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Sexual Behaviour and Contraceptive Use Among Women of Reproductive Age During the COVID-19 Pandemic in Ile-Ife, Osun State, Nigeria

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Abstract

The COVID-19 pandemic disrupted Sexual and Reproductive Health (SRH) services across Nigeria. There was an enforced lockdown that altered household dynamics and contraceptive access, yet community-level evidence from southwestern Nigeria remained sparse. A cross-sectional study was conducted among 350 women of reproductive age (15–45 years) in Ile-Ife, Osun State. A structured questionnaire was administered. Contraceptive use, sexual activity frequency, and perceived COVID-19 consequences were measured across three periods: before, during, and after the lockdown. Univariate, bivariate (chi-square), and multinomial logistic regression analyses were performed using SPSS version 23. Statistical significance was set at $p < 0.05$. Respondents were predominantly married (68.9%), aged 20–24 years (24.0%), and Muslim (50.3%). Contraceptive use rose from 32.9% before the lockdown to 41.4% during the lockdown and 42.9% during the COVID-19 era. Overall, 55.4% (n=194) reported a change in their rate of sexual activity. Women who often used contraceptives were five times more likely to experience a mild rather than a strong impact on sexual activities (Odds Ratio (OR): 5.00; 95% Confidence Interval (CI): 2.09–8.96; $p<0.05$). Mild contraceptive use was associated with a milder income effect (OR: 8.65; 95% CI: 1.06–70.0; $p=0.04$). Women engaging in sexual activity 2–4 times weekly were more likely to report a mild health impact (OR: 1.31; 95% CI: 0.84–5.64; $p<0.05$). The COVID-19 lockdown measurably altered contraceptive use and sexual behaviour in Ile-Ife, with modest increases in contraceptive uptake alongside supply-side disruptions. Strengthening community-level contraceptive distribution and SRH communication during health emergencies is essential.

Keywords: COVID-19, Contraceptive use, Sexual behaviour, Sexual and reproductive health, Women of reproductive age, Nigeria, Osun state.

1 | Introduction

Women's Sexual and Reproductive Health (SRH) remains a critical public health concern in sub-Saharan Africa, where modern contraceptive prevalence is among the lowest globally. In Nigeria, modern

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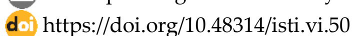
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contraceptive use increased slowly from 3.5% in 1990 to 12% in 2018 [1], hindered by religious and cultural beliefs, partner opposition, limited access to SRH services, and low female education [2], [3].

The emergence of COVID-19 as a global pandemic in March 2020 introduced unprecedented disruptions to health systems worldwide. In Nigeria, an immediate lockdown was imposed on Lagos, Ogun State, and Abuja, subsequently extended to all 36 states [4]. Health facilities reduced services, reproductive health clinics were closed, and contraceptive supply chains were disrupted [5], [6]. Concurrently, prolonged cohabitation of couples during lockdown (a pattern observed during prior epidemics, including Ebola in West Africa) is associated with changes in sexual activity and contraceptive demand [7], [8].

Evidence from Lagos and other major cities in Nigeria began to document COVID-19's SRH impact [9], [10]. However, community-level data from smaller southwestern communities such as Ile-Ife in Osun State, historically characterised by lower contraceptive prevalence of approximately 18% and distinct socio-cultural dynamics, remained absent [11], [12].

This study aimed to: 1) examine the predictors of sexual activity and contraceptive use among women of reproductive age in Ile-Ife during the COVID-19 era, 2) investigate the effects of COVID-19 on contraceptive use, 3) examine the impact of COVID-19 on sexual behaviour, and 4) determine the level of contraceptive need during the COVID-19 era. The findings contribute retrospective population-level evidence that remains critical for informing SRH emergency preparedness in Nigeria and similar low- and middle-income country settings.

2 | Methods

2.1 | Study Design and Setting

A cross-sectional study was conducted in Ile-Ife, a medium-sized city in Osun State, southwestern Nigeria, with a predominantly Yoruba population. Data were collected between July and December 2020, spanning both the COVID-19 lockdown period and the post-lockdown phase.

