

Ramifications of Covid-19 pandemic mitigation measures on sexual reproductive health services utilization among women and adolescent girls in Kenya

Abstract

Background: Women and the adolescents girls in low-middle income countries continue to be the most vulnerable individuals in times of disasters such as the ongoing COVID-19 pandemic with emphasis on their Sexual Reproductive Health (SRH); yet hardly many studies choose to identify gaps that could improve and bring about well-informed interventions during crisis that do not affect other essential services. Hence, this study aimed to identify the effect of the Covid-19 pandemic mitigation measures on access and utilization of sexual reproductive health services and its related SRH outcomes among women and female adolescents in Kenya.

Methods: A systematic literature review was performed to collate findings on the given study using 8 databases. Total of 1352 presumably pertinent publication were retrieved of which 20 studies met the study's inclusion criteria which included studies with quantitative, qualitative and mixed methods study designs in full text and in English without duplicates. Using a data extraction table, thematic analysis was carried out to yield the study findings.

Results: Two themes were identified including; service access related outcomes with the sub-themes of maternal health services and HIV/AIDS services and pandemic specific stressors with the sub-themes of Covid-19 mitigation stressors and socio-economic stressors. The findings implied that, women of reproductive age SRH access and utilization was affected by the COVID-19 pandemic's mitigation responses with adverse SRH health outcomes.

Conclusion: In conclusion, the Covid-19 pandemic adversely affected sexual reproductive health services among women and female adolescents in Kenya. The given main findings indicated and recognized the existence of improper set policies and mitigative measures during crisis management, affecting essential services such as SRH.

Keywords: sexual and reproductive health, covid-19, women, adolescent, girls, Kenya

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Introduction

Global crisis have shaped global health over the years through its response mitigations, but inequalities between countries especially developing countries in terms of resources for sustainable income, has kept on derailing the set polices and procedures on the emergency response and preparedness for quicker crisis recovery.¹ Sustainable Development Goal 3 (SDG 3) which targets to provide good health and wellbeing for all by 2030² got a major blow with the emergence of the Coronavirus disease-2019 (COVID-19) pandemic, a contagious communicable disease spread by close contact with infected individuals; which has led to over 649 million confirmed cases of which 6,645,812 deaths have been reported cumulatively globally. (World Health Organization, 2022) The given pandemic has devastated the healthcare industry facilitating fatalistic impacts on essential healthcare services, making the world experience healthcare achievements setbacks with 92% of countries globally being affected by the given pandemic.¹ Sexual Reproductive Health (SRH) has had its immense share on the given setback making women and adolescents' reproductive health rights almost difficult to be granted during pandemics. Van Benschoten et al., Good SRH is define as; "state of complete physical, mental and social well-being in all matters concerning reproductive system" (United Nations Population Fund, 2022). Irrespective of the above noted statement, the

COVID-19 pandemic undermined SRH services provisions globally in accordance with the United Nation's 2022 report on sexual and reproductive health.³

According to the World Health Organization (WHO), the much onerous health achievement globally achieved over the past two decades in regards to maternal, child health care advancements and fighting communicable diseases, has had its fair share of setback with the current pandemic.⁴ Health spending continues to increase since the year 1995 with high out of pocket spending being documented in developing countries,⁵ signifying the farfetched key determinant on universal essential healthcare access through its affordability.⁶ Poor access in SRH are being contributed by lack of access, affordability and poor to lack of service delivery. Historical evidence shows women of reproductive age especially in Low-Middle Income Countries (LMICs); Africa for example experiencing vulnerability in regards to access of SRH services among other essential health services, which have contributed to the rise in risks of Sexually Transmitted Diseases (STDs) with increased risks of adverse outcomes on their changes to sexual behaviors and maternal health.⁴ Women of reproductive age leading cause of death and disabilities in developing countries are due to pregnancy and childbirth related complications.⁷ Chmielewska et al.,⁸ implies that, strong evidence exist on the COVID-19 pandemic contributions to maternal morbidity and mortality, still births and

miscarriages which have led to adverse maternal and neonatal health outcomes.

Kenya a LMIC, geographically located in East Africa with an estimated population of 53.7 million people with 50.3% of the population being women,⁹ experiences various women health issues. The country has not been left behind in regards to poor health services including SRH services. According to African Medical Research Foundation (2020), 1 in every 5 Kenyan girls aged (15-19 years) are already mothers or pregnant considering a challenge in terms of early pregnancy complications. Additionally the given report indicates 18% of Kenyan women lack access to contraceptive services. Maternal and adolescent health constitutes Kenya's public health measure of a healthy nation with both maternal, neonatal, child and adolescent being public health priorities both in Kenya and globally whereby in Kenya maternal mortality rate standing at: more than 6000 maternal deaths, and 35,000 stillbirths occurring yearly in Kenya.¹⁰ According to Academic Model Providing Access To Healthcare¹¹ organization, nearly half of the women who are pregnant in Kenya; constitute young women of the age of 19 years. The women lack appropriate access to maternal health services such as deliveries leading to increased risk of both maternal and neonatal deaths in Kenya (AMPATH, 2020). According to a report by Center for Reproductive Rights¹² in Kenya, lack of access to exhaustive information on SRH rights among women and girls for their utilization does exist, thus knowledge gaps on reproductive health utilization existing as another challenge among the given vulnerable.

