Fatores associados com comportamento sexual de risco e seguro entre homossexuais masculinos: revisão

Factors associated with risk and safe sexual behaviour among homosexual men: a review

ELVIRA VENTURA FILIPE

RESUMO

Desde o começo da epidemia de Aids os homossexuais masculinos têm sido um dos grupos mais afetados pela infecção pelo HIV. Um grande número de estudos tem examinado os possíveis fatores associados com comportamento sexual de risco entre os homossexuais. Nesta revisão alguns destes fatores tais como fatores demográficos, psicosociais, situacionais e comportamentais são apresentados.

Palavras-chave: comportamento sexual; homossexuais; HIV; fatores de risco

ABSTRACT

Since the recognition of the Aids epidemic homosexual men have been highly affected by HIV infection. A large number of studies have examined possible factors associated with sexual risk behaviour within this group. In this review some of these factors such as demographic, psycho-social, and situational and behavioural factors are reported.

Keywords: sexual behaviour; homosexual men; HIV; risk factors

[1] *Psicóloga, PhD pela University College London - University of London Programa Estadual de DST/Aids de São Paulo*

1. INTRODUCTION

In the second decade of the Acquired Immune Deficiency Syndrome (Aids) epidemic, there is still no cure, vaccine or an effective treatment for Human Immunodeficiency Virus (HIV) disease. Antiretroviral drugs for the treatment of HIV infection including the protease inhibitor class of drugs,[1,2] prophylaxis of some opportunistic infections that characterise Aids,[3] zidovudine therapy to prevent HIV transmission from mother to infant[4-6] represent a major advance in HIV therapy. Despite the substantial effort that has been devoted to research on these issues, their efficacy has still not been demonstrated conclusively.

Since the recognition of Aids in the beginning of the 1980s an estimated 12.9 million people around the world have been infected with HIV.[7] Homosexual men constitute a group that has been highly affected by HIV infection. Of the total number of infected people the proportion of homosexual men per region is estimated in 56% for North America, 47% for Western Europe, 87% for Oceania, 54% for Latin America and 80% for Easter Europe.[7] Furthermore, after reports of drastic changes in risk behaviour among homosexual and bisexual men[8-10] studies have reported a return to unsafe sexual behaviour among them.[11-13]

At this moment prevention through interventions aimed at reducing high risk behaviours for HIV transmission is the primary tool of stemming the spread of HIV. There is now a wide body of literature repor-

ting factors associated with high risk behaviour or with the adoption of HIV preventive behaviours. Identification of such factors has significantly assisted the development of prevention programmes for adoption of safer behaviours associated with HIV.

In this paper a brief overview of factors associated with safe and risk behaviour among homosexual and bisexual men is presented.

2. FACTORS ASSOCIATED WITH RISK AND SAFE SEXUAL BEHAVIOUR

A great number of possible factors associated with risk and safe behaviour has been studied. For this review, demographic (age and educational level), psycho-social, situational and behavioural variables were selected.

Demographic factors

Several demographic variables have been examined in studies investigating determinants of risk and safe sexual behaviour. While some variables such age[11, 14-16] and educational level[16-18] that will be discussed bellow seem to be related to HIV risk reduction other such as income in general seem to have little effect on sexual risk behaviour.[19-21]

Age

Some studies have shown that a considerable percentage of younger homosexuals engage in high levels of risk behaviour and do it more frequently than older homosexual men.[11, 14, 15, 16, 22]

Stall *et al.*[15] comparing HIV risk behaviour between younger and older homosexual men found that those under 30 years of age were more likely to report high risk behaviours during the previous month and during the previous year than those over 30. Ekstrand and Coates[11] reported that younger respondents showed higher levels of unprotected anal intercourse than older respondents. Similar findings were reported in other studies.[16, 22, 23] Studies focusing at sexual behaviour of younger homosexual men have shown that this group is particularly vulnerable to HIV infection. Hays *et al.*[14] reported that 32% and 34% of the sample had engaged in unprotected receptive and unprotected insertive anal intercourse respectively. Data from the 'San Francisco/Berkeley Young Men's Survey' showed that 32.7% of the total sample of homosexuals and bisexuals aged 17 to 22 had unprotected anal intercourse in the previous six months. Among them, 44% reported unprotected anal intercourse with steady partners, 28% with non-steady partners and the remaining 28% with both steady and non-steady partners.[24]

Several demographic variables have been examined in studies investigating determinants of risk and safe sexual behaviour

Educational level

Association of high risk sexual behaviour with lower levels of education has been reported in some studies. Homosexual men who never used condoms[17] and who engaged in risky sexual practices[16, 18] have been found to be less educated. However, some other studies found no association between education level and risk behaviour.[14, 23, 25, 26]

Psycho-social factors

Most of the studies on psycho-social factors and attitudes related to HIV and Aids have used components from the several psycho-social models - the Health Belief Model,[27] Self-efficacy Theory,[28] Theory of Reasoned Action[29] originally defined to explain preventive health related behaviours.

