

COVID-19

Sexual Risk Behaviors Among Youth in Soweto, South Africa During the COVID-19 National Lockdown



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ABSTRACT

Background: Assessment of sexual risk behavior among youths is crucial for HIV prevention strategies. However, the literature on sexual behavior in youth during the COVID-19 pandemic is sparse.

Aim: This study surveyed sexual risk behavior among youth in Soweto, South Africa during the COVID-19 pandemic national lockdown in 2020.

Methods: We conducted a cross-sectional telephonic survey on socio-demographics and HIV risk behaviors among youth aged 18–24 years during level 3 of the lockdown. Frequencies and their respective percentages were determined for categorical variables and stratified by biological sex. Chi-square analysis was used to compare categorical variables. All data were analyzed using SAS software.

Outcomes: A risk assessment for HIV questionnaire was used to assess sexual risk behaviors. Also, substance use was assessed through a developed yes/no questionnaire.

Results: Of the 129 participants, 83.0% (n = 107) had a sexual partner; 52% of those who had a sexual partner were females, 60.7% (65/107) had one current sexual partner and 39.2% (42/107) had more than 1 sexual partner. Most reported sex within 1 week (54.2%, n = 58/107) and 30.8% within a month (30.8%, n = 33/107). Sex was with a dating partner (86.0%, n = 92/107) and 63% used a condom during last sexual contact. Males were more likely than females to have one-night stand sexual partners (23.5% vs 7.1%; $P = .0176$), make weekly changes in partners (17.7% vs 5.4%; $P = .0442$) and used condoms with their partners (92.2% vs 53.6%; $P < .0001$) during last sexual contact. The majority reported alcohol use (69.0%, n = 89/129). Males were more likely than females to use alcohol on a weekly basis (21.4% vs 6.4%; $P = .0380$). About 55.9% had penetrative sex under the influence of substances.

Clinical Translation: This study gives an insight to the sexual risk behaviors among young people which is crucial for HIV prevention interventions.

Strength & Limitations: This was the first study investigating sexual behavior in youth during the COVID-19 pandemic. The main limitations of this study relate to the sample size and sampling strategy. As the sample was not representative of the population of young people in Soweto and South Africa, the results cannot be generalized. However, the findings have relevance for future research in HIV prevention for young people in other settings in South Africa.

Conclusions: Interventions on promoting sexual health and reducing HIV risk behavior such as sex following alcohol consumption in young people are needed, especially during a pandemic such as COVID-19. **Mulaudzi M, Kiguwa P, Zharima C, et al., Sexual Risk Behaviors Among Youth in Soweto, South Africa During the COVID-19 National Lockdown. Sex Med 2021;10:100487.**

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Key Words: COVID-19; Young People; Substance Use; Sexual Risk Behavior; South Africa

INTRODUCTION

In 2017, there were 88,400 new HIV infections among young South Africans between the ages of 15 and 24 years¹ and more than 20% of youth were living with HIV.² Most HIV transmissions among young people worldwide originate from sexual risk behaviors, including unprotected penile-vaginal or anal sex, sex with multiple partners, and sex under the influence of alcohol or drugs.^{3–7} Understanding sexual risk behavior among young people in South Africa remains crucial for HIV prevention interventions.^{1,8}

Coronavirus disease 2019 (COVID-19) has had a devastating impact on people's physical and mental health and on sexual and reproductive health worldwide.^{9–13} According to the SANAC 2020 report, the COVID-19 pandemic negatively affected the HIV response in South Africa due to disruptions in the provision of sexual and reproductive health services.¹⁴ While several studies worldwide reported a decrease in the frequency of sexual activity and multiple sexual partnerships during COVID-19 pandemic lockdowns or stay at home measures,^{15–19} other studies suggested an increase in the frequency of sexual activities.^{20–22} During China's national lockdown, a study on sexual risk behavior among 459 men and women aged 18–45 years found that 44% of participants reported fewer sexual partners and 37% reduced sexual frequency.¹⁶ A study in the United States in 2020 of 1,051 men who have sex with other men (MSM) aged 15 years and older reported fewer sexual partners during the COVID-19 restrictions.¹⁷

