

# Sexual and reproductive health problems among Ugandan youth during the COVID-19 pandemic lockdown: An online cross-sectional study

**Simon Binezera Mambo**

Kampala International University - Western Campus

**Franck K. Sikakulya** (✉ [francksikakulya@gmail.com](mailto:francksikakulya@gmail.com))

Kampala International University - Western Campus <https://orcid.org/0000-0001-8101-273X>

**Robinson Ssebuufu**

Kampala International University - Western Campus

**Yusuf Mulumba**

Mulago National Referral Hospital

**Henry Wasswa**

Reproductive Health Uganda

**Kelly Thompson**

Reproductive Health and Right USA

**Jean Christophe Rusatira**

Bill and Melinda Gates Foundation

**Fiona Bhondoekhan**

bill and melinda gates for population and reproductive health

**Louis K. Kamyuka**

Kampala International University - Western Campus

**Surat Olabisi Akib**

Kampala International University - Western Campus

**Claude Kirimuhuzya**

Kampala International University - Western Campus

**Jane Nakawesi**

Mildmay Uganda

**Patrick Kyamanywa**

Kampala International University - Western Campus

---

## Research

**Keywords:** Sexual reproductive health and rights, COVID-19, lockdown, Uganda, youth, services

**DOI:** <https://doi.org/10.21203/rs.3.rs-48529/v2>

**License:** © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License. [Read Full License](#)

---

# Abstract

## *Background*

The COVID-19 pandemic threatens access to sexual and reproductive health services. With global health emergencies, there is often a total reversal of priorities and access to sexual and reproductive health services may become challenging. The aim of this study was to establish the problems related to sexual and reproductive health among Ugandan youths during the COVID-19 lockdown.

## *Methods*

This was an online cross-sectional study carried out from April 2020 to May 2020 in Uganda. An online questionnaire was used and participants aged 18 years to 30 years recruited using the snowballing approach. The statistical analysis was done using STATA version 14.2.

## *Results*

Out of 724 participants, 203 (28%) reported not having information and/or education concerning sexual and reproductive health (SRH). About a quarter of the participants (26.9%, n=195) reported not having testing and treatment services of sexually transmitted infections available during the lockdown. Lack of transport means was the commonest (68.7%) limiting factor to access to SRH services during the lockdown followed by the long distance from home to SRH facility (55.2%), high cost of services (42.2%) and curfew (39.1%). Sexually transmitted infections were the commonest (40.4%) problem related to SRH during the lockdown followed by unwanted pregnancy (32.4%) and sexual abuse (32.4%). The multivariate regression analysis shows that problems were more prevalent among the co-habiting youth [APR: 2.3 (1.6 - 3.29), p<0.001] followed by unemployed (volunteer or unpaid) [APR: 1.6 (1.03 - 2.64), p: 0.037] than in other participants.

## *Conclusions*

The findings of this study show that Ugandan youths have accessing SRH information and services during the COVID-19 lockdown. Cohabiting and unemployed participants were the most affected. Lack of transport means and high cost of services were the major limiting factors to access SRH services among the youths. The findings call for concerted efforts from the Uganda government and international non-governmental organisations to ensure access and availability of SRH services for Ugandan youths during the COVID-19 lockdown.

## Plain English Summary

The world is facing a global health crisis due to the current COVID-19 pandemic. The pandemic is causing disruptions in accessing sexual and reproductive health services with related problems. An online cross-sectional study was conducted to establish the problems to sexual and reproductive health among Ugandan youths during COVID-19 pandemic lockdown. A sample of Ugandan youths filled an online questionnaire and data was analysed to identify the SRH problems and the associated factors. The results showed that Ugandan youths were not able to access information and services related to SRH during the COVID-19 lockdown. Cohabiting and unemployed participants were mostly affected. Lack of transport means and high cost of services were the major limiting factors to accessing SRH services.

The above findings suggest that effective measures should be put in place to ensure access and availability of sexual and reproductive health services for Ugandan youths during the COVID-19 lockdown.

## Introduction

On 11<sup>th</sup> March, 2020, the World Health Organization (WHO) declared COVID-19 a pandemic [1]. According to the WHO, as of 13<sup>th</sup> October 2020, a total of 37,704,153 cases of COVID-19 had been confirmed worldwide (1,594,287 confirmed in Africa), with 1,079,029 deaths (38,570 deaths registered in Africa) giving a case fatality ratio of 2.9% globally (2.4% in Africa), and the numbers continue to rise rapidly [2-3].

Uganda announced a lockdown and dawn to dusk curfew on 13<sup>th</sup> October 2020 and as of 29<sup>th</sup> September 2020, Uganda had registered 9,945 confirmed cases of COVID-19 with 6,347 recoveries and 95 reported deaths [2].

