

# Disruption in Essential Health Service Delivery: A Qualitative Study on Access to Family Planning Information and Service Utilization During the First Wave of COVID-19 Pandemic in Uganda

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**Background:** Coronavirus disease 2019 (COVID-19) remains a challenge to public health with profound impact on people's lives. With several mitigation measures implemented to curb the spread of COVID-19, these impacted on access and utilization of general health services including family planning (FP) services. The objective of the study was to understand the extent to which COVID-19 interrupted access and utilization of FP services as well as highlight the challenges faced during the lockdown in Uganda.

**Methods:** A qualitative study was carried out in August and September 2020 across the country. A total of 21 key informant interviews among researchers, policy makers, funding agencies, district family planning focal persons, district health officers and service providers with implementing partners were conducted. These were conducted using face to face (7), phone calls (11) and zoom (3) meetings. All interviews were audio recorded and transcribed verbatim. Transcripts were used to identify and generate codes, sub themes and themes. Analysis was done using the thematic framework analysis and results presented in themes.

**Results:** Five themes were identified in this study which included; (i) financial and psychosocial needs, (ii) mobility hindrances, (iii) disrupted service delivery, (iv) responsive reproductive health services. The financial and psychosocial needs themes included: household and individual financial constraints, unpredictable future and community acceptance, loss of employment and unemployment, misconceptions and unintended pregnancies; while mobility hindrances included; restricted movement, high transport costs, and difficulty in finding transport.

**Conclusion:** Results showed that the pandemic had immediate and significant long-term effects on family planning service accessibility, utilization and delivery. The study recommends implementation of telehealth services, country-wide sensitization on use of long-term contraceptive methods, empowering village health teams and making family planning services mandatory and free to all private facilities in order to lower any disruptions during pandemics.

**Keywords:** COVID-19, disruption, family planning, health services, Uganda

## Background

Family planning has over the years been one of the interventions in mitigating the over aching burden of maternal mortality and morbidity worldwide.<sup>1</sup> An estimate of 44% of women in the reproductive age are able to utilize family planning information and services globally.<sup>2</sup> Much as use of contraceptives among women in sub-Saharan Africa increased from 13% in 1990 to 29% in 2019, this is still very low as compared to other regions.<sup>2</sup> In Uganda, the prevalence of modern contraceptive is 35%<sup>3</sup> with unmet need of 32%.<sup>4,5</sup>

With the input of strong political will from the President of Uganda<sup>6</sup> and support from partners and donors,<sup>7,8</sup> there has been a steady increase in modern contraceptive prevalence rate (mCPR) from 26% to 35% between the years 2011

and 2020.<sup>3</sup> Despite the above contributions in scaling up utilization of family planning (FP), several factors such as social cultural norms, religious beliefs, limited access and limited availability of FP commodities coupled with staggering policies for adolescents have hampered the access and utilization of family planning information and services.<sup>9,10</sup>

In 2020, however, these challenges were further escalated by the onset of the worldwide pandemic known as Corona virus disease. Caused by the severe acute respiratory syndrome corona Virus 2 (SARS-CoV-2), Corona virus Disease (COVID-19) remains a challenge to public health with profound impact on people's lives universally. The epidemic led to over 83 million confirmed cases with 1.9 million deaths globally, while Uganda had registered 34,681 COVID-19 cases and 303 deaths by December 31 2020.<sup>11–13</sup> COVID-19 patients presented with severe symptoms such as loss of speech and movements, chest pain and difficulty breathing.<sup>12</sup> However, the most common symptoms recorded include fever, dry cough and tiredness.<sup>13</sup>

COVID-19 can be transmitted through direct, indirect and close contact with infected people through infected secretions such as saliva, and respiratory methods like coughing and sneezing.<sup>12</sup> Being a novel disease with little known about it, yet many lives are lost, the government of Uganda implemented several mitigation measures in a bid to curb the transmission of COVID-19.<sup>14</sup> Some of these include total country-wide lockdown, total ban on all public transport, suspension of all public gatherings and closure of all academic institutions.<sup>14</sup> These measures may have impacted the access and utilization of general health services including family planning. This study therefore sought to understand the extent to which COVID-19 interrupted access and utilization of FP information and services during the lockdown in Uganda.