Alcohol consumption and drug use are risk behaviors associated with HIV acquisition in young people.^{23–26} Changes in demand for alcohol during nationwide lockdowns as a result of COVID-19 pandemic were reported across the world.^{27–30} South Africa reported an increased demand for alcohol, especially for online sales, despite certain, albeit less severe, restrictions to alcohol consumption remaining in place during level 3 of the lockdown.²⁷ While little is known about alcohol consumption during level 3 of lockdown in South Africa, lifting the alcohol ban may have increased demand and consumption of alcohol. The association between sexual risk behaviors and substance use in young South Africans is well reported.^{1,2–8,23–26,31,32}

Research on sexual behavior in young people during the COVID-19 pandemic in South Africa is sparse. However, studies in South Africa on the topic were carried out during the pre-COVID-19 pandemic periods.^{1,24,31,33,34} This paper describes sexual risk behaviors (ie, number and type of sexual partner, frequency of changing sexual partners, frequency of sexual intercourse, condomless sex during the last sexual encounter, frequency of substance

use, and sexual intercourse under the influence of alcohol or drugs) among young people in Soweto during the first national lockdown period in 2020 due to the COVID-19 pandemic in South Africa.

METHODS

We conducted a cross-sectional study between July and August 2020 through telephonic interviewer-administered surveys. The study was conducted during the national lockdown level 3, which restricted the use of public transport. It also restricted the use of public and shared premises such as churches, schools and hospitals, especially without wearing a mask.³⁵ At alert level 3, the alcohol ban was lifted, meaning that the sale, dispensing and distribution of alcohol could resume between 9 AM and 5 PM, Mondays to Thursdays. However, onsite sales of alcohol by licensed premises (eg, restaurants) was only permitted until 8 PM, and a curfew was set from 10 PM to 04 AM.

Setting

The study was conducted at Perinatal HIV Research Unit, and has been conducting research in Soweto for more than 20 years. The unit has an extensive walk-in HIV counseling and testing service facility, which is available to the surrounding community. Participants of this study lived in Soweto, which is a peri-urban township area located in Gauteng, the country's most densely populated province, with a population of approximately 11.3 million people.³⁶ Previous studies in Soweto report HIV prevalence of between 3.2% and 4% in young people in Soweto.^{37,38}

Study Participants

Eligible participants were young women and men with a self-reported known or unknown HIV status, aged between 18 and 24 years, with access to a cell phone and living in Soweto, South Africa. Exclusion criteria included any person younger than 18 or older than 24 years, not residing in Soweto, or without access to a cell phone.

Recruitment Procedures

We recruited participants through the WhatsApp messaging service. WhatsApp is a freeware instant messaging platform that allows users to send text, video and voice messages through a mobile device.³⁹ It is a widely used messaging platform among South African youth, due to its relatively cheap rates, using data bundles rather than voice minutes.³⁹ Messages with an informative digital poster were sent out via the WhatsApp platform using

a chain referral technique.^{40,41} Each participant who successfully completed the study survey was requested to refer friends or other young people meeting the study's inclusion criteria in their circle. To encourage referrals by participants, an incentive of air-time vouchers worth R15 (1,04 US\$) was offered to participants upon each successful referral. All referred participants were contacted telephonically during the recruitment and study phases.

Data Collection

The interviewers read the information sheet and consent form to the participants telephonically and obtained their verbal consent prior to administering the survey. The informed consent discussions and participants' consent were recorded using an audio recording device. Participants were informed that only the consent discussion was recorded and that the rest of the interview would not be recorded.

Measures

Socio-demographics included questions about age, gender, socio-economic status, marital status, level of education and number of dependent children.⁴²

Sexual Risk Behavior. To assess sexual risk behavior, a risk assessment for HIV questionnaire was used. Questions included: current number and type of sexual partner(s) (dating¹, living together, one night stand and other²); frequency of changes to different sexual partners; frequency of sexual intercourse, condomless sexual intercourse. The questions covered periods ranging from 1 week to a year before the date of participation.

Substance Use. Substance use was assessed through yes/no questions and related to current use at the time of the study and during their lifetime. Questions on substance use included current use of alcohol or drugs, and sexual intercourse under the influence of alcohol or drugs.