Governments are stepping up their response to rapidly reduce disease spread with many countries having chosen to apply mass quarantine, lockdown or social distancing [4]. In the midst of COVID-19 spread in Uganda and as the Government implements different pandemic control measures, access to sexual and reproductive health services is being severely curtailed, negatively affecting young people's lives directly and indirectly [5]. Experience in the past epidemics has shown that lack of access to essential health services and shut-down of services unrelated to the epidemic response, resulted in more deaths than the epidemic itself [6].

Learning from experience during the Ebola outbreaks, governments managed the outbreaks by diverting resources away from the needs of young people, despite their heightened risks [7-8]. Response efforts focused on containing the outbreaks and reducing the number of new cases. While this focus was important, protocols were never established to protect young people's sexual and reproductive health during the outbreaks [9]. As quarantines and school closures were put in place to contain the spread of disease in different countries across the world [1,5,10], women and adolescent girls were vulnerable to sexual and reproductive health problems such as coercion, exploitation, and sexual abuse, lack of contraceptives methods, unsafe abortions, delays in the care of pregnant women with resultant increase in maternal mortality and morbidity [11-12]. In the absence of focused responses from governments to protect

the gains made in young people's sexual and reproductive health, similar challenges could be expected during the COVID-19 pandemic across different countries [9-11]. The United Nations Population Fund (UNFPA) in its COVID-19 Pandemic Global Response Plan elucidated that sexual and reproductive health is a significant public health issue that demands urgent and sustained attention and investment [12]. The Inter-Agency Working Group (IAWG) on reproductive health has recommended that comprehensive sexual and reproductive health services should be maintained as long as the system is not overstretched with COVID-19 case management [13]

The Government of Uganda issued directives to protect pregnant women's access to maternity services [14]. However, access to essential sexual and reproductive health information and services such as contraceptives and other family planning packages like condoms, comprehensive sexuality education; obstetrics care; menstrual health materials, counselling, gender-based violence support, care for sexual health and wellbeing for young people are not prioritised during the lockdown [14]. The fear of contracting COVID-19 is also discouraging young people from seeking sexual and reproductive health services [15]. The transfer of already limited resources to deal with the pandemic and the absence of health care workers from their original duty may cause interruptions in regular provision of essential SRH services. Furthermore, SRH outcomes may worsen due to gender-based violence (GBV) which can increase the risk of chronic health conditions, disability, HIV transmission, pregnancy complications and even death [16-17]. News reports are confirming a rise in gender-based violence, unwanted pregnancy among young girls, unsafe abortion, closure of antenatal care services in some of the public health facilities, and a sharp decline in women seeking SRH services [14]. Although the Ministry of Health in Uganda and donors had come up with a strategy of establishing youth-friendly corners at health facilities to increase the uptake of SRH services by the Ugandan youths, they are currently closed [14].

Even before the COVID19 pandemic, the Ugandan health system rarely offered young people sexual and reproductive health services designed to meet their needs [18]. The Uganda demographic health survey of 2016 points to over 25% teenage pregnancies, among sexually active young people by the age of 16 years, and the unmet family planning need in the country stood at 28% [19-20]. Unintended pregnancy is common in Uganda, leading to high levels of unplanned births, unsafe abortions, and maternal injury and death [19-20]. This study was carried out to explore the sexual and reproductive health problems among Ugandan youths during COVID-19 pandemic lockdown and to inform appropriate intervention measures to respond to young people's sexual and reproductive health during the health emergencies.

## Methods

### Study design and setting

A nationwide cross-sectional online survey was conducted during the months of April and May, 2020 among the youths in Uganda.

### Study Participants

The United Nations defines youths as those persons between the ages of 15 and 24 years [21] but the African Union defines youths or young people as every person between the ages of 15 and 35 years [22] and the Uganda [youth policy](#) defines youths as all young persons, aged 12 to 30 years [23]. This study was focused on Ugandan youths aged 18 to 30 years and living in any of the four regions (Northern, Central, Eastern and Western) of the country at the time of the study. The Ugandan youths aged 18 to 30 years constitute 22.9% (10,326,072.351) of Ugandan population standing at 44,269,594 in 2019 according to the national bureau of statistics [24]. All Ugandan youths able to consent (18 years and above) and with a minimal computer literacy level and able to access and operate WhatsApp, tweeter or Facebook were eligible to participate in the survey. Those who had filled the form but for some reason were unable to submit the questionnaire were automatically not reflected and therefore excluded in the data base for the survey.

### Data Collection and Instrument

An online structured questionnaire of the study about sexual and reproductive health needs, of young people in Uganda [25] was developed using Google forms with a required consent form that had to be filled before accessing the questionnaire. As the country was under lockdown, social media was used to conduct the survey. The snowball sampling technique was used to pool the initial eligible respondents who were encouraged to recruit more respondents from their acquaintances in different regions of the country by forwarding to them the link to the questionnaire. The questionnaire was administered for a period of 14 days from 28<sup>th</sup> April to 11<sup>th</sup> May 2020. On receiving and clicking the link, the participants were auto-directed to the informed consent page of the survey tool. After reading the preamble and accepting to participate in the study, they were directed to the survey questionnaire.

