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"The clinic said they are busy attending to Corona when I asked about HIV testing" The consequences of COVID-19 on young people's access to SRH prevention services in South Africa

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6 on young people’s access to SRH prevention services in
7 South Africa
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Abstract

Introduction: The South African government responded swiftly to the first wave of COVID-19 with a nationwide lockdown. Initial restrictions from March-July 2020 required people to stay at home unless accessing essential, life-saving services. We sought to understand how the Covid-19 pandemic and resulting lockdowns affected young people's access to SRH health services in a high-prevalence HIV setting.

Methods: We analysed data from a web-based survey conducted with 15-24-year-olds from September-December 2020 in Eastern Cape, South Africa. The survey was promoted through social media platforms of schools, universities, communities, and clinics. Participants were asked whether and how the COVID-19 pandemic and related restrictions affected their access to SRH services, through closed- and open-ended questions. Descriptive statistics using proportions were used to summarise responses and open text was analysed using thematic and content analysis.

Results: Of 3,431 respondents, the proportions reporting “more difficulty” accessing HIV testing services, HIV self-screening kits, condoms, PrEP and ART since the COVID-19 pandemic were 16.8%, 13.7%, and 13.9%, 11% and 7% respectively. In 796 open-text responses, participants described challenges accessing HIV services due to clinics being overwhelmed and prioritising coronavirus patients, resulting in young people being turned away. Some were afraid of contracting coronavirus at or en route to clinics. Others were unable to reach clinics because of restricted transport or financial insecurity brought on by the lockdown.

Discussion: Young people in Eastern Cape rely upon local clinics for services and large proportions of young males and females faced difficulties or fears accessing clinics during the COVID-19 lockdown. Clinics became overwhelmed or inaccessible, limiting young people's access SRH services. In high HIV risk contexts, prevention services and tools must be more accessible to young people, outside of clinics and within the communities and spaces that young people can access without fear or cost at any time.

Summary Box

What is already known on this topic – *Young people face significant barriers accessing sexual health services in South Africa, but we are still discovering how COVID-19 further affected young people's access to service and the long-term ramifications of service disruptions. Understanding young people's experiences accessing services during the pandemic is needed to make health systems more accessible and resilient.*

What this study adds – *Through a remote online survey, young people in South Africa shared their experiences with struggling to access sexual health services due to overwhelmed clinics during the pandemic. They described the wide-ranging barriers they encounter while trying to access services, including limited transport, income loss, lockdown regulations and fear of contracting COVID-19. Without being able to access their services through clinics young people had very few alternatives of where they could receive affordable services.*

How this study might affect research, practice or policy – *The barriers and experiences young people present supports the need for SRH services to become more reliable and accessible to young people by providing a variety of affordable services outside of clinics and within the communities.*

Background:

On 23rd March 2020 the South African government announced a nationwide “lockdown” to control the spread of the first wave of the novel coronavirus (SARS-CoV-2). The strictest levels of lockdown, from March to July 2020, restricted people to stay at home unless accessing essential services. In government-issued guidance, sexual and reproductive health (SRH) services were included in the definition of “essential” medical services. However, there were reports of confusion and misinterpretation of what were considered ‘essential’ services within communities and among health care professionals, resulting in people feeling unable to seek services or sometimes being turned away at clinics(1). South Africans rely on SRH services mostly offered in local clinics to access HIV medication, testing and prevention, contraception, treatment of sexually transmitted infections (STI), abortion and antenatal services. Even short disruptions to these services could have significant impacts including unplanned pregnancy, STI and HIV transmission, or HIV treatment interruptions.

For 15-24-year olds, who constitute roughly 16% of the population in South Africa, access to SRH services is essential to live healthy and productive lives. As young people begin to engage in sexual relationships so too begins their need for HIV services including testing, treatment and prevention. South Africa has the largest HIV epidemic in the world and risk accelerates quickly from adolescence among females and slightly later among young men(2, 3). Young people also depend on SRH services for diagnosis of STI and Bacterial Vaginosis, which are highly prevalent in South Africa and associated with HIV and poor reproductive and sexual health(4, 5). Young women rely on contraception services to prevent unplanned pregnancy and antenatal care if they become pregnant(6).

This study investigates the impact of the COVID-19 pandemic and resulting government restrictions on young people’s access to SRH services in Eastern Cape, South Africa. In this high-risk context understanding whether and how services are disrupted can help to ensure that “essential” SRH and HIV services are resilient and accessible to young people.

Methods:

We collected and analysed data from a web-based survey launched online from September-December 2020. The survey was promoted to 15-24-year-olds in Mthatha, Eastern Cape, South Africa through social media platforms of schools, universities, communities, and clinics. It was available on a data-free website, through a reverse-charging arrangement with the service provider. Those who completed the survey received telephone airtime credit of ZAR50. The self-administered questionnaire was anonymised with no name or other personal identifying information requested and no IP address was captured. The survey was offered in both English and isiXhosa. Further details have been published elsewhere(7). Four young people who spoke isiXhosa reviewed the online survey and recruitment advertisements. Due to COVID-19 restrictions and the desire to capture the real time experiences of young people, there was little time or opportunity to safely involve the public within the design of this research.

The survey included questions to assess whether and how the COVID-19 pandemic and related restrictions had affected young people’s access to HIV and SRH services. Specifically, participants were asked “Since the Covid-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?” for HIV testing services, HIV self-testing, condoms, anti-retroviral therapy (ART) or pre-exposure prophylaxis (PrEP) for HIV, contraception, antenatal care, and domestic violence services.

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3 Descriptive statistics using frequencies and proportions were used to summarise responses,
4 overall and by gender and age. Participants were also asked “How has the Covid-19
5 pandemic affected your access to these health services?” and open text responses were
6 analysed using a hybrid approach. First, content analysis was used to identify key words and
7 phrases based on their frequency to create a visual word cloud using NVivo software(8). The
8 word cloud included all words from the open responses that were three or more characters.
9 The size of the words represents the frequency in which the word appeared (i.e. the larger the
10 word the greater its frequency). A thematic approach was then used to identify patterns and
11 themes(9). After coding, identifying and defining themes, illustrative quotes were selected
12 and presented in a thematic table.
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15 Ethics approvals were received by the Biomedical Research Ethics Committee at University of
16 KwaZulu-Natal, London School of Hygiene & Tropical Medicine, and the World Health
17 Organisation. Participants provided online consent and parents or guardians provided online
18 consent for participants under 18 years.
19

20 21 **Results:**

22 4,145 records of the survey were created while the survey was live online. Records without full
23 consent (n=407) or gender (n=144), or which were likely duplicates (n=163) were removed
24 leaving 3,431 (83%) records for analysis. The majority of respondents resided in the city of
25 Mthatha (72%) or elsewhere in Eastern Cape province (11%) and 16% lived in other provinces
26 of South Africa. Respondents predominantly spoke IsiXhosa at home (80%), were female
27 (59%) and aged 20-24 years (69% compared to 31% aged 15-19). Most respondents (83%)
28 were enrolled in education, including 34% in university, 28% in technical/vocational college,
29 and 21% in primary or secondary school. 10.4% reported being unemployed while 3.1%
30 reported employment. Many respondents experienced food insecurity with about 40% going to
31 bed hungry at least “sometimes” in the past month.
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34 Of 3,431 respondents, the proportions reporting “more difficulty” accessing HIV testing
35 services, HIV self-screening kits, PrEP and ART since the COVID-19 pandemic were 16.8%,
36 13.7%, 11% and 7% respectively, with no differences by gender (Table 1). 13.9%, of all
37 participants (females and males) experienced greater difficulty accessing condoms (Table 2).
38 About 7% of both females and males reported more difficulty accessing domestic violence
39 services. Difficulty accessing contraception was reportedly greater among females (15.3%)
40 than males (7.1%), and 6.8% of female respondents reported difficulty accessing ante-natal
41 care since the pandemic (Table 2).
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Table 1: Reported difficulty accessing HIV services by gender

Since the Covid-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?	Please confirm your sex/gender.									
	Male		Female		Transgender		Prefer not to say		Total	
	N	%	N	%	N	%	N	%	N	%
HIV testing services?										
No	687	52.2	1,034	51.2	13	61.9	20	27.4	1,754	51.1
Yes	217	16.5	353	17.5	2	9.5	3	4.1	575	16.8
Does not apply to me	88	6.7	140	6.9	1	4.8	3	4.1	232	6.8
Do not know	159	12.1	208	10.3	2	9.5	1	1.4	370	10.8
Prefer not to say	21	1.6	14	0.7	2	9.5	42	57.5	79	2.3
Missing/No response	145	11	271	13.4	1	4.8	4	5.5	421	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
HIV self-screening kits?										
No	680	51.6	1,024	50.7	13	61.9	16	21.9	1,733	50.5
Yes	180	13.7	286	14.2	2	9.5	3	4.1	471	13.7
Does not apply to me	104	7.9	186	9.2	1	4.8	4	5.5	295	8.6
Do not know	182	13.8	231	11.4	1	4.8	2	2.7	416	12.1
Prefer not to say	26	2	21	1	3	14.3	44	60.3	94	2.7
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
PrEP?										
No	651	49.4	990	49	11	52.4	18	24.7	1,670	48.7
Yes	140	10.6	222	11	1	4.8	2	2.7	365	10.6
Does not apply to me	148	11.2	261	12.9	3	14.3	4	5.5	416	12.1
Do not know	207	15.7	257	12.7	2	9.5	3	4.1	469	13.7
Prefer not to say	26	2	18	0.9	3	14.3	42	57.5	89	2.6
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Anti-retroviral treatment for HIV?										
No	655	49.7	1,006	49.8	10	47.6	15	20.5	1,686	49.1