HIV and Aids related knowledge

Although knowledge alone has not been considered sufficient to affect and maintain behavioural changes[30] and discrepancies in knowledge and behaviour have been reported in a great number of studies, it was considered an important factor for behaviour change early in the Aids epidemic. As information about HIV and Aids became widely disseminated, knowledge about HIV and Aids has reached high levels, especially among homosexual males.[18, 25, 31]

Knowledge about HIV risk is necessary, but because high levels of HIV transmission and of knowledge about HIV and Aids have been reached, knowledge no longer appears to affect individual behaviour. A certain amount of information is necessary to initiate behaviour change, but beyond a certain level improvements in knowledge no longer influence or promote behaviour change.[32]

In a behavioural study, knowledge concerning Aids was found to be generally high, and was the factor most strongly associated with behavioural changes[33] However, later longitudinal analysis of the same cohort[34] found that knowledge of Aids was not associated with any of the investigated behavioural outcomes. Linn *et al.*[18] found that homosexual and bisexual men who engaged in unsafe sex had significantly lower knowledge index scores than men engaging in safe sex activities. However, this knowledge index explained no significant variance in regression analysis when other factors were controlled for. Kelly *et al.*[25] reporting from a sample of homosexual men found that those who engaged in unprotected anal intercourse with multiple sexual partners were less knowledgeable about Aids.

At present, knowledge of HIV and Aids seems to have little effect on behaviour change or behaviour maintenance.

Concerning condom use, a positive association between having an HIV antibody test positive and less risk behaviour was reported by Frazer et al

HIV antibody status

A critical factor in risk reduction behaviour is the impact of HIV antibody status in sexual behaviour. Research concerning knowledge of HIV antibody status and subsequent changes in behaviour has led to mixed findings.

While some investigators have found an association between being HIV antibody positive and adoption of safer sexual behaviour,[9, 35-37] others found no association between knowledge of HIV status and risk reduction behaviours.[38, 39] Several studies have documented reduction in number of partners among HIV seropositives when compared to HIV seronegatives[40] and increased in condom use.[9, 22, 35, 36]

Van Griensven *et al.*[9] comparing HIV seropositive and HIV seronegative homosexual men reported a greater reduction in the mean number of partners in both groups, but HIV seropositives reported a greater reduction. Additionally, seropositives also reported a reduction in the number of sexual partners with whom they engaged in all forms of sexual contact. Similar findings were reported by Calzavara *et al.*[40] Both HIV seronegatives and HIV seropositives reduced their number of sexual partners during follow-up, but HIV seropositives made greater reduction.

By contrast, awareness of HIV status has been found to have no effect on the median number of sexual partners.[39] Tindall *et al.*[41] found that HIV seropositives had lower mean number of partners than HIV seronegatives, but the difference was not significant. Similarly, Schechter *et al.*[35] reported no significant difference between HIV seropositives and HIV seronegatives in the annual median number of sexual partners. There was a substantial decline in number of sexual partners in both groups.

Concerning condom use, a positive association between having an HIV antibody test positive and less risk behaviour was reported by Frazer *et al.*[36] HIV seropositives were more likely to always use a condom for anal intercourse than HIV seronegatives. Similarly, Valdiserri *et al.*[17] identified a tendency for homosexual men who knew they were HIV seropositive to use condoms more frequently than HIV seronegatives, who in turn had condom use rates similar to those men who did not know their HIV status. HIV seropositive respondents were found to be more likely to report condom use for insertive anal intercourse with steady and non-steady partners than HIV seronegatives.[35, 37]

In contrast, Fitzpatrick *et al.*[42] found that although a higher proportion of HIV seropositive homosexual men compared with HIV seronegatives always used a condom, the difference was not statistically significant. No difference was found between men who were seropositive and those who were seronegative on current multiple high risk sexual behaviour.[43] Hoff *et al.*[44] comparing HIV seronegative and HIV seropositive homosexual men reported that single seropositives had more anonymous sex and more unprotected anal intercourse than single seronegatives through the three waves of the study.

These conflicting findings may result from sampling differences[45] but may also be associated with difficulties in assessing the impact of HIV antibody testing on behaviour. Many individuals who seek an antibody test may have already changed their risk behaviour. Further, the long-term effects of HIV testing may be difficult to distinguish from other factors which could influence risk behaviour.[46]

Risk perception

Many studies including homosexual and bisexual males have examined individuals' perceptions of risk in relation to HIV guided by the Health Belief Model (HBM).[27] The HBM proposes that perceived susceptibility to a disease influences health related behaviours. In general there are two types of risk estimates that are addressed when risk perception is investigated: absolute risk estimates and relative risk estimates in comparison with others.

