BJHBS

Analysis of the epidemiological profile of men who have sex with men as blood donors

Andreza B. R. Oliveira,[1*] Kallic B. Fonseca,[2] Dayana P. Coelho,[2] Regina M. R. Oliveira,[2] Cristiane M. Costa,[2] Bárbara S. Santos,[2] Samantha V. Baião,[2] Tatiana R. A. Eleuterio,[3] Flavia M. G. C. Bandeira[4]

Abstract

Introduction: In May 2020, the Brazilian Supreme Court ruled that men who have sex with men (MSM) should be eligible to donate blood. Objectives: This study aims to describe the epidemiological, sociodemographic and serological profile of MSM donors in the hemotherapy center of a university hospital. Methodology and Resources: A cross-sectional study was conducted between June 2020 and June 2023, after approval by the Ethics Review Board of the Pedro Ernesto University Hospital. Results: Most MSM donors were young, single, and had higher education (complete or incomplete). In terms of gender specification, 46 (92%) identified as cis. In the sample, 64% (32) of candidates had taken at least one rapid test in the previous 12-month period. Most of the individuals analyzed were donor-eligible (90%) and non-reactive to the serology of interest in the research (91.3%). Discussion: Most MSM donors showed a homosexual orientation and reported regular use of condoms. Despite the restrictions prior to Resolution No. 399/2020, some MSM donors had donated blood in the past. Reactivity for syphilis (6%) among the volunteer donors is below expectations, while above forecast for hepatitis B (2%), based on the indicator presented by the state blood bank network. No HIV reactivity was found. Conclusions: The importance of using risky sexual behavior, rather than sexual orientation, as a criterion for donor eligibility was noted. This change would promote the inclusion of minorities in the blood donation process.

Keywords: Men who have sex with men; Bloodborne infections; Gender dysphoria; Gender identity; Blood donors.

1. Faculdade de Ciências Médicas, Universidade do Estado do Rio de Janeiro. Rio de Janeiro, RJ, Brazil.
2. Serviço de Hemoterapia Herbert Souza, Medicina, Universidade do Estado do Rio de Janeiro, Hospital Universitário Pedro Ernesto. Rio de Janeiro, RJ, Brazil.
3. Faculdade de Enfermagem, Universidade do Estado do Rio de Janeiro. Rio de Janeiro, RJ, Brazil.
4. Serviço de Hemoterapia Herbert Souza, Faculdade de Ciências Médicas, Universidade do Estado do Rio de Janeiro. Rio de Janeiro, RJ, Brazil.

*Correspondence address:
E-mail: andrezabrigith@hotmail.com
ORCID: https://orcid.org/0000-0002-9355-3848

BJHBS, Rio de Janeiro, 2024;23(2):10-16
DOI: 10.12957/bjhbs.2024.85192
Received on 16/07/2024. Approved on 02/08/2024.

Introduction

Before April 2020, in Brazil men who had sex with other men (MSM) were considered temporarily unfit to donate blood for a period of 12 months after the sexual encounter with the same-sex partner, since this sexual practice was considered risky. In July 2020, Board Review No. 399 of 7 July 2020 was published,[1] which authorized national blood centers to receive blood donations from the MSM population, regardless of the time elapsed since the last sexual encounter with a person of the same sex. This decision was implemented by a judicial order issued by the Federal Supreme Court in May 2020.

In terms of the history of hemotherapy and MSM donations in Brazil, the pre-existing policy of permanent deferral of donation was changed in 2004 to one of temporary deferral of 12 months since the last sexual encounter with a homosexual partner.[2]

The decision of the Federal Supreme Court in 2020 was influenced by the impact of the COVID-19 pandemic, which led to a reduction in blood supply to blood centers because of social distancing measures and guidelines on staying at home. In addition, the support of social groups, such as pressure from the media and the help of human activist organizations, contributed to the strengthening of the arguments in favor of this change by the judiciary.[3]

Following the adoption of a new blood donor screening protocol, an assessment of individual risk based on risk behaviors that may place blood recipients at risk of transfusion-transmissible infections (TTIs) — regardless of sexual orientation — seemed to be a sensible step, so as to ensure the continuity of transfusion safety for both recipients and donors.[4] Therefore, a study from an epidemiological, sociodemographic, and serological point of view of the inclusion of MSM donors in a hemotherapy center at a university hospital in the State of Rio de Janeiro, Brazil, was conducted.

