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ORIGINAL ARTICLE / *ARTIGO ORIGINAL*

Prevention of the heterosexual HIV infection among women: Is it possible to think about strategies without considering their reproductive demands?

Prevenção da transmissão heterossexual do HIV entre mulheres: é possível pensar estratégias sem considerar suas demandas reprodutivas?

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ABSTRACT: This article aims to discuss the prevention of the heterosexual HIV infection among women, considering and relationship between this practice and their reproductive demands, based on a critical analysis of the recent literature on the issue. It is assumed the relative exhaustion in the discourse about male condom use in all sexual relations, and the need to recognize that for many women in childbearing age, HIV prevention cannot be dissociated of the contraception practices, although the symbolic and technologically distinction between them. Furthermore, not always the contexts in which the sex occurs allows preventive practices. Women are different, and also their risks, vulnerabilities and needs, and this differences must be identified. The adequacy of preventive strategies to their particularities and situations experienced by each requires an effort of incorporation of available scientific knowledge to the actions taken by the health services, as well as conducting research on specific points relating to heterosexual practices.

Keywords: Disease Prevention. Gender and Health. Women. Condoms. Contraception. Sexuality.

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RESUMO: Este artigo discute a prevenção da transmissão heterossexual do HIV entre mulheres, considerando e relação entre esta prática e suas demandas reprodutivas a partir da análise crítica da literatura nacional e internacional recente sobre o tema. Tem como pressupostos o relativo esgotamento da diretriz de uso do preservativo masculino em todas as relações sexuais e a necessidade do reconhecimento de que, para muitas mulheres em idade fértil, a prevenção do HIV não pode se dissociar da contracepção, embora sejam práticas simbólica e tecnologicamente distintas. Ademais, nem sempre os contextos em que o sexo acontece permitem que as intenções de prevenção, seja da gravidez ou da infecção pelo HIV, se efetivem. As mulheres são diferentes entre si, bem como seus riscos, necessidades e vulnerabilidades, e estas diferenças devem ser identificadas. Para a adequação das estratégias preventivas às particularidades das situações vivenciadas por cada uma é necessário um esforço de incorporação do conhecimento científico disponível às ações realizadas pelos serviços de saúde, bem como de realização de pesquisas sobre pontos específicos relativos às práticas heterossexuais.

Palavras-chave: Prevenção de doenças. Gênero e Saúde. Mulheres. Preservativo. Anticoncepção. Sexualidade.

INTRODUCTION

Thirty years into the epidemic, the proposed prevention of human immunodeficiency virus (HIV) infection based on the use of condoms in all sexual relationships has proved unsatisfactory, and many relationships occur without this protection. Although overall rates of new infections are reducing, the epidemic is far from under control[1]. In Brazil, about 39,000 new cases of acquired immune deficiency syndrome (AIDS) are estimated every year. Of the cases reported in 2012 among people more than 13 years of age (for which figures are available), 52.7% infections in males occurred through heterosexual practice; among women, this percentage reached to 96.6%[2], with a predominance of those in childbearing age.

Thus, strategies for the prevention of HIV/AIDS in heterosexual relationships that consider the peculiarities of the female population in reproductive age are still a priority. Therefore, it is necessary to recognize that preventing HIV infection in heterosexual relationships between fertile people requires considering the risk or desire of pregnancy.

The overlap between HIV and pregnancy requires alternatives that do not compromise the reproductive intentions of women who wish to become pregnant and of those who do not. Moreover, not all sexual relationships between men and women occur in circumstances in which carrying out prevention intentions or desires is possible. Lack of sexual intercourse planning, power asymmetries, impossibility of dialogue or situations of violence can prevent the shared choice of effective preventive practices that are acceptable to both partners[3].

This study aimed to discuss the prevention of heterosexual transmission of HIV among women, considering their reproductive demands (conceptive or contraceptive), and their possibility of choice in the specific scenarios in which sexual encounters happen.