The questionnaire was composed of 22 questions focused on several key constructs. Six questions were related to socio-demographics characteristics (age, sex, marital status, educational level, location, occupation); twelve questions on access to sexual and reproductive health information and services during the COVID-19 lockdown; two questions on limiting factors to access sexual and reproductive health information and services and two questions on sexual and reproductive health problems that Ugandan youths were facing during the COVID-19 lockdown (**S1Table**).

### Data Processing and analysis plan

The questionnaire was pretested and reviewed to ensure correctness and appropriateness to the local context. The statistical analysis was done using STATA version 14.2 (StataCorp, College Station, Texas, USA). Categorical variables were presented using frequencies, graphs and/or figures whereas continuous variables were presented using means, standard deviations (SD).

Multivariate regression analysis of having faced any limiting factor to access sexual and reproductive health information and services, and having had any problem relating to sexual and reproductive health during the COVID-19 lockdown with socio-demographics were done using the Poisson Regression and presented Adjusted Prevalence Ratios (APR).

## Ethical Considerations

This study was approved by Kampala International University Institutional Research Ethical Committee (UG-REC-023/202018). Data was collected online and the consent form was attached to the anonymous questionnaire. Only those who voluntarily accepted to participate in the study were able to access and fill the questionnaire.

## Results

A total of seven hundred thirty-three (733) participants completed the online questionnaire. Nine (9) participants were excluded from the survey because they were above 30 years of age, thus the final sample size considered was seven hundred twenty-four (724).

### Socio-demographic characteristics of participants

Out of 724 participants, 56.4% were male and 78.0% were living single. As shown in **Table 1** below, the mean age of the respondents was 24.4 (SD± 2.8) years. The majority (87.2%) had attained an educational level of college/university while 27.2% were salaried employees.

**Table 1: Socio-demographic characteristics of participants during the COVID-19 lockdown**

Variable	Frequency N (%)	Mean (SD)
Sample size	724 (100)	
Sex		
Female	316 (43.6)	
Male	408 (56.4)	
Mean Age in complete years		24.4 (2.8)
Age group in years		
18 to 24	395 (54.6)	
25 to 30	329 (45.4)	
Marital status		
Living single	555 (78.0)	
Married	81 (11.2)	
Cohabiting	78 (10.8)	
Education level		
College/University	631 (87.1)	
Vocational or Technical Institution	46 (6.4)	
Secondary School and below	47 (6.5)	
Location/Region in Uganda		
Central Uganda	274 (37.8)	
Western Uganda	254 (35.1)	
Eastern Uganda	122 (16.9)	
Northern Uganda	74 (10.2)	
Employment status		
School	337 (46.5)	
Paid employment (employee on a salary)	197 (27.2)	
Self-employed (Business/Income Generating Activity)	62 (8.6)	
Unemployed: No structured activity	69 (9.5)	
Unemployed: Volunteer or unpaid work	59 (8.1)	

### Access to sexual and reproductive health services of participants during the COVID-19 lockdown

Out of 724 participants, 203 (28.0%) reported not having information and/or education concerning SRH. One hundred ninety-five participants (26.9%) reported not having access to STIs testing and treatment services and 197 (27.2%) reported not accessing easily the preferred modern contraceptive during the COVID-19 lockdown. Out of 62 participants who were on HIV treatment, 50 (80%) also reported difficulty in accessing HIV drugs during the study period as shown in **Table 2**.

**Table 2. Access to sexual and reproductive health services among Ugandan youths during the COVID-19 lockdown**

Variables	All (%) n=724
<b>Is there any available information and/or education concerning sexuality given during COVID-19 pandemic (lockdown)?</b>	
No	203 (28.0%)
Yes	521 (72.0%)
<b>Are testing and treatment services of STIs available during the COVID-19 lockdown?</b>	
No	195 (26.9%)
Yes	315 (43.5%)
Don't know	214 (29.6%)
<b>How easily are you able to access your preferred modern contraceptive during the COVID-19 lockdown?</b>	
Not Easily	197 (27.2%)
Easily	132 (18.2%)
Not Applicable	395 (54.6%)
<b>Are HIV testing and counselling services available during the COVID-19 lockdown?</b>	
No	159 (22%)
Yes	349 (48.2%)
I Don't know	216 (29.8%)
<b>Are you currently on HIV (ARVs) medication?</b>	
No	662 (91.4%)
Yes	62 (8.6%)
<b>If yes, how easily are you able to access Antiretroviral therapy (medication) during the COVID-19 lockdown?</b>	
Not Easily	50 (6.9%)
Easily	12 (1.7%)
Not Applicable	662 (91.4%)
<b>If female, are you able to access menstrual health products such as sanitary pads?</b>	
Not Easily	127 (17.5%)
Easily	189 (26.1%)
Not Applicable	408 (56.4%)
<b>If you are pregnant or you have delivered, is pregnancy care available during the COVID-19 lockdown?</b>	
Yes	36 (81.8%)
No	8 (18.2%)
<b>If you had an abortion, are post abortion care services offered during the COVID-19 lockdown?</b>	
Yes	19 (79.2%)
No	5 (20.8%)

Of the total participants, 357 (49.3%) confirmed using the family planning methods of whom 320 (44.2%) and 37 (5.1%) were using modern and traditional methods respectively. A half (50.7%) of the participants were not using any family planning method during the study period.