2.2 | Study Population and Sample Size

The study population comprised women of reproductive age (15–45 years) who were sexually active and resident in Ile-Ife during the study period. The sample size was determined using the Cochran [13] formula for estimating proportions:

$$n = Z^2 p(1-p) / d^2, \qquad (1)$$

where: Z = 1.96 (95% confidence level); p = 0.294 (historical contraceptive prevalence in Osun State [14]; d = 0.05 (margin of error). This issue gave $n = (1.96)^2 \times 0.294 \times (1–0.294) / (0.05)^2 = 318$. Adjusting for 10% non-response, the final sample size was 350 women.

2.3 | Sampling Technique

A multi-stage sampling technique was employed. In stage one, two Local Government Areas (LGAs) were purposively selected from Ile-Ife. In stage two, communities were randomly selected from each LGA. In stage three, households were systematically sampled, and one eligible woman per household was recruited.

2.4 | Data Collection

Data were collected using a pre-tested, structured interviewer-administered questionnaire. The instrument captured sociodemographic characteristics; contraceptive use before, during, and after the COVID-19 lockdown; frequency of sexual activity across the same three periods; and perceived consequences of COVID-19 on income, health status, psychological well-being, and fertility intention.

Contraceptive use was categorised as never, mild (occasional), or often (regular). Sexual activity frequency was measured as: Once a week, 2–4 times a week, or 5 or more times a week.

2.5 | Data Analysis

Data were entered and analysed using IBM SPSS Statistics version 23. Descriptive statistics (frequencies and proportions) were used to describe sociodemographic characteristics and outcome variables. Chi-square (χ^2) tests were used in bivariate analysis to test associations between categorical variables. Multinomial logistic regression identified independent predictors of sexual activity and contraceptive use, with results presented as Odds Ratios (OR) with 95% Confidence Intervals (CI). Statistical significance was set at $p < 0.05$. The theoretical framework adopted was Bulatao's [15] model of contraceptive choice, which attributes contraceptive use to four domains: goals, competence, evaluation, and access.

2.6 | Ethical Considerations

Ethical approval was obtained from the Osun State Health Research Ethical Committee (OSHREC) (reference: OSHREC/PRS/569T/223). Informed written consent was obtained from all participants prior to data collection. Participation was voluntary and confidential. No identifying information was recorded on questionnaires.

3 | Results

3.1 | Sociodemographic Characteristics of Respondents

A total of 350 women completed the study (response rate: 100%). *Table 1* presents their sociodemographic profile. The mean age was 29.47 years. The largest age group was 20–24 years (24.0%, n=84). The majority were married (68.9%, n=241), Muslim (50.3%, n=176), and from monogamous households (68.6%, n=240). Over a third (34.0%, n=119) had attained tertiary education, while 24.6% (n=86) had no formal education. Most respondents were self-employed (47.7%, n=167). Less than half (42.9%) were using any form of contraceptive at the time of the interview.

Table 1. Sociodemographic characteristics of respondents (N=350).

Variable	Frequency (n)	%	Valid %*
Age group (years)			
15–19	32	9.1	9.1
20–24	84	24.0	24.0
25–29	67	19.1	19.1
30–34	69	19.7	19.7
35–39	50	14.3	14.3
40–45	48	13.7	13.7
Mean age = 29.47 years	350	100.0	100.0
Religion			
Christianity	164	46.9	46.9
Islam	176	50.3	50.3
Traditional	10	2.9	2.9
Marital status			
Single	39	11.1	11.1
Engaged	70	20.0	20.0
Married	241	68.9	68.9
Family type			
Monogamous	240	68.6	68.6
Polygamous	83	23.7	23.7
Single parent	27	7.7	7.7
Educational status			
No formal education	86	24.6	24.6
Primary	68	19.4	19.4
Secondary	77	22.0	22.0
Tertiary	119	34.0	34.0
Occupation			

Table 1. Continued.

Variable	Frequency (n)	%	Valid %*
Not working	103	29.4	29.4
Self-employed	167	47.7	47.7
Civil servant	55	15.7	15.7
Private worker	25	7.1	7.1
Number of Children Ever Born (CEB)			
0	92	26.3	26.3
1	31	8.9	8.9
2	80	22.9	22.9
3	66	18.9	18.9
4	63	18.0	18.0
5	18	5.1	5.1
Number of Children Living			
0	92	26.3	26.3
1	45	12.9	12.9
2	78	22.3	22.3
3	68	19.4	19.4
4	57	16.3	16.3
5	10	2.9	2.9

Source: field survey (2020–2021).