## Methods

### Study Design and Setting

We carried out a cross sectional qualitative study in August and September 2020 among respondents from four regions of the country namely: central, eastern, northern, and western. Participants were purposively selected into the study while putting into consideration their various roles in the delivery of FP services and implementation of family planning programs in Uganda. Among the participants we had the following categories: policy makers, implementers, researchers and FP service providers to cater for the different levels of service provision in family planning.

### Data Collection

Key informant interviews (KIIs) were conducted using key informant interview guides. A total of 21 key informants comprising 10 males and 11 females were interviewed with an average age of 44 years. Table 1 shows the classification of Key Informants interviewed who included 2 researchers, 2 policy makers, 1 funding agency, 2 district family planning focal persons, 5 district health officers and 9 service providers with implementing partners. Much as some interviews were conducted face to face, some were done using phone calls and zoom meetings by a team of trained research

**Table 1** Categories of Key Informants

Respondent Category	Number of Respondents
Policy makers	2
Family planning researchers	2
Funding agencies	1
District family planning focal persons	2
District health officers	5
Family planning service providers	9
<b>Total</b>	<b>21</b>

assistants. All interviews were audio recorded and on average, each interview lasted 40 minutes. COVID-19 standard operations procedures (SOPS) and guidelines were closely adhered to for the face to face interviews with close supervision from the study lead.

## Data Management and Analysis

The recorded interviews were transcribed verbatim. Transcripts were read by a team of four people to identify and generate the codes, sub themes and main themes which were entered into a master sheet. The codes were compared and differences resolved for validity and reliability. Analysis was done using the thematic framework analysis and the results were presented in themes. The data were manually analyzed using the framework analysis approach. The transcripts were read and a thematic framework developed in a word document based on the major service delivery disruptions found during the COVID-19 season in Uganda. We then systematically applied this framework to each of our transcripts and sifted, charted and sorted material according to the themes. We summarized our results using text and quotes from the transcripts that elaborately illustrated meanings or key messages.

## Ethical Consideration

Authors received ethical clearance from the Ethics Committee of Makerere University (MUREC) with registration number REC 0506–2020 and the Uganda National Council for Science and Technology (HS 799ES) for this study. During the data collection process respondents provided verbal and oral informed consent for participation and enrollment was voluntary. The participants' verbal informed consent included publication of anonymised responses.

## Results

Four parent themes were identified in this study as some of the disruptions to FP service delivery during the pandemic. These included: disrupted service delivery, mobility hindrances, responsiveness to family planning services and financial related disruptions. The disrupted service delivery included sub-themes such as: no out reaches conducted, limited availability of FP commodities, low FP access and utilization and inadequate health workers. Under mobility hindrances, the following sub themes emerged; difficulty in finding transport, high cost of transport and restricted movements. In responsive FP services there were referral services offered to FP clients, FP counseling and distribution of FP commodities. Lastly, financial related disruptions reported include loss of employment and unemployment as well as high cost of FP methods in private entities. Below is the detailed presentation of the four themes.

### Disrupted Service Delivery

A number of family planning service deliveries were interrupted and among these include: no outreaches conducted, no FP commodities distributed, limited availability of FP commodities, low access and utilization of FP services and shortage of health workers at the health facilities during the pandemic.

#### No Outreaches Conducted

In the earliest months of the lockdown, there were no outreaches conducted because the COVID-19 standard operating procedures did not permit any social gatherings. In addition, neither health facilities, implementing partners nor village health team members that provided outreach services were able to reach out to the population.