Out of the 320 participants who were using modern contraceptive during the lockdown, 232 (72.5%) were using condoms followed by 33 (10.3%) who used Emergency pills, 22 (6.9%) IUD, 20 (6.3%) injection and 13 (4.1%) were using implants as shown in **figure 2** below.

Limiting factors were reported among 453 (62.6%) Ugandan youths of the 724 participants. Figure 3 below shows that lack of transport was the most common (43%) limiting factor to access sexual and reproductive health services and information during the lockdown followed by distance from home (34.5%) cost of services (26.4%) and curfew (24.4%) were the other common limiting factors.

The Ugandan youths reported having problems related to SRH [136 (18.8%) participants]. As shown below in Figure 4, STIs (40.4%) were the commonest problem related to sexual and reproductive health during the COVID-19 lockdown followed by unwanted pregnancy (32.4%) and sexual abuses (32.4%).

#### **Having a limiting factor to access SRH among Ugandan youths with their social demographics during the COVID-19 lockdown**

The multivariate regression analysis shown in Table 3, shows that the limiting factors were 2.3 times more prevalent [APR:1.2 (1.06 – 1.41)] among cohabiting participants and 1.7 times more prevalent among the unemployed and non-salaried participants [APR:1.2 (1- 1.42)] than other participants.

**Table 3: Multivariate regression analysis using Poisson Regression of having a limiting factor to access SRH among Ugandan youths with their social demographics during the COVID-19 lockdown**

Variable	Poisson Regression	
	APR (95%CI)	P-Value
<b>Sex</b>	<b>0.997</b>	
Female	1	
Male	1 (0.89 - 1.12)	
<b>Age group in years</b>	<b>0.424</b>	
18 to 24	1	
25 to 30	0.9 (0.83 - 1.08)	
<b>Marital status</b>	<b>0.016</b>	
Single	1	
Married	1.1 (0.97 - 1.36)	
Cohabiting	1.2 (1.06 - 1.41)	
<b>Education level</b>	<b>0.001</b>	
College/University	1	
Vocational or Technical Institution	0.9 (0.72 - 1.08)	
Secondary School	1.2 (0.94 - 1.48)	
<b>Location/Region in Uganda</b>	<b>0.294</b>	
Central Uganda	1	
Western Uganda	1 (0.9 - 1.2)	
Eastern Uganda	1.2 (0.99 - 1.34)	
Northern Uganda	1.1 (0.92 - 1.34)	
<b>Employment status</b>	<b>0.025</b>	
School	1	
Paid employment (employee on a salary)	1 (0.87 - 1.2)	
Self-employed (Business/Income Generating Activity)	1.1 (0.94 - 1.41)	
Unemployed: No structured activity	1 (0.79 - 1.21)	
Unemployed: Volunteer/ non-salaried	1.2 (1 - 1.42)	

APR: Adjusted Prevalence ratios

CI: Confident Interval

#### Problems relating to sexual and reproductive health with socio-demographics

The multivariate regression analysis shows that problems relating to sexual and reproductive health were 2.3 more prevalent among cohabiting [APR: 2.3 (1.6 - 3.29)] followed by unemployed (Volunteer or unpaid) [APR: 1.6 (1.03 - 2.64)] than others participants.

**Table 4: Problems related to sexual and reproductive health among Ugandan youths with their Socio-demographics during the COVID-19 lockdown**

Variable	Poisson Regression	
	APR (95%CI)	P-Value
<b>Sex</b>	<b>0.994</b>	
Female	1	
Male	1 (0.74 - 1.35)	
<b>Age group in years</b>	<b>0.661</b>	
18 to 24	1	
25 to 30	1.1 (0.76 - 1.54)	
<b>Marital status</b>	<b>&lt;0.001</b>	
Single	1	
Married	1.5 (0.99 - 2.32)	
Cohabiting	2.3 (1.60 - 3.29)	
<b>Education level</b>	<b>0.001</b>	
College/University	1	
Vocational or Technical Institution	0.5 (0.31 - 0.74)	
Secondary School	0.8 (0.45 - 1.33)	
<b>Location/Region in Uganda</b>	<b>0.748</b>	
Central Uganda	1	
Western Uganda	1.1 (0.75 - 1.53)	
Eastern Uganda	1.2 (0.82 - 1.79)	
Northern Uganda	0.9 (0.55 - 1.59)	
<b>Employment status</b>	<b>0.198</b>	
School	1	
Paid employment (employee on a salary)	1.2 (0.76 - 1.76)	
Self-employed (Business/Income Generating Activity)	1.2 (0.73 - 2.09)	
Unemployed: No structured activity	0.7 (0.33 - 1.44)	
Unemployed: Volunteer or unpaid work	1.6 (1.03 - 2.64)	

