

phylogeny to detect HIV clusters has highlighted acute infection in some studies (especially among MSM), but such work has been primarily retrospective; real-time use of viral phylogeny for HIV prevention has not yet been implemented. Ongoing community based “test and treat” trials in Africa may help determine the importance of acute infection in the centre of the pandemic. The outstanding question for public policy is what degree of emphasis to place on detection and treatment of acute and early HIV, a question that can only be addressed with further empirical results and cost/benefit analysis.

PL05.2 WHY STI-ASSOCIATED GENITAL TRACT INFLAMMATION STILL MATTERS IN HIV TRANSMISSION

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10.1136/sextrans-2015-052270.14

Women in Africa, especially young women, have very high HIV incidence rates that cannot be fully explained by behavioural risks. In the setting of syndromic management for sexually transmitted infections (STIs) and bacterial vaginosis (BV), the influence of these, particularly asymptomatic infections, on CD4⁺ T cell activation and inflammation in the genital tracts of adolescents from South Africa urgently needs to be addressed. The influence of genital inflammation on HIV acquisition in this group will be discussed. Our study found that HIV seroconversion was associated with raised genital inflammatory cytokines (including chemokines MIP-1 α , MIP-1 β and IP-10). The risk of HIV acquisition was significantly higher in women with evidence of genital inflammation, defined by at least 5 of 9 inflammatory cytokines being raised [OR 3.2; 95% confidence interval 1.3–7.9]. Genital cytokine concentrations were persistently raised (for about one year before infection), with no readily identifiable cause despite extensive investigation of several potential factors, including STIs and systemic cytokines. Adolescents (median 18 years) had significantly higher frequencies of activated CD4⁺ T-cells (CD38⁺, HLADR⁺, CD38⁺HLADR⁺) from cervical cytobrushes than adults, although CCR5 expression was higher in adults. STIs and BV prevalence was very high in certain areas of South Africa, with 71% of adolescents having >1 STI and/or BV, and 42% being *C. trachomatis* positive. Adolescents with an STI had higher frequencies of activated and proliferating T-cells compared to those with no STI/BV. Higher cervical T-cell activation marker expression was directly associated with increased genital cytokine profiles. Our data suggests that elevated genital concentrations of HIV target cell-recruiting chemokines and a genital inflammatory profile contributes to the high risk of HIV acquisition in these African women. In adolescents, heightened levels of genital immune activation and inflammation, partly due to the presence of asymptomatic STIs/BV, could increase their risk for HIV infection.

PL05.3 HIV AND SYPHILIS: A SYNDEMIC WITH NO END IN SIGHT

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10.1136/sextrans-2015-052270.15

Syphilis rates are increasing in many parts of the world. HIV-infected persons, particularly men who have sex with men (MSM), have been affected disproportionately. In a recent study, 15% of patients attending New York City STD clinics who were diagnosed with syphilis subsequently became HIV-infected. Several questions about the optimal management of syphilis in HIV-infected persons remain unanswered and continue to elicit controversy, yet none of these are responsible for this persistent syndemic. There are, however, many questions whose answers may critically impact the control of these infections: What is the role of novel point-of-care syphilis tests? Is there a role for syphilis pre-exposure prophylaxis and male circumcision? How will PrEP impact the rates of syphilis? Seventy years following the introduction of a cure, and over 30 years after the discovery of HIV, syphilis continues to present formidable challenges to public health.

Plenary Session PL06

Wednesday 16 September 2015

3.45pm – 5.15pm

PL06.1 LEGAL AND HUMAN RIGHTS DIMENSIONS OF HIV AND STI: HISTORICAL BACKGROUND AND POLICY IMPLICATIONS

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10.1136/sextrans-2015-052270.16

The degree of regulation of sexuality has been very diverse through times and cultures. Christianity regulated it heavily, and many of its views became part of the European legal tradition. The last thirty years have seen considerable changes in Western culture, including the emergence of social movements around gender equity, sexual diversity, and HIV. In connection with the struggles of these movements as well as other social and political changes, there has been considerable progress in the situation of women and people with non-heterosexual identities, although in this case there has been a greater range of changes, including some on the negative side, such as criminalization. Finally, the global HIV movement made significant changes in the relationship between scientists, doctors, community and regulatory agencies, and led a crusade to expand access to treatment and prevention.

Because HIV is primarily sexually transmitted, and more prevalent in socially excluded groups in countries without generalized epidemics, AIDS was doubly stigmatized: as a deadly and mysterious disease, and as an indicator of social exclusion. Predictably, HIV stigma led to discrimination in access to services. In most of the world, the promotion of condom use did reduce, but never eliminated HIV transmission. Such finding brought a focus both to cultural differences and to structural vulnerability. HIV is clearly more frequent among socially excluded people, who need public interventions to reduce such vulnerability. In its history of more than three decades, HIV has elicited a variety of responses in legislative and regulatory frameworks, both positive and negative, some of which will be discussed.