Yes	90	6.8	134	6.6	1	4.8	1	1.4	226	6.6
Does not apply to me	208	15.8	350	17.3	4	19	6	8.2	568	16.6
Do not know	196	14.9	236	11.7	2	9.5	3	4.1	437	12.7
Prefer not to say	23	1.7	22	1.1	3	14.3	44	60.3	92	2.7
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100

Table 2: Reported difficulty accessing SRH services by gender

Since the Covid-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?	Please confirm your sex/gender.									
	Male		Female		Transgender		Prefer not to say		Total	
	N	%	N	%	N	%	N	%	N	%
Condoms?										
No	770	58.5	1,126	55.7	14	66.7	22	30.1	1,932	56.3
Yes	200	15.2	275	13.6	1	4.8	2	2.7	478	13.9
Does not apply to me	40	3	144	7.1	1	4.8	2	2.7	187	5.5
Do not know	146	11.1	193	9.6	1	4.8	2	2.7	342	10
Prefer not to say	16	1.2	9	0.4	3	14.3	41	56.2	69	2
Missing/No response	145	11	273	13.5	1	4.8	4	5.5	423	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Contraception?										
No	679	51.6	1,054	52.2	9	42.9	17	23.3	1,759	51.3
Yes	94	7.1	310	15.3	3	14.3	1	1.4	408	11.9
Does not apply to me	174	13.2	171	8.5	3	14.3	5	6.8	353	10.3
Do not know	200	15.2	199	9.9	1	4.8	3	4.1	403	11.7
Prefer not to say	25	1.9	14	0.7	4	19	43	58.9	86	2.5
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Ante-natal care? [Females only]										
No	0	0	986	48.8	0	0	0	0	986	28.7

Yes	0	0	137	6.8	0	0	0	0	137	4
Does not apply to me	0	0	331	16.4	0	0	0	0	331	9.6
Do not know	0	0	265	13.1	0	0	0	0	265	7.7
Prefer not to say	0	0	28	1.4	0	0	0	0	28	0.8
Missing/No response	1,317	100	273	13.5	21	100	73	100	1,684	49.1
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Domestic violence services?										
No	722	54.8	1,063	52.6	9	42.9	18	24.7	1,812	52.8
Yes	101	7.7	143	7.1	2	9.5	1	1.4	247	7.2
Does not apply to me	139	10.6	287	14.2	4	19	4	5.5	434	12.6
Do not know	184	14	226	11.2	1	4.8	3	4.1	414	12.1
Prefer not to say	26	2	25	1.2	4	19	43	58.9	98	2.9
Missing/No response	145	11	276	13.7	1	4.8	4	5.5	426	12.4
Total	1,317	100	2,020	100	21	100	73	100	3,431	100

Table 3: Thematic table of analysis based on open-ended responses

<p>Clinic staff testing positive</p>	<p>“One of the staff members in the clinic was tested positive for coronavirus. So, the facility was closed for fumigation of the facility.”</p> <p>“I haven't gone for them since the pandemic. It affected us because when they have a case they close the clinics for 14 days, that time we could not go to clinic to get condoms and contraception”</p>
<p>Clinics only seeing COVID19 patients</p>	<p>“Clinics were mostly centred around COVID19 and offered no contraception treatment and were sometimes not accessible.”</p> <p>“It affected my access big time because I couldn't go to hospitals or clinic when I was sick because they were full of people who were infected by the virus”</p> <p>“Hospitals have focused more on cases concerning the Coronavirus and neglecting others as if they don't matter”</p>
<p>Clinics overwhelmed</p>	<p>“Clinics are always full, it's not easy getting help because you'll be on the queue for the whole day, then around the time that they close the nurses tell you to come back the next day while you didn't even get help.”</p> <p>“Most of these services I usually get them at the clinic. But now due to this pandemic, clinics were being closed often, and even when they were open there would be a huge number of people visiting, increasing the rate of being infected”</p> <p>“I had to book an appointment to go to the clinic whereas I needed help right away. Sometimes they'd tell us to come back tomorrow although we had an appointment.”</p>
<p>Scared of COVID-19</p>	<p>“I was scared of being in a place where there is a huge number of people because of fear that I could get infected.”</p> <p>“I am now afraid to go to the clinic because I know there can be infected people and I might get infected.”</p> <p>“I usually go get self-screening kits but during this pandemic I couldn't because I'm kind of scared of Coronavirus.”</p>
<p>Lockdown restrictions</p>	<p>“Because of the lockdown most chemists and places to get screening kits were closed. Most hospitals were filled with people with Covid-19 so I couldn't risk going there. And because of this pandemic we were given curfews.”</p> <p>“It has affected me because my mobility is limited and these services are often found in certain health institutions so I have to move from home to get them and during this COVID19 we are encouraged not to go out unless it's necessary.”</p>
<p>Transport issues</p>	<p>“It had a very big impact in such a way that it made things very difficult for me because I couldn't come into contact to people I depend to get money for transport to travel from home to where my clinic is located. So I even</p>

	<p>defaulted for about a month before I get my medication but at least now I'm getting my meds and taking them properly”</p> <p>“It has affected me drastically because these services are centralized in a town that is located far away from my area so I couldn't access them freely due to COVID19 regulations”</p> <p>“I was affected because there was a limit in everything so I had to make sure I wake up early & the taxis were also a problem because of the lockdown conditions.”</p>
Financial burden	<p>“I had to go buy lovers plus+ condoms in the shops. It was hard because I did not want to be in the shops in COVID times...and I had to steal some money from my mom's wallet 2 get cash 4 the condom... I did not want corona and a baby. tough times but yah, neh...I made it happen.”</p> <p>“When we needed some health services or medication we'd be told that the pharmacy is closed and we had to buy the medicine from private pharmacies, in some cases I didn't have money.”</p>
Overwhelmed Police	<p>“Reporting GBV has been difficult because police were busy arresting people that smoke and drink alcohol who are not violating anyone.”</p> <p>“Due to increased numbers of cases and the police taking their time to respond to specific cases has made it very hard for us to follow up and report cases. Also, some police stations close due to someone having tested positive in the station.”</p>

796 participants wrote an open-text response to explain how the COVID-19 pandemic affected their access to the above HIV, and SRH services. The results of the content analysis are illustrated in Figure 1, which highlights the frequency in which young people reported that “clinics” had been “affected”. Words such as; time, closed, queue, long, and numbers described the ways in which COVID-19 had overwhelmed the clinics creating long wait times and closures. Further thematic analysis (Table 3) revealed more details about how services were affected. Due to COVID-19, clinics were often closed or running a limited service because clinical staff had contracted Coronavirus. Some respondents described clinics being closed for up to 14 days after positive tests were detected among staff. Young people reported that many clinics were only attending to COVID-19 patients and all other services were suspended or restricted to specific days and hours. Overwhelmed clinics with limited services and an influx of COVID-19 patients meant that respondents seeking SRH services were waiting in long lines for hours, and sometimes were told to come back the next day. Respondents also explained that reporting cases of gender-based violence was difficult with police services reportedly overwhelmed with enforcing COVID-19 rules, and understaffing due to COVID-19 infections among police officers.

The thematic analysis found that lockdown rules, prohibiting people from leaving their homes unless accessing essential services, created barriers to SRH services. Some respondents reported that they did not seek SRH services because they were following lockdown guidance to stay home and believed chemists and pharmacies would be closed. Transport was also a large issue for young people as local taxi services, a primary mode of transport, were restricted in the lockdown. This made getting to the clinics to access essential

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3 services, like HIV medication, difficult. Respondents also explained that the lockdowns had
4 affected their income sources, either through job loss or becoming isolated from family
5 members who usually provided them with financial support. Financial losses meant
6 respondents could not afford transport to clinics. Respondents also described the financial
7 stresses of having to pay private clinics and pharmacies for SRH services like condoms,
8 contraception and HIV tests that are normally free at public clinics. The word cloud captures
9 that young people were also “afraid and scared” of becoming “infected” which motivated
10 them to follow lockdown regulations and deterred them from traveling or visiting clinics
11 where they believed they might contract the virus.
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15 **Discussion:**

