

Prevalence And Risk Behavior For Transmission Of Viral Diseases Observed Among Sexual Minorities In Kinshasa: Cross-Sectional Study

[Prévalence Et Comportement A Risque De Transmission Des Maladies Virales Observé Chez Les Minorités Sexuelles A Kinshasa : Etude Transversale Et Analytique]

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Abstract

Context

The prevalence of homosexuality is not exactly known, it always remains approximate in different countries. Many do not readily declare their sexual orientation for their safety or reputation. Africa is poor in studies on the epidemiology of homosexuals. Alongside the growing number of sexual minorities, there are risk behaviors for transmission of viral diseases observed among sexual minorities. The aim of this study was to describe the extent of homosexuality, and to determine risky behaviors among sexual minorities.

Method

The present study was transversal and analytical, conducted from February 1, 2021 to March 30, 2022, in the homosexual, bisexual and transgender population of the city of Kinshasa. The selection was made from homosexual associations and the snowball method was used to constitute the sample. The statistical significance level is $P < 0.05$.

Results

Sexual attraction to people of the same sex (gay, lesbian and transgender) was predominant at 65.0%. Concerning sexual orientation, bisexuals represent 35.0%, compared to 26.3% for transgenders. The most common risk behaviors for transmission of HIV, Hepatitis B and C included sexually transmitted infections (75.9%), tattoos (73.3%), piercing (55.9%) and non-use or refusal of condoms (58.6%), while blood transfusion was rather marginal (14.2%). The fact that I hated condoms was very significant.

Conclusion

The extent of homosexuality is very considerable in the City of Kinshasa, with a predominance of sexual attitudes towards people of the same sex (gay, lesbian and transgender). In the majority, they adopt risky behaviors such as the presence of tattoos, non-use and refusal of condoms, and the presence of STIs.

Keywords: Prevalence, risk behavior, viral diseases, sexual minorities, homosexuals, bisexuals, transgender, Kinshasa, DRC.

Résumé

Contexte

La prévalence de l'homosexualité n'est pas exactement connue, elle reste toujours approximative dans différents pays. Beaucoup ne déclarent pas facilement leur orientation sexuelle pour leur sécurité ou réputation. L'Afrique est pauvre en études sur l'épidémiologie des homosexuels. A côté du nombre croissant des minorités sexuelles, s'érige les comportements à risque de transmission des maladies virales observé parmi les minorités sexuelles. Le but de cette étude était de décrire l'étendue de l'homosexualité, et de déterminer les comportements à risque chez les minorités sexuelles.

Méthode

La présente étude était transversale et analytique, menée du 01 Février 2021 au 30 Mars 2022, dans la population homosexuelle, bisexuelle et transgenre de la ville de Kinshasa. La sélection était faite dans les associations homosexuelles et la méthode de boule de neige était utilisée pour constituer l'échantillon. Le seuil de signification statistique est $P < 0.05$.

Résultats

L'attraction sexuelle pour les personnes du même sexe (gay, lesbiennes et transgenres) était prédominante à 65,0 %. Concernant l'orientation sexuelle, les bisexuels représentent 35,0 %, contre 26,3 % pour les transgenres. Les comportements à risque de transmission du VIH, de l'Hépatite B et C, les plus rencontrés comprenaient les infections sexuellement transmissibles (75,9 %), les tatouages (73,3%), le piercing (55,9 %) et le non-usage ou refus du condom (58,6 %), tandis que la transfusion sanguine était plutôt marginale (14,2 %). Le fait de détester le condom était très significative.

Conclusion

L'ampleur de l'homosexualité est très considérable dans la Ville de Kinshasa, avec une prédominance des attirances sexuelles envers des personnes du même sexe (gay, lesbiennes et transgenres). En majorité ils adoptent les comportements à risque tel que la présence des tatouages, le non usage et le refus du condom, et la présence des IST.

Mots clés : Prévalence, comportement à risque, maladies virales, minorités sexuelles, homosexuels, bisexuels, transgenres, Kinshasa, RDC.