Ethical Considerations

This study was approved by the [name deleted to maintain the integrity of the review process] (M1811113). Study participants were aware that participation in the study is voluntary and study procedures were conducted only after audio recorded verbal consent was achieved. Participants were given R50 (3,46 US \$) airtime vouchers after completing the survey.

Data Analysis

Frequencies and their respective percentages were determined for categorical variables and stratified by biological sex. Medians and interquartile ranges (IQR) were presented for continuous

measures such as age. To test for statistical significance for categorical variables, Chi-square analysis or Fisher's exact test was used. Comparison of continuous measures was non-parametric using the Kruskal Wallis test. All statistical analysis was conducted in SAS Enterprise Guide 7.1 (SAS Institute, Cary, NC) using SAS/STAT procedures PROC FREQ, PROC MEANS and PROC NPARIWAY.

RESULTS

Demographic Characteristics

The median age of the 129 participants enrolled in the study was 22 (IQR: 19–23). About 55% (n = 71/129) were female and all participants identified as Black (Table 1). The majority spoke IsiZulu (a local South African language) as their home language (51.2%, n = 66/129), most lived in a brick house owned by their family (70.5%, n = 91/129), less than half had completed high school (42.6%, n = 55/129), less than a third had earned more than R3000/mo in the previous three months (23.3%, n = 30/129) and most had no children (80.6%, n = 104/129).

Sexual Risk Behavior

Overall Sexual Risk Behavior. Of the 129 participants, 83% (n = 107) had a sexual partner, most of whom had only one partner (60.8%, n = 65/107) at the time of the study. Most participants had a regular (dating) partner (85.1%, n = 91/107), and changed partners within a year (53.3%, n = 57/107). Most typically used condoms with their partners (72.0%, n = 77/107) and occasionally had penetrative sexual intercourse (51.4%, n = 55/107). The majority had last had vaginal sex (87.0%, n = 93/107) within the past week (54.2%, n = 58/107) with their dating partner (86.0%, n = 92/107) and had used a condom during their last encounter (63.6%, n = 68/107). Only 3.7% of participants in this study reported group sex activity (Table 2).

Sexual Risk Behavior By Gender. Relative to males, females were significantly more likely to have only one current sexual partner (71.4% vs 49.0%; $P = .0177$), a dating partner (94.6% vs 74.5%; $P = .0035$), changing partners within a year (64.3% vs 41.2%; $P = .0167$), had vaginal sex (98.2% vs 74.5%; $P = .0003$) with their dating partner during the last sexual encounter (96.4% vs 74.5%; $P = .0011$) (Table 2). Males were more likely than females to have one night stands (23.5% vs 7.1%; $P = .0176$), make weekly changes in partners (17.7% vs 5.4%; $P = .0442$), regularly use condoms with their partners (92.2% vs 53.6%; $P < .0001$), to have had anal sex during the last sexual encounter (27.5% vs 8.9%; $P = .0123$) and to have used condoms during their last sexual encounter (84.3% vs 44.6%; $P < .0001$) (Table 2).

¹Dating partner in this study refers to main/regular partner (6)

²Other in this study specifically refers to group sex (7)