METHODS

For the preparation of this article, data in recent literature were analyzed critically in order to paint a picture of the epidemic to guide the discussion on risk reduction strategies in heterosexual relationships. The search and selection of material considered empirical research carried out in Brazil in the last two decades, preferably with national coverage on sexual/reproductive behavior and vulnerability of women to HIV, and information available in recent international literature on the alternatives of HIV transmission prevention and pregnancy involving the use of barrier or behavioral methods. The (non-exhaustive) international literature was reviewed using PubMed in October 2013 and the following keywords were used: "heterosexual risk and HIV"; "anal intercourse and HIV risk"; "vaginal intercourse and HIV risk"; "contraception and HIV risk"; "withdrawal, *coitus interruptus* and HIV"; "male circumcision and HIV"; "dual method strategy and HIV"; "condom effectiveness and HIV". Biomedical strategies such as Post-Exposure Prophylaxis (PEP), Pre-Exposure Prophylaxis (PrEP) and treatment as prevention have not been addressed. As only published data were used, the consideration of a Research Ethics Committee was not necessary.

RESULTS

AIDS EPIDEMIC AMONG WOMEN

The HIV/AIDS epidemic in the country is concentrated in specific population groups, such as homosexual men (10.5%), sex workers (4.9%) and drug users (5.9%)[1]. In the so-called general population, the prevalence rate reaches 0.4%, approximately 0.5% among men and 0.3% among women[1].

Analysis of reported AIDS cases shows that, for both sexes, the epidemic is concentrated among young adults, mostly white and brown; women are poorer and less educated than men, with excess mortality in black women compared to other population segments[1]. The groups in which the epidemic is more concentrated (men who have sex with men, injection drug users [IDUs], and bisexual men) account for 41.4% cases reported by 2012. Heterosexual transmission accounts for approximately 52.7% cases. Among women, 96.9% cases are attributed to heterosexual transmission.

From 1980 to June 2013, women represented 35.1% of all reported cases of AIDS, with a sex ratio, in 2013, of 1.7; in the age group of 15 to 24 years, this ratio rises to 1.9[1]. Men reported in the heterosexual transmission category, when compared to other men with HIV, were less educated, belonged to the older age groups and there was a greater proportion of those who define themselves as blacks and browns[4]. When comparing the age groups of men and women infected by heterosexual transmission from 2010 to 2013, there is a predominance of women among adolescents and young people, and a higher percentage of men over 50 years. The race/color statement shows a higher percentage of black/brown

women in cases for which this information exists; the percentage of men and women who declare themselves black/brown is higher than that in the country population. In terms of education, men and women are similar, except in the complete and incomplete higher education levels, in which the proportion of men is higher[4].

CONTEXTS, SEXUAL PRACTICES AND PREVENTION POSSIBILITIES

According to a research conducted in 2003 with 1,665 women living with HIV/AIDS (WLHA) in 13 Brazilian municipalities[5], most of them (85%) had a stable partner at the time of infection and 70% considered to have been infected by that partner. Among women, 19% credited their infection to the fact that their partner is an IDU, 43% to the fact that their partner had multiple partners and 5% to the fact that their partner is bisexual. Only 4.4% women related their infection to having had multiple partners and 3% to being or having been sex workers. Of the interviewees, only 7.2% reported sex in exchange for money or drugs and 5.2% reported injection drug use[5].

A study conducted in São Paulo between 2013 and 2014 found a similar proportion for reports of sex in exchange for money or drugs (7.1%), and lower for injection drug use (0.5%)*.

That is, almost 90% reported cases of AIDS in women infected through sexual transmission occur in a heterogeneous group of women (adolescents, youth or adults), which fall into the epidemic through different paths, such as sexual partnership with an IDU, prisoners, crack cocaine users, bisexual or heterosexual men infected through multiple female partners, use of crack cocaine or other substances, living on the streets or in great social vulnerability, among others. Thus, alongside the need for specific prevention measures for sex workers, a group of women on which the epidemic is concentrated, it is important to consider other circumstances that contribute to infection among women. Although the risk of HIV transmission is more through anal intercourse than through vaginal intercourse[6,7], there is little information about this practice between men and women with heterosexual practices in the country. The only Brazilian study with information on the subject, conducted with the general population[8], showed that 22.5% men aged 16 to 65 years refer to having had anal sex in the last year, reaching 30% in the range of 16 to 34 years. Among women, 16% reported this practice.

