Effect of Covid-19 Pandemic on Availability and Delivery of Sexually Transmitted Infections Health Services and Products to Individuals 15 - 49 Years in Lusaka: A Case Study of Chelstone

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ABSTRACT

In Zambia, approximately 5% women and 8% men aged 15-49 reported having a Sexually Transmitted Infection (STI) 12 months prior to the Zambia Demographic Health Survey of 2018. Notably 62% women and 73% men who had an STI sought treatment at the clinic, signifying importance attached to health services by STIs treatment seekers. Regrettably during the COVID-19 pandemic entry points to STIs health services were closed. An explanatory sequential mixed-methods approach was used to investigate access, availability, and delivery of STIs health services. In-depth interviews with ten clinicians selected using criterion purposive sampling were held. The availability and delivery of STIs health services encountered challenges including truncated service points, hours, and interactions, affecting diagnoses of STIs. Stay-at-home orders, fear, lockdowns, and logistical challenges impeded access to STI health services. Flexible service delivery model uses to control pandemic-induced barriers in individual’s access to STIs health services must guide future pandemic responses.

I. Introduction

Sexually transmitted infections (STIs) have been around for a long time that several researchers refer to these infections as old acquaintances, despite public awareness, prevention strategies and medical advances. STIs are still a public health problem (Carmona-Gutierrez et al., 2016). The World Health Organisation (2020) states that more than one million sexually transmitted infections are acquired every day worldwide. Annually an estimated 376 million new infections of one of the four main STIs – chlamydia, gonorrhea, syphilis and trichomoniasis occur (WHO, 2020). Sexually transmitted infections have consequences ranging from causing pelvic inflammatory disease, infertility, cervical cancer, and adverse birth outcomes.

The African Region is predominantly affected with high new STIs cases estimated at 63 million in 2012 (WHO, 2017). Considering that STIs have profound impact on the health and lives of populations, the Sustainable Development Goals (SDGs) identifies in the 2030 Agenda for Sustainable Development (WHO, 2016) a strategy that entails reducing cases of STIs as one of the key health targets. This strategy has been faced with several challenges due to the Corona Virus Disease 2019 (COVID-19) pandemic in 2020 and 2021 that diverged health systems attention from other diseases (WHO, 2020). This might have led to a surge in STIs cases with the potential to affect attainment of other SDGs such as gender equality and quality education that are might be indirectly affected. Well-known is the fact that sexually transmitted infections at present draw a substantial amount on the budgets of national health systems in middle- and low- income countries (WHO, 2016).
In Zambia 5% of women and 8% of men aged 15-49 reported having had an STI or symptoms of an STI in the 12 months prior to the Zambia Demographic Heath Survey of 2018. It is striking that 62% of women and 73% of men who had an STI or symptoms of an STI sought treatment at the clinic (Zambia Statistics Agency, 2019). This suggests that access to health services in the treatment of STIs is essential for Zambians. All health facilities utilize syndromic management of STIs which involves the management of infections at symptomatic and signs level such as urethral discharge syndrome, vaginal discharge syndrome, anorectal infection, genital ulcer disease syndrome, and lower abdominal pain syndrome.

The strained health system in Zambia was further stressed when the country recorded the first COVID-19 case in March 2020 from international travelers 14 days after their arrival (Chipimo, 2020). By the end of April, the number of suspected COVID-19 and admitted cases had increased to overwhelming levels exerting pressure on the health system that was troubled with other conditions like STIs, HIV, and Malaria (Chipimo, 2020). Despite not having lockdowns like neighboring countries, the utilisation of health facilities for routine services declined due to fear of contracting COVID-19 in facilities (OCHA, 2020). Blanchet et al., (2020) states that to slow the spread of COVID-19 the Ministry of Health through Statutory Instrument No. 22 of 2020 placed limits on public gatherings and changed working hours allowing employees to work from home promoting social distancing.