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17 Through their experiences and perspectives young people offered explanations for why the
18 COVID-19 and lockdown measures made it more difficult than usual for some young people
19 in the Eastern Cape, to access SRH services. They detailed accounts of clinic disruptions due
20 to the influx of patients, restricted services, and understaffing because of COVID-19
21 infections which resulted in long lines, and young people being turned away from clinics.
22 They also explained the difficulties in getting to the clinics due to limited transport options
23 that had been reduced during lockdowns. COVID-19 impacted respondents care seeking
24 behaviour as they feared contracting the virus and stayed at home due to the lockdown
25 measure regulations. Loss of income due to the pandemic and being unable to receive free
26 clinic services quickly made SHR services inaccessible to some young people. There were
27 few reliable or affordable back up option to clinic-based services meaning when clinics were
28 inaccessible young people often were unable to get the services they needed from other
29 places.
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33 Similar worrying trends about COVID-19’s negative impact on SRH, including young
34 people’s and adolescents’ health have been reported in the literature. A study of PrEP in
35 South Africa reported that South African adolescent girls and young women substantially
36 decreased their visits for PrEP during the COVID-19 epidemic, while rates of new HIV
37 infection, STIs, and pregnancy increased(10). Another study from the Eastern Cape reported
38 a reduction in the availability of STI services resulting from the COVID-19 epidemic
39 potentially increasing the burden of untreated STIs in the community (11). Gender based
40 violence prevention and response services in South Africa were impacted by the COVID-19
41 pandemic, due to government restrictions and the failure of government to identify early on if
42 GBV services were essential (12, 13). Facilities in countries across Africa with similar
43 lockdowns to South Africa saw a drop in antenatal attendances in the first months of the
44 pandemic (14). Data from a district health information system for KwaZulu-Natal provincial
45 health services found an increase in neonatal mortality was linked to the disruption of health
46 services and diversion of resources to COVID-19 (15). Additionally, modelling in 2020
47 suggested that disruption due to COVID-19 of ART medication had a real risk of increasing
48 mortality among at risk population in sub-Saharan Africa(16) .
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52 Our findings indicate that young people are heavily reliant on their local clinics for free SRH
53 services, possibly due to the unavailability of other outlets. Literature that predates the
54 COVID-19 pandemic reveals that young people in South Africa reported many barriers when
55 accessing clinic-based services. Some of the reported barriers to services are long distances
56 and travel times to clinics, limited and unaffordable transport options, and inconvenient clinic
57 hours(17). Young people also reported that they avoid services because of stigma, and fear
58 of judgement from staff(18). Reports such as these inspired the South African Department of
59 Health to implement youth friendly services with a target to have 70% of health care facilities
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3 offer youth friendly services by 2012. Unfortunately the reported provision of these services
4 is far below the target, especially in rural areas(18). This study supports the need to “de-
5 medicalise” some HIV and SRH services to make services more accessible to young people
6 and resilient. This includes the scale up other options for young people to access SRH
7 services within the community or online. Providing various service models allows young
8 people to choose the model that best fits their needs. This can also reduce the burden on
9 clinics allowing them to provide quicker and better services. Other SRH models that have
10 proven to be feasible and acceptable are community health worker programmes, school-based
11 services, peer navigators and mobile health clinics (19-23). Telemedicine services similar to
12 the initiatives that sprang up across the world during the pandemic to provide young people
13 with remote and safe SRH services should be made available to digitally connected young
14 people in South Africa(24-27). Additionally, existing online SRH social networks and forums
15 can be harnessed to reach more young South Africans and link them to services(28).
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19 **Conclusion:**

20 Young people in the Eastern Cape of South Africa rely heavily upon local clinics for HIV and
21 SRH services and young males and females reported difficulties or fears accessing clinics
22 during the COVID-19 lockdown. Clinics became overwhelmed or inaccessible, limiting
23 young people’s access to services for HIV prevention, contraception, antenatal care and
24 gender-based violence. In high risk contexts, prevention services and tools must be
25 considered “essential” and made more accessible to young people, outside of clinics and
26 within the communities and online in spaces that young people can access without fear or
27 cost.
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15 content analysis of the open survey responses with guidance from IB, SC and SS. VB wrote the
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BMJ Paediatrics Open

"The clinic said they are busy attending to Corona when I asked about HIV testing" The consequences of COVID-19 on young people's access to SRH prevention services in South Africa

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7 South Africa
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Abstract

Introduction: The South African government responded swiftly to the first wave of COVID-19 with a nationwide lockdown. Initial restrictions from March-July 2020 required people to stay at home unless accessing essential, life-saving services. We sought to understand how the COVID-19 pandemic and resulting lockdowns affected young people's access to SRH health services in a high-prevalence HIV setting.

Methods: We analysed data from a cross sectional web-based survey conducted with 15-24-year-olds from September-December 2020 in Eastern Cape, South Africa. The survey was promoted through social media platforms of schools, universities, communities, and clinics. Participants were asked whether and how the COVID-19 pandemic and related restrictions affected their access to SRH services, through closed- and open-ended questions. Descriptive statistics using proportions were used to summarise responses and open text was analysed using thematic analysis.

Results: Of 3,431 respondents, the proportions reporting "more difficulty" accessing HIV testing services, HIV self-screening kits, condoms, PrEP and ART since the COVID-19 pandemic were 16.8%, 13.7%, and 13.9%, 11% and 7% respectively. In 796 open-text responses, participants described challenges accessing HIV services due to clinics being overwhelmed and prioritising coronavirus patients, resulting in young people being turned away. Some were afraid of contracting coronavirus at or en route to clinics. Others were unable to reach clinics because of restricted transport or financial insecurity brought on by the lockdown.

Discussion: Young people in Eastern Cape rely upon local clinics for services and large proportions of young males and females faced difficulties or fears accessing clinics during the COVID-19 lockdown. Clinics became overwhelmed or inaccessible, limiting young people's access SRH services. In high HIV risk contexts, prevention services and tools must be more accessible to young people, outside of clinics and within the communities and spaces that young people can access without fear or cost at any time.

Summary Box

What is already known on this topic – *Young people face significant barriers accessing sexual health services in South Africa, but we are still discovering how COVID-19 further affected young people's access to service and the long-term ramifications of service disruptions. Understanding young people's experiences accessing services during the pandemic is needed to make health systems more accessible and resilient.*

What this study adds – *Through a remote online survey, young people in South Africa shared their experiences with struggling to access sexual health services due to overwhelmed clinics during the pandemic. They described the wide-ranging barriers they encounter while trying to access services, including limited transport, income loss, lockdown regulations and fear of contracting COVID-19. Without being able to access their services through clinics young people had very few alternatives of where they could receive affordable services.*

How this study might affect research, practice or policy – *The barriers and experiences young people present supports the need for SRH services to become more reliable and accessible to young people by providing a variety of affordable services outside of clinics and within the communities.*

Background:

On 23rd March 2020 the South African government announced a nationwide “lockdown” to control the spread of the first wave of the novel coronavirus (SARS-CoV-2). The strictest levels of lockdown, from March to July 2020, restricted people to stay at home unless accessing essential services. In government-issued guidance, sexual and reproductive health (SRH) services were included in the definition of “essential” medical services. However, there were reports of confusion and misinterpretation of what were considered ‘essential’ services within communities and among health care professionals, resulting in people feeling unable to seek services or sometimes being turned away at clinics(1). Emerging evidence has shown that the COVID-19 epidemic had a significant impact on health services including Tuberculosis, maternal and child health and SRH services, including HIV services, due to the diversion of key resources to address COVID-19 and lockdowns which deterred people from seeking services(2-7). Some of the consequences of these disruptions resulted in increases in neonatal mortality, reduced access to contraception and a decline in child immunisations, TB and HIV testing and ART initiation.(2-5, 7, 8)

South Africans rely on SRH services mostly offered in local clinics to access HIV medication, testing and prevention, contraception, treatment of sexually transmitted infections (STI), abortion and antenatal services. Even short disruptions to these services could have significant impacts including unplanned pregnancy, STI and HIV transmission, or HIV treatment interruptions. SRH services are particularly important in South Africa, the country with the largest HIV epidemic in the world. With over 7.8 million people living with HIV, South Africa accounts for 21% of the global HIV burden and 14% of new HIV infections (9, 10). The South African government, and non-governmental organisations have invested substantial into HIV education and testing, antiretroviral therapy and pre-exposure prophylaxis (PrEP), while implementing universal test and treat (UTT)(11).

For 15-24-year olds, who constitute roughly 16% of the population in South Africa, access to SRH services is essential to live healthy and productive lives(12). As young people begin to engage in sexual relationships so too begins their need for HIV services including testing, treatment and prevention. The risk for acquiring HIV accelerates quickly from adolescence among females and slightly later among young men(13, 14). The 2017 South African National household-based HIV Prevalence, Incidence, Behaviour and Communication Survey estimated HIV incidence among at 1.51% per year among those aged 15–24 years, higher than any other age group with young women bearing significantly more of the burden(15). Young people also depend on SRH services for diagnosis of STI and Bacterial Vaginosis, which are highly prevalent in South Africa and associated with HIV and poor reproductive and sexual health(16, 17). Young women rely on contraception services to prevent unplanned pregnancy and antenatal care if they become pregnant(18). The estimated pregnancy rate among AGYW in South Africa is around 16% to 22%(19). Despite their need and desire to seek SRH services, many young people avoid health care services because of real and perceived barriers to care including stigma, cost and health care worker judgment, and loss of privacy (20-26).

This study investigates the impact of the COVID-19 pandemic and resulting government restrictions on young people’s access to SRH services in Eastern Cape, South Africa. In this high-risk context understanding whether and how services are disrupted can help to ensure that “essential” SRH and HIV services are resilient and accessible to young people.

Methods:

We collected and analysed data from a web-based questionnaire launched online from September-December 2020. Questions about service disruption during COVID-19 were imbedded within a questionnaire designed for the evaluation of a mass media campaign that aimed to improve HIV outcomes among young people in the Eastern Cape. More information about the evaluation has been published elsewhere (27). The HIV prevalence in Eastern Cape province of South Africa has been estimated at 15.3% among people of all ages (28). The questionnaire was promoted through targeted advertisements to 15-24 year-olds in Mthatha, Eastern Cape, South Africa through social media platforms, primarily Facebook. The questionnaire was also promoted in collaboration with local schools, universities, communities, and clinics using their Facebook pages and WhatsApp groups. It was available on an internet data-free website, through a reverse-charging arrangement with the service provider. Instead of the participant paying to access the site with their personal internet data, the reverse charging website billed the research team. Those who completed the questionnaire received telephone airtime credit of ZAR50. The only identifying information that was captured in the questionnaire was participants' telephone numbers. Besides telephone numbers, the self-administered questionnaire was anonymised with no name or other personal identifying information requested and no IP address was captured. To reduce likely duplicate questionnaires, participants could only complete one survey per phone number. Additionally, all questionnaires went through a screening process to identify questionnaires with the exact same answers. The questionnaire was offered in both English and isiXhosa and took 30 minutes to complete. Four young people who spoke both isiXhosa and English reviewed the online questionnaire and recruitment advertisements. Due to COVID-19 restrictions and the desire to capture the real time experiences of young people, there was little time or opportunity to safely involve the public within the design of this research.