1. INTRODUCTION

1.1. Context

Homosexuality has already gained ground and tends to break the world record in the decades to come; because their representation in the societies of the different nations of the world is increasing. Despite the fact that compared to the world population, homosexuals constitute a small group [1, 2, 3].

The prevalence of homosexuality is not exactly known, it always remains approximate in different countries. Homosexuals are part of the populations classified as difficult to reach. This difficulty in contact can be explained by various factors. One of them arises from the social context (discrimination) in which homosexual people evolve [1, 2, 3].

In countries where homosexuality is criminalized, many do not easily declare their sexual orientation for their safety. Especially since certain methods used for data collection do not always offer the certainty that confidentiality will be protected, which essentially influences the decision to disclose or not one's sexual orientation [1, 2, 3].

Despite this, certain studies, especially American ones, have still been able to estimate the extent of homosexuality. On this subject, the studies of Kinsey (1948 to 1953) and that of Hite (1983) provided interesting data on the percentage of homosexual and bisexual people [4, 5, 6].

According to Kinsey (1948), the prevalence of homosexuality and bisexuality is estimated at approximately 10% of the population in the United States of America. These studies are still considered the most reliable, given the extent and relative representativeness of their samples, despite the fact that they were carried out more than fifty years ago [4, 5, 7].

However, recent studies have reported a much lower percentage. Indeed, the study of the social organization of sexuality in the United States places the proportion of homosexual people in the population at around 3%, and bisexual people at around 3% (8, 9). More recently in 2005, this prevalence 5% of men consider themselves homosexual and 4% the number of bisexuals [10].

Canada comes first with 11.1% of homosexual women aged 18 to 34. Bisexuality seems widely permitted due to its high prevalence (15%) [1, 11, 12].

The homosexual community is not numerous only in America, in France, 4.0% of women and 4.1% of men aged 18 to 69 declare themselves homosexual (Gay and Lesbian). Among the British people, just over 1% say they are homosexual, and 0.5% bisexual. While the English Government estimates homosexuals and bisexuals make up to 6% of the population [13].

In Oceania, Australia, out of a non-representative sample of 272 people, 52% are declared lesbian, gay or bisexual, and 8% transgender. As for New Zealand, 0.9% of people indicated exclusively homosexual attract [12, 14]. In Asia, Israel, where 8.2% of men and 4.8% of women declared themselves homosexual or bisexual [15].

Taking OECD countries as a whole, only 15 countries (Australia, Canada, Chile, Denmark, France, Germany, Iceland, Ireland, Italy, Mexico, Norway, New Zealand, Sweden, United Kingdom and United States) carrying out self-identification of sexual orientation in at least one of their nationally representative surveys conducted by national statistical offices or other public institutions. This self-identification makes it possible to determine that LGB people represent on average 2.7% of the adult population. In other words, in all these countries, at least 17 million adults treat themselves as LGB, which is as much as the entire population of Chile or the Netherlands. While 17 million is a low estimate since transgender people are not counted [16, 17].

Although rare, at least three OECD countries collect information on gender identity: the United States, Chile and Denmark. According to the latest available estimates, their percentage in the adult population ranges from 0.1% in Chile to 0.3% in the United States (estimates of the transgender population in Denmark have not yet been published) [16, 17].

Africa is poor in studies on the epidemiology of homosexuals, South Africa alone has approximately 430,000 men and 280,000 women with non-conforming gender identity, 530,000 men and women from all population groups, both rural urban and of all ages, self-identify as homosexual, bisexual [4, 5, 6]. In 2008, the prevalence of homosexuality in Botswana was 44%, in Cameroon 49% and in Nigeria 44% [14, 18].

Despite the scale and spread of homosexuality, to our knowledge, there is no large-scale survey like the census to determine the prevalence of sexual minorities in the general population of Africa in general, and the Republic. Democratic Congo in particular.

Alongside the growing number of sexual minorities, there are risk behaviors for transmission of viral diseases observed among homosexuals, bisexuals and transgender people.