COVID-19 which was first reported in Kenya on March 12th 2020 by the Kenya Ministry of Health,¹³ affected the country's stability's in all aspects of human's complete physical and mental wellbeing. The government of Kenya used all possible alternatives to help fight the given virus which was spreading like wild fire with the limited resources available. The given pandemic openly made bare the unpreparedness on the unprecedented events that might get to occur. Various lessons were and are being derived from the given pandemic which can help change and seek recommendations to achieve the stipulated SDGs. Gaps do exist in disaster preparedness, gender sensitivity in terms of healthcare services access and provisions with recommendations on sexual reproductive health services which guard both adolescent, maternal and neonatal health. The 2030 SDG Agenda aim is to remove obstacles and provide the needed support with emphasis on areas requiring extra attention in terms of emergencies while taking care of the vulnerable within societies such as the youths and children (more than 80% leaving in poverty) United Nation,¹⁴ another knowledge gap requiring attention. The given paper seeks to investigate and attempts to fill knowledge gaps on the implications of the COVID-19 pandemic mitigation measures, on reproductive health service access and utilization among young and adult women in Kenya. Additionally the paper seeks added recommendations for public health policies on women and adolescent girl's reproductive health service improvement.

The following research questions were formulated for the given paper:

1. What is known from the literature on the implications of COVID-19 mitigation measures on SRH of adult women and female adolescents in Kenya?
2. What recommendations can be given to overcome knowledge gaps to meet SRH services during emergencies among adult women and female adolescents in Kenya?

Methods

The SPIDER (Sample, Phenomena of Interest, Design, Evaluation and Research type) format by the authors Cooke, et al.,¹⁵ is used to formulate the search:

- I. Sample:** population of interest which includes both young and adult women.
- II. Phenomenon of interest:** sexual reproductive health.
- III. Design:** all applicable techniques used to gather information such as the use of interviews, focus group discussions.
- IV. Evaluation:** Covid-19 restriction measures
- V. Research type:** use of case studies, phenomenol.

Study objectives entailed identification of some of the given knowledge gaps in terms of sexual reproductive health, pandemic preparedness (COVID-19 pandemic) and risk management while maintaining a balance of all public's health service delivery among the most vulnerable groups (women and adolescents girls). Identification of the effect of the COVID-19 mitigation measures on the overall attendance of health facilities seeking sexual reproductive health services and its access to assess changes in sexual reproductive health services utilization in Kenya. The given paper's aim was to synthesize studies on Covid-19 pandemic mitigation measures influence on access and utilization of SRH services and its related SRH outcomes among young and adult women in Kenya.

Search approach and selection

Databases used to retrieve the studies included; PUBMED, CINAHL via EBSCO, PROQUEST, SCIENCE DIRECT, PLOS, WEB OF SCIENCE and PMC which were chosen due to access of the given databases which contained studies relevant to the chosen study and for maximization of the required relevant data for its synthesization. Studies from 2020-2022 were retrieved using the following keywords; ("Covid-19" OR "Corona Virus" OR "2019 pandemic" OR "Sars-Cov2") AND ("sexual health" OR "reproductive health" OR "sexual reproductive health") AND ("women" OR "girls") and (adolescents OR "young people") AND ("Kenya" OR "East Africa"). The initial search which included all published and grey literature including, theses, dissertations and conferences proceedings, non-intervention studies and evaluation studies were all included in the retrieved search. Exclusion criteria entailed: studies published before 2020, studies not in the English language, studies not in full text, other systematic reviews, papers not relevant with the topic on COVID 19 pandemic and sexual reproductive health among women and adolescent girls and studies not done in Kenya.

Selection process

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 by the authors McKenzie et al.,¹⁶ for systematic reviews and meta-analysis was used to retrieve the relevant articles through its step by step elimination process of the retrieved studies. 1352 presumably pertinent studies were retrieved using the Microsoft Word for further screening. Using PRISMA 2020 flow diagram; of the given 1352, the given steps were applied from the given diagram to retrieve the 20 eligible studies. The articles were screened based on the title, geographical location, full text, abstracts and the critical appraisal. The critical appraisal tools used were; Critical Appraisal Skills Programme (CASP)¹⁷ for qualitative studies (identifying the literature's validity and the population's applicability) and Quality Assessment Tool for Studies with Diverse Designs (QATSD) which was fit given the studies retrieved were

using different study designs. QATSSD is well vast in regards to the reliability and validity of both qualitative and quantitative study designs which assists in in-depth understanding of literatures strengths

and limitations.¹⁸ For a more focused manageable study; the use of thematic strategy with the various keywords were applied. Total of 20 papers were included in the final review (Figure 1).