The survey included questions to assess whether and how the COVID-19 pandemic and related restrictions had affected young people's access to HIV and SRH services. Specifically, participants were asked "Since the COVID-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?" for HIV testing services, HIV self-testing, condoms, anti-retroviral therapy (ART) or pre-exposure prophylaxis (PrEP) for HIV, contraception, antenatal care, and domestic violence services. Descriptive statistics using frequencies and proportions were used to summarise responses, overall and by gender and age. Participants were asked an open-ended question, "How has the COVID-19 pandemic affected your access to these health services?" These responses were analysed using a thematic approach to identify patterns and themes(29). After coding and identifying and defining themes, illustrative quotes were selected. Additionally we created a visual word cloud using NVivo software to identify key words and phrases based on the frequency in which they appeared in the open ended responses. The word cloud included all words that were three or more characters. The size of the words represents the frequency in which the word appeared (i.e. the larger the word the greater its frequency).

Ethics approvals were received by the Biomedical Research Ethics Committee at University of KwaZulu-Natal, London School of Hygiene & Tropical Medicine, and the World Health Organisation. Participants provided online consent and parents or guardians provided online consent for participants under 18 years.

Results:

4,145 records of the survey were created while the survey was live online. Records without full consent (n=407) or gender (n=144), or which were likely duplicates (n=163) were removed leaving 3,431 (83%) records for analysis. The majority of respondents resided in the city of Mthatha (72%) or elsewhere in Eastern Cape province (11%) and 16% lived in other provinces

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3 of South Africa. Respondents predominantly spoke IsiXhosa at home (80%), were female
4 (59%) and aged 20-24 years (69% compared to 31% aged 15-19). Most respondents (83%)
5 were enrolled in education, including 34% in university, 28% in technical/vocational college,
6 and 21% in primary or secondary school. Of those who were not full-time students, 10.4%
7 reported being unemployed while 3.1% reported employment. Many respondents experienced
8 food insecurity with about 40% going to bed hungry at least “sometimes” in the past month.
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11 Of 3,431 respondents, the proportions reporting “more difficulty” accessing HIV testing
12 services, HIV self-screening kits, PrEP and ART since the COVID-19 pandemic were 16.8%,
13 13.7%, 11% and 7% respectively, with no differences by gender (Table 1). 13.9%, of all
14 participants (females and males) experienced greater difficulty accessing condoms (Table 2).
15 About 7% of both females and males reported more difficulty accessing domestic violence
16 services. Difficulty accessing contraception, including barrier methods and hormonal
17 methods, was reportedly greater among females (15.3%) than males (7.1%), and 6.8% of
18 female respondents reported difficulty accessing ante-natal care since the pandemic (Table 2).
19 There were no differences in antenatal care disruptions by age group, although the question
20 was less applicable and data more likely to be missing among the younger group (15-19
21 years) compared to the older (20-24 years).
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Table 1: Reported difficulty accessing HIV services by gender

Since the COVID-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?	Male		Female		Transgender		Prefer not to say		Total	
	N	%	N	%	N	%	N	%	N	%
HIV testing services?										
No	687	52.2	1,034	51.2	13	61.9	20	27.4	1,754	51.1
Yes	217	16.5	353	17.5	2	9.5	3	4.1	575	16.8
Does not apply to me	88	6.7	140	6.9	1	4.8	3	4.1	232	6.8
Do not know	159	12.1	208	10.3	2	9.5	1	1.4	370	10.8
Prefer not to say	21	1.6	14	0.7	2	9.5	42	57.5	79	2.3
Missing/No response	145	11	271	13.4	1	4.8	4	5.5	421	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
HIV self-screening kits?										
No	680	51.6	1,024	50.7	13	61.9	16	21.9	1,733	50.5
Yes	180	13.7	286	14.2	2	9.5	3	4.1	471	13.7
Does not apply to me	104	7.9	186	9.2	1	4.8	4	5.5	295	8.6
Do not know	182	13.8	231	11.4	1	4.8	2	2.7	416	12.1
Prefer not to say	26	2	21	1	3	14.3	44	60.3	94	2.7
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
PrEP?										
No	651	49.4	990	49	11	52.4	18	24.7	1,670	48.7
Yes	140	10.6	222	11	1	4.8	2	2.7	365	10.6
Does not apply to me	148	11.2	261	12.9	3	14.3	4	5.5	416	12.1
Do not know	207	15.7	257	12.7	2	9.5	3	4.1	469	13.7
Prefer not to say	26	2	18	0.9	3	14.3	42	57.5	89	2.6
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Anti-retroviral treatment for HIV?										
No	655	49.7	1,006	49.8	10	47.6	15	20.5	1,686	49.1

Yes	90	6.8	134	6.6	1	4.8	1	1.4	226	6.6
Does not apply to me	208	15.8	350	17.3	4	19	6	8.2	568	16.6
Do not know	196	14.9	236	11.7	2	9.5	3	4.1	437	12.7
Prefer not to say	23	1.7	22	1.1	3	14.3	44	60.3	92	2.7
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100

Table 2: Reported difficulty accessing SRH services by gender

Since the COVID-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?	Male		Female		Transgender		Prefer not to say		Total	
	N	%	N	%	N	%	N	%	N	%
Condoms?										
No	770	58.5	1,126	55.7	14	66.7	22	30.1	1,932	56.3
Yes	200	15.2	275	13.6	1	4.8	2	2.7	478	13.9
Does not apply to me	40	3	144	7.1	1	4.8	2	2.7	187	5.5
Do not know	146	11.1	193	9.6	1	4.8	2	2.7	342	10
Prefer not to say	16	1.2	9	0.4	3	14.3	41	56.2	69	2
Missing/No response	145	11	273	13.5	1	4.8	4	5.5	423	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Contraception?										
No	679	51.6	1,054	52.2	9	42.9	17	23.3	1,759	51.3
Yes	94	7.1	310	15.3	3	14.3	1	1.4	408	11.9
Does not apply to me	174	13.2	171	8.5	3	14.3	5	6.8	353	10.3
Do not know	200	15.2	199	9.9	1	4.8	3	4.1	403	11.7
Prefer not to say	25	1.9	14	0.7	4	19	43	58.9	86	2.5
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Ante-natal care? [Females only]										
No	0	0	986	48.8	0	0	0	0	986	28.7

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Yes	0	0	137	6.8	0	0	0	0	137	4
Does not apply to me	0	0	331	16.4	0	0	0	0	331	9.6
Do not know	0	0	265	13.1	0	0	0	0	265	7.7
Prefer not to say	0	0	28	1.4	0	0	0	0	28	0.8
Missing/No response	1,317	100	273	13.5	21	100	73	100	1,684	49.1
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Domestic violence services?										
No	722	54.8	1,063	52.6	9	42.9	18	24.7	1,812	52.8
Yes	101	7.7	143	7.1	2	9.5	1	1.4	247	7.2
Does not apply to me	139	10.6	287	14.2	4	19	4	5.5	434	12.6
Do not know	184	14	226	11.2	1	4.8	3	4.1	414	12.1
Prefer not to say	26	2	25	1.2	4	19	43	58.9	98	2.9
Missing/No response	145	11	276	13.7	1	4.8	4	5.5	426	12.4
Total	1,317	100	2,020	100	21	100	73	100	3,431	100

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5 796 participants wrote an open-text response to explain how the COVID-19 pandemic
6 affected their access to the above HIV, and SRH services. The word cloud illustrated in
7 Figure 1, highlights the frequency in which young people reported that “clinics” had been
8 “affected”. Words such as; time, closed, queue, long, and numbers described the ways in
9 which COVID-19 had overwhelmed the clinics creating long wait times and closures.
10 Thematic analysis revealed details about how services were affected. Due to COVID-19,
11 clinics were often closed or running a limited service because clinical staff had contracted
12 Coronavirus.
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18 *“One of the staff members in the clinic was tested positive for coronavirus.
19 So, the facility was closed for fumigation of the facility.”*
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23 Some respondents described clinics being closed for up to 14 days after positive tests were
24 detected among staff.
25

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27 *“I haven't gone for them since the pandemic. It affected us because when
28 they have a case they close the clinics for 14 days, that time we could not
29 go to clinic to get condoms and contraception”*
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33 Young people reported that many clinics were only attending to COVID-19 patients and all
34 other services were suspended or restricted to specific days and hours.
35

36
37 *“Clinics were mostly centred around COVID-19 and offered no
38 contraception treatment and were sometimes not accessible.”*
39

40
41 *“It affected my access big time because I couldn't go to hospitals or clinic
42 when I was sick because they were full of people who were infected by the
43 virus”*
44

45
46 *“Hospitals have focused more on cases concerning the Coronavirus and
47 neglecting others as if they don't matter”*
48

49
50 Overwhelmed clinics with limited services and an influx of COVID-19 patients meant that
51 respondents seeking SRH services were waiting in long lines for hours, and sometimes were
52 told to come back the next day.
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55 *“Clinics are always full, it's not easy getting help because you'll be on the
56 queue for the whole day, then around the time that they close the nurses tell
57 you to come back the next day while you didn't even get help.”*
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“Most of these services I usually get them at the clinic. But now due to this pandemic, clinics were being closed often, and even when they were open there would be a huge number of people visiting, increasing the rate of being infected”

“I had to book an appointment to go to the clinic whereas I needed help right away. Sometimes they'd tell us to come back tomorrow although we had an appointment.”