In Canada, a study demonstrated risky behaviors among the majority of homosexuals: 64% of sexual minorities had several homosexual sexual partners with oral and anal intercourse. Nearly 50% of homosexuals had had anal sex with casual homosexual partners in the previous 6 months, and the majority did not use a condom during anal sex (active or passive) (54%). Some of the sexual minorities (10%) received or gave money, drugs or other goods or services in exchange for sexual favors [1].

In North America, data on sexual practices and behavioral risk associated with HIV infection indicate that gay men continue to be at very high risk of viral infection by engaging in unsafe sexual practices, such as intercourse. unprotected anal sex with homosexual partners who are serodiscordant or unaware of their serological status [2, 3].

In France, a study showed risky behavior for the transmission of viral diseases among thirds of sexual minorities. They had unprotected sexual relations (very common among HIV-positive homosexuals: 2/3) with frequent consumption of alcohol or psychoactive substances [4].

Africa is very poor in studies on risk behaviors for transmission of viral diseases among homosexuals, bisexuals and transgender people. To our knowledge, no study has been found in the DRC on risky behaviors among sexual minorities.

The aim of this study was to describe the extent of homosexuality, bisexuality and transsexuality in the City-Province of Kinshasa, in the Democratic Republic of Congo, and to determine risk behaviors among sexual minorities.

2. METHOD

2.1. Study setting and period

The present research was carried out in the sexual minority population, including homosexuals, bisexuals and transgenders, grouped in associations in the City of Kinshasa, in the Democratic Republic of Congo. The study was carried out during the period from February 1, 2021 to March 30, 2022.

2.2. Type of study

This article is a cross-sectional study with analytical purposes.

2.3. Inclusion and non-inclusion criteria

All people who were among sexual minorities with a clearly defined sexual orientation of homosexuality (gay, lesbian), bisexuality or transsexuality; having an age between 15 and 69 years old; and who had informed consent data, were included in this study. People who did not respond to the questionnaires were excluded from the study.

2.4. Sampling and sample size:

The selection of homosexuals (gay, lesbians), bisexuals and transgenders was made in homosexual associations, among whom we used non-probability sampling, with a snowball method to constitute the sample. We selected the 24 municipalities of the City of Kinshasa as the study site; and the number of survey locations was taken in a random manner, and it involved: homosexual organizations and associations which take care of their care.

We calculated the sample size using Fischer's formula: $n \geq Z^2 \cdot P(1-P) / d^2$ (population not defined). With $P = 0.5$ (no known prevalence of homosexuality), $Z = 1.96$ and $d = 0.05$. By carrying out the numerical operation, we have: $n = (1.96)^2 \cdot 0.5 \cdot (1 - 0.5) / (0.05)^2 = 384$. If we take into account the plan of sampling, we will multiply by incorporating 384 by 1.3 (assumed design effect) and obtain 499. Finally, we adjust with a non-response rate of 10%, we obtain 555.

2.5. Data collection

The snowball technique has been used to recruit sexual minorities. The data were presented using a questionnaire of 26 items, developed based on the objectives of this study, and which were used by a main investigator, assisted by 12 other investigators, due to one investigator for two municipalities. They were previously trained to carry out this study.

The prevalence of homosexuality and risk behaviors for transmission of viral diseases, are evaluated by respondents' responses to questions relating to sexual attraction, sexual orientation, and various risky behaviors adopted by sexual minorities.

2.6. Variables of interest

We had as variables of interest, the circumstance of discovery of sexual orientation of homosexuals, bisexuals and transgender people, the state of re-exaltation with their parents, the state of the relationship between parents, the age of first homosexual act, intoxication and neuropsychiatrics.

2.7. Statistical analysis:

Excel 2013 software was used for data entry, and SPSS version 24 was used for analyses. The statistical test used to describe the variables are made of relative frequency (%) and/or absolute (n) (qualitative variables). The Chi-square test was applied to compare proportions.

The value of $p < 0.05$ is therefore the threshold for statistical significance.