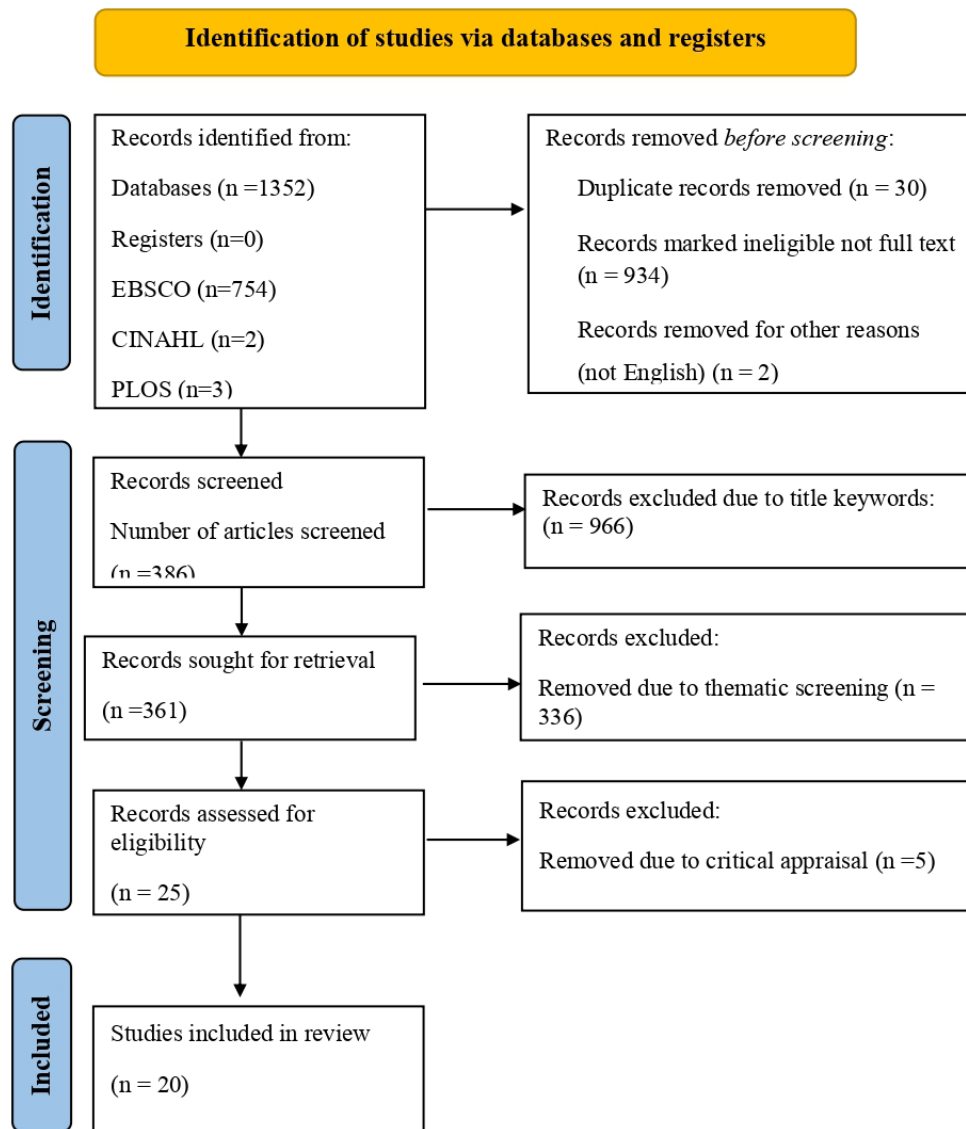


Figure 1 PRISMA 2020 Flow Diagram.

Data extraction and analysis

Data was extracted from the given 20 articles for the final review using a table word format Table 1. The following relevant data was documented on the extraction table for each study which included; year and location of study, study aim, study population, study design, study findings and themes. The data extraction table was later used for the thematic analysis with the data being categorized into themes and sub-themes. Critical appraisal and thematic analysis were performed. From the given table, the articles critical appraisal was done through the assessment of the articles overall study design, population, aim the retrieved results and strengths and limitations. Thematic analysis was done through the identified themes from the given table for further analysis and interpretation.