Respondents also explained that reporting cases of gender-based violence was difficult with police services reportedly overwhelmed with enforcing COVID-19 rules, and understaffing due to COVID-19 infections among police officers.

“Reporting GBV has been difficult because police were busy arresting people that smoke and drink alcohol who are not violating anyone.”

“Due to increased numbers of cases and the police taking their time to respond to specific cases has made it very hard for us to follow up and report cases. Also, some police stations close due to someone having tested positive in the station.”

Key themes which we identified during the thematic analysis demonstrate that lockdown rules, prohibiting people from leaving their homes unless accessing essential services, created barriers to SRH services. Some respondents reported that they did not seek SRH services because they were following lockdown guidance to stay home and believed chemists and pharmacies would be closed.

“Because of the lockdown most chemists and places to get screening kits were closed. Most hospitals were filled with people with COVID-19 so I couldn't risk going there. And because of this pandemic we were given curfews.”

“It has affected me because my mobility is limited and these services are often found in certain health institutions so I have to move from home to get them and during this COVID-19 we are encouraged not to go out unless it's necessary.”

Transport was also a large issue for young people as local taxi services, a primary mode of transport, were restricted in the lockdown. This made getting to the clinics to access essential services, like HIV medication, difficult.

“It had a very big impact in such a way that it made things very difficult for me because I couldn't come into contact to people I depend to get money for transport to travel from home to where my clinic is located. So I even

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3 *defaulted for about a month before I get my medication but at least now I'm*
4 *getting my meds and taking them properly”*
5

6 *“It has affected me drastically because these services are centralized in a*
7 *town that is located far away from my area so I couldn't access them freely*
8 *due to COVID-19 regulations”*
9

10
11 *“I was affected because there was a limit in everything so I had to make*
12 *sure I wake up early & the taxis were also a problem because of the*
13 *lockdown conditions.”*
14

15
16 Respondents also explained that the lockdowns had affected their income sources, either
17 through job loss or becoming isolated from family members who usually provided them with
18 financial support. Financial losses meant respondents could not afford transport to clinics.
19 Respondents also described the financial stresses of having to pay private clinics and
20 pharmacies for SRH services like condoms, contraception and HIV tests that are normally
21 free at public clinics.
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26 *“I had to go buy lovers plus+ condoms in the shops. It was hard because I*
27 *did not want to be in the shops in COVID times...and I had to steal some*
28 *money from my mom's wallet 2 get cash 4 the condom... I did not want*
29 *corona and a baby. tough times but yah, neh...I made it happen.”*
30

31 *“When we needed some health services or medication we'd be told that the*
32 *pharmacy is closed and we had to buy the medicine from private*
33 *pharmacies, in some cases I didn't have money.”*
34
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37 The word cloud captures that young people were also “afraid and scared” of becoming
38 “infected” which motivated them to follow lockdown regulations and deterred them from
39 traveling or visiting clinics where they believed they might contract the virus.
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42 *“I was scared of being in a place where there is a huge number of people*
43 *because of fear that I could get infected.”*
44

45 *“I am now afraid to go to the clinic because I know there can be infected*
46 *people and I might get infected.”*
47

48 *“I usually go get self-screening kits but during this pandemic I couldn't*
49 *because I'm kind of scared of Coronavirus.”*
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52 53 54 **Discussion:**

55 Through their experiences and perspectives young people offered explanations for why the
56 COVID-19 and lockdown measures made it more difficult than usual for some young people
57 in the Eastern Cape, to access SRH services. They detailed accounts of clinic disruptions due
58 to the influx of patients, restricted services, and understaffing because of COVID-19
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3 infections which resulted in long lines, and young people being turned away from clinics.
4 They also explained the difficulties in getting to the clinics due to limited transport options
5 that had been reduced during lockdowns. COVID-19 impacted respondents care seeking
6 behaviour as they feared contracting the virus and stayed at home due to the lockdown
7 measure regulations. Loss of income due to the pandemic and being unable to receive free
8 clinic services quickly made SHR services inaccessible to some young people. There were
9 few reliable or affordable back up option to clinic-based services meaning when clinics were
10 inaccessible young people often were unable to get the services they needed from other
11 places.
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14 Similar worrying trends about COVID-19's negative impact on SRH, including young
15 people's and adolescents' health have been reported in the literature. A study of PrEP in
16 South Africa reported that South African adolescent girls and young women substantially
17 decreased their visits for PrEP during the COVID-19 epidemic, while rates of new HIV
18 infection, STIs, and pregnancy increased(30). In the Gauteng region of South Africa there
19 was a decline in family planning and termination of pregnancy services as well as a shift
20 away from long-acting reversible contraception (31). Another study from the Eastern Cape
21 reported a reduction in the availability of STI services resulting from the COVID-19
22 epidemic potentially increasing the burden of untreated STIs in the community (32). Gender
23 based violence prevention and response services in South Africa were impacted by the
24 COVID-19 pandemic, due to government restrictions and the failure of government to
25 identify early on if GBV services were essential (33, 34).Facilities in countries across Africa
26 with similar lockdowns to South Africa saw a drop in antenatal attendances in the first
27 months of the pandemic (35). Data from a district health information system for KwaZulu-
28 Natal provincial health services found an increase in neonatal mortality was linked to the
29 disruption of health services and diversion of resources to COVID-19 (5). Additionally,
30 modelling in 2020 suggested that disruption due to COVID-19 of ART medication had a real
31 risk of increasing mortality among at risk populations in sub-Saharan Africa(36) .
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37 Those that responded to the question about how COVID-19 had affected health services
38 primarily discussed how local government clinic services had been disrupted. In addition to
39 the barriers created by COVID-19, literature that predates the COVID-19 pandemic reveals
40 that young people in South Africa reported many barriers when accessing clinic-based
41 services. Some of the reported barriers to services are long distances and travel times to
42 clinics, limited and unaffordable transport options, and inconvenient clinic hours(37). Young
43 people also reported that they avoid services because of stigma, and fear of judgement from
44 staff (20-22, 38). Reports such as these inspired the South African Department of Health to
45 implement youth friendly services with a target to have 70% of health care facilities offer
46 youth friendly services by 2012. Unfortunately, the reported provision of these services is far
47 below the target, especially in rural areas(24-26). A 2018 study by Smith et al concluded that
48 young people in South Africa are put off by visits to local government clinics "which are
49 stigmatising time consuming and unhelpful(39)." The long weight times and queues, as well
50 as diversion of resources during COVID-19 likely made these experiences worse.
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54 However, despite the barriers and short falls of the local government clinic, our findings
55 show that very few participants sought health services from other outlets. Cost and travel
56 expenses make it difficult for young people to access SRH services through models of care
57 structures such as pharmacies and private doctors(23). No other models of care were
58 mentioned in our findings. This study supports the need to "de-medicalise" some HIV and
59 SRH services to make services more resilient and accessible to young people. This includes
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3 the scale up other options for young people to access SRH services within the community or
4 online. Providing various service models allows young people to choose the model of care
5 that best fits their needs. This can also reduce the burden on clinics allowing them to provide
6 quicker and better services. Other SRH models of care that have proven to be feasible and
7 acceptable are community health worker programmes, school-based services, peer navigators
8 and mobile health clinics however there has not been enough investment models of care (40-
9 44).

10
11
12 Telemedicine services similar to the initiatives that sprang up across the world during the
13 pandemic to provide young people with remote and safe SRH services should be made
14 available to digitally connected young people in South Africa(45, 46), especially since South
15 Africa has the highest number of mobile users in Africa (47). Additionally, existing online
16 SRH social networks and forums can be harnessed to reach more young South Africans and
17 link them to services(48). A narrative review found that telemedicine and mhealth
18 interventions in South Africa that started in response to the COVID-19 pandemic showed that
19 telemedicine and mhealth, can be an innovative approach to providing young adults with
20 access to SRH treatment and information(47). However issues with implementation and lack
21 of funding show that there needs to be more investments in these areas for them to become
22 reliable models of SRH care for young people in South Africa.

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25 To reduce the risk of COVID-19 transmission this study used only remote internet study
26 methods. Since this questionnaire required a digital device and internet connectivity to
27 access, it's likely that the sample is skewed towards young people who have better access to
28 digital media. An effort was made to minimise the cost of participating in the survey by
29 making the internet survey free to access and providing airtime vouchers to those that
30 participated. However, it's likely that those who have completed the questionnaire had
31 greater access to digital devices, reliable internet access and greater literacy. By result some
32 of them most vulnerable, digitally unconnected young people might have been missed in this
33 questionnaire.