Emmons *et al.*,[33] assessing perceptions of risk through perceived susceptibility (absolute and comparative) found that very few homosexual men believed that both their absolute and comparative risk of Aids was great. Furthermore, those men who believed to be at higher risk were, generally less likely to undertake behavioural risk reduction. Later analysis of the same cohort[34] showed that perceived risk of Aids was not related to change in the number of sexual partners or change in the frequency of receptive anal intercourse. After adjustment for a series of possible confounds, increased perceived risk of Aids was related to an increase in the number of anonymous sexual partners.[47]

Low levels of risk perception compared to objective risk for contracting Aids was reported by Bauman and Siegel[48] in a longitudinal study among homosexual men. The respondents, as a group tended to underestimate their own personal vulnerability to Aids, relative to other homosexual men. Further, those in monogamous relationships or with few partners tended to underestimate the risk of their sexual contact.

Different definitions of risk used across studies may have contributed for the variation of results reported in the several studies on HIV preventive behaviour

Perceived vulnerability to Aids did not significantly contribute to the discrimination between homosexual males practising risky and safer sex in a longitudinal study.[49] Similarly, in another longitudinal study[26] perceived susceptibility was weakly associated with adoption of safer sex behaviours. In cross-sectional analyses of the cohort, perceived susceptibility was associated with a greater number of sexual partners.[50]

Assessing personal risk, Fitzpatrick *et al.*[51] found that the majority of respondents did not view themselves at risk in relation to Aids. Furthermore, a high proportion of men who had engaged in unprotected receptive anal intercourse both in the last year and in the last month indicated their sexual behaviour was not very risky or not risky at all. Additionally, those who perceived their risk of developing Aids as likely or highly likely were significantly more likely to report unprotected anal intercourse at time two of the study. [31] Similarly, Kelly *et al.*[16] found that estimated perception of personal risk was higher among men who continued to engage in high risk behaviour.

These studies suggest that the relationship between perception of risk and risk behaviour is not always clear. Different definitions of risk used across studies may have contributed for the variation of results reported in the several studies on HIV preventive behaviour. While some studies measured perception of risk through rates of riskiness of current behaviour[16] others measured it through rates of absolute chances of getting Aids compared to others.[49] In addition, perceived invulnerability could also account for this lack of association between perceived vulnerability and less risk sexual behaviour. In general people tend to underestimate the degree to which they are vulnerable to negative health events[52]. This unrealistic optimism about a health threat has also been demonstrated in relation to HIV infection. Studies investigating the role of perceived vulnerability to HIV infection have found evidence of optimistic bias in samples of homosexuals, [48] and other target groups.[53, 54]

Self-efficacy

Self-efficacy theory was originally defined by Bandura[28] as peoples' beliefs that they have the abilities to perform a specific behaviour. With respect to HIV related behaviour self-efficacy is a person's evaluation to what extent s(he) has the necessary skills to exercise control over sexual situations.[55]

Homosexual men with low personal efficacy were more likely to engage in unprotected anal intercourse.[22] Increased self-efficacy was associated with fewer sexual partners at time two of a longitudinal study among homosexuals.[56] However, the relation of self-efficacy to reduction in number of partners depended on HIV status and partners status (with or without primary partner). Association of greater perceived self-efficacy to reduce the number of partners was also reported by Zapka *et al.*[50] among homosexual and bisexual men. Examining predictors of relapse into unsafe sexual behaviour among homosexual men, De Wit *et al.*[57] reported that men with lower personal efficacy regarding condom use with casual partners were more likely to have relapsed into risk behaviour.

By contrast, perceived self-efficacy (the individuals sense of ability to change their behaviour) was related to only a single behaviour outcome in a longitudinal analysis of a cohort of homosexual men. [34] Examining psycho-social correlates of sexual risk behaviour, Diaz *et al.*[58] reported that low perceptions of self-efficacy to practise safe sex was a significant correlate of anal intercourse in univariate analysis. However, in the multiple linear regression analysis self-efficacy did not predict safe sexual behaviour.

Attitudes

Research on attitudes related to risk behaviour has show the importance of anal intercourse for homosexual men. Comparison between homosexual males who engaged in sexual risk behaviour and those who did not show that the former regarded anal intercourse as more important[14, 23] and experience oral sex as less satisfying.[14]

Early history of frequent high risk practices, especially receptive anal intercourse, and early history of high levels of sexual activity with multiple partners have been associated with risky sexual behaviours.[23] In addition, the number of years an individual has engaged in anal intercourse with males,[49] enjoyment of unprotected anal intercourse[14, 22] and negative connotations about condom use[57, 59] interfere with negotiation of safe sex and increase the chances of engaging in risky sexual behaviour.

