Background Condoms decrease sexually transmitted infection (STI) transmission, good evidence supports this, if used correctly. This study investigates individuals understanding of the correct use of male latex condoms.

Methods Random individuals completed a questionnaire and were requested to conduct an observed demonstration of condom application, marked against criteria from British Association for Sexual Health and HIV (BASHH) guide for condom use and Centers for Disease Control and prevention (CDC) Condom fact sheet.

Results 127 responders, 45 participants in the observed demonstration (57% males, 46 females, age 12–66) 100% believed they used condoms correctly, 68% were self-taught. 100% knew condoms were barrier contraception. 67% indicated condoms protection against all STIs and 5% indicated no STI protection: 11% gonorrhoea and Chlamydia only, 10% HSV and warts only and 7% HIV only. 7% felt condoms decreased STI transmission during oral sex and 10% during anal sex (100% of men who have sex with men). During observed demonstration, 55% correctly applied a condom. Mistakes: not squeezing air from condom, unrolling before applying and condom contact when opening. Factors stated to increase latex condom splitting: 25% penis size, 22% sexual vigour, 7% certain lubricants, 46% unsure (25% admitted to doubling condoms once since coitarche; all unaware of risk) 38% believed condoms not required throughout intercourse, 100% of these believed STI transmission was decreased if worn at the end.

Conclusion Perceived good condom technique, however, practical adherence to guidance is poor (particularly younger cohorts) Inadequate heterosexual awareness of STI transmission and prevention during oral and anal intercourse. Poor understanding of condom STI protection, risks for condom splitting and timing of condom use. Good quality sexual education to include male condoms is important. Age of education is crucial capturing individuals before and timely to coitarche. Self teaching is common and requires quality accessible material. Opportunistic teaching is required, condom use competence should not be assumed.

Lessons learnt Male Partners who turned up to the clinic were very supportive in reminding their partners clinic appointments and product use for better adherence. Increased disclosure among discordant couples, and helped treating sexually transmitted infections.

Conclusion Male Involvement in microbicide studies is of utmost importance. Men need a proactive approach to get involved in clinic activities to support spouse in adherence and avoiding STD/STI re-infection.
Background In low-risk women, *in vitro* inhibition of E. coli by genital tract secretions is associated with Lactobacillus crispatus and jensenii proteins. However in at-risk populations, HIV seroconversion was associated with greater E. coli bacterioidal activity and inflammatory immune mediators. We therefore analysed the relationship between inflammation, E. coli bacterioidal activity, and microbiota in vaginal swabs from participants in a safety study of VivaGel®.

Methods Swabs were collected before and after product use from subjects randomised to vaginal VivaGel® (n = 66), VivaGel® placebo (n = 65), or hydroxyethylcellulose (HEC) placebo (n = 54). Cyto-kines were quantified by multiplex proteome array and lactoferrin and SLPI by ELISA to generate a cumulative inflammatory score using principal components analysis. E. coli bacterioidal activity in swab supernatants was quantified by a colony reduction assay. Vaginal bacteria were characterised by quantitative cultures. Generalized estimating equations controlling for product use were used for analyses.

Results Higher inflammatory score was associated with detection of Gardnerella vaginalis (OR 1.5; p = 0.02) and anaerobic gram-negative rods (OR 1.4, p = 0.05), a trend towards diminished hydrogen peroxide-producing lactobacilli (OR 0.7, p < 0.001). The combined presence of group B streptococcus, E. coli, S. aureus, and enterococcus (potential pathogens) was associated with decreased E. coli bacterioidal activity (p = 0.06). However these results were modified by gel type. Higher inflammatory score was associated with greater E. coli bacterioidal activity only in the placebo arms (VivaGel® p < 0.001; HEC p = 0.002), while pathogenic bacteria were associated with decreased E. coli bacterioidal activity in the VivaGel® arm (p = 0.001).

Conclusion Mucosal inflammation was associated with E. coli bacterioidal activity in women using placebo gel, which could contribute to the previously observed link between bacterioidal activity and HIV seroconversion. However bacterioidal activity in women using VivaGel® was influenced by pathogenic bacterial populations, which may reflect an altered genital mucosal milieu.

**P3.365**

**DOES TENOFOVIR GEL - OR DO OTHER VAGINAL MICROBICIDE PRODUCTS - AFFECT DETECTION OF BIOMARKERS OF SEMEN EXPOSURE?**


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**Background** Prostate Specific Antigen (PSA) and Y chromosome are used as biomarkers of semen exposure. There is currently no information on whether vaginal products evaluated in microbicide trials, in particular, tenofovir gel (TFV), UC781 or the universal HEC placebo adversely affect PSA detection when tenofovir gel or the universal HEC placebo might be present. The Y chromosome PCR assay when used quantitatively to indicate presence of Y chromosome is not affected by any of these products, but the quantitative results should be used cautiously as the values are affected by microbiotic products. *In vivo* confirmation of these findings is recommended to further optimise detection of semen biomarkers when microbiotic products may be used.

**P3.366**

**CHLAMYDIA SCREENING IN EDUCATIONAL SETTINGS: A SYSTEMATIC REVIEW OF STRATEGIES AND OUTCOMES**


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**Background** Low *Chlamydia trachomatis* (CT) testing rates in primary-care (5–20%) in many countries have encouraged screening programmes in non-clinical settings. We describe the strategies and outcomes of screening programmes in educational settings.