Around March- April, we had a big challenge where all our family planning outreaches were suspended. Marie stopes provides almost 80% of the family planning services to our clients through outreaches, but all these were suspended for more than a month. During that time, we only focused on sensitizing people on COVID-19. [KI 7]

#### Limited Availability of Family Planning Commodities

In some areas, respondents reported availability of FP commodities because of low utilization among the population. On the contrary, some regions of the country manifested stock outs of some commodities. Under strict lockdown, there was

difficulty in the transportation of FP commodities to the population. On the other hand, easing of lockdown provided less restrictions on movements and outreaches thus more FP commodities in stock.

I do not think there was too much impact on availability of commodities because we had cargo planes coming in; they were not stopped. National Medical Stores was open and I am not sure if really the delivery of National Medical Stores was affected by COVID-19. Also, I am not sure there was a great impact on our commodities but it was access to the commodities that was affected. [KI 2]

### Low FP Access and Utilization

The study shows that access and utilization of family planning services was low especially during the lockdown. However, easing of the lockdown increased the utilization of FP services in most of the facilities. Findings also show that several women missed their next FP appointments while others failed to refill their FP commodities for those using pills. This impact was greatly felt among women who were using short-term methods of family planning as compared to their counterparts on long-term FP methods.

Even now with the restrictions on movements, that affected their [FP users'] continuity of the product. So, for those people who were in lockdown, getting their new shot for Depo or oral contraception pills was difficult. This affected them in terms of continuity of access and utilisation of family planning methods [KI 9]

There were clients coming to us [for FP services], during the lockdown. They were accessing FP services but not very much especially during the month of April and May—during that [total] lockdown. [KI 20]

### In Adequate Human Resource or Health Workers

There were few health workers at the health facilities during the lockdown. Health workers were unable to go to the health facility due to reasons related to restricted transport means and social distancing guidelines. Some health facilities had few health workers and these could not attend to clients who had gone for FP services.

Of course, we see that in some places there is a lot of prioritization on COVID-19 services. So we see that already especially when you go to the grass roots where we have very few health workers at the facility. [KI 7]

The fact that health workers who need to do [provide FP services]; are the same health workers who are engaged in other tasks at the health facility. But also, as organizations, we had to shift. You can't keep focusing on only family planning when people in the community are getting COVID-19. [KI 7]

### Mobility Hindrances

Respondents reported that mobility hindrances posed challenges to both service providers and clients, making them unable to reach the facility to either provide or access and utilize FP services, respectively. In addition, findings revealed difficulty in accessing transport means, high costs of transport and restricted movements.

### Difficulty in Finding Transport Means

The study shows that during the earlier months of the lockdown, there were hardly any transport means to the health facilities and yet for most FP users who stay in rural areas had their homes very far from the facilities. Further, walking to the facility was a total challenge.

Unfortunately even the mother or the client who needs the service was not equally able to move to the facility and more so the facility of her choice. Some of them would prefer nearby facility than finding a better facility to access the services. However, they were unable to do that easily. In a way it affected access, availability, accessibility and at the end of the day definitely the services went down. [KI 10]

Further, respondents reported inability to find means of transport to health facilities by service providers. Similarly, FP clients were not able to find transport means including motorcycles since all these were not allowed to carry passengers.

## High Cost of Transport

With the ban on transport, it was difficult to find transport means and hence an increase in transport costs. Most respondents revealed the inability of people to meet the high transport costs. Furthermore, for women who were using the short-term methods and had to report for a refill every 30 days, this increased their cost of accessing FP services.

Regarding access and utilization, we had challenges with health workers accessing facilities because the transport fares had been hiked. . When transport fares are hiked, that means we have challenges with them getting to work until of recent that the situation has certainly improved. However, in the beginning they worked with skeleton staff for the first three months of the pandemic. [KI 12]

## Restricted Movement

As a prevention measure for COVID-19, movement was restricted and for an individual to travel, it entailed obtaining a letter from the Resident District Commissioner permitting them to travel to the health facility. Furthermore, there were curfew hours which limited the time within which clients can travel hence limiting full access to FP services. In addition, service providers had limited time to attend to FP clients.

lockdown also affected health workers although of course, they had a pass to move but some were restricted. Police used to block so many doctors and nurses going to work. So availability of health workers to attend to Family Planning clients was reduced because of lockdown. [KI 2]

## Responsive Reproductive Health Services

### Referral Services Offered to FP Clients

Many respondents agreed that referral services were offered to clients, especially through phone calls, texts and radio programs. Several clients were unable to go to health facilities while other found stock-outs of FP commodities. Thus, many people, especially mothers, were referred to other nearest or reachable service provider points.