APR: Adjusted Prevalence ratios

CI: Confident Interval

## Discussion

The Government of Uganda has put in place public health emergency directives during the COVID-19 pandemic and partially lifted the travel ban for pregnant women and people living with HIV/AIDS. However, access to essential SRH services such as contraceptives and other family planning packages like condoms,

access to ARVs and menstrual health materials by young people have not been prioritized during the lockdown [14].

In this study, we found lack of access to information and services of SRH among the youths during this lockdown (Table 2). These findings further demonstrate the inadequate access to the information and services among youths worldwide [16]. It is reported that less than 10% of adolescent women access health facilities and information about family planning in 70 developing countries despite the momentum in implementing SRH in most countries [27].

With global health emergencies, there is a total reversal of priorities and, as a result, the availability, accessibility and affordability of SRH services has become challenging [16]. During the pandemic, lack of resources may reduce access to SRH and increase maternal and childhood mortality rates [16]. The inadequate access to the information and services among youths was reported in Kenya, Zambia [28], Swaziland [29], and Uganda [30] while studying the attitudes of health professionals to adolescent SRH issues concerning provision of services. Particularly in Uganda, two major surveys conducted among university students indicated that young people had limited access to sexual and reproductive health services and HIV/AIDS-related programmes despite their engagement in high-risk sexual behaviours

[31-32]. The West Africa's large, multi-country Ebola Virus Disease (EVD) outbreak of 2014-2016 tells us that there were significant impacts on SRH, particularly in the early stages of that outbreak, largely related to health facility closures [33]. In Sierra Leone one study estimated that there were an additional 3600 maternal deaths, neonatal deaths and stillbirths related to the decrease in health service utilization during the EVD outbreak [34]. Another study from Guinea found a decrease of 51% in Family Planning (FP) visits during the outbreak [35]. There is significant unmet need for information, education, and services for sexual and reproductive health for married and unmarried young people [36].

The finding from this study reports that family planning was being used during lockdown among which modern methods uptake was 44.2%. We found that condoms were the most modern contraceptive method used followed by emergency pills and IUD during the COVID-19 lockdown by Ugandan youths. These results are similar to the one found in Lao People's Democratic Republic where preventive measures that youth used were condoms, oral pills and emergency pills [37] and also similar to a study done in suburban Shanghai, whereby a youth-friendly intervention program providing information, skills, and services to promote safe sex behaviour (contraception and condom use) compared with a control group [38].

Lack of transport was the commonest (68.7%) of the limiting factor to access SRH services and information during the lockdown followed by distance from home and were to get the services (55.2%), cost of services (42.2%) and curfew (39.1%). The high percentage of no transport as the commonest limiting factors to access the SRH in our study can be explained by the status of lockdown during the study period which was limiting access to private cars and taxis in order to avoid the spread of the COVID-19 in the community as one of the measures implemented by the Ugandan Government. This finding may also imply that the lockdown may have affected more youth from poorer household with no private means of transport. During the lockdown, fewer economic activities were allowed in the country in addition to a curfew between 7 pm to 6am. Having no transport means, a curfew and the high cost of services during the study period meant that most of the participants were unable to access SRH services. In Lao People's Democratic Republic, *geographical accessibility* was one of the barriers to access SRH among youths [37] but in Rwanda geographical accessibility of SRH services was not seen to be a negative factor influencing access among young people [39].

Our results show that cohabiting was associated with an increased need for sexual and reproductive health services. Cohabiting, being unemployed and the resultant extreme poverty have been highlighted as factors behind the spike in pregnancy during the Ebola outbreak, with girls reportedly having sex in exchange for water, food or other forms of financial protection [40].

Our study revealed that STIs were among the commonest (40.4%) sexual and reproductive health related problems faced during the lockdown. This was followed by unwanted pregnancy (32.4%) and sexual abuses (32.4%). Each year, there are over six million unintended pregnancies among adolescents, most of whom do not have access to modern contraceptive methods [41]. In 2008, over 1.2 million unintended pregnancies occurred in Uganda and these accounted for more than half of 2.2 million pregnancies in the country [42]. The Uganda Demographic Health Survey of 2016 points to over 25% teenage pregnancies, among sexually active young people by the age of 16 years, and the unmet family planning need in the country stands at 28% [9]. Studies have shown the importance of SRH services in the prevention of unwanted pregnancies, unsafe abortion, reducing maternal and child mortality as well as reducing poverty and empowering women [43].

Although this study was essential during the lockdown, it had several limitations.