Situational and behavioural factors

Alcohol and drug use

The combination of alcohol or drugs during or prior to sexual activity and its influence on risk behaviour has been investigated in several studies. The extensive research in this field has led to conflicting findings.

Significant association between drinking and high risk behaviour was found among homosexual men.[60, 61] Men who had drunk during sexual activity were about twice as likely to engage in high risk behaviour than those who had not drunk during sexual

activity. Moreover, men originally at no risk but who increased risk on follow-up were at least twice more likely to use alcohol.

Davidson *et al.*[62] reporting from a longitudinal study found that respondents engaging in riskier insertive anal intercourse were more likely to be heavy drinkers. However, drinking was not associated with receptive sexual practices.

In other studies, however, alcohol use has not been found to be associated with engagement in risky sexual behaviour.[63, 64] Weatherburn and associates[64] found no association between alcohol consumption and unprotected anal intercourse, frequency of receptive or insertive anal intercourse or with casual sexual encounters. Further, contrary to expectations in one study high level of alcohol consumption was associated with adoption of safer behaviour at follow-up.[26] The authors, however, stated that this finding should be interpreted with caution since at the initial visit of the follow-up questions about alcohol use during sexual activity were not asked.

With respect to drug use, high levels of risky behaviour were observed among homosexual men who were heavier drug users.[62, 65] Further, homosexual men who combined drug use with sex were most likely to engage in high risk sexual behaviour[60] or relapse in risk behaviour.[17, 59] Data from a study of homosexual men at a STD clinic[18] showed that men who engaged in unsafe sexual behaviour were significantly more likely to have used drugs than those men who did not. In a longitudinal study, the level of drug use with sex was linked to a higher rate of unprotected anal intercourse.[66] Ostrow *et al.*[65] found that homosexual men who had used three or more drugs were more likely to continue to engage in risk sexual behaviour that those who had used any drugs.

Other studies, however, have not supported the link between drug use and risky sexual behaviour.[63,67] Gold *et al.*[63] reported no association between drug use and engaging in unsafe sexual contact among homosexual men.

Reasons for the inconsistencies found between these studies may be related to study designs and to the measurement of substance use. First, study designs differ either in measures of alcohol or drug use or in indications of risky sexual behaviour. Second, in some studies alcohol use is combined with use of other drugs in one single measure. Another reason may be associated with a general attitude to risk behaviour. Many people may choose to engage in sexual risk behaviour and this may be independent of substance use. Drugs may be used to facilitate an intention to engage in unsafe sexual behaviour.

The type of sexual partner in relationships has been found to be one of the factors associated with unsafe sexual behaviour among homosexuals and bisexuals

Interpersonal factors

High risk sexual behaviour has been associated with interpersonal factors which may pose as barriers for individuals engaging in safe sexual behaviours.

Type of relationship

The type of sexual partner in relationships has been found to be one of the factors associated with unsafe sexual behaviour among homosexuals and bisexuals. Studies examining the influence of partner status on sexual risk behaviour have shown that sexual behaviour is riskier with partners defined as regular, primary or steady. Sexual behaviour is viewed as involving lower risk with regular partners.[42, 51, 68] Moreover, greater knowledge of the partner, intimacy, and a sense of security promotes the perception of safety with regular partners.[69]

Emotional involvement

Emotional involvement with a partner may lead to unprotected anal intercourse. Among homosexual men, considering sex as an expression of love,[70] being 'in love',[12, 63, 68] having positive emotional feelings for the partner, and wishing to please the partner[59] have been associated with high risk sexual behaviour. Similarly, homosexual men who felt an indefinite commitment to their partner and those who confided all their personal concerns in their partner, perceived unprotected anal intercourse with that partner as not risky.[68]

Partners' HIV status

Having a concordant HIV antibody status to the partner, either positive or negative, has also been associated with risk behaviours in some studies.[12, 14,71] Knowledge of HIV status was found to be important only in partnerships in which HIV status was either concordant or discordant and where both partners knew their HIV status and had communicated this information to each other. If HIV status was concordant, unprotected anal intercourse was more likely to occur than in partnerships in which there was no knowledge of HIV status.[43] Sacco and Rickman[72] found that discordant partners used condoms more often for both insertive and receptive anal intercourse. When both partners shared the same serostatus, condom use was less frequent. However, when the respondent's serostatus was unknown, condom use was not related to partner's serostatus.

Endereço para correspondência:
Elvira Ventura Filipe
Rua Maceió, 780/101
CEP: 09551-030 - S. Caetano do Sul - SP
e-mail: efelipe@cebinet.com.br

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