3.2 | Contraceptive Use Before, During, and After the COVID-19 Lockdown

Table 2 presents contraceptive use across the three study periods. Contraceptive use increased progressively: 32.9% (n=115) before the lockdown, 41.4% (n=145) during the lockdown, and 42.9% (n=150) during the COVID-19 pandemic, representing a net increase of approximately 10 percentage points. The proportion of women who often used contraceptives fell from 33.1% (n=116) during the lockdown to 27.4% (n=96) of all respondents in the COVID-19 era. Despite this increase in demand, 27.7% of women (n=97) reported an unmet need for contraceptives during the COVID-19 era, driven largely by facility closures and supply chain disruptions.

Table 2. Level of contraceptive use and need during the COVID-19 era (N=350).

Variable	Frequency (n)	Percentage (%)
Contraceptive use before lockdown		
Yes	115	32.9
No	235	67.1
Contraceptive use during lockdown		
Yes	145	41.4
No	205	58.6
Contraceptive use during the COVID-19 era		
Yes	150	42.9
No	200	57.1
Level of contraceptive use during lockdown		
Never	193	55.1
Mild	41	11.7
Often	116	33.1
Total	350	100.0
Level of contraceptive use during the COVID-19 era		
Never	214	61.1
Mild	40	11.4
Often	96	27.4
Total	350	100.0
Need for contraceptives during COVID-19		
Yes	97	27.7
No	253	72.3

Note: Percentages are calculated as proportions of the total sample (N=350).
'Level' categories refer only to those who used contraceptives. Rows may not sum to 100% due to rounding.

3.3 | Frequency of Sexual Activity before, During, and after the COVID-19 Lockdown

Table 3 shows the distribution of sexual activity frequency across the three study periods. Before COVID-19, 31.4% of respondents engaged in sexual activity once a week, and 35.1% engaged 2–4 times per week. During the lockdown, the frequency of sexual activity increased substantially: 44.9% reported sexual activity 2–4 times per week, and 28.9% reported 5 or more times per week. Overall, 194 respondents (55.4%) reported a change in their rate of sexual activity during the COVID-19 era compared to the pre-pandemic period.

Table 3. Frequency of sexual activity before, during, and after the COVID-19 lockdown (N=350).

Sexual Activity Frequency	Before COVID-19 n (%)	During Lockdown n (%)	COVID-19 Era n (%)
Once a week	110 (31.4)	21 (6.0)	217 (62.0)
2–4 times a week	123 (35.1)	157 (44.9)	88 (25.1)
5 or more times a week	22 (6.3)	101 (28.9)	45 (12.9)
No sexual activity/not reported	95 (27.1)	71 (20.3)	0 (0.0)
Total	350 (100.0)	350 (100.0)	350 (100.0)
Respondents reporting a change in sexual activity rate	—	—	194 (55.4)

Note: 'COVID-19 era' refers to the post-lockdown period while COVID-19 measures remained in effect. Figures for 'No sexual activity / not reported' represent respondents who did not report any of the three frequency categories for that period.

3.4 | Predictors of Sexual Activity and Contraceptive Use: Multinomial Logistic Regression

Table 4 presents the key statistically significant findings from multinomial logistic regression. Women who often used contraceptives were 5 times more likely to experience a mild, rather than strong, impact on their sexual activities compared to infrequent users (OR: 5.00; 95% CI: 2.09–8.96; p<0.05). Women from polygamous households were 2.65 times more likely to engage in sexual activity once a week compared to women from single-parent households (OR: 2.65; 95% CI: 1.34–5.75; p=0.03). Women with no formal education were over 6 times more likely to engage in frequent sexual activity compared to those with tertiary education (OR: 6.40; 95% CI: 1.15–35.43; p=0.03).