Results

From the given study, the following findings were recorded. Out of the 20 articles retrieved, study participants were, mostly young women (55%) followed by the adult women. Most study settings being conducted in rural areas followed by informal settlements around the country. The study designs used included mixed methods 6 articles, qualitative studies 6 articles and the majority quantitative studies 8 articles with majority of the studies using a cross-sectional study design. The main means of data collection among the studies was through the use of phone interviews recorded in Table 2 below. A high number of articles were published in the year 2021 (55%) (Table 2)

Table 1 Data Extraction Sheet

Study characteristics	Aim	Study population	Methodology	Main findings
Decker MR, et al., ³⁷	Prevalence and help-seeking related to leading forms of GBV, COVID-related factors on GBV	Adolescent girls and young Women Unmarried(15-24 yrs) N=612	Mixed Methods, Longitudinal Study, Web-based Surveys	-27.6% of AGYW experienced Intimate Partner Violence during the pandemic
Wambua S, et al., ²⁷	Assess the indirect impact of COVID-19 on utilisation of basic essential health services.	All patients	Qualitative Study, Longitudinal Study, Web based.	-COVID-19 had an impact on ANC 4, hypertension and diabetes and HIV testing attendance.
Zuleika G, et al., ³⁴	Measure pandemic-related effects on adolescent pregnancy and school dropout among school-going girls in Kenya.	Secondary Day School Girls (last 2 years) N=910	Quantitative study, Longitudinal study, Questionnaires	-Girls experiencing COVID-19 containment measures had twice the risk of falling pregnant prior to completing secondary school.
Rural Western, Kenya			Quantitative Study, Cross - sectional	-Reductions in the attendance for antenatal care and immunization services.
Shikuku N, et al., ¹⁹ Kenya	2019 pandemic impact on SRH services; maternal, newborn, child and adolescent	Women, children, Newborn and adolescents	Kenya Ministry of Electronic Health Records	-Increments in hospital births, family planning and post-abortion care services.
Otieno N, et al., ²⁴ Siaya County, Kenya	Determined incidence of corona and influenza virus infections among pregnant and postpartum women and their infants in Kenya	Pregnant <31 weeks of gestation seeking prenatal care N=1023	Quantitative Study	-Higher burden of COVID-19 during pregnancy
Decker et al., ³⁸ Kenya, Urban	Examine economic, health, social, and safety experiences during COVID-19, gender disparities	Youth and Young adults (Ages 16-26) N = 1217	Mixed Methods, Phone-based survey supplemented by virtual focus group	-Over half of young women (52.0%) reported a challenge procuring menstrual hygiene products during COVID-19 pandemic.
Rockowitz et al., ³⁶ Kenya	Examined patterns of sexual violence against adults and children in Kenya during 2019 pandemic to inform sexual violence prevention, protection, and response efforts.	Adults =317(18-72 years)92% were women Children=224(8 months-17 yrs) 83% were girls	Quantitative Study Prospective cross-sectional study	-Children were more likely than adults to be attacked during daytime (59%). -Adults were equally likely to be attacked by strangers (41%) and persons known to them (59%).
Barasa et al., ²⁹ Kenya	Analysis of the indirect health effects of the pandemic in Kenya.	Outpatient and inpatients recorded in the Kenya Health Information System	Mixed-methods, Data source=Kenya Health Information System database	-Reduction in inpatient health service utilization -Increase in the number of sexual violence cases per OPD visit that could be attributed to COVID-19 and its mitigation measures.
Karp C, et al., ²⁶ Kenya, Burkina Faso	To quantify contraceptive dynamics, examine socio demographic factors and COVID-19 experiences and assess COVID-19-related reasons for contraceptive non-use	Women Burkina Faso=(n=1186) Kenya (n=2784)	Quantitative study, Longitudinal study, Face to face interview and phone interview	-Most women did not change their contraceptive status during COVID-19 (68.6% in Burkina Faso and 81.6% in Kenya) -Altogether, 14.4% of non-contraceptive users in Kenya and 3.8% in Burkina Faso identified COVID-19-related reasons for non-use
Karp C, et al., ³⁵ Nairobi, Kilifi, Kisumu, Kenya	To understand how COVID-19 affected girls' and young women's relationships in Kenya.	Partnered Adolescent girls and young women 15-24years (N=756)	Mixed methods phone-based interview Cross-sectional	-Changes in relationship quality since COVID-19 began, with 24% reporting worsening.

Table 1 Continued...