According to the Survey of Knowledge, Attitudes and Practices of the Brazilian Population aged 15 to 64[9], 7.7% men aged 15 to 49 years said they had paid for sex at least once in the last year. Given the prevalence of 4.9% infection among sex workers, it is possible to assume that the epidemic among heterosexual men is explained not by this practice but by the circulation of the virus among men and women with different types and degrees of risk exposure.

*GENI Study: study on the practices and decisions regarding sexual and reproductive health, held in São Paulo in 2013–2014.

Prevention of HIV infection and transmission depends in part on understanding of each of the risks associated with specific behaviors, and on self-evaluation of exposure to these risks. Many women do not see themselves at risk for HIV[10] infection, and their analysis of risks related to sex may include other aspects. For example, one result of unprotected sex, pregnancy, even when not intended or desired, evokes positive interpretations, such as confirmation of power, fertility, consolidation of a relationship, fulfillment of a wish or fate. In contrast, HIV infection usually has negative connotations and pejorative moral responsibilities, being object of stigma and social exclusion. Although both are results of unprotected sex, unintended pregnancy and HIV infection bring different impacts on life. Thus, preventing infection by HIV and pregnancy are practices that refer to different symbolic and subjective dimensions. Consistent use of dual protection by only 5% Brazilian women, estimated from data from the National Survey on Demography and Health (PNDS) 2006, showed that not all women equally realize their needs for prevention of pregnancy and HIV infection[11].

Investigations on the practice of contraception show that prevention in the sexual sphere is complex. Even the availability of information and contraceptive methods does not prevent the occurrence of unplanned pregnancies. According to the Being Born in Brazil survey, conducted nationwide between 2011 and 2012, 45% pregnancies that occurred in the country were not planned[12].

The trend of use of reversible methods until reproductive wishes are satisfied and then opting for sterilization[13] suggests that a growing number of men and women have preferred not to deal with the burden of frequent sexual prevention. Studies on contraception and condom use in Brazil have shown that the proportion of condom use among sterilized women is 2.1%[14], with 2.6% among women in couples and 1% among single women.

Thus, simultaneously considering the possibilities of HIV infection and the occurrence of pregnancy in heterosexual relationships brings challenges such as the difference in the use and effectiveness of strategies available in face of each of these events. It is also noteworthy that the simplest and most widespread HIV prevention resource is for men's use, which means that the protection of women depends on their partner. The fact that women are more likely to be infected than to infect their partners[15] can contribute to some men feeling they do not need to use this protection. At the same time, the chance of pregnancy in unprotected vaginal intercourse is higher than that of HIV infection, according to a review study published in 2009, which estimated the transmission rate of 0.08%/women/year in vaginal sex (M-W) in developed countries, and 0.30%/women/year in undeveloped countries[7], in contrast with a pregnancy rate using no protection method of 85%/women/year[16].

This difference, which somehow is confirmed in the everyday experience of women, eventually turns the prevention of pregnancy into a priority in relation to the prevention of HIV infection. Even protected against pregnancy, women do not always insist on condom use, particularly in stable relationships. For example, analysis for the period 1998–2005 on

the use of condoms in the Brazilian population showed that this tends to be higher in occasional relationships, whether among youth or adults[17].

Prioritizing the prevention of pregnancy in relation to the prevention of HIV infection is exacerbated by the criminalization of abortion. In Brazil, the last two studies on the subject have estimated, respectively, that 9.7[18] to 15%[19] to 15% of women have claimed to have had at least one abortion, and of these, 55% were admitted at the last abortion[19], confirming that the illegality ends up exposing women to risk of illness or death.

Information and access to emergency contraception, a strategy that can help reduce the number of unwanted pregnancies and induced abortions, promoting condom use, are still restricted. Data from PNDS showed that only 14% women of childbearing age reported use of emergency contraception in their lifetime*.

ARTICULATING ALTERNATIVES OF HIV TRANSMISSION AND PREGNANCY PREVENTION

Research results cited earlier show that preventing unintended consequences of a heterosexual relationship is not a universal and always successful practice among women. This suggests the importance of an examination of the various possibilities of prevention in the context of heterosexual relationships. Simultaneously considering the prevention of pregnancy and HIV infection and the dissemination of the use of each alternative in the Brazilian population can contribute to the elaboration, shared between professionals and users, of the most appropriate strategies for each situation. Chart 1 presents different alternatives for women who do not want to get pregnant or risk HIV infection, with the respective percentages of effectiveness.