The COVID-19 pandemic disrupted healthcare services including STIs access globally evidenced by different studies. In the United Kingdom (UK) the pandemic led to the closure of specialist clinics and limited access to STIs services (Duncan, 2023). This was further noticed in the United States of America (USA) with disruptions to access STIs health services noticed at state and national level (Kimberly et al., 2023). The impact of COVID-19 was not limited to specific regions, as studies from Botswana also indicated reduced access to contraception, maternity care, and HIV treatment (Ryan et al., 2022).

Health care services scaled down with several services at health facilities completely discontinued to pave way for the setup of COVID-19 screening and admission centers. Services like Antiretroviral Therapy (ART) were provided to patients in the form of six multi-months dispensation (6MMD) medication in anticipation of the increase in COVID-19 cases coupled with the need to avoid patient exposure to COVID-19 (Pry et al., 2022). However, other health services had no alternative mechanisms to allow patients the continuum of care at the health facilities.

Zambia has a high percentage of sexually active young adults who engage in risky sexual behaviors putting them at risk of STIs and HIV (Yang et al., 2019). Yang et al (2019) postulate that 72.2% of participants in their study reported having risky sexual experiences. The STIs testing coverage for Zambia is estimated at 43.4% (MoH 2022), coupled with the outbreak of the COVID-19 pandemic, the coverage might have reduced further. The COVID-19 pandemic introduced different dynamics regarding access to health services, such as the closure of adolescents and young adults’ hubs. The closures led to a reduction by 33% in AYP accessing SRH services and products including STIs screening at the hubs (Phiri, et al, 2022).

The limited or non-availability of STIs services and products to young adults who are already underserved might have led to increased STIs and HIV incidence reversing the gains that have been achieved towards the 2030 95/95/95 targets (Phiri, et al., 2022; Ng’andu, et al., 2022). The report by the Zambia National Sexual Reproductive Health Technical Working Group (2022) stated that a notable increase in new HIV infections among adolescents in 2020 - 2021 was worrisome. This study intended to establish the effect that the COVID-19 pandemic had on availability and delivery of STIs health services and products to young adults.

The insights gained informed researchers on the effects that the COVID-19 pandemic might have had on access to STIs health services and products, and further inform future epidemic preparedness. The study informs policy makers on health emergency planning.
approaches during pandemics in resource-limited settings like Zambia. This area of research has been of interest by researchers in Italy, Cuba, Australia, India, United States, Taiwan, and Sub-Saharan Africa.

II. Methods

The full study used mixed method explanatory sequential design. The quantitative arm of the study used a retrospective record review (RRR) of Out-Patient Register records from 2019 and 2021. The qualitative data collection was done through in-depth interviews with healthcare providers and commenced post analysis of quantitative data.

The study was conducted in Lusaka, Chelstone Sub-District with seven (7) Clinics, one level 1 hospital and one hospice. The health facilities provide a range of services to the community including child health, vaccinations and nutrition, family planning services, maternal and newborn services, communicable diseases and non-communicable diseases prevention and treatment. With a population of 498,016, the study site is home to four tertiary and higher education institutions that enroll large numbers of students prone to sexually transmitted infections.

Target Population
The target population were young adults (15-49yrs) in Chelstone Sub-District who visited the health facilities in OPD from 1st June 2019 to 31st May 2021 and clinicians that worked in OPD before, during and after the COVID-19 pandemic.

Sampling Methods
The study site was purposively picked due to the number of Higher and Tertiary Education Institutions (HTEIs) in the Sub-District. The sampling method that was used to pick the clinic study sites was purposive criterion, with the criteria set as sites that offered COVID-19 screening services. Ten (10) clinicians were recruited into the study based on the inclusion criteria that they worked in OPD during the COVID-19 pandemic in 2021 and before the pandemic in 2019.

Data Analysis
The data extracted from the OPD registers had no personal identifiers and was encrypted accessible only with a password. the OPD registers were analysed using STATA version 16 for descriptive analysis, trend analysis and statistical tests.

The qualitative data from in depth interviews was audio recorded then transcribed in MS word. The audio recording transcripts were entered into Atlas.ti version 23 web based for Thematic Coding Analysis (TCA) approach.