Study characteristics	Aim	Study population	Methodology	Main findings
Enane LA, et al., ²⁸ Western Kenya, Rural	Assessment of effects of the pandemic on ALHIV and whether effects were greater for ALHIV with recent histories of being lost to program (LTP).	Adolescents (10–19 yrs; enrolled in HIV care N= 275/308 in the retained group	Quantitative study , Cross-sectional survey Phone Interviews	-Increased difficulties refilling ART. -The COVID-19 pandemic has had devastating socioeconomic effects for Kenyan ALHIV and their households.
Ombere SO, ²¹ Kilifi Rural, Kenya	Describes indigent mother's response to changes (2019 pandemic) primarily by choosing perinatal care with traditional midwives.	Pregnant/conceived during pandemic. 5 matrons of maternal services, traditional birth attendants (4)	Qualitative study Phone interviews Longitudinal study	-Increase in maternal and neonatal deaths during the COVID-19 pandemic. -Underutilization of maternal health services among the child bearers
Hassan R, et al., ³² Peri-urban, Nairobi, Kenya	To uncover how COVID-19 response measures changed normative context of FP and how women's influencers shaped FP decisions during pandemic.	Young women Age 18-25years N=40	Qualitative study Phone interviews	-COVID-19 response measures changed the contexts of normative influence on FP: financial insecurity, increased time at home with husbands or parents, and limited access to seek the support of health workers, friends.
Oluoch-Aridi J, et al., ²² Embakasi, Nairobi Kenya	To investigating effects of COVID-19 pandemic and mitigation strategies on access to health care services in slums	Delivered women in the past 6 weeks 18-49years (N=71)	Qualitative study Phone interview	-Less than half of women reported reduced access to maternal health.
Roy MC, et al., ³³ Kenya, Uganda, Nigeria, South Africa	To understand how 2019 pandemic affected availability of GBV prevention and response services from perspective of the organizations that provide them	People who work in GBV prevention and response N=187	Quantitative study , Cross-sectional Survey Web based online survey	-Overwhelmingly agreed (99.3%) that COVID-19 impacted GBV prevalence and identified adolescents and women with disabilities as particularly vulnerable groups.
Enane LA, et al., ³¹ Western Kenya, Rural	Assessed healthcare worker perspectives on impacts of COVID-19 pandemic on adolescent HIV care delivery and engagement	HCW N=22 HCWs (68.2% female)	Qualitative study Phone Interview	-Fears of exposure to COVID-19, were a detriment to adolescent well-being and engagement in HIV care.
Landrian A, et al., ²⁰ Nairobi and Kiambu Kenya	Assess effects of COVID-19 on antenatal care utilisation, women's reports of COVID-related barriers to ANC and correlates at individual and household levels.	Women N=1729 Delivered in health facilities	Quantitative study , Cross-sectional study Phone interview survey	-COVID-19 had significantly higher odds of delayed ANC initiation (ie, beginning ANC during the second vs first trimester) than women who delivered before (aOR 1.72, 95% CI 1.24 to 2.37).
Wood SN, et al., ²⁵ Kenya, Burkina Faso, DRC, Nigeria	Examine population-level changes in the need for and use of contraception by women during the COVID-19 pandemic.	Women N=7245 women in union relationships	Quantitative study , Longitudinal study Survey Phone interview	-Increase in the need for contraception among nulliparous women across all geographies investigated.
Susan G, et al., ³⁰ Informal settlements Nairobi, Kenya	To highlight specific effects of COVID-19 and related restrictions on healthcare access for the sex workers.	Female sex workers (N=17) Healthcare providers (N=15)	Mixed methods Phone Interview (whatsapp web-based)	-Implications for reduced access to sexual and reproductive health commodities -HIV prevention; and lack of access to key health care services related to the rise in stigma faced by women involved in sex work.

Table 1 Continued...

Study characteristics	Aim	Study population	Methodology	Main findings
Lusambili AM, et al., ²³ Eastleigh, Kenya	To improve understanding of the impact of COVID-19 on women refugees' access to and utilisation of antenatal care, delivery and postnatal care.	HCW and CHW(n=10)women attending antenatal (n=10) postnatal care services (n=5)	Qualitative study Face-face interview	-Preferences for home deliveries by refugee. -Reduced utilisation of services and delayed care.

Table 2 General characteristics of studies

Variables	Frequency	Percentage
Study Participants		
Adolescents	11	55
Adult women	9	45
Study setting		
Rural	8	40
Urban	5	25
Informal settlement	6	30
Refugee Camp	1	5
Study year		
2020	3	15
2021	11	55
2022	6	30
Study design		
Quantitative	8	40
Qualitative	6	30
Mixed-methods	6	30
Data collection tool		
Phone Interview	12	60
Records	4	20
Online Survey	3	15
Focused group	1	5

Themes identified

Themes and sub-themes identified included two main themes from the given study findings: Service access related outcomes and Pandemic specific stressors (Table 3). Service access related outcomes identified two sub-themes on SRH services outcomes; Maternal Health Services and HIV/AIDS services. Pandemic specific stressors sub-themes were categorized into Socio-economic stressors and Covid-19 Mitigation Stressors.

Theme 1 service access related outcomes

From the given study results, sexual reproductive health services received different outcomes during the given COVID-19 pandemic. Two main sub-themes were extracted from the main theme Service

Access Related Outcomes; Maternal health services (8 studies) and HIV/AIDS services (6 studies).

