analyses.

Methods Both reviews were conducted according to PRISMA and MOOSE guidelines. We searched PubMed and Embase up to January 2017 for longitudinal studies of HPV incidence and clearance rate by HIV status and of HIV incidence by HPV status. We derived pooled relative risk (RR) estimates using a random effect model and performed subgroup analyses to understand main sources of heterogeneity, examined dose-response relationship and produced funnel plots.

Results In R1, 37 publications comprising 25 independent study populations were included. The incidence of HPV (pooled crude RR [cRR]=1.55, 95% CI 1.29–1.88) and of high-risk (HR) HPV (pooled cRR=2.20, 95% CI 1.90–2.54) was doubled whereas HPV clearance rate (pooled cRR=0.53, 95% CI 0.42–0.67) and HR-HPV clearance (pooled cRR=0.69, 95% CI 0.57–0.83) was nearly halved among people living with HIV (PLHIV). HPV incidence when CD4 count ≤200 cells/μL among PLHIV was higher, but not statistically significant, than for CD4 >200 cells/μL (pooled cRR=6.65, 95% CI 2.98–14.85 vs 3.20, 95% CI 2.48–4.13). In R2, 14 publications comprising 11 independent study populations were included. HIV incidence was almost doubled in the presence of prevalent HPV infection (pooled cRR=1.91, 95% CI 1.38–2.65) and for HR-HPV (pooled cRR=1.63, 95% CI 1.26–2·09). Risk of HIV acquisition increased with the number of HPV types. Crude and adjusted pooled estimates were similar in both reviews. There was more evidence of publication bias in R2 than R1.

Conclusions The findings met most Bradford-Hill criteria for causation. Our results have clinical and public health relevance: HPV vaccination may benefit PLHIV and indirectly help to reduce HIV transmission. HIV prevention may also reduce HPV transmission.

LB1.3 ANTICIPATING RESISTANCE OF *MYCOPLASMA GENITALIUM* TO QUINOLONES AND MACROLIDES: NANJING, CHINA

[1]Xiaohong Su, [1]Yang Li, [1]Wenjing Le, [1]Sai Li, [2]Yuping Cao, [2]Peter A Rice. *[1]Institute of Dermatology, Chinese Academy of Medical Sciences and Peking Union Medical College, Nanjing – China Popular Republic; [2]University of Massachusetts Medical School, Worcester, USA*

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Introduction For treatment of *Mycoplasma genitalium* (Mg) infection, azithromycin is first line initial treatment but