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Should men who have ever had sex with men be allowed to donate blood in Brazil?

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ABSTRACT

Many countries have modified their policies on banning or deferring blood donation by men who have sex with men (MSM) in light of ethical concerns and new evidence about transfusion risks. In Brazil, MSM were not eligible to donate blood unless they had been celibate for the previous 12 months. However, in May 2020, the Brazilian Federal Supreme Court overturned this restriction. Many authors have attempted to stress possible risks of transfusion-transmitted infection under various scenarios of changes in bans or restrictions on donations by MSM using mathematical models, but we consider that it is a difficult task due to the wide variety of sexual behaviors, attitudes, and practices. Among these factors, we highlight sex under the influence of illicit drugs, and the fact that people with an undetectable human immunodeficiency virus viral load have the potential to transmit should their blood be transfused. Despite these possible risks, we believe that some MSM can donate blood regardless of the time elapsed since their last sexual contact, especially because blood donations by MSM were occurring even when there were time-based deferral rules. Blood banks should always seek to use screening algorithms to identify high-risk sexual behaviors using gender-neutral criteria, and education about transfusion risks should be offered to healthcare workers and MSM.

Introduction

As Brazil's national blood system is based on voluntary donations, maintaining a safe and sufficient blood supply is critical. To reduce the risk of transfusion-transmitted human immunodeficiency virus (HIV) through blood donations, until the beginning of the second quarter of 2020, men who had sex with men (MSM) who wanted to donate blood had to abstain from oral or anal sex with other men for 12 months.[1] In 2017, the Brazilian Socialist Party (PSB) presented the Direct Action of Unconstitutionality (ADI) 5543, which classified this policy of deferring blood donations as unconstitutional, discriminatory, and based on outdated scientific evidence.[2] Thus, in May 2020, the Brazilian Federal Supreme Court overturned the restriction on MSM blood donations by a majority vote. The pressures of a foreseeable reduction in the number of blood donations due to the COVID-19 pandemic,[3] the advances of AIDS treatment technologies, and improvements

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in biosafety and prophylaxis protocols motivated this decision. The ADI 5543 stated that the diagnosis of HIV infection was initially made using first-generation immunoassays, when the immunologic window of detection was 6–8 weeks, while the current implementation of nucleic acid testing (NAT) in blood banks in Brazil has allowed a significant reduction of the immunological window to only 12 days.[4] Thus, the ADI 5543 argued that the requirement of 12 months of sexual abstinence for donors no longer corresponded to the reality of the diagnostic routine of blood bank laboratories. A period of one or two months, for example, would greatly exceed the immunological window for the detection of sexually transmitted diseases.

However, some authors have advocated a deferral period for blood donation among MSM based on the fallibility of laboratory screening and the statistically higher prevalence and incidence of HIV in this population.[5] The immunological window of 12 days cited by the proponents of ADI 5543 may be a simplistic parameter, as recent evidence has shown that the eclipse period (time during which no existing diagnostic test can detect HIV) and the window period (time between potential HIV exposure and an accurate test result) of standard HIV tests may be longer.[6] Although this may be a relatively rare event, a report from the Centers for Disease Control and Prevention (CDC) described a case of transfusion-transmitted HIV infection in the United States consistent with transmission by transfusion of HIV-contaminated plasma collected from a donor during the eclipse period of acute infection.[7]

In addition, using epidemiological data from the Israeli National HIV Registry and laboratory, donation and testing data, Ginsberg et al.[8] estimated through a mathematical model that allowing MSM to donate blood, without any deferral period, could result in an additional five cases of HIV transfusion-transmitted infection (TTI) over a decade. These authors thus conclude that a one-year deferral period should be recommended for MSM blood donations in Israel. Meanwhile, a systematic review showed that high-quality empirical studies investigating the risk of TTI in MSM who donate blood are scarce.[9] Despite efforts of authors such as Germain et al.,[10] O'Brien et al.,[11] Aubé et al.,[12] and Davison et al.[13] to propose mathematical models that estimate the number of infections in different scenarios of restrictions on MSM donations, we do not have complete information for these calculations. Furthermore, any approach to estimating the risk of TTI in different donation restriction scenarios can be a very complex task due to the wide variety of sexual behaviors, attitudes, and practices that may be associated with the likelihood of transmitting the virus through blood donation.

Exploring lesser-known factors impacting transfusion-transmitted infections

In addition to several factors that may be associated with the risk of TTI that have been traditionally cited, we would like to add a few others that are no less important but have received little attention in the literature. The first factor is associated with people with an undetectable HIV viral load. With medical advancements, it is already possible to guarantee that an HIV-positive person on antiretroviral therapy (ART) who has had an undetectable viral load in the blood for at least six months cannot transmit HIV through sex.

A multicenter study examined the potential protective effect of suppressive HIV antiretroviral therapy on HIV-negative gay men engaging in receptive anal sex with HIV-infected partners without condoms.[14] The results showed that in nearly 77,000 condomless sexual encounters, there were no cases of HIV transmission when the HIV-infected partner had an undetectable viral load (<200 copies/mL). This and other research support the slogan *U = U*, or 'undetectable = untransmittable', launched in 2016 by the Prevention Access Campaign, an international health equity initiative advocating the end of the HIV/AIDS pandemic as well as HIV-related stigma.[15,16]

