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HIV and Homosexuality: In the Light of Therapeutic Interventions

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Abstract

In this article the author reviews research on high risk factor of Human Immunodeficiency Virus in homosexuals and how lack of awareness & unprotected anal sex contribute substantially to new infections among this population. current HIV prevention efforts by providing insight into the patterns of Indian MSM behavior and sexual partnerships, and the specific cultural, social inequality, the gaps and lack of knowledge and psychological context in which HIV risk is occurring. And the need to develop effective awareness programs for well-functioning prevention of HIV and considerable understanding of the logistical and socio-cultural barriers MSM experience while accessing HIV prevention services. And in last will put light on therapeutic interventions for Human Immunodeficiency Virus, behavioral interventions that are socially and culturally appropriate for the population or community being prioritized and addressing multilevel psychosocial factors, including skills building and strategies to foster self-acceptance and increased social support for MSM. At the same time, prevention messages need to be designed and adapted to the knowledge level and culture of people.

Introduction

HIV infection among men who have sex with men (MSM) has been increasing in recent years around the world, particularly in Asia[1], estimated HIV prevalence among MSM ranging between 7 and 16.5 per cent[2,3,4]. HIV-preventative services provided in urban areas focus mainly on cultivating behavioral risk reduction skills[5,6]. Human sexuality is complex[7],

it's the way in which we experience and express ourselves as sexual beings[8]. Evolutionary psychology is the well-developed theory explaining sex differences[9] and in contrast Medicine & science continue to debate the relative contributions of nature and nurture, biological and psychosocial factors, to sexuality[7]. Indian MSM concepts of sexual identity can be varied and fluid[4,10,11,12,13]. Homosexuality has long been viewed as a sexual aberration[14]. The argument that homosexuality is a stable phenomenon is based on the consistency of same-sex attractions, the failure of attempts to change and the lack of success with treatments to alter orientation[7].

According to the APA " sexual orientation is an enduring emotional, romantic, sexual, or affectionate attraction towards others. It is easily distinguished from other components of sexuality including biological sex, gender identity (the psychological sense of being male or female), and the social gender role (adherence to culture norms for feminine and masculine behavior). Sexual orientation exists along a continuum that ranges from exclusive heterosexuality to exclusive homosexuality and includes various forms of bisexuality"[15].

Sexually transmitted diseases in particular are notorious for triggering such socially divisive responses and reactions[16,17]. The human immunodeficiency virus (HIV) is a lenti-virus (a subgroup of retrovirus) that causes HIV infection and over time acquired immunod eficiency syndrome (AIDS)[18,19]. Within just two decades, this immune-stripping disease has infected over five million people[20]. Recent reports in India indicate high HIV prevalence among homosexual men[12,21]. The United Nations General Assembly Special Session on HIV/AIDS Report estimates that there are about 3.1 million MSM in India[3]. The Government of India's National AIDS Control Organization (NACO) estimates an overall HIV prevalence of 6.41 per cent among MSM, although this may be a lower-limit estimate[22].

Epidemic

Recently, discourse and action related to HIV stigma and discrimination has followed an illness-focused framework[23,24,25] with stigma related to same sex activities seen as contributing to the symbolic meaning attached to the disease[26]. In Jamaica, the national HIV prevalence is 1.6% while the prevalence estimated among MSM is between 25-31%, and sexual 'bridging' is suspected between MSM and heterosexual networks[27]. Men who have sex with men (MSM) population account for more than half (53%) of all the new HIV infections, and blacks represent almost half (46%) of people living with HIV in the United States[28]. UNAIDS 2017 - around 4.3% of men who have sex with men in India are living with HIV, with just over a third aware of their status. Twenty eight districts have 5 per cent or more HIV prevalence among MSM[29]. Overall HIV trends amongst this population group are stable in India; there is an increasing trend among south Indian States and Delhi. For example, in Mumbai, 12 per cent of MSM seeking voluntary counseling and testing services were HIV-infected, and 18 per cent of the MSM screened in 10 clinics in Andhra Pradesh were found to be infected[30,31,32]. On the basis of multivariate analysis, the data suggested that the association of risk factors was highest amongst MSMs who were engaged in commercial sex. A report from Bangalore found that 15 per cent of MSMs were full time commercial sex workers and 63 per cent reported sex for pleasure[33], Overall adult HIV prevalence estimated to be 0.31 per cent (0.25-0.39%) in 2009[2]. During 2008-2009, 513 MSM were recruited from four clinics at two cities of Mumbai and Hyderabad[34]. The States that have the highest mean HIV prevalence amongst MSM in 2008 are Karnataka, Andhra Pradesh, Manipur, Maharashtra, Delhi, Gujarat, Goa, Orissa, Tamil Nadu and West Bengal[35]. MSM in India, therefore, experience multiple forms of social and legal discrimination[36] and other risk factors included concurrent multiple sexual partners, low condom use during last sexual act and poor health seeking[33].