34 35 36 37 38 39 **Conclusion:**

40
41 Young people in the Eastern Cape of South Africa reported difficulties or fears accessing
42 local clinics during the COVID-19 lockdown. Clinics became overwhelmed or inaccessible,
43 limiting young people's access to services for HIV prevention, contraception, antenatal care
44 and gender-based violence. Young people appeared to have few alternative, affordable
45 models of care for receiving HIV and SRH services. In high risk contexts, prevention services
46 and tools must be considered "essential" and made more accessible to young people, outside
47 of clinics and within the communities and online in spaces that young people can access
48 without fear or cost.
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2
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12 project. SS and DO designed the online survey for this study with input from IB, SC, VB, DK and
13 CC. DO, DK, and CC, coordinated the data collection with recruitment assistance from YD. SM
14 conducted the statistical analysis of the close survey responses, while VB conducted the thematic and
15 content analysis of the open survey responses with guidance from IB, SC and SS. VB wrote the
16 manuscript with input from all authors.
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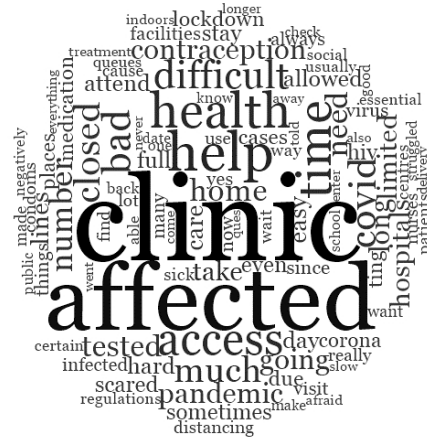


Figure 1: An illustrative 'word cloud' that captures the frequency at which participants used words to describe how they experienced more difficulty receiving SRH services since the COVID-19 pandemic.

731x329mm (38 x 38 DPI)

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Young people's access to sexual and reproductive health prevention services in South Africa during the COVID pandemic - an online questionnaire

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Abstract

Introduction: The South African government responded swiftly to the first wave of novel coronavirus (SARS-CoV-2) with a nationwide lockdown. Initial restrictions from March-July 2020 required people to stay at home unless accessing essential, life-saving services. We sought to understand how the COVID-19 pandemic and resulting lockdowns affected young people's access to sexual and reproductive health services in a high-prevalence HIV setting.

Methods: We analysed data from a cross sectional web-based questionnaire conducted with 15-24-year-olds from September-December 2020 in Eastern Cape, South Africa. The questionnaire was promoted through social media platforms. Participants were asked whether and how the COVID-19 pandemic and related restrictions affected their access to sexual and reproductive health services, through closed- and open-ended questions. Descriptive statistics using proportions were used to summarise responses and open text was analysed using thematic analysis.

Results: Of 3,431 respondents, the proportions reporting "more difficulty" accessing HIV testing services, HIV self-screening kits, condoms, PrEP and ART since the COVID-19 pandemic were 16.8%, 13.7%, and 13.9%, 11% and 7% respectively. In 796 open-text responses, participants described challenges accessing HIV services due to clinics being overwhelmed and prioritising coronavirus patients, resulting in young people being turned away. Some were afraid of contracting coronavirus at or en route to clinics. Others were unable to reach clinics because of restricted transport or financial insecurity.

Discussion: Young people in Eastern Cape rely upon local clinics for services and large proportions of young males and females faced difficulties or fears accessing clinics during the COVID-19 lockdown. Clinics became overwhelmed or inaccessible, limiting young people's access sexual and reproductive health services. In high HIV risk contexts, prevention services and tools must be more accessible to young people, outside of clinics and within the communities and spaces that young people can access without fear or cost.

Summary Box

What is already known on this topic – *Young people face significant barriers accessing sexual health services in South Africa, but we are still discovering how COVID-19 further affected young people's access to service and the long-term ramifications of service disruptions. Understanding young people's experiences accessing services during the pandemic is needed to make health systems more accessible and resilient.*

What this study adds – *Through a remote online questionnaire, young people in South Africa shared their experiences with struggling to access sexual health services due to overwhelmed clinics during the pandemic. They described the wide-ranging barriers they encounter while trying to access services, including limited transport, income loss, lockdown regulations and fear of contracting COVID-19. Without being able to access their services through clinics young people had very few alternatives of where they could receive affordable services.*

How this study might affect research, practice or policy – *The barriers and experiences young people present supports the need for sexual and reproductive health services to become more reliable and accessible to young people by providing a variety of affordable services outside of clinics and within the communities.*

Background:

On 23rd March 2020 the South African government announced a nationwide “lockdown” to control the spread of the first wave of the novel coronavirus (SARS-CoV-2). The strictest levels of lockdown, from March to July 2020, restricted people to stay at home unless accessing essential services. In government-issued guidance, sexual and reproductive health (SRH) services were included in the definition of “essential” medical services. However, there were reports of confusion and misinterpretation of what were considered ‘essential’ services within communities and among health care professionals, resulting in people feeling unable to seek services or sometimes being turned away at clinics(1). Emerging evidence has shown that the COVID-19 epidemic had a significant impact on health services including Tuberculosis, maternal and child health and sexual and reproductive health services, including Human Immunodeficiency Virus (HIV) services, due to the diversion of key resources to address COVID-19 and lockdowns which deterred people from seeking services(2-7). Some of the consequences of these disruptions resulted in increases in neonatal mortality, reduced access to contraception and a decline in child immunisations, Tuberculosis (TB) and HIV-testing and antiretroviral treatment (ART) initiation.(2-5, 7, 8)

South Africans rely on sexual and reproductive health services mostly offered in local clinics to access HIV medication, testing and prevention, contraception, treatment of sexually transmitted infections (STI), abortion and antenatal services. Even short disruptions to these services could have significant impacts including unplanned pregnancy, STI and HIV transmission, or HIV treatment interruptions. sexual and reproductive health services are particularly important in South Africa, the country with the largest HIV epidemic in the world. With over 7.8 million people living with HIV, South Africa accounts for 21% of the global HIV burden and 14% of new HIV infections (9, 10). The South African government, and non-governmental organisations have invested substantial into HIV education and testing, antiretroviral therapy and pre-exposure prophylaxis (PrEP), while implementing universal test and treat (UTT)(11).

For 15-24-year olds, who constitute roughly 16% of the population in South Africa, access to sexual and reproductive health services is essential to live healthy and productive lives(12). As young people begin to engage in sexual relationships so too begins their need for HIV services including testing, treatment and prevention. The risk for acquiring HIV accelerates quickly from adolescence among females and slightly later among young men(13, 14). The 2017 South African National household-based HIV Prevalence, Incidence, Behaviour and Communication Survey estimated HIV incidence among at 1.51% per year among those aged 15–24 years, higher than any other age group with young women bearing significantly more of the burden(15). Young people also depend on sexual and reproductive health services for diagnosis of STI and Bacterial Vaginosis, which are highly prevalent in South Africa and associated with HIV and poor reproductive and sexual health (16, 17). Young women rely on contraception services to prevent unplanned pregnancy and antenatal care if they become pregnant(18). The estimated pregnancy rate among women aged 15-24 in South Africa is around 16% to 22%(19). Despite their need and desire to seek sexual and reproductive health services, many young people avoid health care services because of real and perceived barriers to care including stigma, cost and health care worker judgment, and loss of privacy (20-26).

This study investigates the impact of the COVID-19 pandemic and resulting government restrictions on young people’s access to sexual and reproductive health services in Eastern Cape, South Africa. In this high-risk context understanding whether and how services are

1
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3 disrupted can help to ensure that “essential” sexual and reproductive health and HIV services
4 are resilient and accessible to young people.
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7 **Methods:**

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9 We collected and analysed data from a web-based questionnaire launched online from
10 September-December 2020. Questions about service disruption during COVID-19 were
11 imbedded within a questionnaire designed for the evaluation of a mass media campaign that
12 aimed to improve HIV outcomes among young people in the Eastern Cape. More information
13 about the evaluation has been published elsewhere (27). The HIV prevalence in Eastern Cape
14 province of South Africa has been estimated at 15.3% among people of all ages (28). The
15 questionnaire was promoted through targeted advertisements to 15-24 year-olds in Mthatha,
16 Eastern Cape, South Africa through social media platforms, primarily Facebook. The
17 questionnaire was also promoted in collaboration with local schools, universities,
18 communities, and clinics using their Facebook pages and WhatsApp groups. It was available
19 on an internet data-free website, through a reverse-charging arrangement with the service
20 provider. Instead of the participant paying to access the site with their personal internet data,
21 the reverse charging website billed the research team. Those who completed the questionnaire
22 received telephone airtime credit of ZAR50. The only identifying information that was
23 captured in the questionnaire was participants’ telephone numbers. Besides telephone
24 numbers, the self-administered questionnaire was anonymised with no name or other personal
25 identifying information requested and no IP address was captured. To reduce likely duplicate
26 questionnaires, participants could only complete one questionnaire per phone number.
27 Additionally, all questionnaires went through a screening process to identify questionnaires
28 with the exact same answers. The questionnaire was offered in both English and isiXhosa and
29 took 30 minutes to complete. Four young people who spoke both isiXhosa and English
30 reviewed the online questionnaire and recruitment advertisements. Due to COVID-19
31 restrictions and the desire to capture the real time experiences of young people, there was
32 little time or opportunity to safely involve the public within the design of this research.
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37 The questionnaire included questions to assess whether and how the COVID-19 pandemic
38 and related restrictions had affected young people’s access to HIV and sexual and
39 reproductive health services. Specifically, participants were asked “Since the COVID-19
40 pandemic caused by coronavirus began, have you experienced more difficulty getting the
41 following services?” for HIV testing services, HIV self-testing, condoms, anti-retroviral
42 therapy (ART) or pre-exposure prophylaxis (PrEP) for HIV, contraception, antenatal care,
43 and domestic violence services. Descriptive statistics using frequencies and proportions were
44 used to summarise responses, overall and by gender and age. Participants were asked an
45 open-ended question, “How has the COVID-19 pandemic affected your access to these health
46 services?” The text responses from the open-ended questions were imported to NVivo 12
47 software were analysed using thematic analysis (29). We familiarised ourselves with the data
48 by reading all responses and noting emerging trends that appeared in the text. Data was
49 collated into codes and as patterns emerged, codes were grouped into overarching themes. All
50 themes were reviewed and defined and illustrative quotes were selected to show evidence of
51 themes within the data. Once thematic analysis was complete we created a visual word cloud
52 using NVivo software to identify key words and phrases based on the frequency in which
53 they appeared in the open-ended responses. The word cloud included all words that were
54 three or more characters. The size of the words represents the frequency in which the word
55 appeared (i.e. the larger the word the greater its frequency). The word cloud provided a visual
56 illustration of the patterns of responses that had appeared in the open-ended text. By
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3 comparing the patterns that emerged in the thematic analysis to the patterns that emerged
4 from in the frequency word cloud, we were able to validate the findings of the thematic
5 analysis.
6