Table 3 Themes and sub-themes

Theme	Sub-Theme
Service access related outcomes	Maternal health services
	HIV/AIDS services
Pandemic specific stressors	Covid 19 mitigation stressors
	Socio-economic stressors

Maternal health services

Movement restrictions deprived women and adolescent girls the access to SRH services. 40% of the articles entailed maternal health services. Shikuku et al.,¹⁹ and Landrian et al.,²⁰ noted an increase in the number of still births implying its contributions due to women lack of access of professional health care service. Devastating enough, the author Ombere,²¹ noted the increased number of both maternal and neonatal deaths due to the given pandemic. Another study finding by Landrian et al.,²⁰ and Shikuku et al.,¹⁹ respectively, indicated nearly half of the women (47%) reporting disruption in access to ANC experiencing delay in its initiation with reason such as hospitals closing or not accepting the expectant mothers as a measure of combating the disease. However, other women seeking antenatal care implied a normal access to health service.²² There were increased home deliveries with reduction in health facility utilization among refugee pregnant women with disruptions among patients seeking pregnancy care services Lusambili et al.,²³ despite high pregnancy burdens related to the COVID-19 disease.²⁴ Women in rural and informal settlements experienced poor access of SRH services such as delivery services hence seeking traditional birth attendants.^{21,23} Despite the increased need for family planning among women and childbearing individuals during the pandemic; Wood et al.,²⁵ study done in Kenya on contraceptive use, identified non users reasons of not using the methods (14.4%) being contributed by the 2019 pandemic.²⁶ Some of the women were deprived some services due to changes in policies of hospitals such as monitoring of under-five growth services with practioners implying with the given service there would be risk of COVID-19 infection hence restricted access to mothers seeking the given service.²²

HIV/AIDS services

Out of the given 20 articles; 6 (30%) of them made contributions on studies entailing HIV/AIDS services during the given 2019 pandemic. The studies revealed that; HIV essential services access were disrupted due to the COVID-19 pandemic (noting a 3% decrease in service access by the authors.²⁷ Authors, Enane et al.,²⁸ notes disruptions on the continued routine of Anti-retroviral therapy medication among a group of adolescents. Additionally, some essential health services

facilities were turned into COVID-19 isolation facilities disrupting services such as HIV care services whereby patients were transferred to nearby facilities.²⁹ HIV prevention through its associated preventive commodities among sex workers were halted jeopardizing HIV/AIDS prevention measures.³⁰ Some given health funding experienced funding cuts in support of the pandemic crisis management such as funding cuts on the adolescent-friendly HIV care services Enane et al.,³¹ or redirection of fundings to concentrate on the pandemic.³⁰ Due to disruption in HIV services access, individuals faced social discrimination and stigmatization within communities.³¹ In another study, adolescent's patients seeking HIV and pregnancy care services reported hardship in accessing the essential service.²³

Theme 2 pandemic-specific stressors

Various service accesses were impacted due to the new policies encompassing COVID-19 prevention among individuals. Nearly three quarters of the articles provided insights on the main theme Pandemic-Specific Stressors with the main theme yielding two main sub-themes; Covid-19 Mitigation Stressors 10 (50%) articles and Socio-economic stressors 5 (25%) articles.

Covid-19 mitigation stressors

Curfews and lockdowns attributed to a straining service access leading to decreased number of service provision such as fourth antenatal visits (reduced by 14%).²⁷ Furthermore, the mandatory protective procedures such as use of masks which was costly among the less fortunate in informal settlements, social distancing mitigation measures affected individuals ability to gain access SRH delivery services; due to HCW denying service delivery unless individuals adhere to the mitigative procedures and fear of COVID-19 infection.^{23,21,32} Gender Based Violence victims service provisions were set aside as less important to concentrate on COVID-19 mitigation measures among mothers, women with disability, children and the adolescents despite the increase in GBV during the given crisis.³³ Shortage of HCW and their reorganizations affected service delivery due to delayed service delivery on other departments with some laboratory facilities focusing on COVID-19 disease neglecting other essential health services patients were seeking leading to delays in service deliveries.²⁹ Study by Barasa et al.,²⁹ and Ombere,²¹ noted the lack of proper personal protective equipment's which affected service delivery due to fear of infection by both HCW and patients. Barasa et al.,²⁹ further notes that, during the pandemic HCW underwent national strikes due to lack of appropriate compensations and personal protective equipment's which was another contributing factor on SRH service delivery.