While it is important to foster a realistic perception of risk among the wider population in a generalized epidemic, in the Caribbean and globally MSM

as a group are disproportionately affected by infection and overlap with the heterosexual population[37,38]. The incidence of HIV infection among homosexual men in the United Kingdom is increasing despite efforts to reduce high risk sexual behavior[39]. A survey conducted a decade ago of 1200 self-identified homosexual men in South Asia (largely India) indicates that the vast majority of them were married and living with their wives, reflecting the culture that dictates people to marry the opposite sex, irrespective of their sexual orientation[40]. A 2015 study of men who have sex with men, conducted across 12 Indian cities, found that 7% tested positive for HIV. Just under a third (30%) of those who reported having anal or oral sex with a man in the past 12 months were married to a women and engaging in heterosexual sex[41]. It is deep-rooted cultural and familial traditions[13,36] and pervasive social intolerance along with the cultural pressure for men to engage in heterosexual marital relations that have led many MSM to marry women and have children[10,12]. A study from Chennai reported that 22 per cent of MSM respondents had unprotected anal exposure and 35.9 per cent had ever paid another man for sex[4].

High Risk Factor

A study among rural men from 5 different States in India also reported that 9.5 per cent of single and 3.1 per cent of married men had anal sex with other men and had greater number of male sexual partners, and found high rates of unprotected anal sex with male partners[42]. Many MSM engage in unprotected anal and vaginal sex with male and female sexual partners[10,11,12,13, 36,42,43,44] unprotected vaginal intercourse is often stated to be approximately 0.1%, or 1 in 1,000[45,46,47] and oral sex has been associated with a much lower HIV transmission risk than unprotected vaginal or anal intercourse[48,498,50].

Rectal fluid undoubtedly contributes to the risk of HIV transmission through anal sex where the insertive partner is HIV negative. Factors that cause inflammation in the rectum of a person with HIV may increase the viral load in the rectal fluid (but not in the blood) and subsequently increase the risk of HIV transmission to an HIV-negative insertive partner[51]. In fact, one study of 64 HIV-positive men (of which about half were on antiretroviral therapy) found that, overall, the average amount of virus in their rectal fluid was higher than in their semen and blood[52]. Several studies show that HIV can be found in the rectal fluid of a person living with HIV[51,53,54,55,56]. Anal sex is a common practice among men who have sex with men, heterosexual men and women, and transgender individuals and is a known risk factor for HIV infection and transmission[57, 58,598,60].

A study from Chennai reported that significant predictors of unprotected anal intercourse were being less educated, not having previously participated in an HIV prevention programme[4]. A study conducted in Andhra Pradesh found that MSM reported high rates of unprotected anal sex with other men and women[10].

Unprotected anal intercourse is considered more risky, with an estimated per-act risk of 1 in 100 to 1 in 50, which a risk that is 10 to 20 times higher than for unprotected vaginal intercourse[45,61]. Anal intercourse Studies show that unprotected anal intercourse is associated with a higher HIV transmission risk than unprotected vaginal intercourse[61,62]. and that the risk is higher when the HIV-positive person is the insertive rather than receptive partner[63,64,65]. While anal intercourse is part of both heterosexual and homosexual sexual activity, much of the data on HIV transmission risk during anal intercourse comes from studies of MSM. Estimates of per-act risk of HIV transmission for unprotected anal sex derive from individual studies and range widely, from 0.01% to over 3%[46,63,65,66,67].