As can be seen, there is a discrepancy between the effectiveness against pregnancy and HIV infection among the different methods and sexual practices, and in their percentage of use in the population. Moreover, it is noteworthy that, in the same sexual encounter, various practices can be performed. There is not an equally effective strategy for the prevention of pregnancy and HIV infection that is widely used in the population. That is, women have to decide which risks they are willing to take.

Since the partner's serostatus is often unknown or similar, and reproductive intentions, concerns about prevention, access to preventive supplies and preferences for sexual practices do not always coincide, we can obtain an overview of multiple risks and possibilities of failures in prevention.

In addition, it is necessary to consider the different scenarios in which sexual relationships occur between men and women, and power arrangements that shape them. Specific circumstances such as commercial sex, transactional sex or situations of violence require different prevention strategies. It is noteworthy that despite the prevalence of infection among female sex workers being higher than in the general population, there

*Tabulation by the authors.

Chart 1. Synthesis of the different situations to be considered in the perspective of prevention in heterosexual relationships.

Strategy	Protection against HIV	Protection against pregnancy	Estimated use in Brazil (general population)
Oral sex without protection	Risk reduced by 35 times compared to anal sex Receptive oral sex = 0.04% among MSM[6]	100%	Oral sex with last partner (without reference to protection): M=45% and W=41%[8]
Anal sex without protection	Risk increased by 18 to 20 times when compared to vaginal sex[6,7,20] Transmission probability: 1.69% per receptive anal contact[7]	Close to 100%	Anal sex with last partner (without reference to protection): M=23% and W=16%[8]
Coitus interruptus in vaginal sex	Probable risk reduction, lacking conclusive studies[21-23]	Effectiveness Failure: ranges from 14 to 24%[24]	Current use[25] Single women: 1.0% Women in couples: 2.1%
Coitus interruptus in anal sex	Probable risk reduction, lacking conclusive studies[21-23]. Transmission probability: 0.65% per receptive anal contact among MSM[26]	100%	No data were found in this regard
Diaphragm and cervical cap	Probable risk reduction, no studies to date[27]	Effectiveness of diaphragm use Failure: 2.6% to 20%[28]	Current use[25] Single women: 0.0% Women in couples: 0.0%
Hormonal contraception: oral and injectable	Probable risk increase for women using injectable progestogens[29,30]	Effectiveness Failure: 7 to 9% respectively[24]	Current use of oral contraceptives[25] Single women: 24.7% Women in couples: 30.3% Current use of injectable contraceptives Single women: 4.5% Women in couples: 4.0%

Continue...

Chart 1. Continuation.

Strategy	Protection against HIV	Protection against pregnancy	Estimated use in Brazil (general population)
Circumcision	Risk reduction by 60% among men Inconclusive clinical studies for women (protection against HPV cervical cancer); ecological studies show protection[31] (probability of transmission = 0.11% per receptive anal contact among MSM, when partner is circumcised[26])	No protection	Not adopted in Brazil as a public policy[a].
Use of preservatives (M/F)	Risk reduction by 80%[b] 1.14 infections per 100 people/year with consistent use in penetrative vaginal sex[32] Data not found for anal sex in heterosexual relationships	Effectiveness Failure: 15% to 21%[24]	Current use (no reference to consistency)[25] Single women: 26.0% Women in couples: 12% Use in the last vaginal intercourse: M=32% and W=24%[8] Use in the last anal intercourse: M=40% and W=50%
Tubal ligation and vasectomy	No protection, but condom use is lower among sterilized women or those with vasectomized partners, among WLHA and WNLHA[11,23]	Effectiveness Failure: 0.05%[28]	Tubal ligation[25] Single women: 10.9% Women in couples: 29.1% Vasectomy Single women: 0.1% Women in couples: 5.1%
Emergency contraception	No protection, but its use can prevent pregnancy in case of not using condoms or other contraception methods	Effectiveness = 75 and 80%[34] Failure: 2%	Use during lifetime[25] Single women: 23.2% Women in couples: 11.0%
Mutual faithfulness and testing without preservative	Theoretically, 100% protection, but this negotiation is particularly problematic in heterosexual relationships	No protection	During lifetime[9] M=27.2% and W=45.6% In the last year M=11.2% and W=16.2%

