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RISK FACTORS AND HIV/AIDS AMONG THE MSM IN DEVELOPING COUNTRIES OUTSIDE OF THE AFRICAN CONTINENT

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The spread of AIDS has seriously impacted developing countries on a scale unimaginable to industrialized countries. The number of people living with HIV/AIDS worldwide was estimated to be 46 million people as of Dec. 2003, with a total of over 60 million people who were affected by the virus globally. Sub-Saharan Africa is the region with the highest rate with 29 million cases (UNAIDS/WHO, 2003). However, the HIV cases within the confines of developing countries outside of the African continent have become a major concern for researchers and epidemiologist alike. This paper will review epidemiological literature that examines the connection between the sexual practices of men who have sex with men (MSM) and the contraction of HIV/AIDS in developing countries.

As with other developing countries, risk factors and HIV prevalence among the heterosexual population are well characterized through surveillance systems. This has not been the case with the surveillance of HIV and risk factors among MSM. Much of the tracking has paid attention to behaviors and infections among female sex workers, and intravenous drug users. This erasure has eclipsed the increasing HIV prevalence rates, and the risk behaviors practiced among the MSM that contribute to its rise in HIV cases. In China, for instance, from 2001-2002 prevalence rates were reported as 3.1 percent among the MSM (Choi et al., 2004 ; Choi, Liu, Guo, Han, Mandel, & Rutherford, 2003). In countries where the epidemic is more virulent like India, Cambodia, Thailand and Malaysia, HIV infection rates as high as 17 percent can be found within MSM subcultures (Choi et al., 2004; Kumta et al., 2002; UNAIDS, 2002b).

Within the MSM population high risk factors expressed through sexual behaviors such as having multiple male partners or group sex; having engaged in unprotected anal sex with multiple partners; unprotected sex with female sex workers, and unprotected sex with an infection of any curable STIs have been significantly associated with HIV infection (Choi et al, 2004; Crosby and Mettey, 2003). Several studies have shown that these sexual practices among the MSM has lead to increases in rates of HIV/AIDS for MSM subculture (Choi et al., 2004; Choi, Liu, Guo, Han, Mandel, & Rutherford, 2003; Pontes, (1999).

Girault et al. (2004) conducted a cross-sectional cohort study of 206 men who have sex with men from 16 sites in Phnom Penh, Cambodia. These sites included places where MSM meet partners or gather socially such as parks, karaoke bars, male massage parlors and brothels, discotheques, cinemas and street cruising areas. In this study all of the subjects were surveyed about their sexual behaviors within the past six months and tested for HIV and sexually transmitted infections (STIs). Forty-one clusters were randomly selected within the 16 sites to create a non self-weighted sample. To help curb respondents' recall bias they were asked specific questions about their sexual encounters and practices over a one-month reference period rather than a six-month period prior to the survey.

The questionnaires revealed that anal sex with multiple partners, unprotected vaginal sex with commercial female partners, and STIs were common among the participants. After the serological testing a HIV prevalence of 14.4 percent, was reported among the sample. As a result, significant risk factors for HIV were found to be anal sex with multiple partners, unprotected vaginal sex with commercial female partners, and any STI. One of the flaws of this study was that Girault et al. relied on a small sample size that could not capture the general population reflected in the mean 6.4 percent of males who reported anal sex partners (range 1-66) (95 percent confidence interval (CI): 5.0-7.8. This was due to the rejection rates of MSM who refused to participate in the study. Otherwise, the study was sound because it relied on both behavioral and epidemiologic data to support its findings.

Colby et al. (2004), reviewing the HIV epidemic affecting MSM in Vietnam, performed a meta-analysis of three behavior studies that used surveys to gather quantitative data on types of sexual behavior. The three behavior surveys of HIV risk factors for the MSM population in Vietnam included: CARE International (1993) who interviewed 107 MSM; Save the Children (United Kingdom) collected behavioral surveys from 276 MSM in Ho Chi Minh City in 1997 (Pierre, 1997), and a third study conducted in the same city in 2001 surveyed 219 MSM from ages 17-51 (Colby, 2003). Similar to the study of Girault et al., increased risk for HIV infection was found to be due to high numbers of sexual partners, high rates of unsafe sex and inconsistent condom use.

One of the limitations of this behavioral study synthesis was the insufficient assessment of the measurements of cofactors (i.e. social economic status, education, demographic data, drug use, etc.). Whereas Girault et al. (2004) controlled for confounding effects of other factors to permit assessment of reasonably precise risk estimates, Colby et al. (2003) did not. There was also a high potential for selection bias in these studies since Girault et al. provided actual testing for HIV in a cohort study, which would have impacted the types of participants drawn to the study. In the studies examined by Colby et al. (2004), surveys were the primary requisite. However, without the quantitative analysis of seroconversion and HIV infection the hypothesis of the study does not make a strong enough link of exposure to the disease. These gaps help illustrate the importance of epidemiologic studies.