FP users would even call asking, “can I conceive when am on family planning and am like, why would you ask such a question? ‘You see because we fear that hospital, they told us that there is a COVID-19 suspect. I went to the clinic and they injected me. ... I am now worried. [KI 13]

## Distribution of FP Commodities

Respondents reported that contraceptive distribution was not done in the first phase of the lockdown since there were no outreaches. Much as village health teams (VHTs) were very supportive in community distribution of FP commodities, they too were unable to visit mothers. However, UNFPA was distributing FP commodities to clients during the lockdown.

I know that UNFPA staff used motorcycles during the pandemic to distribute contraceptive commodities including condoms and emergency contraceptives [KI 1]

With the easing of lockdown and less stringent mitigation measures, we had outreaches resuming even at community level. There were more health workers at the facilities and VHTs could move from home to home. Family planning clients were more comfortable with VHTs visits hence an increase in contraceptive distribution.

No, of course at first there was a problem of health workers getting access to the health facilities, until they brought in the exemptions of essential staff to be allowed to go to the health facilities to work [KI 3]

## Financial Related Disruptions

Financial needs reported by respondents included loss of employment and unemployment; and high cost of FP methods in the private entities.

## Loss of Employment and Unemployment

With several people asked to stay home and work places closed, many lost their jobs. This directly translated into the inability of FP clients to either pay for transport to the health facility or paying for FP commodities. Most women are dependent on their husbands to attain medical care, therefore with their husbands unemployed and not earning, paying for some FP services became very difficult.

Many having lost jobs during the lockdown, they are going to increase on poverty level. As a result, many young girls are going to get married to poor families and definitely poverty will also increase [KI 10]

4. That I request to resolve our marriage based on dissertation of Marriage or marital home. we shall have lost such people and there is a lot of poverty. Having lost jobs, they are going to increase on poverty level. As a result, they are going to get married to poor families and definitely poverty will also increase [KI 10] High Cost of FP Methods in Private Entities. The study shows that much as there were some private health facilities supporting the delivery of FP services through the Alternative Distribution Channel, there were some that purchase their FP commodities. In such facilities, prices for FP commodities were increased.

If they are buying [FP commodities] by themselves, yes! It will be costly to that woman who goes to that private hospital. But if the hospital is picking from joint medical stores where we put all the commodities and sent through Alternative Distribution Mechanism, a hospital can pick and give it freely to the woman; it should not be expensive [KI 5]

## Discussion

In the Ugandan context, family planning services were equally disrupted and considered to be non-essential activities during the COVID-19 lockdown. This qualitative study confirms and offers evidence to the disruptions on access to family planning information and service utilization during the first wave of COVID-19 lockdown. Below, we discuss the findings around two core thematic areas of mobility hindrances and financial related disruptions that were identified.

Findings show that service providers and clients were unable to access health facilities either to provide or utilize family planning services, respectively. During the lockdown, travel by private vehicles was banned including motorcycles thereby limiting the capability of health workers and family planning providers to travel to and from work as well as clients' movements from their homes. Distance to health facility has been previously noted as a barrier to the utilization of reproductive health services like family planning in Uganda.<sup>15</sup> Walking long distances to health-care facilities during the lockdown in order to access family planning services was a big challenge thus hindering and worsening the utilization. However, if community health workers were thoroughly trained and equipped with a variety of FP commodities, then people would not be moving long distance to subscribe to the services.