Regarding contraceptive use consequences, women with a mild impact on household income were 8.65 times more likely to use contraceptives mildly (OR: 8.65; 95% CI: 1.06–70.0; p=0.04). Women with primary education were approximately 8 times more likely to use contraceptives mildly compared to those with tertiary education (OR: 7.85; 95% CI: 2.85–25.6; p<0.01). Women whose fertility intentions changed were 0.53 times less likely to engage in weekly sexual activity (OR: 0.53; 95% CI: 0.01–0.72; p<0.01).

Note on model limitations: Several cells in the regression tables had small observed frequencies, resulting in very wide CI (e.g., OR: 10.43; 95% CI: 1.16–102.5). These estimates should be interpreted with caution. Future studies should use larger samples or collapse categories to achieve more stable estimates.

Table 4. Key statistically significant findings from multinomial logistic regression.

Variable/Outcome	OR	95% CI	p-value
Sexual Activity — Mild vs. Strong Impact On Sexual Activities			
Variable/outcome	OR	95% CI	p-value
Often contraceptive use (ref: strong impact)	5.00	2.09 – 8.96	< 0.05
Polygamous family (ref: single parent)	2.65	1.34 – 5.75	0.03
Age 30–34 yrs (ref: Age 40–45 yrs)	3.00	0.86 – 14.72	0.08
Civil servant occupation (ref: private worker)	2.61	0.58 – 11.72	0.21
No formal education (ref: tertiary)	6.40	1.15 – 35.43	0.03
Contraceptive use-Mild vs. strong income effect			
Mild contraceptive use (ref: strong income effect)	8.65	1.06 – 70.0	0.04
Young age 15–19 yrs (ref: 40–45 yrs)	10.43	1.16 – 102.5	0.04
Primary education (ref: tertiary)	7.85	2.85 – 25.6	< 0.01
Sexual activity-impact on health status (mild vs. strong)			
2–4× weekly sexual activity (ref: strong health impact)	1.31	0.84 – 5.64	< 0.05
Fertility intention			
Changed fertility intention (ref: no change)	0.53	0.01 – 0.72	< 0.01

OR; CI; Reference Category (RC). Only statistically significant or near-significant findings are reported here. Wide CIs reflect small sub-group sizes and should be interpreted cautiously.

4 | Discussion

This study provides community-level evidence on the impact of the COVID-19 pandemic on sexual behaviour and contraceptive use among women of reproductive age in Ile-Ife, Osun State. The progressive increase in contraceptive use, from 32.9% before lockdown to 42.9% during the COVID-19 era, is notable given that the national baseline for Osun State stood at approximately 29.4% prior to the pandemic [14]. This increase aligns with Karp et al. [9] findings in Lagos, where a 3–5% increase in modern contraceptive use was documented during the pandemic. The rise likely reflects greater cohabitation among couples during lockdown, which increased sexual activity frequency and consequently contraceptive demand.

The finding that 55.4% of respondents reported a change in sexual activity mirrors data from other southwestern Nigerian studies [10], [16] and from Burkina Faso and Kenya, where significant increases in sexual frequency among cohabiting couples were documented during lockdown [9]. The particularly high rate of sexual activity frequency change among women from polygamous households (OR: 2.65) and those with no formal education (OR: 6.40) reflects the well-documented intersection of family structure, educational attainment, and SRH outcomes in Nigeria [2], [17].

Despite increased demand, supply-side disruptions, facility closures, stock-outs, and reduced SRH information access, left 27.7% of women with an unmet contraceptive need. This finding is consistent with UNFPA [6] estimates that approximately 47 million women globally could not access modern contraceptives during the pandemic. The association between often using contraceptives and experiencing only a mild impact on sexual activities (OR: 5.00) reinforces that consistent contraceptive use acts as a buffer against broader SRH disruption.

The strong association between mild contraceptive use and income effects (OR: 8.65) reflects the economic burden of contraceptive access, particularly relevant in a community where 47.7% of women are self-employed and vulnerable to income shocks. This finding corroborates Akinyemi et al. [18], who found that household income strongly predicted contraceptive use in urban southwestern Nigeria.

The change in fertility intention among a significant proportion of respondents, as reflected in the OR of 0.53 for reduced sexual activity among women with changed fertility intentions, suggests that some women consciously moderated sexual behaviour in response to the health and economic uncertainties of COVID-19. These findings are consistent with global evidence of pandemic-induced 'pandemic baby boom' avoidance in low-income settings [19], [20].