7 Ethics approvals were received by the Biomedical Research Ethics Committee at University of
8 KwaZulu-Natal, London School of Hygiene & Tropical Medicine, and the World Health
9 Organisation. Participants provided online consent and parents or guardians provided online
10 consent for participants under 18 years.
11

12 **Results:**

13
14 4,145 records of the questionnaire were created while the questionnaire was live online.
15 Records without full consent (n=407) or gender (n=144), or which were likely duplicates
16 (n=163) were removed leaving 3,431 (83%) records for analysis. The majority of respondents
17 resided in the city of Mthatha (72%) or elsewhere in Eastern Cape province (11%) and 16%
18 lived in other provinces of South Africa. Respondents predominantly spoke IsiXhosa at home
19 (80%), were female (59%) and aged 20-24 years (69% compared to 31% aged 15-19). Most
20 respondents (83%) were enrolled in education, including 34% in university, 28% in
21 technical/vocational college, and 21% in primary or secondary school. Of those who were not
22 full-time students, 10.4% reported being unemployed while 3.1% reported employment. Many
23 respondents experienced food insecurity with about 40% going to bed hungry at least
24 “sometimes” in the past month.
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28 Of 3,431 respondents, the proportions reporting “more difficulty” accessing HIV testing
29 services, HIV self-screening kits, PrEP and ART since the COVID-19 pandemic were 16.8%,
30 13.7%, 11% and 7% respectively, with no differences by gender (Table 1). 13.9%, of all
31 participants (females and males) experienced greater difficulty accessing condoms (Table 2).
32 About 7% of both females and males reported more difficulty accessing domestic violence
33 services. Difficulty accessing contraception, including barrier methods and hormonal
34 methods, was reportedly greater among females (15.3%) than males (7.1%), and 6.8% of
35 female respondents reported difficulty accessing ante-natal care since the pandemic (Table 2).
36 There were no differences in antenatal care disruptions by age group, although the question
37 was less applicable and data more likely to be missing among the younger group (15-19
38 years) compared to the older (20-24 years).
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Table 1: Reported difficulty accessing HIV services by gender

Since the COVID-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?	Male		Female		Transgender		Prefer not to say		Total	
	N	%	N	%	N	%	N	%	N	%
HIV testing services?										
No	687	52.2	1,034	51.2	13	61.9	20	27.4	1,754	51.1
Yes	217	16.5	353	17.5	2	9.5	3	4.1	575	16.8
Does not apply to me	88	6.7	140	6.9	1	4.8	3	4.1	232	6.8
Do not know	159	12.1	208	10.3	2	9.5	1	1.4	370	10.8
Prefer not to say	21	1.6	14	0.7	2	9.5	42	57.5	79	2.3
Missing/No response	145	11	271	13.4	1	4.8	4	5.5	421	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
HIV self-screening kits?										
No	680	51.6	1,024	50.7	13	61.9	16	21.9	1,733	50.5
Yes	180	13.7	286	14.2	2	9.5	3	4.1	471	13.7
Does not apply to me	104	7.9	186	9.2	1	4.8	4	5.5	295	8.6
Do not know	182	13.8	231	11.4	1	4.8	2	2.7	416	12.1
Prefer not to say	26	2	21	1	3	14.3	44	60.3	94	2.7
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
PrEP?										
No	651	49.4	990	49	11	52.4	18	24.7	1,670	48.7
Yes	140	10.6	222	11	1	4.8	2	2.7	365	10.6
Does not apply to me	148	11.2	261	12.9	3	14.3	4	5.5	416	12.1
Do not know	207	15.7	257	12.7	2	9.5	3	4.1	469	13.7
Prefer not to say	26	2	18	0.9	3	14.3	42	57.5	89	2.6
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Anti-retroviral treatment for HIV?										
No	655	49.7	1,006	49.8	10	47.6	15	20.5	1,686	49.1

Yes	90	6.8	134	6.6	1	4.8	1	1.4	226	6.6
Does not apply to me	208	15.8	350	17.3	4	19	6	8.2	568	16.6
Do not know	196	14.9	236	11.7	2	9.5	3	4.1	437	12.7
Prefer not to say	23	1.7	22	1.1	3	14.3	44	60.3	92	2.7
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100

Table 2: Reported difficulty accessing sexual and reproductive health services by gender

Since the COVID-19 pandemic caused by coronavirus began, have you experienced more difficulty getting the following services?	Male		Female		Transgender		Prefer not to say		Total	
	N	%	N	%	N	%	N	%	N	%
Condoms?										
No	770	58.5	1,126	55.7	14	66.7	22	30.1	1,932	56.3
Yes	200	15.2	275	13.6	1	4.8	2	2.7	478	13.9
Does not apply to me	40	3	144	7.1	1	4.8	2	2.7	187	5.5
Do not know	146	11.1	193	9.6	1	4.8	2	2.7	342	10
Prefer not to say	16	1.2	9	0.4	3	14.3	41	56.2	69	2
Missing/No response	145	11	273	13.5	1	4.8	4	5.5	423	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Contraception?										
No	679	51.6	1,054	52.2	9	42.9	17	23.3	1,759	51.3
Yes	94	7.1	310	15.3	3	14.3	1	1.4	408	11.9
Does not apply to me	174	13.2	171	8.5	3	14.3	5	6.8	353	10.3
Do not know	200	15.2	199	9.9	1	4.8	3	4.1	403	11.7
Prefer not to say	25	1.9	14	0.7	4	19	43	58.9	86	2.5
Missing/No response	145	11	272	13.5	1	4.8	4	5.5	422	12.3
Total	1,317	100	2,020	100	21	100	73	100	3,431	100
Ante-natal care? [Females only]										
No	0	0	986	48.8	0	0	0	0	986	28.7

1											
2											
3	Yes	0	0	137	6.8	0	0	0	0	137	4
4	Does not apply to me	0	0	331	16.4	0	0	0	0	331	9.6
5	Do not know	0	0	265	13.1	0	0	0	0	265	7.7
6	Prefer not to say	0	0	28	1.4	0	0	0	0	28	0.8
7	Missing/No response	1,317	100	273	13.5	21	100	73	100	1,684	49.1
8	Total	1,317	100	2,020	100	21	100	73	100	3,431	100
9	Domestic violence services?										
10	No	722	54.8	1,063	52.6	9	42.9	18	24.7	1,812	52.8
11	Yes	101	7.7	143	7.1	2	9.5	1	1.4	247	7.2
12	Does not apply to me	139	10.6	287	14.2	4	19	4	5.5	434	12.6
13	Do not know	184	14	226	11.2	1	4.8	3	4.1	414	12.1
14	Prefer not to say	26	2	25	1.2	4	19	43	58.9	98	2.9
15	Missing/No response	145	11	276	13.7	1	4.8	4	5.5	426	12.4
16	Total	1,317	100	2,020	100	21	100	73	100	3,431	100
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5 796 participants wrote an open-text response to explain how the COVID-19 pandemic
6 affected their access to the above HIV, and sexual and reproductive health services. The word
7 cloud illustrated in Figure 1, highlights the frequency in which young people reported that
8 “clinics” had been “affected”. Words such as; time, closed, queue, long, and numbers
9 described the ways in which COVID-19 had overwhelmed the clinics creating long wait
10 times and closures. Thematic analysis revealed details about how services were affected. Due
11 to COVID-19, clinics were often closed or running a limited service because clinical staff had
12 contracted Coronavirus.
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18 *“One of the staff members in the clinic was tested positive for coronavirus.
19 So, the facility was closed for fumigation of the facility.”*
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23 Some respondents described clinics being closed for up to 14 days after positive tests were
24 detected among staff.
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27 *“I haven't gone for them since the pandemic. It affected us because when
28 they have a case they close the clinics for 14 days, that time we could not
29 go to clinic to get condoms and contraception”*
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33 Young people reported that many clinics were only attending to COVID-19 patients and all
34 other services were suspended or restricted to specific days and hours.
35

36
37 *“Clinics were mostly centred around COVID-19 and offered no
38 contraception treatment and were sometimes not accessible.”*
39

40
41 *“It affected my access big time because I couldn't go to hospitals or clinic
42 when I was sick because they were full of people who were infected by the
43 virus”*
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45
46 *“Hospitals have focused more on cases concerning the Coronavirus and
47 neglecting others as if they don't matter”*
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49
50 Overwhelmed clinics with limited services and an influx of COVID-19 patients meant that
51 respondents seeking sexual and reproductive health services were waiting in long lines for
52 hours, and sometimes were told to come back the next day.
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55 *“Clinics are always full, it's not easy getting help because you'll be on the
56 queue for the whole day, then around the time that they close the nurses tell
57 you to come back the next day while you didn't even get help.”*
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“Most of these services I usually get them at the clinic. But now due to this pandemic, clinics were being closed often, and even when they were open there would be a huge number of people visiting, increasing the rate of being infected”

“I had to book an appointment to go to the clinic whereas I needed help right away. Sometimes they'd tell us to come back tomorrow although we had an appointment.”