Relatedly, an increase in transport costs was also reported as a sabotage to access and utilization of FP services. In some places, transport fares tripled and given the high financial crisis, it was inevitable for people to afford and meet these costs. In addition, movement of non-health workers was entirely restricted and those who urgently wanted to seek health facilities were entitled to obtain letters from their respective Resident District Commissioners (RDC). Further, the curfew hours also limited the time within which people can travel to seek better health services. These frustrated many and probably adopted traditional methods of family planning at the expense of modern contraceptives which are more effective. This is likely to impact on an increased rate of unintended pregnancies as reported in previous countries.<sup>16</sup> Use of long contraceptive methods would be ideal in reducing transport costs required to move to the health facilities.

Concurring with previous findings in Uganda and else where,<sup>17-19</sup> the study reported financial disruption among the population as a result of the lockdown. Generally, there was a reduction in income generating sources across all sectors (such as: manufacturing, education, healthcare, tourism, sports, and information technology among others). This led to closure or drop-down of the different sectors which also impacted on the country's GDP, poverty and food insecurity. A study by Kansime et al also showed that self-employed people including farmers had their income affected by the pandemic.<sup>17</sup> In the process, there was permanent loss of jobs among some population. These directly disrupted the ability



of people to comfortably utilize family planning services through affordability of the high cost of transport fares to the health facilities as well as buying of FP commodities.

The findings also provide evidence to the high cost of family planning commodities in the private entities. According to the Uganda service availability and readiness assessment, public health facilities are more ready to provide family planning services even at a free cost as compared to those privately owned.<sup>20</sup> However, with the outbreak of the pandemic, many government facilities were designated to admit and handle COVID-19 patients. In addition, United Nations also reported more than 100 clinics or community-based health service outlets to have closed in Uganda during the lockdown.<sup>21</sup> This created a big vacuum and people had to resort to few private facilities where they had to incur the costs in getting FP items. The increase in prices of these commodities could be attributed to closure of country borders and imposing of travel restrictions which in turn disrupted the distribution and cost of contraceptive items.

## Strength and Limitation

The study could be limited on the sample size that was used thereby making the study findings not generalizable to the whole population. However, the strength of the study is the strategies used include collection of data from key stakeholders, and the analytical methods used provide an in-depth understanding of the disruptions on access to family planning information and service utilization during the lockdown.

## Conclusion

COVID-19 pandemic has immediate and significant long-term effects on family planning service accessibility, utilization and delivery. Mobility hindrances and financial related disruptions that were noted to have affected the utilization of family planning services during the first wave of COVID-19. The study recommends the implementation of telehealth services to help counsel and provide referrals related to family planning. Country-wide sensitization campaigns on the use of long-term contraceptive methods can be of help during periods of lockdown. Also, there is urgent need in formulation of policies and guidelines to ensure that provision of family planning services and items is mandatory and free to all private facilities. In addition, ensuring that all health providers across the entire health system have the resources and support to provide family planning services as well as empowering village health teams will be ideal during the pandemics.

## Abbreviations

COVID-19, coronavirus disease 2019; FP, family planning; KI, key informant; KII, key informant interviews; SOPs, standard operations procedures.

## Data Sharing Statement

The data used or analyzed during this study is available from the corresponding author on reasonable request.

## Ethics Approval and Consent to Participate

Authors received ethical clearance from the Ethics Committee of Makerere University (MUREC) with registration number REC 0506-2020 and the Uganda National Council for Science and Technology (HS 799ES) for this study. During the survey, respondents provided verbal and oral informed consent for participation and enrollment was voluntary.

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## Disclosure

The authors declare that they have no competing interests.