From a 2026 perspective, these findings carry ongoing relevance. Nigeria's SRH emergency preparedness framework must address three structural vulnerabilities exposed by COVID-19: dependence on facility-based contraceptive distribution, fragile supply chains, and insufficient community-level SRH communication. These gaps remain in place and must be addressed ahead of future public health emergencies.

In contrast to our findings, Coombe et al. [21] reported a decline in sexual activity during lockdown in Australia, attributed to psychological stress and fear of infection. This divergence may reflect differences in household structure, gender norms, and pandemic severity between high- and low-income country settings, underscoring the importance of context-specific evidence.

5 | Conclusion

The COVID-19 pandemic lockdown measurably altered sexual behaviour and contraceptive use among women of reproductive age in Ile-Ife, Osun State. Contraceptive use increased modestly during and after the lockdown, yet supply disruptions produced significant unmet need. Consequences, including income effects, health impacts, and changed fertility intentions, were most pronounced among married women, those with lower education, and women from polygamous households.

These findings support three urgent recommendations for Nigeria's health system: first, establish community-level emergency contraceptive distribution points that function independently of health facilities; second,

integrate mobile and digital SRH information platforms into existing community health worker programmes; and third, designate contraceptives as essential commodities in national emergency supply chain frameworks to prevent stock-outs during future crises.

6 | Limitations

This study has several limitations that should be noted. First, the cross-sectional design precludes causal inference. Second, the study was conducted in a single city, and findings may not be generalisable to all of Osun State or Nigeria. Third, self-reported sexual behaviour and contraceptive data are subject to social desirability bias, potentially underestimating true sexual activity rates. Fourth, some regression sub-groups had small cell sizes, producing very wide CIs, reducing the precision of those estimates. Finally, the study period coincided with significant social disruption, which may have affected the accuracy of retrospective reporting on pre-lockdown behaviour.

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Authors' Contributions

All aspects of the research and manuscript preparation were carried out by the author. The author has read and approved the final version of the manuscript.

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Data Availability

All data supporting the reported findings in this research paper are provided within the manuscript.

Conflict of Interest

The authors declare no conflicts of interest.

Consent for Publication

The author confirms consent for the publication of this work

Ethics Approval and Consent to Participate

Ethical approval was obtained from the OSHREC. Informed consent was obtained from all participants.

References

[1] NPC, & ICF. (2019). *Nigeria demographic and health survey 2018: Key indicators report*. https://dhsprogram.com/pubs/pdf/FR359/FR359.pdf

[2] Adebowale, A. S., Gbadebo, B., & Afolabi, F. R. (2016). Wealth index, empowerment and modern contraceptive use among married women in Nigeria: Are they interrelated? *Journal of public health*, *24*(5), 415–426. https://doi.org/10.1007/s10389-016-0738-3

[3] Alayande, A., Bello Garko, B., Umeh, G., & Nuhu, I. (2019). Access to contraceptives for adolescents in Northern Nigeria-a cross-sectional study from three secondary health facilities in Kaduna metropolis, Kaduna. *Gates open research*, *3*, 1476. https://doi.org/10.12688/gatesopenres.12968.1

[4] Nigeria Centre for Disease Control (NCDC). (2020). *COVID-19 situation reports*. https://ncdc.gov.ng/themes/common/files/sitreps/e15260e385285b02e2f350e8e24514df.pdf?utm

[5] Obokoh, A. (2020). *Nigeria's contraceptive supply chain obstructed by COVID-19 pandemic*. https://businessday.ng/health/article/nigerias-contraceptive-supply-chain-obstructed-by-covid-19-pandemic-experts/

[6] United Nations Population Fund (UNFPA). (2021). *Impact of COVID-19 on family planning: What we know one year into the pandemic*. Technical Note. https://www.unfpa.org/sites/default/files/resource-pdf/COVID_Impact_FP_V5.pdf

[7] Camara, B. S., Delamou, A., Diro, E., Béavogui, A. H., El Ayadi, A. M., Sidibé, S. (2017). Effect of the 2014/2015 Ebola outbreak on reproductive health services in a rural district of Guinea: An ecological study. *Transactions of the royal society of tropical medicine and hygiene*, *111*(1), 22–29. https://doi.org/10.1093/trstmh/trx009