2.8. Ethical consideration

The study from which this article was drawn was carried out under the authorization and approval of the ethics and research committee of the Protestant University of Congo (UPC), under number: CEUPC 0088. Permission to conduct the study was obtained from the Provincial Health Division of the City Province of Kinshasa under number SM-700/CBCD/SEC/126/NM/BCD/2021. The participants signed the informed consent, after having had the explanations of the aim and objectives of the study. They were free to leave the study without being obliged to provide explanations as to why. The questionnaire was anonymous and the data treated confidentially.

3. RESULTS

3.1. Sociodemographic characteristics

The main sociodemographic characteristics of our study population are listed in.

Table 1. Sociodemographic characteristics of the study population.

Factors	Whole group n=555	Born in Kinshasa n=207	Born outside Kinshasa n=348	p
Age (mean±sd)	28.5±7.8	27.1±7.0	29.3±8.1	0.002
Age group (years)				0.001
13-19	80 (14.4)	32 (15.5)	48 (13.8)	
20-29	235 (42.3)	97 (46.9)	138 (39.7)	
30-39	188 (33.9)	72 (34.8)	116 (33.3)	
40-49	52 (9.4)	6 (2.9)	46 (13.2)	
Education				0.221
Primary school	48 (8.6)	21 (10.1)	27 (7.8)	

Secondary school	407 (73.3)	143 (69.1)	264 (75.9)
University	100 (18.0)	43 (20.8)	57 (16.4)

The respondents were 28.5 ± 7.8 years old on average. The majority of respondents (73 %) were between the ages of 20 and 39, single or cohabiting, and holding a secondary education (75,9 %). Outside of Kinshasa, respondents were noticeably older than those who resided there (p 0.001).

3.2. Prevalence of sexual minorities

3.2.1. Prevalence of sexual attitudes in Kinshasa

The distribution of respondents according to their sexual attitude is presented in Figure 1.

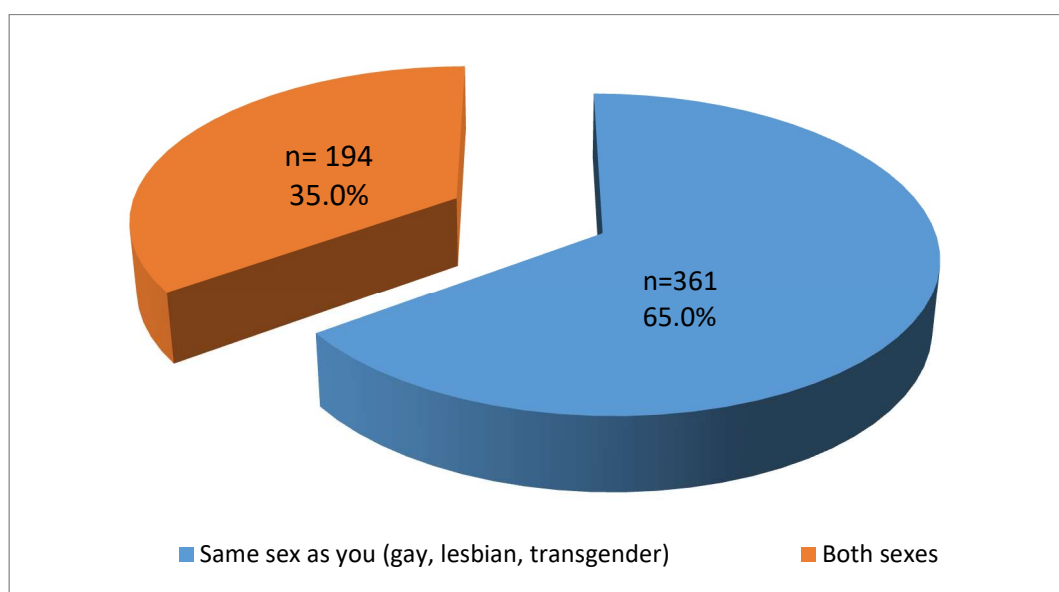


Figure 1. Prevalence of sexual attraction

Sexual attraction to people of the same sex (gay, lesbian and transgender) was predominant (65.0%).