Interventions

Aims to reduce annual new HIV infections by 50% through the provision of comprehensive HIV treatment, education, care and support for the general population and build on targeted interventions for key affected

groups and those at high risk of HIV transmission[68]. Few interventions focus principally on reducing stigma related to transmission behaviors and vulnerable groups at the root of the symbolic element of HIV-related stigma, with the exception of several programmer to reduce stigma related to sex work[69]. Community and peer-based approaches to sharing prevention tools and increasing awareness about HIV and AIDS have proven to be effective[70]. Specific behavioral skills developed during these prevention sessions help to decrease the prevalence of high risk behavior as women learn practice how to use male condoms correctly and role-play negotiating safer sex practices with a partner[6]. Other behavioral sessions examine risk reduction problem solving, assertiveness in sexual situations, self- management, and peer support[71].

Counseling

In terms of adolescent counseling, the risk reduction approach to HIV counseling can be divided into various phases such as, exploring clients feelings about sexual activity, using their existing HIV knowledge as an engaging tool, addressing the barriers they have for safer sex, focusing on perceptions that might affect risky behaviors, focus on safe sex planning and in the end, referral making[72]. In India by August 2016, there were more than 20,000 facilities offering HTC[73]. Between April and September 2015, when NACO last reported data, 6.85 million general users accessed HTC, suggesting India is on course to meet its annual testing target of 12.4 million. A total of 5.32 million pregnant women received HTC over the same period against a yearly target of 9 million[74]. Despite this progress, around one quarter of people living with HIV in India (23%) are unaware of their status[75]. An early step in preventive HIV counseling is behavioral risk assessment especially among high risk individuals in resource-limited settings[76]. It used an intensive one-to-one counseling format over ten sessions to reduce HIV incidence in 4295 men who have sex with men in six US cities[77]. The counseling was highly individualized. Similar to other behavioral approaches, the counseling attempted to increase knowledge, perceived risk of acquiring HIV, motivation, and skills to change. Counselors and clients assessed circumstances and occasions in which an individual might engage in risky behavior, and then established risk reduction plans to assist the individual in avoiding HIV acquisition. Control participants received counseling on the basis of Project RESPECT model, in which individuals were given brief risk reduction counseling along with HIV testing twice a year[78] and is used as a harm reduction technique quite effectively[78]. Counselors also made the participants aware of alternative to regular use of male condoms[79]. However, a number of health professionals have argued that, for greatest benefit, counseling should be an interactive process aimed at personal risk reduction[80]. In this technique, the emphasis is on the clients or patients, as they are the best judge of what is important to them personally and how they would incorporate any change in their behaviors[81]. Voluntary HIV counseling and testing for couples has shown efficacy in reducing risk behavior and HIV transmission within married or cohabiting couples[82.83,84]. Voluntary counseling and testing for couples can allow them to provide mutual support for accessing treatment and for reproductive decision making[88]. Adverse consequences do occur, especially if the woman is infected and the man is not and can be predicted from a history of alcohol abuse and violence within the relationship, and these factors should be used to advise couples about the potential negative effects of voluntary counseling and testing for HIV for couples[88] .Demand for voluntary counseling and testing for HIV in couples might be low because of the myth that monogamy is safe, gender inequality, concerns that individuals infected with HIV will have adverse consequences, and the inherent difficulties of a couple confronting together the possibility of one or both of them being infected with HIV[89].

1. The word 'client-centered' meant that counseling should be tailored to needs, circumstances and behaviors of a specific client which entailed active listening, to provide assistance and determining client's specific prevention needs[85].