[a]Although not adopted in Brazil as a public policy, the size of the Jewish community and, as a result, of circumcised men, especially in São Paulo, which accounts for the largest number of cases, should not be disregarded.
[b]For more details about the use of condoms, see the study by Dourado et al. in this issue.

are no proposals that have been customized to their realities. Interventions insist on the negotiation condom use with clients, through peer education as a primary strategy, even though studies have shown that condom use with clients is often higher than with partners and peer education does not bring as a result the reduction of the prevalence of HIV in this group[35]. It can be assumed that women who sell sex, after their day's work, face the same difficulties in negotiating condom use with their partners than other women. Thus, preventive strategies focused on their work context should be different from those aimed at their protection in the private/love sphere.

A different situation is faced by women who practice transactional sex; although here too there is exchange of sex for money, the sense and the dynamics of this practice is not the same as prostitution. Transactional sex is little studied because women who practice it do not identify as prostitutes, or are on the dance floor or in the clubs. This condition causes their customers/lovers to pay them just to not feel obliged to use condoms, leaving them in a very vulnerable situation[36].

On the other hand, the high magnitude of the different forms of violence practiced by intimate partners in Brazil suggests that many women live situations in which their decisions, in the sexual sphere or others, are not respected. Although this condition makes it difficult to negotiate condom use or any other preventive practice that involves the partner, there are few initiatives aimed at integrating HIV prevention to the range of offers in the care to women who suffer violence, or for men who practice it.

Similarly, little is discussed among people living with HIV/AIDS or serodifferent couples about the desire to have children, and possible alternatives for accomplishing it. The recommendation of condom use often prevents subjects to express their difficulties with this resource, or with their reproductive intentions[3].

For example, artificial insemination, with sperm washing or not, depending on the serology of the man, is still not available in the country. Serodifferent couples wishing to have children without risk of infecting their partner do not always receive the information that, with undetectable viral load, unprotected sex during the fertile period has a reduced risk, and that this could be an alternative for those who want to have children without the use of assisted reproduction techniques[37]. In a study conducted in São Paulo between 2013 and 2014 with 975 WLHA, 62% respondents did not have correct information about it or were unaware of it*.

Finally, we must highlight the relative silence, either from researchers or health professionals, in addressing sexual practices between women and men, especially when it comes to anal sex. As previously reported, this practice increases the risk of HIV transmission. However, it is rarely addressed both in research and in the prevention discourses directed to women, even with knowledge on its occurence[8], as an option of contraceptive strategy.

*GENI Study: study on the practices and decisions regarding sexual and reproductive health, held in São Paulo in 2013–2014.

CONCLUSIONS

Regarding the prevention of HIV transmission among women, gaps are perceived both in the production of knowledge as the appropriation and incorporation of knowledge produced the health practices.

The bulk of current information and technologies available to reduce transmission of the virus allows the construction of strategies compatible with the different needs and situations experienced by women. Its constant update requires a correlated customization of preventive practices and discourse. In the near future, for example, access to rapid HIV test in saliva, not yet introduced in Brazil as an alternative of self-testing but already used in field conditions, could bring changes to the current scenario for most testing opportunities. Should this actually occur, new challenges will certainly appear for prevention.

After years of living with the HIV/AIDS epidemic, women are more able to understand the risks and seek protection alternatives that are feasible and appropriate to their needs. This requires that health professionals increasingly broaden the dialogue with its users to provide them with information for the decision-making process.

Women make up a group with different needs than men, which should be identified and addressed in a specific way. Moreover, among women, there are differences in terms of their individual and social characteristics, and in ways of experiencing sexuality, which must also be considered. Thus, thinking about the prevention of HIV infection among heterosexual couples requires a deepening in the identification of the differences between women and their practices in sexuality, love life and their reproductive plans. From this identification, we will be able to seek, among many preventive alternatives available, those that promote more protection to each woman in every circumstance of life.

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