Ethical Consideration
The study got ethical approval from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) and the Zambia National Health Research Authority. To ensure that autonomy and respect for the dignity of persons is observed, written voluntary informed consent was obtained from all participants. To ensure privacy and confidentiality, the in-depth interviews were conducted in a neutral location that was chosen by the participants themselves.

III. Results and Discussion
The study presents results on the quantitative data collected through in-depth interviews. The study during the in-depth interviews strived to balance the gender of the respondents and their practicing experience.
Table 1 shows the distribution of participants in the in-depth interviews, a total of four males (40% - n=4) and six females (60% - n=6) participated in the qualitative arm of the study with an average work experience of above six (6) years. The profile of clinicians interviewed with minimum experience of five years in OPD gave confidence on their opinions of STIs cases seen before and during the COVID-19 pandemic.

**Delivery of STIs Health Services and Products**

The in-depth interviews revealed that the delivery of health services and products was affected by several factors from reduced contact time between patient and clinician, coordination, and general lack of resources.

Healthcare services delivery strain and disruption was the major theme that emerged from the transcripts. This theme encompassed the strain and disruptions faced by healthcare services delivery due to reduced patient contact time, and limited clinician availability. The initial reason generally discussed as a hindrance to delivery of STIs health services and products was reduced contact time between patients and clinicians related mainly to fear of COVID-19 infection. One of the clinicians suggested that:

“...we did not really want to keep patients for a long time in the clinic, so we had shortened the process. We could not do all the procedure, so some of the procedures were cut off so that we could shorten the entire process of interaction between us the providers and the patients to avoid patients staying in the clinic for a long time.” (IDI_CO_Female_U_12_2022).

Another clinician stated that:

“...if a patient came for COVID-19 related illnesses then there was a chance that they could have been missed STIs diagnosis because the clinicians wanted to have this person attended to very fast to save them from progression and to avoid long times of exposure to an infected person...” (IDI_CO_Female_K_1_2023).

The disruption in the delivery of resources for STIs health services might have been one of the hinderances in the delivery of quality STIs health services and products. The clinicians revealed that delivery of resources at the different facilities was disrupted.

“...have not had RPR for Syphilis for an exceptionally long time. Ideally, we could have confirming diagnosis from here...” (IDI_CO_Male_C_1_2023).

While another clinician stated that:

“I know that the supply chain systems were affected across the world, so Zambia was not special or excluded from this interruption...” (IDI_CO_Male_C_12_2022).

The delivery of STIs health services was affected by the supply chain and the health care providers shortened time of interaction with the patients.

**Availability of STIs Health Services and Products**

The availability of STIs health services and products was investigated through interviews with the clinicians. STIs healthcare ecosystem emerged as the main theme. This theme encompassed availability of STIs services, products, and youth friendly spaces alongside the
influence of restricted service points and limitations on peer educator networks. The clinicians revealed that STIs health services and products availability was affected by the non-availability of health care providers, youth friendly spaces, and resources to conduct confirmatory tests.

The non-availability of health care providers was the main reason that hampered STIs services delivery, and this was mentioned by the clinicians stating that:

“The workforce was affected by the COVID-19 because even the clinicians got infected with COVID-19 and they were given 14 days off. So, for instance if two clinicians were given 14 days off during the same period, it brought about pressure on the remaining clinicians” (IDI_CO_Female_K_1_2023).

Another clinician stated that:

“...the people who were frontline workers seeing people who were suffering, and most health workers got infected with Covid-19 also. So, others were on bed rest, off duty, so it affected the number of staff on duty...” (IDI_CO_Female_U_12_2022).

While another clinician said:

“…if two clinical officers got infected and I tell you this happened more than once, then you had a serious shortage of manpower…” (IDI_CO_Male_C_12_2022).