As virtual snowball sampling method was used, the survey was respondent driven; hence it cannot be taken as a representation for general population. The study was limited to youths who have smartphones with internet connectivity and have an understanding of English. Those with no smartphones and internet connectivity were locked out especially the rural population and any other would be participant unable to access the online form. This study only included the educated Ugandan youths, so it cannot be generalizable to the whole youth population.

## Conclusion

The findings of this study show that Ugandan youth have problems to access sexual and reproductive health services during the COVID-19 lockdown. Cohabiting and unemployed (volunteer or unpaid) participants were mostly affected among Ugandan youths. Lack of transport means and cost of services were the commonest limiting factors to access SRH services among youths. STIs and unwanted pregnancies were the prevalent problems faced by Ugandan youths during COVID-19 lockdown. These findings could inform policymakers where to allocate resources most efficiently on SRH among Ugandan youths and special emphasis should be put on poorer youth especially women.

There is a need for Uganda government together with other stakeholders to incorporate SRH into responses from the outset. This will support the youths to access information and services related to SRH with the view of having services that would cater for the even unemployed youth, and this could reduce the

problems pointed out in the study.

#### Data availability

The data used to obtain the findings is available from the corresponding author FKS and the authors SBM and RS on a reasonable request.

## Abbreviations

1. APR: Adjusted Prevalence Ratio
2. CI: Confident Interval
3. COVID-19: Coronavirus Disease 2019
4. CSG: Coronavirus Study Group
5. DRC: Democratic Republique of the Congo
6. HIV: Human Immunodeficiency Virus
7. MOH: Ministry of Health
8. SARs: Severe Acute Respiratory Syndrome Coronavirus 2
9. SRH: Sexual and Reproductive Health
10. UBOS: Uganda Bureau of Statistics
11. WHO: World Health Organisation

## Declarations

#### Ethical approval and consent to participate

Expedited ethical approval was acquired from the Institutional Review Board of Kampala International University (UG-REC-023/202018). Consent to participate was obtained through online acceptance.

#### Consent for publication

Not applicable

#### Competing interest

Authors declare no competing interest.

#### Authors contributions

SBM, FKS and RS were the principal investigators, conceived and designed the survey, supervised the online data collection and critically reviewed the manuscript. YM analysed data; KT, SOA reviewed the manuscript development and revised the data tool. JCR revised the methodology. HW and LKK participated in online data collection; CK and PK critically reviewed the manuscript. All authors read and approved the final manuscript.

#### Acknowledgement

Authors thank Ugandan youths who participated in the survey and research assistants who cared of this survey during data collection.

#### Funding

Not applicable

## References

1. COVID-19: situation update for WHO African Region. World Heal Organ [Internet]. 2020;1–5. Available from: [https://apps.who.int/iris/bitstream/handle/10665/331840/SITREP\\_COVID-19\\_WHOAFRO\\_20200422-eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/331840/SITREP_COVID-19_WHOAFRO_20200422-eng.pdf)
2. WHO RA. COVID-19 COVID-19. 2020;1–11. [cited 2020 October 14. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>]
3. Information HE, Assessment R. COVID-19 COVID-19. :1–11. [cited 2020 October 14. Available from: [https://reliefweb.int/sites/reliefweb.int/files/resources/SITREP\\_COVID-19\\_WHOAFRO\\_20201014-eng.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/SITREP_COVID-19_WHOAFRO_20201014-eng.pdf)]
4. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet* [Internet]. 2020;395(10227):912–20. [Available from: [http://dx.doi.org/10.1016/S0140-6736\(20\)30460-8](http://dx.doi.org/10.1016/S0140-6736(20)30460-8)]
5. Rica C. CONTRIBUTING TO RIGHTS AND CHOICES. 2019. UNFPA Government Core Contributors in 2019. [ Available from: <https://www.unfpa.org/sites/default/files/resource-pdf/20-019UNFPA-CoreResrcBro-v3-2020-02-01-1022-PRESS.pdf>]
6. McQuilkin PA, Udhayashankar K, Niescierenko M, Maranda L. Health-care access during the Ebola virus epidemic in Liberia. *Am J Trop Med Hyg*. 2017;97(3):931–6.