## References

1. Chola L, McGee S, Tugendhaft A, Buchmann E, Hofman K. Scaling up family planning to reduce maternal and child mortality: the potential costs and benefits of modern contraceptive use in South Africa. *PLoS One*. 2015;10:e013007. doi:10.1371/journal.pone.0130077
2. United Nations. World fertility and family planning 2020: highlights. New York; 2020.
3. Uganda Bureau of Statistics (UBOS) and ICF. Uganda demographic and health survey 2016. Kampala, Uganda and Rockville; 2018.
4. Makerere University, School of Public Health at the College of Health Sciences, Bill and Melinda Gates Institute for Population and Reproductive Health at the Johns Hopkins Bloomberg School of Public Health. Performance monitoring and accountability 2020 (PMA2020) Survey Round 6, PMA2018/Uganda-R6. Uganda and Baltimore; 2018.
5. Uganda Bureau of Statistics. Uganda family planning atlas. Kampala, Uganda; 2019.
6. Reproductive Health Uganda. Prioritizing family planning in local government planning and budgeting processes. Kampala, Uganda; 2020.
7. Koseki S, Klein K. *Sustainable Growth of Uganda's Family Planning Market Through Improved Private Sector Engagement: A Political Economy Analysis*. Washington, DC: Palladium, Health Policy Plus; 2018.
8. Nuwasiima A, Nuwamanya E, Babigumira JU, Nalwanga R, Asiimwe FT, Babigumira JB. Acceptability and utilization of family planning benefits cards by youth in slums in Kampala, Uganda. *Contracept Reprod Med*. 2019;4:1–11. doi:10.1186/s40834-019-0092-2
9. Yadav K, Agarwal M, Shukla M, Singh JV, Singh VK. Unmet need for family planning services among young married women (15–24 years) living in urban slums of India. *BMC Women's Health*. 2020;20:1–7.
10. Kayembe P, Babazadeh S, Dikamba N, et al. Family planning supply environment in Kinshasa, DRC: survey findings and their value in advancing family planning programming. *Glob Heal Sci Pract*. 2015;3:630–645. doi:10.9745/GHSP-D-15-00298
11. World Health Organization. WHO Coronavirus Disease (COVID-19) dashboard with vaccination data; 2021. Available from: <https://covid19.who.int/>. Accessed January 10, 2021.
12. Machhi J, Herskovitz J, Senan AM, et al. The natural history, pathobiology, and clinical manifestations of SARS-CoV-2 infections. *J Neuroimmune Pharmacol*. 2020;15:359–386. doi:10.1007/s11481-020-09944-5
13. Dhama K, Khan S, Tiwari R, et al. Coronavirus Disease 2019–COVID-19. *Clin Microbiol Rev*. 2020;33:e00028–20. doi:10.1128/CMR.00028-20
14. Ministry of Health, Uganda. National guidelines for the management of COVID-19. Kampala; 2020.
15. Ministry of Health Uganda. COVID-19. Timeline; 2021. Available from: <https://covid19.gou.go.ug/timeline.html>. Accessed January 12, 2021.
16. Tenaw SG, Chemir F, Zewudie BT, et al. Unintended pregnancy and associated factors among women attending antenatal care in public hospitals during COVID-19 Pandemic, Southwest Ethiopia: a cross-sectional study. *Open Access J Contracept*. 2022;13:9–16. doi:10.2147/OAJC.S350467
17. Kansiime MK, Tambo JA, Mugambi I, Bundi M, Kara A, Owuor C. Implications on household income and food security in Kenya and Uganda: findings from a rapid assessment. *World Dev*. 2021;137:105199. doi:10.1016/j.worlddev.2020.105199
18. Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-jabir A. The socio-economic implications of the coronavirus pandemic (COVID-19): a review. *Int J Surg*. 2020;78:185–193. doi:10.1016/j.ijsu.2020.04.018
19. UNICEF. Direct and indirect effects of the COVID-19 pandemic and response in South Asia. Kathmandu: Lekhnath Marg; 2021.
20. Ministry of Health, Uganda. Uganda services availability and readiness assessment. Kampala, Uganda; 2013.
21. Pratt BA, Frost L. COVID-19 and the status of women's, children's, and adolescents' health and rights: a targeted literature review of current evidence for action on Universal Health Care (UHC) and accountability. Geneva: World Health Organization; 2020.

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