3.2.2. Prevalence of sexual orientation in Kinshasa

Figure 2 illustrates details on the prevalence of sexual orientation.

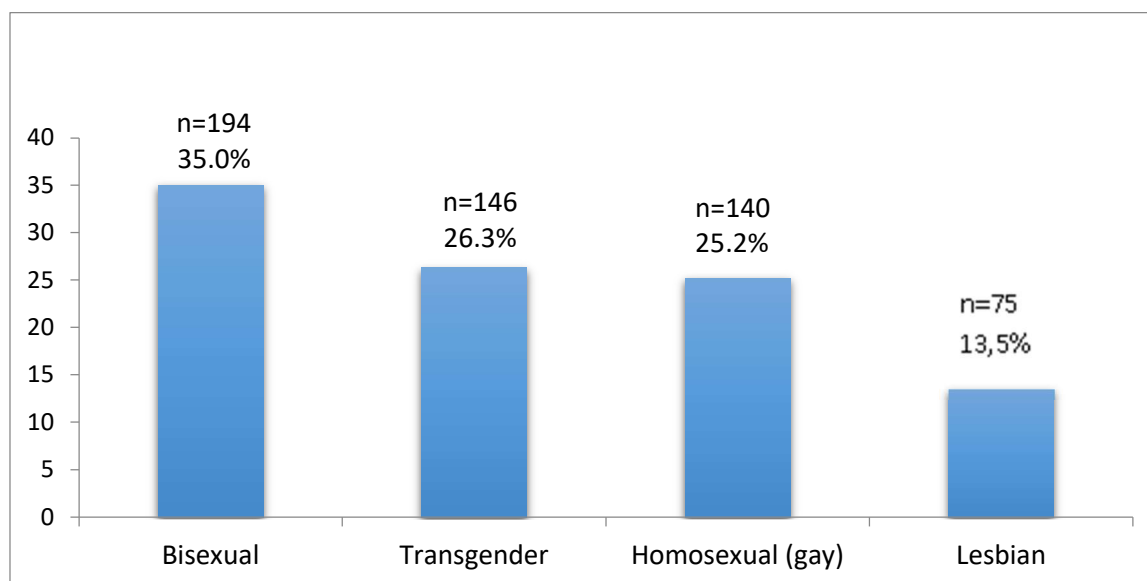


Figure 2: Prevalence of sexual orientation

Concerning sexual orientation, bisexuals represent 35.0%, compared to 26.3% for transgenders.

3.3. Behavior at risk of transmission of HIV, HBV and HCV

Table 1 gives some factors involved in the transmission of HIV, HBV and HCV.

Table 1. Behavior or risk factors for transmission of HIV, HBV and HCV

Factors	Whole group n=555	Born in Kinshasa n=207	Born outside Kinshasa n=348	p
Degree of condom acceptability				0.049
Yes, I use condom	230(41.4)	76(36.7)	154(44.3)	
I hate condoms	325(58.6)	131(63.3)	194(55.7)	
STI	421(75.9)	158(76.3)	263(75.6)	0.463
Tattoo	407(73.3)	147(71.0)	260(74.7)	0.196
Failure to use condoms	345(62.2)	132(63.8)	213(61.2)	0.305
Piercing	310(55.9)	107(51.7)	203(58.3)	0.076
Prostitution	256(46.1)	89(43.0)	167(48.0)	0.146
Incarceration	233(42.0)	93(44.9)	140(40.2)	0.160
Dental care	121(21.8)	47(22.7)	74(21.3)	0.384
Surgery	112(20.2)	38(18.4)	74(21.3)	0.238
Transfusion	79(14.2)	30(14.5)	49(14.1)	0.493

The most common risk factors or behaviors for transmission of the Human Immunodeficiency Virus, Hepatitis B and Hepatitis C include sexually transmitted infections (75.9%), tattoos (73.3%), piercing (55.9%) and non-use or refusal of a condom (58.6%), as well as blood transfusion was rather marginal (14.2%).