Respondents also explained that reporting cases of gender-based violence was difficult with police services reportedly overwhelmed with enforcing COVID-19 rules, and understaffing due to COVID-19 infections among police officers.

“Reporting GBV has been difficult because police were busy arresting people that smoke and drink alcohol who are not violating anyone.”

“Due to increased numbers of cases and the police taking their time to respond to specific cases has made it very hard for us to follow up and report cases. Also, some police stations close due to someone having tested positive in the station.”

Key themes which we identified during the thematic analysis demonstrate that lockdown rules, prohibiting people from leaving their homes unless accessing essential services, created barriers to sexual and reproductive health services. Some respondents reported that they did not seek sexual and reproductive health services because they were following lockdown guidance to stay home and believed chemists and pharmacies would be closed.

“Because of the lockdown most chemists and places to get screening kits were closed. Most hospitals were filled with people with COVID-19 so I couldn't risk going there. And because of this pandemic we were given curfews.”

“It has affected me because my mobility is limited and these services are often found in certain health institutions so I have to move from home to get them and during this COVID-19 we are encouraged not to go out unless it's necessary.”

Transport was also a large issue for young people as local taxi services, a primary mode of transport, were restricted in the lockdown. This made getting to the clinics to access essential services, like HIV medication, difficult.

“It had a very big impact in such a way that it made things very difficult for me because I couldn't come into contact to people I depend to get money for transport to travel from home to where my clinic is located. So I even

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3 *defaulted for about a month before I get my medication but at least now I'm*
4 *getting my meds and taking them properly”*
5

6 *“It has affected me drastically because these services are centralized in a*
7 *town that is located far away from my area so I couldn't access them freely*
8 *due to COVID-19 regulations”*
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10
11 *“I was affected because there was a limit in everything so I had to make*
12 *sure I wake up early & the taxis were also a problem because of the*
13 *lockdown conditions.”*
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16 Respondents also explained that the lockdowns had affected their income sources, either
17 through job loss or becoming isolated from family members who usually provided them with
18 financial support. Financial losses meant respondents could not afford transport to clinics.
19 Respondents also described the financial stresses of having to pay private clinics and
20 pharmacies for sexual and reproductive health services like condoms, contraception and HIV
21 tests that are normally free at public clinics.
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26 *“I had to go buy lovers plus+ condoms in the shops. It was hard because I*
27 *did not want to be in the shops in COVID times...and I had to steal some*
28 *money from my mom's wallet 2 get cash 4 the condom... I did not want*
29 *corona and a baby. tough times but yah, neh...I made it happen.”*
30

31 *“When we needed some health services or medication we'd be told that the*
32 *pharmacy is closed and we had to buy the medicine from private*
33 *pharmacies, in some cases I didn't have money.”*
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37 The word cloud captures that young people were also “afraid and scared” of becoming
38 “infected” which motivated them to follow lockdown regulations and deterred them from
39 traveling or visiting clinics where they believed they might contract the virus.
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42 *“I was scared of being in a place where there is a huge number of people*
43 *because of fear that I could get infected.”*
44

45 *“I am now afraid to go to the clinic because I know there can be infected*
46 *people and I might get infected.”*
47

48 *“I usually go get self-screening kits but during this pandemic I couldn't*
49 *because I'm kind of scared of Coronavirus.”*
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52 53 54 **Discussion:**

55 Through their experiences and perspectives young people offered explanations for why the
56 COVID-19 and lockdown measures made it more difficult than usual for some young people
57 in the Eastern Cape, to access sexual and reproductive health services. They detailed accounts
58 of clinic disruptions due to the influx of patients, restricted services, and understaffing
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3 because of COVID-19 infections which resulted in long lines, and young people being turned
4 away from clinics. They also explained the difficulties in getting to the clinics due to limited
5 transport options that had been reduced during lockdowns. COVID-19 impacted respondents
6 care seeking behaviour as they feared contracting the virus and stayed at home due to the
7 lockdown measure regulations. Loss of income due to the pandemic and being unable to
8 receive free clinic services quickly made SHR services inaccessible to some young people.
9 There were few reliable or affordable back up option to clinic-based services meaning when
10 clinics were inaccessible young people often were unable to get the services they needed
11 from other places.
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14 Similar worrying trends about COVID-19's negative impact on SRH, including young
15 people's and adolescents' health have been reported in the literature. A study of PrEP in
16 South Africa reported that South African adolescent girls and young women substantially
17 decreased their visits for PrEP during the COVID-19 epidemic, while rates of new HIV
18 infection, STIs, and pregnancy increased(30). In the Gauteng region of South Africa there
19 was a decline in family planning and termination of pregnancy services as well as a shift
20 away from long-acting reversible contraception (31). Another study from the Eastern Cape
21 reported a reduction in the availability of STI services resulting from the COVID-19
22 epidemic potentially increasing the burden of untreated STIs in the community (32). Gender
23 based violence prevention and response services in South Africa were impacted by the
24 COVID-19 pandemic, due to government restrictions and the failure of government to
25 identify early on if GBV services were essential (33, 34).Facilities in countries across Africa
26 with similar lockdowns to South Africa saw a drop in antenatal attendances in the first
27 months of the pandemic (35). Data from a district health information system for KwaZulu-
28 Natal provincial health services found an increase in neonatal mortality was linked to the
29 disruption of health services and diversion of resources to COVID-19 (5). Additionally,
30 modelling in 2020 suggested that disruption due to COVID-19 of ART medication had a real
31 risk of increasing mortality among at risk populations in sub-Saharan Africa(36) .
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37 Those that responded to the question about how COVID-19 had affected health services
38 primarily discussed how local government clinic services had been disrupted. In addition to
39 the barriers created by COVID-19, literature that predates the COVID-19 pandemic reveals
40 that young people in South Africa reported many barriers when accessing clinic-based
41 services. Some of the reported barriers to services are long distances and travel times to
42 clinics, limited and unaffordable transport options, and inconvenient clinic hours(37). Young
43 people also reported that they avoid services because of stigma, and fear of judgement from
44 staff (20-22, 38). Reports such as these inspired the South African Department of Health to
45 implement youth friendly services with a target to have 70% of health care facilities offer
46 youth friendly services by 2012. Unfortunately, the reported provision of these services is far
47 below the target, especially in rural areas(24-26). A 2018 study by Smith et al concluded that
48 young people in South Africa are put off by visits to local government clinics "which are
49 stigmatising time consuming and unhelpful(39)." The long weight times and queues, as well
50 as diversion of resources during COVID-19 likely made these experiences worse.
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54 However, despite the barriers and short falls of the local government clinic, our findings
55 show that very few participants sought health services from other outlets. Cost and travel
56 expenses make it difficult for young people to access sexual and reproductive health services
57 through models of care structures such as pharmacies and private doctors(23). No other
58 models of care were mentioned in our findings. This study supports the need to "de-
59 medicalise" some HIV and sexual and reproductive health services to make services more
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3 resilient and accessible to young people. This includes the scale up other options for young
4 people to access sexual and reproductive health services within the community or online.
5 Providing various service models allows young people to choose the model of care that best
6 fits their needs. This can also reduce the burden on clinics allowing them to provide quicker
7 and better services. Other sexual and reproductive health models of care that have proven to
8 be feasible and acceptable are community health worker programmes, school-based services,
9 peer navigators and mobile health clinics however there has not been enough investment
10 models of care (40-44).
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13 Telemedicine services similar to the initiatives that sprang up across the world during the
14 pandemic to provide young people with remote and safe sexual and reproductive health
15 services should be made available to digitally connected young people in South Africa(45,
16 46), especially since South Africa has the highest number of mobile users in Africa (47).
17 Additionally, existing online sexual and reproductive health social networks and forums can
18 be harnessed to reach more young South Africans and link them to services(48). A narrative
19 review found that telemedicine and mhealth interventions in South Africa that started in
20 response to the COVID-19 pandemic showed that telemedicine and mhealth, can be an
21 innovative approach to providing young adults with access to sexual and reproductive health
22 treatment and information(47). However issues with implementation and lack of funding
23 show that there needs to be more investments in these areas for them to become reliable
24 models of sexual and reproductive health care for young people in South Africa.
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27 To reduce the risk of COVID-19 transmission this study used only remote internet study
28 methods. Since this questionnaire required a digital device and internet connectivity to
29 access, it's likely that the sample is skewed towards young people who have better access to
30 digital media. An effort was made to minimise the cost of participating in the questionnaire
31 by making the internet questionnaire free to access and providing airtime vouchers to those
32 that participated. However, it's likely that those who have completed the questionnaire had
33 greater access to digital devices, reliable internet access and greater literacy. By result some
34 of them most vulnerable, digitally unconnected young people might have been missed in this
35 questionnaire.
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41 **Conclusion:**

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43 Young people in the Eastern Cape of South Africa reported difficulties or fears accessing
44 local clinics during the COVID-19 lockdown. Clinics became overwhelmed or inaccessible,
45 limiting young people's access to services for HIV prevention, contraception, antenatal care
46 and gender-based violence. Young people appeared to have few alternative, affordable
47 models of care for receiving HIV and sexual and reproductive health services. In high risk
48 contexts, prevention services and tools must be considered "essential" and made more
49 accessible to young people, outside of clinics and within the communities and online in
50 spaces that young people can access without fear or cost.
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14 conducted the statistical analysis of the close survey responses, while VB conducted the thematic and
15 content analysis of the open survey responses with guidance from IB, SC and SS. VB wrote the
16 manuscript with input from all authors.
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