U = U states that people living with HIV on antiretroviral therapy who maintain a viral load below 200 copies/mL for six months have an extremely low risk of transmitting HIV to their sexual partners. It is believed that widespread knowledge of *U = U* can benefit public health by reducing HIV-related stigma and promoting the well-being of people living with HIV. However, while there is strong evidence that *U = U* applies to sexual transmission, Gosbell et al.[17] speculate that it cannot be extrapolated to transfusion transmission because of the larger inoculum and intravenous route of administration. In a prospective online cohort of Australian MSM, approximately half of those surveyed thought that blood from an HIV infected person with an undetectable viral load had the potential to transmit should their blood be transfused.[18] These authors and others suggested that this might reflect suboptimal understanding and that *U = U* campaigns may need to include knowledge about transfusion risks.[18,19]

Other practices worth mentioning in studies of TTI risk among MSM who donate blood are chemsex and slamming. Chemsex is the use of illicit drugs before or during sexual activity, to facilitate, enhance or prolong the experience. When injectable drugs are involved, the practice is known as slamming. Although the existence of a causal relationship with HIV infection is controversial, some studies suggest that MSM who practice chemsex are more likely to be HIV positive. In a study conducted in Hong Kong, MSM who engaged in this practice were more likely to have more than one male sexual partner and to have had an average of 15 or more sex episodes per month in the previous six months.[20] In another study conducted in Belgium, Kenyon et al.[21] described increased reporting of condomless sex associated with the use of various drugs, including ecstasy, amphetamines, GHB (gamma hydroxybutyrate), and cocaine, among MSM but not among heterosexuals. In a study using data from people attending HIV treatment clinics in England and Wales, three in ten sexually active HIV-positive MSM had engaged in chemsex in the past year, which was positively associated with self-reported depression and anxiety, smoking, illicit drug use outside of sexual contexts, risky sexual behavior, sexually transmitted infections (STIs), and hepatitis C.[22] These studies suggest that chemsex is associated with unprotected sex and other behaviors that increase the risk of HIV infection.

Slamming has been identified as a practice that increases the risk of sexual practices in the transmission of HIV, hepatitis B virus (HBV) and hepatitis C virus (HCV), and is one of the strongest correlates of overdose and development of

addiction for pharmacokinetic reasons.[23] Many MSM first use injecting drugs in the context of sexual relationships, which may lead to more continuous use of these substances.[24] Despite their importance for quantifying risks, few studies provide epidemiological data on slamming.[25] Moreover, Schreck et al.[26] describe that many of these studies use small sample sizes, making generalizations to broad populations difficult. Therefore, it is also important to study the practice of slamming in Brazil to better understand the risks and whether these risks are associated with blood donors who are MSM.

Enhancing blood donation eligibility and safety measures for MSM in Brazil

Blood banks use a two-part approach to minimize infection in the all-volunteer blood supply, including a confidential donor eligibility interview and laboratory testing. After the end of the policy banning blood donation by MSM in Brazil, the eligibility screening must identify high-risk sexual behaviors using gender-neutral criteria, without any question about MSM or time deferral for MSM. Thus, in 2020, the National Health Surveillance Agency (Anvisa) published a new guide for the inclusion of criteria in the clinical and epidemiological screening of blood donor candidates, based on individual practices and the risk of blood-borne infections 27. Therefore, the eligibility screening considers situations that may represent an increased risk of blood-borne infections, including a history of sexual practices by these candidates, but the agency reaffirmed its commitment that the screening of candidates for blood donation should not be guided by prejudice or discrimination based on sexual orientation, gender identity or gender expression.[27]

Given that chemsex and slamming are also practiced by heterosexual people,[28] we believe that questions about these practices could be included in the eligibility criteria for blood donation. In addition, people with an undetectable HIV viral load should be informed of the associated transfusion risks, until further scientific evidence is available.

A Brazilian open web survey using data collected just prior to the approval of the ADI 5543 found that 29.6 % of MSM surveyed had lied during a screening interview at a blood bank in an attempt to donate.[29] Among MSM, 33.8 % reported that they had attempted to donate blood within 12 months of their last oral or anal sexual contact with another man, and of these, 53.4 % did not disclose to the blood donor team that they had oral or anal sex with another man. In addition, 30.1 % reported that they had already successfully donated blood by lying or omitting information about their sexual behavior. These results indicate that MSM were already donating blood before the restrictions on donation were lifted.

Therefore, since the regulations cannot prevent this population from donating blood, the best way forward is to create optimal conditions for this population to donate with the lowest likelihood of TTI risk. In this context, it is important to emphasize that providing false information during the screening interview in order to be able to donate blood should not be seen as a trivial solution to circumvent the rules or as a justification for any moral judgment. On the contrary, conditions must be created to ensure that MSM do not feel the need to resort to an illegal act in order to secure their perceived rights.[29]

Conclusions and recommendations

In conclusion, we believe that the answer to the question that gives the title to this communication is "yes", considering that this population will continue to donate blood even if there are rules that prohibit it, but measures must to be taken in view that transfusion risks remain possible. These measures go beyond research for more accurate laboratory tests and government campaigns, but must involve various sectors of society, as in the following examples. LBGT+ pride parades held annually in several Brazilian cities, attract a large number of people and are a great opportunity to spread knowledge about transfusion risk and health promotion. Elementary school curricula should include proper knowledge of infectious disease testing, eclipse phase, window period, and transfusion risks. Universities can encourage their students and teachers to promote academic leagues on gender, sexuality and health to train professionals who can disseminate knowledge about transfusion risks and safe sexual habits to the general population. Geolocation-based gay dating apps can display advertisements about safe sexual behavior and addresses of nearby testing and counseling centers. Blood bank staff should always seek to use screening algorithms to identify high-risk sexual behaviors using gender-neutral criteria, such as those proposed by the FAIR (For the Assessment of Individualized Risk) Steering Group[30] Finally, we believe that actions aimed at the health of the LGBT+ population should be part of a broader public health agenda, as minority health is health for all.

Conflicts of interest

The authors declare no conflicts of interest.

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