Additionally, expectant mothers had to seek alternative birth services such as seeking traditional midwives to attend to their needs due to changes imposed in health facilities in line with COVID-19 prevention which the women found as a barrier for their needs Shikuku et al.,¹⁹ and fear of infection which was quite the opposite with the traditional midwives. Some health facilities underwent closures 14% of health facilities in Kenya Shikuku et al.,¹⁹ and Wambua et al.,²⁷ others changed policies on maternal healthcare services that encouraged a halt in some service provisions among mothers seeking antenatal services to either protect the mothers or reduce the overwhelming growing numbers of patients due to the Sars-Cov-2 virus infection.^{22,20} The given study by Oluoch-Aridi et al.,²² further noted there were changes in services like monitoring growth among children which were suspended in consideration of the COVID-19 prevention. The given containment measures imposed

attributed to an increased number of adolescent pregnancies leading to school dropouts.³⁴

Socio-economic stressors

Twelve articles in combination with above sub-themes (Table 3) presented Socio-economic factors related pandemic specific stressors on sexual reproductive health services. Sexual Reproductive Health seeking behaviors was affected by the imposed Covid-19 mitigation measures on social restrictions such as social distancing and stay at home mitigation procedures. For instance parents seeking the support from their health practitioners or friends in regards to family planning practices were disrupted Hassan et al.,³² and Shikuku et al.,¹⁹ with girls first sexual acts being undesired or for economic reasons subjecting them to early pregnancies.³⁴ Romantic relationships among partners turned to intimate partner violence due to long stays at home which came with other challenges as income loss stressors Karp et al.,³⁵ consequently, women faced gender based violence with the government's other major Covid-19 restrictions such as lockdowns, closure of work premises another loss of income factor.^{36,37}

Social exclusions and inequalities were experienced among refugee expectant mothers who failed to seek healthcare services having home deliveries and lack of SRH services among female sex workers.^{23,30} Individuals from rural and informal settlements were adversely affected as less attention was put in the given vulnerable community group of individuals 40% of the articles were studied in rural and informal settlements, Table 2 above. It is worth mentioning the identification of the psychosocial effects due to lockdowns faced by women and adolescents due to social discriminations and stigmatization contributed by their HIV conditions.³¹

Loss of income was linked with COVID-19 pandemic restrictions affecting affordability to reproductive health essential services.^{22,23,30,20} Essential SRH services such as menstruation hygiene products among girls; 52% of the girls could not afford buying the products or afford the services such as antenatal care required Decker et al.,³⁸ and SRH. The study finding indicated loss of income also led to food insecurities affecting a group of adolescents from their continued routine ART medication.²⁸ Economic hardships increased Intimate Partner Violence and early pregnancies among girls Decker et al.,³⁷ and home deliveries among the refugees.²³ Young women seeking basic needs from their dependents reported hardship in getting funds from their dependents who had loss of income due to the pandemic. Despite loss of household income due to the pandemic, this did not contribute significantly to the increased use of contraceptive to avoid unwanted pregnancy Karp et al.,³⁵ which contradicts the findings by the authors Wood et al.,²⁵ which indicated an increased use of contraceptives.

Discussion

Knowledge gaps do exist on the effects of Covid-19 mitigation measures on women and adolescent girl's Sexual Reproductive Health services utilization in Kenya; including pandemic response and risk management that are person-centered aimed at SRH behavior changes. From the given above findings (service access related outcomes and pandemic specific stressors) the given claim is to be given keen considerations. Despite missing gaps in knowledge to understand how the given pandemic has impacted various health services globally; COVID-19 studies are being published numerously touching various topics of importance in pursuit to filling in knowledge gaps with an aim of identifying the most appropriate healthcare services improvements in connection to response and mitigation measures. Albeit the rapid expansion of the literatures on the given pandemic, little is known on

the empirical findings relating to reproductive health among women and adolescent girls with much emphasis in developing countries in particular Africa, Kenya. Establishing knowledge gaps in relation to COVID-19 pandemic and sexual reproductive health in the given continent is indeed paramount.

Quick disaster response and preparedness development is still a great challenge in Africa despite historical experiences on diseases outbreaks such as cholera to highly contagious outbreaks such as Ebola. From the given findings various questions have been answered in attempt to understand the implications of the pandemic's mitigation measures on sexual reproductive health in Kenya. Through the thematic analysis empirical investigations suggests that; the pandemic's impact of the mostly affected on sexual reproductive health services were mostly women from rural, peri-urban and informal settlements in Kenya Table 2. Individuals from the given study settings experience hardships that are attributed by low incomes, insecurities, household burdens, poor infrastructure and due to factors such as rigid behavioral cultural practices and social exclusions. Investigation on the impact of the pandemic due to the Covid-19 restriction measures such as the lockdowns with its related contributions on women and adolescents, based on the study findings, women and adolescents especially young women were prone to sexual violence. The authors Banke-Thomas and Yaya³⁹ implies that the lock downs imposed had major contributions on the gender based violence reported across the country.