Sampaio et al. (2001), in a prospective cohort study between September 1998 and December 1999, used a pre and post comparison method to evaluate the efficacy of interventions designed to modify risky sexual practices among MSM living in Salvador, Bahia, Brazil. The study was composed of three phases: a qualitative study, a pilot study and an intervention study. Two hundred twenty-seven MSM men were recruited and interviewed through snowball sampling before and up to six months after participating in brief AIDS prevention interventions.

The behaviors measured were unprotected anal sex with a partner or with a non-monogamous partner, and knowledge and attitudes of HIV/AIDS. All subjects completed a questionnaire which included information about demographics, sexual practices, sexual identity, number of sexual partners, drug and alcohol use in the previous month, education and a brief medical history. While the researchers found no statistical difference in the intervention programs observed, they did discover that the proportion of men reporting unprotected anal intercourse in the prior month fell from 19 percent before the intervention to one percent after it (Sampaio et al., 2001).

While this study expanded the parameters of the behavioral study conducted by Colby et al. (2004), one of the limitations in this study was that there was no measure-

ment of seropositivity and HIV/AIDS among the MSM in Developing Countries. Or may be accompanied by decreased HIV infection incidences. The lack of a control group also created a bias in the study. Without a control group, comparisons in changes of behavior are not adequate. It would be difficult to assess whether changes in behavior were due to “temporal trends” rather than the success of the interventions.

One of the techniques that made this study a thorough one was the use of education as a weight and cofactor. The test used education as a weight to effectively analyze the bias in the study. Sampaio et al. (2001), found that their sample included men with a higher level of education than most other studies, thus the willingness to change behavior and knowledge about the repercussion of risky sexual behavior would have been present among the subjects (De Souza et al., 1999; Kerr-Pontes et al., 1999). Overall, the study was successful in suggesting that AIDS prevention activities designed to decrease risky sexual behavior for MSM in similar settings can be feasible and effective.

Grandi et al. (1999) were much more specific in their focus of samples within the MSM subculture. The researchers recruited 434 transvestites and 96 “hustlers” for their cohort cross-sectional study in the metropolitan area of Sao Paulo, Brazil, from 1992 to 1998. Each of the participants were given questionnaires that included demographic data, sex work history, sexual practices, HIV-risk behavior information, condom use and drug use. All participants were also anonymously tested for HIV, and specimens were assayed for HIV-1 enzyme-linked immunoabsorbent assays (EIA). All EIAs were further evaluated by means of an indirect immunoflorescent assay (IFA). The test revealed a 40 percent HIV infection rate in transvestites and a 22 percent HIV prevalence rate in hustlers.

In this study risk for HIV was associated with oral sex with clients, receptive anal sex, working in sex work for three years or longer, and drug use behavior. Of the men who had been in sex work for three or more years, 51 percent were infected with HIV. For this reason, gender performance and duration of time in CSW were derived as the risk behaviors leading to HIV infection, rather than risky sexual practices or behavior. Although this study might have revealed much about the risk behaviors for male sex workers in urban areas, it might not revealed the same behavior trend in smaller towns or rural areas.

This study took into consideration the risk behaviors of subsets within the MSM culture. This strategy is crucial for the improvement of prevention and intervention programs that handle MSM as a homogeneous group. Indeed, this study was well done, because Grandi et al. (1999) used the duration of sex work as an important factor to assess HIV infection, where as Girault et al. (2004) also used CSWs to form the majority of their samples, but did not use this information as an indicator for HIV infection rates or risk behavior for infection.

Focusing on HIV type 1 Pando et. al. conducted a cross-sectional cohort study to determine HIV seroprevalence in a sample of 694 MSM in Buenos Aires City and to identify risk factors associated with HIV type 1 infection. All participants were selected from a NEXO (a local gay non-governmental organization (NGO)). In over a one-year period, 2000 to 2001, human immunodeficiency virus was detected in 96 (13.8 percent; 95 percent CI: 11.4–16.7) of 694 MSM. HIV-1 infection was found to be associated with older age (30–39 years), being unemployed, a previous sexually transmitted disease (STD) history and having an HIV-positive partner. Cocaine consumption and irregular use of condoms during anal sex with occasional partners were also found to be risk factors. In a multivariate logistic regression analysis, being unemployed and hav-

ing an HIV-positive partner remained significant risk factors. In this study it is hard to conceive that all the samples were drawn from the NGO. This would definitely create a selection bias; but, although the participants would have been privy to information about HIV risk, the prevalence rate among the sample proved to be significant.

Based on these research studies, it appears that certain risk factors exist that increase the chance of HIV infection for MSM. Although it would have been interesting if the studies analyzed the impact of the HAART (highly active anti-retroviral therapy) and the HIV drug cocktail era on the risk behaviors observed. Nevertheless, the overlapping data on condom use, number of partners, sexual practices and gender performance proved to be evident epidemiological factors in the spread of HIV infection in MSM subpopulations in developing countries. Also, all of the studies helped to illustrate the association between behaviors and infections through both qualitative and quantitative methods. In order for us to better understand the HIV/AIDS epidemic it is crucial that we investigate the epidemiology of the disease in various subcultures; this would help increase the efficacy of prevention interventions.

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