2. Prevention Counseling primarily consists of risk reduction counseling, pretest counseling and post-test counseling. In terms of adolescent counseling, the risk reduction approach to HIV counseling can be divided into various phases such as, exploring clients feelings about sexual activity, using their existing HIV knowledge as an engaging tool, addressing the barriers they have for safer sex, focusing on perceptions that might affect risky behaviors, focus on safe sex planning and in the end, referral making[72].
3. Risk Reduction Counseling It is used as a harm reduction technique quite effectively. Results showed that men who received the full information motivation behavior (IMB) model showed greater risk reduction skills and relatively lower rates of unprotected intercourse over 6 months of follow-up and had fewer Sexually-transmitted infections[86].
4. Hierarchical counseling technique as opposed to single-method counseling in a group of women showed that there was a tendency for increased protective behavior among the group which received hierarchical counseling as compared to the other two groups[87].

Cognitive Behavioral Stress Management/Cognitive Behavioral Therapy

HIV-infected individuals who received training on how to assess and alter their irrational thoughts, and who gained adaptive coping skills to manage and reduce their stress, showed significant improvement in psychological factors including depression, anxiety, anger, and stress when compared to the control group[90]. A meta-analysis about different CBT approaches found that interventions which incorporate stress management skills training and provide opportunities to increase self-efficacy through practice, were more successful than those that did not[90]. Cognitive behavioral interventions are highly effective for helping improve psychological factors[90] and coping strategies for HIV infected individuals. In a review of the literature[91], concluded that stress management interventions are a promising approach to facilitate positive adjustment. A standardized system with high emphasis on counseling and a multidisciplinary approach present within the public HIV healthcare system will have a positive impact on adherence levels and viro-logical suppression among patients[92,93].

Jacobson's Relaxation Technique/Jacobson's Progressive Relaxation Technique

Edmund Jacobson commenced research at Harvard in 1908, and throughout the 1920's and 1930's worked to develop progressive muscle relaxation as an effective behavioral technique for the alleviation of neurotic tensions and many functional medical disorders[94]. Clinical research studies have generally shown that Jacobson's relaxation technique does indeed lessen muscle tightness, relax the patient, and reduces the patient's experience of pain[95], observed an improvement in blood pressure and a decrease in medication after the application of biofeedback assisted relaxation[96]. Moreover, in a general review on therapeutic use of relaxation response in stress-related diseases, declare that relaxation techniques appear to be highly recommendable[97].

Meditation/Spirituality

The Mindfulness-based stress reduction (MBSR) program[98] is a standardized and manualized 8-week mindfulness meditation training intervention that has been shown to reduce stress and improve self-reported health outcomes in a variety of patient populations[99]. Mindfulness meditation, which is described as a process of bringing awareness to moment-to-moment experience, has been receiving substantial scientific attention as a process that can be stress and health protective[99]. A recent study found that HIV infected individuals who participated in spiritual activities had a reduced risk of morbidity[100]. Higher levels of spirituality/religion have also been associated with less psychological distress, less pain, greater energy and will to live, better cognitive and social functioning, and feeling that life has improved since HIV

diagnosis[101,102,103,104,105].

Guided Imagery/Interactive Guided Imagery

Guided imagery is a mental function that expresses itself as a dynamic, quasi-real, psycho-physiological process that engages all of the senses to bring about individual changes in behavior, perception, or physiologic responses[106]. Out of the eight studies reviewed, two demonstrated significant reductions in levels of fatigue after a guided imagery intervention[107,108]. Stress reduction mind–body modalities such as meditation, guided imagery, and hypnotherapy have been shown to reduce stress and affect other health outcomes favorably[109,110,111].

Yoga

Yoga therapy which is a mind body intervention was provided to the inhabitants daily for 1-h, twice a day. Yoga practices have shown to reduce fear, anxiety[112], stress and depression which also enhances overall well-being[113]. It includes loosening exercises, asanas (postures), pranayama (breathing techniques) such as nadishuddi[114], bhramari[114], kapalbhati Saraswathi[114], and deep relaxation techniques. Yoga tended to reduce blood pressure in studies of HIV-negative participants with 'The Metabolic Syndrome'[115]. Perhaps the practice of yoga improves vascular function/tone, and this mediates the lowering of blood pressure[116].