Methodology

A cross-sectional study of 50 blood donors who identified themselves as MSM was conducted between June 2020 and June 2023. The study was undertaken at the Herbert de Souza Hemotherapy Service of the Pedro Ernesto University Hospital (HUPE) of the State University of Rio de Janeiro (UERJ). Voluntary blood donors identified as MSM were included in the research using convenience sampling. Candidates were approached during the clinical screening for blood donation and then requested to answer a structured questionnaire (APPENDIX 1) and to sign a free and informed consent form (APPENDIX 2). The variables analyzed were socio-demographic, epidemiological, hematological and serological profiles, eligibility for clinical screening and sexual orientation. Secondary data extracted from the hemotherapy system used by the service (Hemote Plus® by SOFIS Ltda.) were used to collect data on the serological profile. The data collected were analyzed in an Excel® spreadsheet. The study was approved by the Ethics Review Board of HUPE under the opinion number 42979421.1.0000.5282. This study complies with the provisions of Resolution No. 466/2012 of the National Health Council5 on the ethics of research involving human subjects.

Results

The 50 participants predominantly comprised young, single men with complete or incomplete higher education. Table 1 shows the socio-demographic profile, including age, skin color, marital status, and education.

Figure 1 shows the distribution of sexual orientation among respondents, with the majority identifying as homosexual. In addition, 46 (92%) identified as cis, 2 (4%) as trans and 2 (4%) as another gender specification. In terms of partnership status, 27 (54%) of respondents had a single partner, 11 (22%) had up to two steady partners, 10 (20%) had multiple partners and 2 (4%) had no sexual partners in the previous 12 months. Regular condom use was reported by 34 (68%), while 9 (18%) never used condoms and 7 (14%) rarely used condoms. In the last 12 months, 27 (54%) had up to two rapid tests for sexually transmitted infections (STIs), 18 (36%) had no tests and 5 (10%) had more than two tests. For 19 (38%), this was their first blood donation; 14 (28%)

had donated at least four times; 12 (24%) had donated once; and 5 (10%) had donated two to three times. Most (80%) of the donations were spontaneous. With regard to the period before the passage of Resolution No. 399/2020[1], which first allowed MSMs to donate blood, 17 (34%) of the candidates stated that they had previously donated blood despite the provisions to the contrary of that law.

Table 1. Sociodemographic profile of MSM candidates for donation, Herbert Souza Hemotherapy Service, HUPE/UERJ, Rio de Janeiro - RJ, Brazil

Variables	N	%
Age group	ASD / gluten free	38
18 to 29 years old	34	68
30 to 39 years old	10	20
40 to 49 years old	5	10
50 to 59 years old	1	2
Skin color		
Yellow	2	4
White	21	42
Brown	17	34
Black	10	20
Marital status		
Married	2	4
Separated/Divorced	1	2
Single	43	86
Civil union	4	8
Educational level		
Primary school complete	1	2
High school complete	8	16
High school incomplete	2	4
Higher education complete	19	38
Higher education incomplete	20	40
Total	50	100

Source: Analysis of the responses to the forms completed by blood donation candidates (2023).