[8] Riley, T., Sully, E., Ahmed, Z., & Biddlecom, A. (2020). Estimates of the potential impact of the COVID-19 pandemic on sexual and reproductive health in low-and middle-income countries. *International perspectives on sexual and reproductive health*, *46*, 73–76. https://doi.org/10.1363/46e9020

[9] Karp, C., Wood, S. N., Guiella, G., Gichangi, P., Bell, S. O., Anglewicz, P., & Moreau, C. (2021). Contraceptive dynamics during COVID-19 in sub-Saharan Africa: Longitudinal evidence from Burkina Faso and Kenya. *BMJ sexual & reproductive health*, *47*(4), 252–260. https://doi.org/10.1136/bmjsrh-2020-200944

[10] Mmeje, O. O., Coleman, J. S., & Chang, T. (2020). Unintended consequences of the COVID-19 pandemic on the sexual and reproductive health of youth. *Journal of adolescent health*, *67*(3), 326–327. https://doi.org/10.1016/j.jadohealth.2020.06.019

[11] Fakeye, O., & Babaniyi, O. (1989). Reasons for non—use of family planning methods at Ilorin, Nigeria: Male opposition and fear of methods. *Tropical doctor*, *19*(3), 114–117. https://doi.org/10.1177/004947558901900307

[12] Olaleye, A., Orji, E., Akintayo, A., & Imaralu, J. (2015). Perception and uptake of contraception among health workers in Ile-Ife, South-Western Nigeria. *Babcock university medical journal (BUMJ)*, *1*(1), 21–28. https://doi.org/10.38029/bumj.v1i1.22

[13] Cochran, W. G. (1977). *Sampling techniques*. Johan Wiley & Sons Inc. https://www.scirp.org/reference/ReferencesPapers?ReferenceID=1390266

[14] Idowu, A., Ukandu, G. C., Mattu, J., Olawuyi, D., Abiodun, A., Adegboye, P. (2020). Modern contraception: Uptake and correlates among women of reproductive age-group in a rural community of Osun State, Nigeria. *Ethiopian journal of health sciences*, *30*(4), 531–540. http://dx.doi.org/10.4314/ejhs.v30i4.8

[15] Bulatao, R. A. (1984). Reducing fertility in developing countries. *A review of determinants and policy levers*, 14–17. https://documents1.worldbank.org/curated/en/201041468764702288/pdf/multi0page.pdf

[16] Ogundipe, S. (2020). *COVID-19: Amid lockdown, sexual activity spikes*. https://www.vanguardngr.com/2020/06/covid-19-amid-lockdown-sexual-activity-spikes/?utm

[17] Wang, W., Staveteig, S., Winter, R., & Allen, C. (2017). *Women's marital status, contraceptive use, and unmet need in sub-Saharan Africa, Latin America, and the Caribbean*. ICF International. https://dhsprogram.com/publications/pdf/CR44/CR44.pdf

[18] Akinyemi, J. O., Odimegwu, C. O., & Adebowale, A. S. (2017). The effect of internal migration, individual and contextual characteristics on contraceptive use among Nigerian women. *Health care for women international*, *38*(10), 1075–1094. https://doi.org/10.1080/07399332.2017.1345908

[19] Wani, R. J., & Paprikar, S. S. (2020). COVID-19 and women's health. *The Indian practitioner*, *73*(5), 48–54. https://www.researchgate.net/profile/Reena-Wani/publication/350122941

[20] Odusina, E. K., Ayotunde, T., Kunnuji, M., Ononokpono, D. N., Bishwajit, G., & Yaya, S. (2020). Fertility preferences among couples in Nigeria: A cross sectional study. *Reproductive health*, *17*(1), 92. https://doi.org/10.1186/s12978-020-00940-9

[21] Coombe, J., Kong, F. Y. S., Bittleston, H., Williams, H., Tomnay, J., Vaisey, A. (2021). Love during lockdown: Findings from an online survey examining the impact of COVID-19 on the sexual health of people living in Australia. *Sexually transmitted infections*, *97*(5), 357–362. https://doi.org/10.1136/sextrans-2020-054688