Table 1. Biographical information by biological sex

Variable	Overall	Female	Male	P value
<i>Age (in years)</i>				
18–20 (n, %)	49/129 (37.98)	24/71 (33.80)	25/58 (43.10)	.4574
21–22 (n, %)	37/129 (28.68)	21/71 (29.58)	16/58 (27.56)	
23–24 (n, %)	42/129 (32.56)	26/71 (36.62)	16/58 (27.56)	
Median (IQR)	22.0 (19.0–23)	22.0 (20.0–24)	21.0 (19.0–23)	.2290
Mean (SD)	21.2 (2.20)	21.5 (2.15)	21.0 (2.26)	.2166
Min, Max	(18–24)	(18–24)	(18–24)	
<i>What is your racial background?</i>				
Black (n, %)	129/129 (100.0)	71/71 (100.0)	58/58 (100.0)	-
<i>What is the main language spoken in your home?</i>				
Afrikaans (n, %)	1/129 (0.78)	0/71 (0.00)	1/58 (1.72)	.3398
English (n, %)	1/129 (0.78)	1/71 (1.41)	0/58 (0.00)	
IsiZulu (n, %)	66/129 (51.16)	33/71 (46.48)	33/58 (56.90)	
Northern Sotho (n, %)	2/129 (1.55)	0/71 (0.00)	2/58 (3.45)	
Tshivenda (n, %)	2/129 (1.55)	1/71 (1.41)	1/58 (1.72)	
Sesotho (n, %)	18/129 (13.95)	13/71 (18.31)	5/58 (8.62)	
Xitsonga (n, %)	13/129 (10.08)	6/71 (8.45)	7/58 (12.07)	
IsiXhosa (n, %)	13/129 (10.08)	9/71 (12.68)	4/58 (6.90)	
Setswana (n, %)	13/129 (10.08)	8/71 (11.27)	5/58 (8.62)	
<i>What is the main material that the walls of your house are built of?</i>				
Brick house owned by family (n, %)	91/129 (70.54)	45/71 (63.38)	46/58 (79.31)	.3490
Brick house that family is renting (n, %)	2/129 (1.55)	1/71 (1.41)	1/58 (1.72)	
Flat owned by family (n, %)	2/129 (1.55)	2/71 (2.82)	0/58 (0.00)	
Flat that family is renting (n, %)	1/129 (0.78)	1/71 (1.41)	0/58 (0.00)	
RDP house (n, %)	17/129 (13.18)	10/71 (14.08)	7/58 (12.07)	
Hostel (Brick) (n, %)	1/129 (0.78)	0/71 (0.00)	1/58 (1.72)	
Shack - Informal settlement (n, %)	4/129 (3.10)	3/71 (4.23)	1/58 (1.72)	
Shack - Backyard (n, %)	10/129 (7.75)	8/71 (11.27)	2/58 (3.45)	
Student resident (n, %)	1/129 (0.78)	1/71 (1.41)	0/58 (0.00)	
<i>What is the highest level of formal education you have completed?</i>				
Complete primary school (completed grade 7) (n, %)	1/129 (0.78)	0/71 (0.00)	1/58 (1.72)	.1204
Incomplete high school (up to grade 12) (n, %)	32/129 (24.81)	15/71 (21.13)	17/58 (29.31)	
Complete high school (completed grade 12) (n, %)	55/129 (42.64)	32/71 (45.07)	23/58 (39.66)	
Incomplete post-high school training (Trade or technical training, college, or university) (n, %)	23/129 (17.83)	10/71 (14.08)	13/58 (22.41)	
Complete post-high school training (Trade or technical training, college, or university) (n, %)	18/129 (13.95)	14/71 (19.72)	4/58 (6.90)	
<i>Young people can get money in many different ways, for example, a full-time job, a part-time job, odd jobs or piece work. Thinking about all of the different ways you get money, over the LAST 3 mo, what was your total income?</i>				
1–400 Rand (n, %)	22/129 (17.05)	9/71 (12.68)	13/58 (22.41)	.5661
401–800 Rand (n, %)	22/129 (17.05)	11/71 (15.49)	11/58 (18.97)	
801–1600 Rand (n, %)	28/129 (21.71)	17/71 (23.94)	11/58 (18.97)	
1601–3200 Rand (n, %)	20/129 (15.50)	13/71 (18.31)	7/58 (12.07)	
3201 or more Rand (n, %)	30/129 (23.26)	18/71 (25.35)	12/58 (20.69)	
Don't know (n, %)	7/129 (5.43)	3/71 (4.23)	4/58 (6.90)	
<i>How many children do you have?</i>				
None (%)	104/129 (80.62)	50/71 (70.42)	54/58 (93.10)	.0012
1 (%)	20/129 (15.50)	16/71 (22.54)	4/58 (6.90)	.0146
2 or more (%)	5/129 (3.88)	5/71 (7.04)	0/58 (0.00)	-