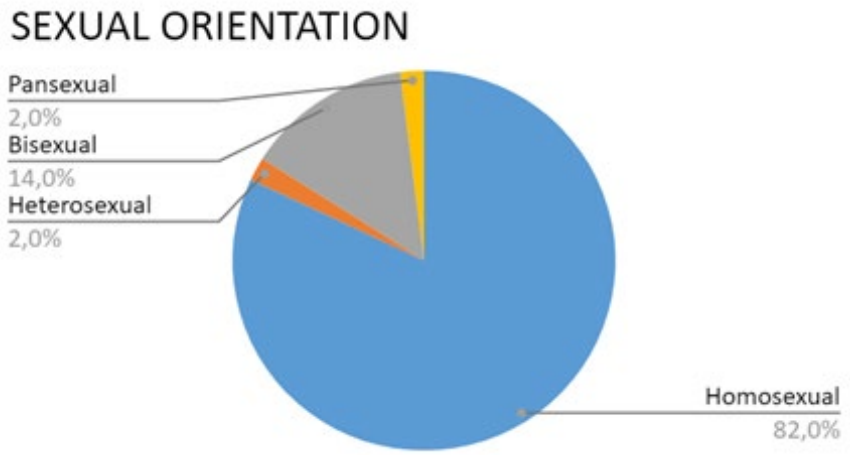

Figure 1. Sexual orientation of MSM blood donors, Herbert Souza Hemotherapy Service, HUPE/UERJ, Rio de Janeiro - RJ, Brazil

Source: Analysis of the responses to the forms completed by blood donation candidates (2023).

Table 2 shows the epidemiological and serological profile of the MSM donors, obtained from clinical and laboratory screening. Most of the individuals analyzed were considered eligible to donate, were non-reactive for the serology of interest to blood donation and, among those with a positive reaction, most tested positive for syphilis. Data that are unavailable due to problems with the computerized system or because of withdrawal from collection are classified as Not Available (NA).

Table 2. Epidemiological and serological profile of MSM donors, Herbert Souza Hemotherapy Service, HUPE/UERJ, Rio de Janeiro - RJ, Brazil

Variables	N	%
Aptitude		
Eligible to donate	45	90
Not eligible to donate	5	10
Serological tests		
Reactive	4	8
Not Reactive	41	82
NA	5	10
Not serologically suitable		
SYPHILIS	3	6
HBV	1	2
Total	**50**	**100**

Legend: HBV (hepatitis B virus); NA: not available.

Source: HEMOTE plus System (2023), consulted by the authors.

The Herbert de Souza Hemotherapy Service, also known as the Hemotherapy Center of the Pedro Ernesto University Hospital, is associated with the State University of Rio de Janeiro (UERJ), and has a history of receiving blood donations mainly from older donors. This characteristic provides an interesting contrast to the profile of young people and students found in the sample of volunteers of the present study.

Consistent with this finding, a survey of the Profile of Brazilian Blood Donors, conducted in national blood centers, found that the propensity to donate blood at any time in life was highest among younger people. However, despite being healthier and having greater access to information, this age group may have yet to acquire awareness and maturity about the importance of consistent donation6.

Self-identification as cisgender was predominant in this sample. According to Reynolds et al.[7], self-identification as trans or some other gender specification provides an opportunity to include a minority that until recently did not have an appropriate gender expression choice in blood donation questionnaires.

The fact that more than two-thirds of donors in this sample have completed and/or are pursuing higher education may be related to their awareness of the importance of blood donation and commitment to this cause, driven by the inclusion of LGBTQIAP+ donors, or to the greater visibility in donor recruitment campaigns targeted at this age group. Indeed, high levels of education are associated with greater opportunities for access to education, and understanding the importance of blood donation may also be motivated by access to education.[8]

Single marital status, as well as being male and young, is associated with a greater tendency to have multiple partners.[9] However, less than one third of donors reported having multiple partners in this study.