Information, Education & Communication (IEC)

Information, education and communication (IEC) campaign is one of the most common cost-effective behavioral intervention strategies implemented so far to fight against HIV/AIDS[117]. The primary goal of such IEC program is to inspire and educate people about prevention, care and/or treatment of HIV/AIDS and for a better understanding of HIV in a more comprehensive way[117]. Findings from prior research have indicated the usefulness IEC messages and materials in improving stigmatizing and discriminatory attitudes towards HIV positive people [118,119].

Aromatherapy

Although many claims have been made relating to the benefits of aromatherapy, most research has focused on its use to manage depression, anxiety, muscle tension, sleep disturbance, nausea, and pain[120]. Some studies suggest that olfactory stimulation related to aromatherapy can result in immediate reduction in pain, as well as changing physiological parameters such as pulse, blood pressure, skin temperature, and brain activity[121].

Discussion

The findings of literature review, that existing models of HIV risk can be strengthened by focusing on and integrating protective factors such as self-acceptance[122,123,124]. It is not unusual for MSM to be married or have female sex partners as reported in a number of studies[125]. In the[125] report, a substantial proportion of MSM had large numbers of male sex partners of all types—regular, casual, and commercial (paid) and paying. The mean number of male sex partners ranged from 1.7 to 13.9 over one month in India (2006), 3.9 over one month in Bangladesh (2003-2004), and 8.8 over 12 months in Sri Lanka (2006-2007). In Indonesia, the median number of male sex partners of MSM over one month ranged between 2 and 10[125] and as MSM behavior is not an accepted norm in Indian culture & pervasive social intolerance along with the cultural pressure for men to engage in heterosexual marital relations. social and family pressure were the reason MSM married a female[126]. Acute gap separation existed between knowledge and behavior. Some studies reported that 25 to 35% of MSM are currently married to a female[127,128] and more than 70% of MSM will potentially get married to a female[127,129]. Greater visibility in Indian civil society necessitates careful planning and community education[130,131,132,133].

Promoting safer ways to meet and forge supportive relationships with other MSM could foster broader social support networks and enhance community engagement[132,134], to effectively reduce HIV and advance the health, multi-level approaches need to consider. Developing an intervention in regard to condom promotion and risk reduction plan by counseling, education, strategic planning, and community engagement. Individual- and group-level behavioral

interventions with demonstrated effectiveness have been a focus of CDC's prevention efforts[135].

The surveillance data among MSM indicated that the prevalence of HIV had increased dramatically from 1% in 2006 to 4.4% in 2008 in Harbin[136,137]. The high AIDS knowledge awareness, high intervention coverage and the low proportion of protective sexual behavior happened simultaneously and presented the separation of knowledge and behavior[138]. Research in Chennai MSM suggests that psychosocial concerns such as depression may affect HIV risk behaviors and the degree to which MSM may benefit from HIV prevention interventions[139] and in U.S. U.S. MSM, these mental health problems have been shown to increase HIV risk [124].

Additionally, program planners and policy makers need more descriptive interventions and quantitative estimates of intervention effects to make informed choices regarding prevention research and further studies[140]. Among MSM, unprotected anal sex is the sexual behavior with the highest risk for HIV transmission[141,142,143,144,145]. Efforts to improve communication skills related to HIV status and condom use with sexual partners might reduce the sexual transmission of HIV among MSM[146,147]. However, almost half of the men who tested positive for HIV infection during the survey were unaware of their infection[148]. Correct and consistent condom use during sexual intercourse remains the most effective method of preventing HIV transmission. Condom promotion and risk reduction education remain necessary components in HIV prevention messages given the low prevalence of reported condom use during anal sex among Indian MSM[10].

Conclusion (115 words)

In conclusion, the overwhelming majority of HIV prevalence in MSM rapidly increased in the past few years and how almost every society has struggled with the connection between sexuality and society. we should need to consider the individual psychosocial cultural and interpersonal determinants, for educating men about the potential risks associated with participating in anonymous sex. There is a critical need for the development, implementation of appropriate prevention and innovative evidence-based interventions from the individual to the community and focus on screening and treating at-risk sex networks.. It is also important to have Consistent and regular awareness, focus on increasing condom use and strengthen the propaganda of healthy life style to lower the risk factor.

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