**Discussion**

In this study, availability related to the ease of reaching healthcare providers and services. Delivery encompassed the healthcare providers’ capacity to effectively administer services and products to patients. The study unearthed a range of factors that exerted influence on availability and delivery of STIs health services during the COVID-19 pandemic. To frame the analysis, the research employed Levesque’s Conceptual Framework, specifically emphasizing on the dimensions of availability and accommodation, which collectively offered a lens to examine healthcare access.

The ability for the health system to make available STIs health services and accommodate clients was influenced by several reasons. Studies conducted within the Region, Asia, United States and Europe established that during the COVID-19 pandemic availability of STIs and other family planning health services in the health facilities had been closed or the number of service points reduced due to the shift in attention to COVID-19 (Pinto et al., 2021; Sentis et al., 2021). Tao et al., 2020 in their study established that access and delivery of STI health services were affected by the precaution taken to limit the risk of infecting health care providers and health facility transmission of COVID-19 leading to reduced availability of the services. This was further related to the reduction in individuals accessing STIs health services as noted by (Phiri et al., 2022; Rodriguez and Hernandez, 2020; Ng’andu et al., 2022; Bhargava and Shewade, 2020, Blanchet et al., 2020).

These findings are consistent with the views expressed by the health care providers in this study that associated reduced STIs cases seen at OPD to reduced STIs, family planning and mother & child health services providers or limited number of hours of service to avoid putting health providers at risk of COVID-19 infection. These changes were grouped into the “healthcare service delivery strain and disruption” emerging theme from the interviews with the clinicians. Indeed, health providers shifted their attention to provision of COVID-19 services abandoning patients with other health conditions and making them vulnerable to delayed access to treatment care and support services. Health care providers reduced the time they spent with patients, procedures of direct contact with patients were also avoided for fear of COVID-19 infection.

These changes affected the quality of screening provided by the health care providers which is consistent with the findings from a study in New York that established that reduced availability of health care providers resulted in reduced diagnosis of asymptomatic infections such as chlamydia in health facilities (Braunstein, 2021). These findings speak to Levesque...
(2013) dimension on accommodation that attributes hours of operation and appointments as key influencers to accessing health care services.

This study revealed that there was a reduction in operating hours and patient appointments during the COVID-19 pandemic leading to limited access to STIs health services. This speaks to the third theme that emerged from the interviews with the clinicians “STIs healthcare ecosystem: availability and limitations” that indicated a shift in the availability of healthcare providers and restricted number service outlets. Levesque’s conceptual framework conceptualizes abilities of the health seekers, ability to reach the health facility as key in accessing health services.

During the COVID-19 STIs health seekers were affected by several factors including stay at policy, fear of infection, lockdown, and limited access to health facilities. This assumption is supported by findings by other researchers in Australia, USA and Italy that showed reduced STIs health seeking behaviour by patients during the COVID-19 pandemic (Chow et al., 2020; Braunstein, 2021; Balestri et al., 2020). The inability for patients to reach health services was brought about by policies aimed at reducing the transmission of COVID-19 resulting in unintended consequences of reduced access to STIs health services as established by Mmeje et al., 2020.

IV. Conclusion

The study investigated the effects of the COVID-19 pandemic on the availability, and delivery of STIs health services and products among young adults in Lusaka.

The availability and delivery of STIs health services and products were weakened by a collection of factors. The alignment of these findings with Levesque's "accommodation" dimension highlighted the gravity of operating hours and patient appointments as touchpoints influencing healthcare access.

Restrictions, including stay-at-home mandates, fear of infection, lockdowns, and logistical challenges, restricted individuals' pathways to care. This barrier aligns with Levesque's framework, underpinning the intricate relationship between policy, healthcare infrastructure, and individual behaviors.

The COVID-19 pandemic exposed vulnerabilities in healthcare systems when faced with unexpected challenges. To mitigate disruptions, healthcare facilities should consider adopting flexible service delivery models. These models could include telemedicine options in the Zambian context. The notable misinformation during COVID-19 pandemic is a learning point to improve health communication strategies during pandemics. Policy makers and healthcare institutions should invest in research and preparedness measures to understand the impact of crises on healthcare availability and delivery.

V. References


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