Table 2. HIV risk assessment by biological sex

Variable	Overall	Female	Male	P value
<i>Do you have a sexual partner?</i>				
No (n, %)	22/129 (17.05)	15/71 (21.13)	7/58 (12.07)	.1736
Yes (n, %)	107/129 (82.95)	56/71 (78.87)	51/58 (87.93)	
<i>How many sexual partners do you currently have?</i>				
One (n, %)	65/107 (60.75)	40/56 (71.43)	25/51 (49.02)	.0177
More than 1 (n, %)	42/107 (39.25)	16/56 (28.57)	26/51 (50.98)	
Median (IQR)	1.00 (1.00–2)	1.00 (1.00–2)	2.00 (1.00–3)	.0071
Mean (SD)	1.75 (1.49)	1.49 (1.34)	2.04 (1.60)	.0553
Min, Max	(0–10)	(0–10)	(1–10)	
<i>What types of partners are they?</i>				
One night stand (n, %)	16/107 (14.95)	4/56 (7.14)	12/51 (23.53)	.0176
Dating (n, %)	91/107 (85.05)	53/56 (94.64)	38/51 (74.51)	.0035
Living together (n, %)	4/107 (3.74)	2/56 (3.57)	2/51 (3.92)	.9240
Other (n, %)	5/107 (4.67)	3/56 (5.36)	2/51 (3.92)	.7253
Refuse to answer (n, %)	1/107 (0.93)	0/56 (0.00)	1/51 (1.96)	-
<i>Frequency of new/different partners?</i>				
Weekly (n, %)	12/107 (11.21)	3/56 (5.36)	9/51 (17.65)	.0442
Monthly (n, %)	35/107 (32.71)	14/56 (25.00)	21/51 (41.18)	.0749
Yearly (n, %)	57/107 (53.27)	36/56 (64.29)	21/51 (41.18)	.0167
Never (n, %)	2/107 (1.87)	2/56 (3.57)	0/51 (0.00)	-
Refuse to answer (n, %)	1/107 (0.93)	1/56 (1.79)	0/51 (0.00)	-
<i>Do you typically use condoms with these partners?</i>				
Yes (n, %)	77/107 (71.96)	30/56 (53.57)	47/51 (92.16)	<.0001
No (n, %)	30/107 (28.04)	26/56 (46.43)	4/51 (7.84)	
<i>How often do you have sexual penetrative intercourse?</i>				
Regularly (n, %)	48/107 (44.86)	25/56 (44.64)	23/51 (45.10)	.9933
On occasion (n, %)	55/107 (51.40)	29/56 (51.79)	26/51 (50.98)	
Unusually (n, %)	4/107 (3.74)	2/56 (3.57)	2/51 (3.92)	
<i>When was the last time you had sex?</i>				
Within 1 wk (n, %)	58/107 (54.21)	29/56 (51.79)	29/51 (56.86)	.6888
Within 1 mo (n, %)	33/107 (30.84)	20/56 (35.71)	13/51 (25.49)	
Within 1–3 mo (n, %)	10/107 (9.35)	5/56 (8.93)	5/51 (9.80)	
Within 3–6 mo (n, %)	4/107 (3.74)	1/56 (1.79)	3/51 (5.88)	
Within 1 y (n, %)	2/107 (1.87)	1/56 (1.79)	1/51 (1.96)	
<i>With whom did you have sex? If group sex event, specify in 'Other'</i>				
One night stand (n, %)	8/107 (7.48)	0/56 (0.00)	8/51 (15.69)	-
Dating partner (n, %)	92/107 (85.98)	54/56 (96.43)	38/51 (74.51)	.0011
Living together (n, %)	2/107 (1.87)	1/56 (1.79)	1/51 (1.96)	.9468
Other (n, %)	4/107 (3.74)	1/56 (1.79)	3/51 (5.88)	.2645
Refuse to answer (n, %)	1/107 (0.93)	0/56 (0.00)	1/51 (1.96)	-
<i>How did you have sexual relations?</i>				
Oral (n, %)	35/107 (32.71)	20/56 (35.71)	15/51 (29.41)	.4877
Vaginal (n, %)	93/107 (86.92)	55/56 (98.21)	38/51 (74.51)	.0003
Anal (n, %)	19/107 (17.76)	5/56 (8.93)	14/51 (27.45)	.0123
<i>Did you use a condom with the last sexual encounter?</i>				
No (n, %)	39/107 (36.45)	31/56 (55.36)	8/51 (15.69)	<.0001
Yes (n, %)	68/107 (63.55)	25/56 (44.64)	43/51 (84.31)	