7. Chattu, V. K., & Yaya, S. (2020). Emerging infectious diseases and outbreaks: Implications for women's reproductive health and rights in resource-poor settings. *Reproductive Health*, 17(1), 1–5. [ Available from: <https://doi.org/10.1186/s12978-020-0899-y> ]
8. (2015). *Rapid assessment of Ebola impact on reproductive health services and service seeking behaviour in Sierra Leone*. [ Available from: [http://www.mamaye.org.sl/sites/default/files/evidence/UNFPA\\_study\\_synthesis\\_March\\_25\\_final\\_d.pdf](http://www.mamaye.org.sl/sites/default/files/evidence/UNFPA_study_synthesis_March_25_final_d.pdf) ]
9. McKay G, Black B, Mbambu Kahamba S, Wheeler E, Mearns S, Janvrin A. Not All That Bleeds Is Ebola: How has the DRC Ebola outbreak impacted Sexual and Reproductive Health in North-Kivu? New York, USA: The International Rescue Committee 2019. [ Available from: <https://reliefweb.int/sites/reliefweb.int/files/resources/srhebolareport1172020.pdf> ]
10. Society, A. C., & To, C. (2020). *MITIGATING COVID-19 IMPACTS ON SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS IN LOW- AND MIDDLE-INCOME COUNTRIES*. [Available from: <https://pai.org/wp-content/uploads/2020/04/SRHR-and-COVID-4.17.pdf> ]
11. 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. [Available from: <https://doi.org/10.1363/46e9020> ]
12. Secretary-general, U. N. (2020). *Coronavirus Disease ( COVID-19 ) Pandemic UNFPA Global Response Plan. April*. [ Available from: [https://www.unfpa.org/sites/default/files/resource-pdf/UNFPA\\_Global\\_Response\\_Plan\\_Revised\\_June\\_2020\\_.pdf](https://www.unfpa.org/sites/default/files/resource-pdf/UNFPA_Global_Response_Plan_Revised_June_2020_.pdf) ]
13. Programmatic Guidance for Sexual and Reproductive Health in Humanitarian and Fragile Covid-19 Pandemic. 2020;(April):2017–20. [ Cited 2020 June 20. Available from: <https://cdn.iawg.rygn.io/documents/IAWG-Full-Programmatic-Guidelines.pdf?mtime=20200505142838&focal=none> ]
14. Daily Monitor. How Covid-19 is affecting reproductive health efforts. [Online].; 2020a [Cited 2020 April 25. Available from: <https://www.monitor.co.ug/Magazines/Full-Woman/How-Covid19-is-affecting-reproductive-health/689842-5533118-umkxsoz/index.html> ]
15. Note, I. T. (2020). *Impact of the COVID-19 Pandemic on Family Planning and Ending Gender-based Violence , Female Genital Mutilation and Child Marriage. April*, 1–7. [Cited 2020 April 23. Available from: [https://www.unfpa.org/sites/default/files/resource-pdf/COVID-19\\_impact\\_brief\\_for\\_UNFPA\\_24\\_April\\_2020\\_1.pdf](https://www.unfpa.org/sites/default/files/resource-pdf/COVID-19_impact_brief_for_UNFPA_24_April_2020_1.pdf) ]
16. Chattu VK, Yaya S. Emerging infectious diseases and outbreaks: Implications for women's reproductive health and rights in resource-poor settings. *Reprod Health*. 2020;17(1):1–5.
17. To B, Crisis THE, Regions INALL, Continue W, Get TO, Babies H, et al. IMPACT ON SRHR IN HUMANITARIAN CRISES – SUMMER 2014. 2014;(11):1–11.
18. Nsubuga H, Sekandi JN, Sempeera H, Makumbi FE. Contraceptive use, knowledge, attitude, perceptions and sexual behavior among female University students in Uganda: A cross-sectional survey. *BMC Womens Health* [Internet]. 2016;16(1):1–11. [Available from: <http://dx.doi.org/10.1186/s12905-016-0286-6> ]
19. Statistics UB of. Uganda Demographic and Health Survey 2016. *Foreign Aff*. 2017;(6):1–58.
20. Hussain R, Unintended pregnancy and abortion in Uganda, In Brief, New York: Guttmacher Institute, 2013, No 2. [Available from: <https://www.guttmacher.org/sites/default/files/pdfs/pubs/IB-Unintended-Pregnancy-Uganda.pdf> ]
21. Youth DOF. Definition of youth. 2014;(2009):1–7. [Available from: <https://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf> ]
22. Amaral G, Bushee J, Cordani UG, KAWASHITA K, Reynolds JH, ALMEIDA FFMDE, et al. AFRICAN UNION COMMISSION. *J Petrol* [Internet]. 2013;369(1):1689–99. [Available from: <http://dx.doi.org/10.1016/j.jsames.2011.03.003> ] <https://doi.org/10.1016/j.gr.2017.08.001> <http://dx.doi.org/10.1016/j.precamres.2014.12.018> ]
23. House L, House U. DEFINITION OF YOUTH Factsheet: Uganda. 2016;(October 2014). [Available from: <https://www.youthpolicy.org/pdfs/factsheets/uganda.pdf> ]
24. Statistical Abstract, 2019. Uganda Bur Stat Stat [Internet]. 2019; [Available from: <http://www.ubos.org/onlinefiles/uploads/ubos/pdfs/documents/abstracts/Statistical Abstract 2013.pdf> ]
25. Renzaho AMN, Kamara JK, Georgeou N, Kamanga G. Sexual, reproductive health needs, and rights of young people in Slum Areas of Kampala, Uganda: A cross sectional study. *PLoS One*. 2017;12(1):1–21.
26. Barros AJ, Hiraakata VN. Alternatives for logistic regression in cross-sectional studies: an empirical comparison of models that directly estimate the prevalence ratio. *BMC Med Res Methodol*. 2003 Oct 20;3:21. doi: 10.1186/1471-2288-3-21. PMID: 14567763; PMCID: PMC521200
27. Woog V, Singh S, Browne A, Philbin J. Adolescent women's need for and use of sexual and reproductive health services in developing countries. New York Guttmacher Inst. 2015;(August):1–63.
28. Warenus LU, Faxelid EA, Chishimba PN, Musandu JO, Ong'any AA, Nissen EBM. Nurse-Midwives' Attitudes towards Adolescent Sexual and Reproductive Health Needs in Kenya and Zambia. *Reprod Health Matters*. 2006;14(27):119–28.
29. Pearson S. Promoting sexual health services to young men: Findings from focus group discussions. *J Fam Plan Reprod Heal Care*. 2003;29(4):194–8.
30. Kipp W, Chacko S, Laing L, Kabagambe G. Adolescent reproductive health in Uganda: Issues related to access and quality of care. *Int J Adolesc Med Health*. 2007;19(4):383–93.
31. Renzaho AMN, Kamara JK, Georgeou N, Kamanga G. Sexual, reproductive health needs, and rights of young people in Slum Areas of Kampala, Uganda: A cross sectional study. *PLoS One*. 2017;12(1).
32. Rutherford GW, Anglemeyer A, Bagenda D, Muyonga M, Lindan CP, Barker JL, et al. University students and the risk of HIV and other sexually transmitted infections in Uganda: The crane survey. *Int J Adolesc Med Health*. 2014;26(2):209–15.
33. Figueroa CA, Linhart CL, Beckley W, Pardosi JF. Maternal mortality in Sierra Leone: from civil war to Ebola and the Sustainable Development Goals. *Int J Public Health* [Internet]. 2018;63(4):431–2. [Available from: <https://doi.org/10.1007/s00038-017-1061-7> ]