Despite the previous restriction on blood donation by MSMs, some of them had donated blood. This finding indicates that blood donation took place even under a policy of restriction, and can be considered a risky practice. Prospective donors must be made aware and educated, so that they do not lie or omit relevant information when filling in questionnaires and/or participating in interviews during clinical screening. At the same time, this situation highlights the need to reflect on the state of "sub-citizenship" in which MSM candidates find themselves, when they feel forced to resort to an illegal act in order to gain the right to donate blood.[10]

The reactivity for syphilis (6%) among the participants in this study with positive serologies was lower than expected, while reactivity for hepatitis B (2%) was above target, bearing in mind that the indicator presented by the state blood bank network as a parameter for the year 2021 was 45.56% of reactivity for syphilis and 1.85% for hepatitis B among donors with serological ineligibility.[11]

Based on indicators from the Rio de Janeiro blood bank network for 2022, the profile of the respondents included in this sample lies within the target of less than 18% ineligibility to donate blood as a result of clinical screening, since only 10% were classified as ineligible. Those ineligible on serological grounds, comprising the 8.7% of participants in the study whose tests showed reactive results, exceeded the target of less than 4%.[12] This result calls attention to the small number of individuals included in this sample, which does not validate any extrapolation. A study with a larger sample would be desirable.

No HIV reactivity was found in the study population. A systematic review based on scientific articles whose studies were conducted in developed countries examined the association between MSM blood donors, deferral policies and the risk of TTI. Four of the articles suggested a higher risk of combined TTI in MSM, considering HIV, syphilis and HBV; however, the limitations of these studies call into question their robustness. One of the articles found that the 12-month deferral policy for blood donation by MSM presented no or a lower risk of TTI. No studies were available on assessing the relation between the risk of TTI associated with the 3-month deferral policy and the individual risk assessment of the donor candidate. Research in this area should be encouraged since some hemotherapy services have begun to use these criteria to select potential donors.[13]

Another study of blood donors from the same hemotherapy service found that 36% of candidates gave blood because they wished to receive the result of the serological test after donation.[14] In this sample, 64% of candidates were found to have had at least one rapid test in the previous 12 months at testing and counselling centers (CTAs). However, identification of the reason for testing was not possible since no such guiding question was included in the interview questionnaire. Even if this is not the case for the participants in this study, it is important to emphasize that some candidates donate blood at blood centers in order to be tested for STIs, a practice engaged in by both MSMs and the heterosexual population. CTAs are available for these purposes, and donors should be encouraged to seek this service and should be offered guidance on the basic conditions of donation, in addition to having their awareness raised about the immunological window period, namely after using pre- and post-exposure prophylaxis.[10]

In a previous study carried out in the period at the same center before Resolution No. 399/2020, a similar profile was found in a study of MSM donors, with differences in sexual orientation and prevalence of condom use. Among MSM donors, the prevalence of homosexual orientation and the regular use of condoms during sexual intercourse were noted.

This study faces limitations due to the inability to inquire about sexual orientation during clinical screening, necessitating individual assessments to avoid bias. The small sample size is an obstacle to any generalization, but the framework of this study can potentially be replicated in other blood centers. In conclusion, MSM donors do not appear to alter the profiles of the hemotherapy service significantly. The relevance of sexual behavior in donor vulnerability classification is highlighted. Future research should involve larger MSM cohorts, so as to provide inputs to blood donation policies. The promotion of education and raising awareness about MSM blood donor vulnerability is recommended in the design of broader campaigns for encouragement of blood donation.

Conflicts of Interest

There are no conflicts of interest for any of the authors.