The history of the response to STIs, with emphasis on the modern HIV epidemic shows the growing relationship between public health, public policy and legislation, and the potential

role of genuine community participation based on both scientific evidence and international human rights principles.

Symposium Presentations

S01 - A strategy for HIV/STI prevention in low and middle income countries

S01.1 HIV AND STI PREVENTION: WHAT IS AN INTERVENTION?

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10.1136/sextrans-2015-052270.17

Structural intervention approaches for HIV prevention work to remove social barriers to the use of HIV prevention services and promote the adoption of behaviours that reduce the risk of HIV transmission. These approaches act at the health policy level to support the delivery of HIV prevention tools; at the health systems level to support the integration of HIV prevention with other health services; and at the community level to promote of critical enabler interventions, such as peer-based community empowerment programmes developed through safe spaces often physically within health facilities. They also take the form of policy integration and resources with non-health sector structures that reach populations at risk in large numbers, such as in social development, education, microfinance/poverty alleviation. While there have been some evidence syntheses on the effectiveness of specific types of structural interventions, there is no review or summary of the evidence on the effectiveness of such interventions as a whole. This paper will provide a synthesis of the evidence on the effectiveness of structural interventions for HIV prevention, by providing a review of reviews of the literature with a discussion of the strength of the evidence from reviews and primary studies. The paper will summarise the key findings from these reviews with an aim to provide recommendations for the use of structural interventions for HIV prevention.

S01.2 SYSTEMATIC REVIEWS OF THE EFFICACY AND EFFECTIVENESS OF BIOLOGICAL, BEHAVIOURAL AND STRUCTURAL HIV PREVENTION INTERVENTIONS

Shari Krishnaratne*. *London School of Hygiene & Tropical Medicine, London, UK*

10.1136/sextrans-2015-052270.18

Behavioural interventions for HIV prevention work by encouraging people to change behaviours that may make them more susceptible to HIV infection, or more likely to infect another person. There is some evidence that such interventions have led to reductions in HIV risk behaviours, such as having multiple partners, and improvements in other outcomes, such as increased condom use, increased testing, and improved treatment adherence. Behaviour is influenced heavily by socio-cultural contexts and as such, behavioural interventions must be sensitive to these contexts in order to be effective. Examples of behavioural interventions include individual and group level counselling, and providing information and guidelines through community outreach and mass media campaigns.

This paper will provide a synthesis of the evidence on the effectiveness of behavioural interventions for HIV prevention. A

review of reviews methodology will be followed to identify relevant primary studies. The strength of the evidence from these reviews will be evaluated and recommendations will be made.

S01.3 DELIVERY OF HIV/STI PREVENTION INTERVENTIONS: PREVENTION CASCADES

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10.1136/sextrans-2015-052270.19

The HIV treatment cascade has been a powerful illustrative tool used to explore the performance of HIV treatment programs. The cascade steps through the recruitment of HIV-infected individuals into treatment programs and the effectiveness of those programs, and despite its conceptual flaws provides an intuitively appealing snapshot of performance. Because of its advocacy potential attempts have been made to generate a prevention cascade, covering those HIV positive and negative or to integrate prevention into the treatment cascade generating a 'prevention, treatment and care cascade'. However, these tend to diminish the focus on prevention, confuse different interventions and do not provide a simple scheme through which to measure performance. Here we explore the required elements for prevention cascades for HIV and other sexually transmitted infections and identify the steps linking the delivery of interventions with their use in populations. Starting from the susceptible population at risk we can consider whether the intervention is available to them, whether they uptake the intervention, whether they adhere to the intervention and what the efficacy of the intervention is. Cascades for the delivery, use and effectiveness of prevention products should be able to identify who has been protected, what the key failures in protection are and the relative importance of system and product characteristics. In explaining theoretically how we might think about prevention programs we hope that empirical studies will consider adopting this framework, which has guided some thinking about voluntary medical male circumcision programs and HIV pre-exposure prophylaxis programs. In HIV treatment global targets and indicators have been set based on the treatment cascade and without similar targets for other prevention interventions they are likely to be neglected.

S01.4 MODELLING THE COST-EFFECTIVENESS OF HIV PREVENTION INTERVENTIONS

Tim Hallett*. *Imperial College London, London, UK*

10.1136/sextrans-2015-052270.20

Ambitious targets have been set for HIV prevention. We will begin by examining assumptions for HIV prevention scale-up in the light of the concept of the 'prevention cascade' using available data. Then, we will show that a key part of optimising prevention impact will be in allocating available funding according to four main factors – intervention, population, geography and time. The impact of flexibility or constraint on each of these will be illustrated, providing recommendations for how international and domestic decisions can be taken to maximise epidemic impact. Finally, we will examine methods to evaluate the evidence of new prevention technologies to determine the scale of investment they might optimally attract. We will show that this requires a holistic view of the range of tools available in