Substance Use and Sexual Risk Behavior. As depicted in [Table 3](#), almost two-thirds of participants were alcohol drinkers (69.0%, n = 89/129), most of whose frequency of use ranged from sometimes to often (84.3%, n = 75/89). Most participants

drank alcohol socially (94.4%, n = 84/89). Males were more likely than females to use alcohol on a weekly basis (21.4% vs 6.4%; $P = .0380$). Most participants did not use drugs (94.6%, n = 122/129); of those who did (5.4%, n = 7/129), marijuana

Table 3. Substance use by biological sex

Variable	Overall	Female	Male	P value
<i>Do you drink alcohol?</i>				
Yes (n, %)	89/129 (68.99)	47/71 (66.20)	42/58 (72.41)	.4476
No (n, %)	40/129 (31.01)	24/71 (33.80)	16/58 (27.59)	
<i>How often do you use alcohol?</i>				
Daily (n, %)	2/89 (2.25)	0/47 (0.00)	2/42 (4.76)	-
Weekly (n, %)	12/89 (13.48)	3/47 (6.38)	9/42 (21.43)	.0380
Sometimes (n, %)	75/89 (84.27)	44/47 (93.62)	31/42 (73.81)	.0104
<i>How do you use alcohol?</i>				
Socially (n, %)	84/89 (94.38)	44/47 (93.62)	40/42 (95.24)	.7402
Excessively (n, %)	5/89 (5.62)	3/47 (6.38)	2/42 (4.76)	
<i>Do you use drugs?</i>				
Often (weekly) (n, %)	2/129 (1.55)	0/71 (0.00)	2/58 (3.45)	-
Sometimes (n, %)	5/129 (3.88)	1/71 (1.41)	4/58 (6.90)	.1082
No (n, %)	122/129 (94.57)	70/71 (98.59)	52/58 (89.66)	.0258
<i>Which drugs do you use?</i>				
Marijuana (n, %)	7/7 (100.0)	1/1 (100.0)	6/6 (100.0)	-
<i>Do you usually have penetrative sexual intercourse with your partner(s) when you have been drinking or using drugs?</i>				
Yes (n, %)	47/84 (55.95)	27/44 (61.36)	20/40 (50.00)	.2947
No (n, %)	37/84 (44.05)	17/44 (38.64)	20/40 (50.00)	
<i>Have you ever suffered from depression or stress?</i>				
Yes (n, %)	53/129 (41.09)	36/71 (50.70)	17/58 (29.31)	.0140
No (n, %)	76/129 (58.91)	35/71 (49.30)	41/58 (70.69)	
<i>Are you worried about getting / having HIV or AIDS?</i>				
Yes (n, %)	81/129 (62.79)	48/71 (67.61)	33/58 (56.90)	.2107
No (n, %)	48/129 (37.21)	23/71 (32.39)	25/58 (43.10)	

was their drug of choice. Most participants who drank or used drugs usually had penetrative sex during this time (56.0%, n = 47/84).

DISCUSSION

This paper adds to the body of sexual and reproductive health research by describing sexual risk behaviors and substance use among youth aged 18–24 years in South Africa during the first COVID-19 lockdown. The results show that, despite the risk of contracting COVID-19, most participants reported having had sex within the past 7 days at the time of data collection. A large number of participants reported alcohol consumption, and more than half had engaged in sex while under the influence of alcohol or drugs.

Having more than one partner significantly increases the chances of exposure to HIV, as does changing partners frequently.⁴³ More than half of the participants in this study reported engaging in sex with their long-term partners during level 3 of the lockdown. This was especially true for female participants, whereas their male counterparts were more likely to change partners in less than a year. Despite the COVID-19 lockdown restrictions, about 54% of the participants in this study had sex and 87.9% (51/58) of those had vaginal sex within a week of the time of data collection. While our study cannot determine whether the participants' sexual

activity increased or decreased, it does reveal that a large number reported engaging in sexual activity during level 3 of the lockdown. Their actions may have been a consequence of feeling isolated and lonely during levels 5 and 4, which severely restricted local and international travel, and limited social contact to their immediate family.¹⁴ Recent studies report increased sexual activity during the COVID-19 national lockdowns in the U.S., U.K. and south-east Asian countries (Bangladesh, India and Nepal).^{20–22} In some of these studies, participants' feelings of isolation, anxiety and loneliness during lockdown prompted sexual contact,¹⁵ which fulfilled their psychological needs, relieved negative emotions¹⁶ and reaffirmed their sense of feeling loved.