References

1. Ministério da Saúde. Resolução da Diretoria Colegiada - RDC No 399 [internet], 2020 [cited 2023 June 10]; 1–1. Available from: https://bvsms.saude.gov.br/bvs/saudelegis/anvisa/2020/rdc0399_7_07_2020.pdf.
2. Zucoloto ML, Gonçalez TT, McFarland W et al. Blood donation deferral policies among men who have sex with men in Brazil. Hematol Transfus Cell Ther [internet]. 2019 [cited 2023 June 10]; 41: 164–8. Available from: https://www.scielo.br/j/htct/a/HP86ZqrL6xdRJfCqS8dQxnc/abstract/?lang=en#.
3. Park C, Gellman C, O'Brien M et al. Blood donation and COVID-19: Reconsidering the 3-month deferral policy for gay, bisexual, transgender, and other men who have sex with men. Am J Public Health [internet]. 2021 [cited 2023 June 10]; 111: 247–52. Available from: https://pubmed.ncbi.nlm.nih.gov/33211588/.
4. Hahn B, Quee F, Prinsze FJ et al. Balancing non-discriminatory donor selection and blood safety in the Netherlands: Evaluation of an individual risk assessment of sexual behavior. Transfusion [internet]. 2022 [cited 2023 June 25]; 62: 1241–50. Available from: https://pubmed.ncbi.nlm.nih.gov/35502143/.
5. Conselho Nacional de Saúde. RESOLUÇÃO No 466 [internet]. 2012 [cited 2023 June 25]. Available from: https://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf.
6. Zago A, Silveira MF, Dumith SC. Prevalência de doação de sangue e fatores associados, Pelotas, RS. Rev Saude Publica [internet]. 2010 [cited 2023 June 25]; 44: 112–20. Available from: https://doi.org/10.1590/S0034-89102010000100012.
7. Reynolds V, Van Buren NL, Gorlin JB. Confronting the challenge of gender nonconforming donors: A blood center's three-year experience. Transfusion [internet]. 2023 [cited 2023 Aug 05]; 63: 1284-89. Available from: https://doi.org/10.1111/trf.17446.
8. Silva RMG, Kupek E, Peres KG. Prevalência de doação de sangue e fatores associados em Florianópolis, Sul do Brasil: Estudo de base populacional. Cad Saude Publica [internet]. 2013 [cited 2023 Aug 05]; 29: 2008–16. Available from: https://doi.org/10.1590/0102-311X00174312.
9. Patavino GM, Almeida-Neto C, Liu J et al. NHLBI Retrovirus Epidemiology Study-II (REDS-II), International Component. Number of recent sexual partners among blood donors in Brazil: associations with donor demographics, donation characteristics, and infectious disease markers. Transfusion [internet]. 2012 [cited 2023 Aug 05]; 52: 151-9. Available from: https://doi.org/10.1111/j.1537-2995.2011.03248.x.
10. Martinez EZ, Galdino G, Zucoloto ML. Perceptions and practices of the Brazilian LGBT+ population toward blood donation. Transfus Apher Sci [internet]. 2023 [cited 2023 Aug 11]; 62: 103578. Available from: https://doi.org/10.1016/j.transci.2022.103578.
11. Hemorrede do estado do Rio de Janeiro. Hemorio Indicadores 2021 [internet]. 2021 [cited 2023 June 10]. Available from: http://www.hemorio.rj.gov.br/Html/Apresentacoes/Indicadores_Hemorio_2021/Dados.htm#.
12. Hemorrede do estado do Rio de Janeiro. Hemorio Indicadores 2022 [internet]. 2022 [cited 2023 June 10]. Available from: http://www.hemorio.rj.gov.br/Html/Apresentacoes/Indicadores_Hemorio_2022/Dados.htm#1 .
13. Schroyens N, Borra V, Compernolle V et al. Men who have sex with men and risk for transfusion-transmissible infections in blood donors in Western countries: A systematic review update. Vox Sang [internet]. 2023 [cited 2023 Sept 10]; 118: 709–20. Available from: https://doi.org/10.1111/vox.13482.
14. Costa LSL, Eleuterio TA, Menezes RA et al. A Triagem clínica e a experiência na doação na perspectiva do doador de sangue. Global Academic Nursing Journal [internet]. 2020 [cited 2023 Sept 10]. Available from: https://doi.org/10.5935/2675-5602.20200038.
15. Costa LSL, Eleuterio TA, Pereira SS et al. Perfil epidemiológico do doador voluntário de sangue em um hospital universitário no Rio de Janeiro. Saúde (Santa Maria) [internet]. 2020 [cited 2023 Sept 10]. Available from: https://doi.org/10.5902/2236583443186.