34. Sochas L, Channon AA, Nam S. Counting indirect crisis-related deaths in the context of a low-resilience health system: the case of maternal and neonatal health during the Ebola epidemic in Sierra Leone. *Health Policy Plan.* 2017 Nov 1;32(suppl\_3):iii32-iii39. doi: 10.1093/heapol/czx108. PMID: 29149310.
35. Camara BS, Delamou A, Diro E, Béavogui AH, El Ayadi AM, Sidibé S, et al. Effect of the 2014/2015 Ebola outbreak on reproductive health services in a rural district of Guinea: An ecological study. *Trans R Soc Trop Med Hyg.* 2017;111(1):22–9.
36. Atuyambe, L.M., Kibira, S.P.S., Bukonya, J. et al. Understanding sexual and reproductive health needs of adolescents: evidence from a formative evaluation in Wakiso district, Uganda. *Reprod Health* **12**, 35 (2015). <https://doi.org/10.1186/s12978-015-0026-7>
37. Thongmixay S, Essink DR, De Greeuw T, Vongxay V, Sychareun V, Broerse JEW. Perceived barriers in accessing sexual and reproductive health services for youth in Lao People's Democratic Republic. *PLoS One.* 2019;14(10):1–16.
38. Cook RJ, Erdman JN, Dickens BM. Respecting adolescents' confidentiality and reproductive and sexual choices. *Int J Gynecol Obstet.* 2007;98(2):182–7.
39. Ndayishimiye, P., Uwase, R., Kubwimana, I. et al. Availability, accessibility, and quality of adolescent Sexual and Reproductive Health (SRH) services in urban health facilities of Rwanda: a survey among social and healthcare providers. *BMC Health Serv Res* **20**, 697 (2020). <https://doi.org/10.1186/s12913-020-05556-0>
40. Korkoyah, D. T., & Wreh, F. F. (2015). Ebola impact revealed: An assessment of the differing impact of the outbreak on the women and men in Liberia. July. [Available from: [https://www-cdn.oxfam.org/s3fs-public/file\\_attachments/rr-ebola-impact-women-men-liberia-010715-en.pdf](https://www-cdn.oxfam.org/s3fs-public/file_attachments/rr-ebola-impact-women-men-liberia-010715-en.pdf)]
41. Hubacher D, Mavranzouli I, McGinn E. Unintended pregnancy in sub-Saharan Africa : magnitude of the problem and potential role of contraceptive implants to alleviate it. 2008;78:73–8.
42. Uganda Health Demographic Survey. 2011; [Available from: [www.ubos.org/onlinefiles/uploads/ubos/UDHS/UDHS2011.pdf](http://www.ubos.org/onlinefiles/uploads/ubos/UDHS/UDHS2011.pdf)]
43. Shaw D. Access to sexual and reproductive health for young people: Bridging the disconnect between rights and reality. *Int J Gynecol Obstet.* 2009;106(2):132–6.