Comparing the surveys born in Kinshasa to those born outside Kinshasa, a significant difference exists in the fact of hating condoms in favor of natives of Kinshasa.

4. DISCUSSION

This cross-sectional study with an analytical aim on the prevalence and risk behavior of transmission of viral diseases observed among sexual minorities in Kinshasa, showed unprecedented results:

4.1. Prevalence of sexual minority

In the present study :

- Sexual attraction to people of the same sex (gay, lesbian and transgender) was predominant (65.0%).
 - This cross-sectional but analytical study on a population of homosexuals, bisexuals and transgenders, showed a high prevalence: in the present study, 65.0% of those offered were sexually attracted to people of the same sex (gay, lesbians and transgender). This result is far superior to the results found by the American Psychological Association in 2019 (8.1% homosexuality) in the United States of America. Also in Britain, Twenge found a similar prevalence of homosexuality, at 7% (3, 23).
 - This very significant difference between the present results and those of the American Psychological Association and Twenge is due to the fact that our study was carried out in the population of sexual minorities, on the other hand the Association and Twenge worked in the general population. Compared to the results of Kajubi et al in Uganda, the similarity of the results is due to the fact that these two countries border and share almost the same culture (24).
- Concerning sexual orientation, bisexuals represent 35.0%, compared to 26.3% for transgenders.
 - A preponderant rate of 35.0% were bisexual in the present study. Twenge and collaborator showed this variation in 2016: 21% of bisexuals in France in 1991, 35% of bisexuals in Belgium in 1993 and 29% of bisexuals in the Netherlands in 1989 19. While Kajubi et al. count 36% bisexual in Kampala, Uganda 24; and the 2008 study by Lane et al. identified a bisexuality rate of 12% in South Africa (25).
 - Results similar or almost to this study, because bisexuality is very widespread (therefore 35.0% in the present study and in the study carried out in Belgium), but under-reported, particularly in studies carried out in the general population (21% of bisexuals in Belgium and France and 29% of bisexuals in the Netherlands and 16% in South Africa).
 - In the current work, lesbians had a marginal percentage of 13.5%. In 2016, Jones et al identified 52% of lesbians in Australia in a sample of 272 people. The cultural difference clearly explains these results, lesbians being slightly tolerated in Australia than in the Democratic Republic of Congo (14).

4.2. Risky behavior

In the present study:

- The most common risk factors or behaviors for transmission of the Human Immunodeficiency Virus, Hepatitis B and Hepatitis C include sexually transmitted infections (75.9%), tattoos (73.3%), piercing (55.9%) and non-use or refusal of a condom (62.2 and 58.6%), while blood transfusion was rather marginal (14.2%).
 - These included having had multiple female partners during the last six months of the study, and identifying as homosexual or bisexual. In Uganda, a frequency of 68.1% of unprotected anal penetration was reported. In the three countries, we note that these factors are similar, and have very significant rates, therefore greater than 50% (26).

Strength of the study

The strength of this study is that it is one of the rare studies carried out among homosexuals, bisexuals and transgender people, talking about their risky behaviors adopted in Kinshasa.

Limitation of the study

The weakness of this study is that the study only considered three types of sexual minorities, including homosexuals, bisexuals and transgenders.

5. CONCLUSION

The results of research on homosexuals, bisexuals and transgender people have demonstrated a very considerable scale in the City of Kinshasa. In fact, 65.0% of respondents had a sexual attitude towards people of the same sex as them (gay, lesbian and transgender). When it came to sexual orientation, bisexuals dominated and lesbians were at the bottom.

The behavioral risk (risky behavior) that homosexuals, bisexuals and transgender people run is the presence of STIs, tattoos, non-use of condoms and refusal of condoms.

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MKK conceived the idea, carried out the study, and wrote the first draft of the manuscript; ESK supervised the thesis and production of this article; J-PFL co-supervised the thesis and production of the article; ANN contributed to carrying out the statistical analyses; JLM has read and approved this article; PLN coordinated the entire process of writing the article.

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