Sexually active participants in this study reported a high rate of condom use, especially for penetrative vaginal sex. More participants reported using condoms during last sexual contact than those who did not, and most confirmed that they typically use condoms with their sexual partners. The 2017 National HIV prevalence survey recorded increased condom use during last sexual encounter among young people in South Africa.⁴⁴ While these results are encouraging for HIV prevention efforts, inconsistent condom use remains a challenge, particularly among adolescents and young women.^{2,17,18} More than one-third of participants (36%) in this study reported condomless sex during last sexual contact, more than half of whom (55%) were female.

This finding is not unique to this study in the South African context. Previous studies in HIV prevention report high rates of condomless sex or inconsistent condom use in females due to their socio-economic circumstances and imbalanced gender-power dynamics in their sexual relationships.^{2,17,19,20} Several similar studies have found that adolescents and young women in cohabiting, stable or marital relationships are likely to report condomless sex, and if not, inconsistent condom use.^{2,3}

Most of the participants in the current study who were alcohol drinkers described their consumption as mostly social or occasional drinking. This was despite the South African government's ban on the sale and consumption of alcohol in public places as part of the COVID-19 lockdown regulations. In South Africa, alcohol, marijuana, and tobacco are the three most frequently reported substances used.^{24,45,46} Alcohol consumption is one of the many behaviors that put youth at higher risk of exposure to HIV.^{24,47} From the sample of participants who reported substance use, some reported having penetrative sex with a partner after using marijuana or consuming alcohol. Marijuana was the only drug our study's participants reported using. Drug and substance abuse is a biobehavioral factor that is related to HIV transmission and has been seen as a significant facilitator of the HIV spread among MSM.⁴⁸ Sanchez et al (2020) suggested that young participants in their study were more likely to have increased their drug and alcohol use during COVID-19.¹⁷

Male participants in our study were more likely to use alcohol, which is a significant concern in the context of COVID-19 restrictions. A study on self-reported alcohol consumption in Belgium showed that, from a sample of 2,871 adults, at least 75% had either maintained or increased their alcohol use during the national lockdown.²⁹ While the reasons for alcohol consumption varied, the predominant factors included the possibility of contamination by their partner, and heightened levels of depression and anxiety. In South Africa, the national lockdown may have added to people's psychological stress because of their isolation and restricted movement, and the fear of contracting the virus. These factors may have prompted more people to use alcohol and substances to cope with the pandemic, as suggested by numerous publications on the topic during the COVID-19 lockdown.^{28,29,49,50}

Limitations

The main limitations of this study relate to the sample size and sampling strategy. As the sample was not representative of the population of young people in Soweto and South Africa, the results cannot be generalized. However, the findings have relevance for future research in HIV prevention for young people in other settings in South Africa. Another limitation was that the questions on sexual behavior and substance use were not tailored specifically for the lockdown period. However, data on sexual behavior is relevant as it was collected while the national lockdown restrictions were still in place. Additionally, the survey contained sensitive questions on participant's sexual behavior which may have resulted in social desirability bias. The self-reporting of

mental health, while giving participants privacy, may also have made the study susceptible to invalid answers owing to misinterpretation or lack of clarity on questions.

CONCLUSION

Most of the youth reported sex and alcohol use despite the social distancing restrictions due to the COVID-19 pandemic. However, some participants reported that other sexual risk behaviors such as sex under the influence of substances and group sex activities still occurred among youth in South Africa during this time. Future studies may explore sexual risk behavior before, during and after imposing the national lockdown to better understand and mitigate the impact of pandemics such as COVID-19 on the sexual behavior in young people in South Africa.

AVAILABILITY OF DATA AND MATERIALS

Data will be made available on request.

Ethics Approval and Consent to Participate

Audio recorded verbal consent was achieved from all participants. Ethical clearance was achieved from University of the Witwatersrand Human and Research Ethics Committee (HREC-medical).

Consent for Publication

All participants agreed to the publication of the data provided.

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