The stay at home protocols which deprived the women and adolescents the ability to have a source of income that could help assist in seeking the SRH services or products was another major influence on the increased number of sexual violence, increased adolescent pregnancies and school dropouts, noted from the study's findings. The given findings suggestively conform to the study findings by Ahmed, et al.,⁴⁰ where the pandemic exacerbated intimate partner violence among other African countries such as Sudan and Malawi. Consequently, the authors noted the absence of gender based violence inclusion during the pandemic's response plan a factor that had to be considered later on. Access to maternal health services were greatly affected based on the study results using the thematic analysis Table 3. The given services were reduced in order to make provisions on emphasis for the COVID-19 mitigation measures and lack of proper PPEs for the HCW a factor noted by other studies.⁴⁰

Despite the Kenyan government considering maternal healthcare services such as Family Planning, immunization, ANC, and intrapartum care as essential services for its continuation during the Covid-19 pandemic response,⁴¹ the findings suggestively contradicts the given national guidelines. Studies done on other Low Middle Income Countries signified the reduced access to SRH services.³⁹ The given approach to fight the current pandemic provided the avenue for increased disruption of women health sparking further adverse implications such as the needed preventable pregnancies among couples and the adolescents a decision that was very important at the given moment which also was indirectly connected to gender based violence among partners. The authors Sharma et al.,⁴² suggestively noted the importance of the family planning services being of great importance during the pandemic. Lack of income with most of the Kenyan population living below poverty lines presented an added hindrance to accessing the SRH services in Kenya with the findings indication most individuals coming from rural, peri-urban and informal settlements. The identified pandemic specific stressors implies the attributed gaps towards quality service provisions during crisis thus, requiring a more expounded study research for a vigorous policy formation that are emergency specific aimed at unlimited access to SRH services during emergency crisis response.

COVID-19 Control measures

Kenya used all the accessible and affordable strategies to help in the control of the infectious Sars-Cov-2 virus. Pre-Covid measures entailed the use of port health to monitor and report any suspected cases on all entry points, increased awareness of the infectious disease both to the public and to the Health Care Workers and facilities preparedness in terms of isolation and testing facilities. This entailed reallocation and halt of various services units as reported from the findings such as the replacement of certain health services in some health facilities into specialized isolation units with the reallocation of HCW to attend to the given isolation units. Post-Covid control measures took a different toll for the virus containment. Lockdowns were introduced both nationally and locally; stay at home, social distancing and use of masks and temperature checks strategies were introduced. From the given study, suggestively the progression of noticeable changes to the adverse health outcomes among the Kenyan populations were heightened during the Post-Covid control measures. Sexual reproductive health service access and utilization is imperative, identification of the given study findings do help assist in the quick response for service's essential restoration.

The findings will help to add knowledge that can be further refined for its applicability on decision making process and policy formation. According to the author Kimani et al.,⁴³ emphasis should be put on maternal health in regards to the high burden in Sub-Saharan Africa on both neonatal and maternal mortalities. The author further goes on to imply the mitigation effects of the Covid-19 pandemic on access of maternal health services being affected in Kenya in line with the given study findings. Hence it is imperative for the Kenyan government to consider sexual reproductive health as high priority along emergency responses to ensure little to no disruption of the essential service in emergency response and management.

Provisions of given priorities promotes women and adolescent health contributing to the stipulated Sustainable Development Goal 3. With little being known about the given pandemic, more studies are recommended to provide clear understandings with use of longitudinal studies to ascertain the differences to identify various impacts for well informed decisions allowing for various systematic reviews to understand various studies bringing in rich evidence for studies' implicitness. Revision on countries set guidelines and policies are recommended based on the research findings for an early quick prepared response during crisis. The authors Wangamati and Sundby,⁴⁴ noted the lack of robust crisis management and preparedness due to the unlimited resources, inadequate data and lack of technical support to facilitate the preparedness despite various efforts.

It's highly recommended to seek the adequate information for policy formation and procedures, keeping in mind the most vulnerable among populations, provisions of technical support systems and financial provisions. With the poor healthcare systems to combat the various healthcare service provisions, government through various stakeholders should provide the needed urgent need to strengthen healthcare systems which are capable to handle unforeseen health crisis which are in line with the achievement of SDGs.⁴⁵ Achievement of the SDG 3 target 1 which aims to reduce the global maternal mortality rates to less than 70 per 100000 live births by 2030, Africa at large has the need to continue striving for guidelines that guard and avoid the disruption of maternal health essential health services and other vulnerable groups within the society such as young women of reproductive age.⁴⁶

It's imperative to ensure the sustainability of sexual reproductive health during emergencies. According to the authors Seeman et al.,⁴⁷ a study done in Nigeria, Guinea, Tanzania and Uganda the authors suggestively notes the need to include sexual reproductive health among women, pregnancy and maternity services being prioritized during emergency shocks. From the given findings, it is evident the stipulated SDG goals guide for the achievement of a healthy nations both locally and internationally needs to be followed in order to achieve the given targets by 2030. In comparison to other studies; peer reviewed articles were included in the given study with 2 critical appraisal tools being used to ascertain the studies reliability and validity. The study focused on papers published since Corona virus was declared a pandemic. Most of the data that entailed comparison studies to facilitate clarity in attempt to monitor and understand the study findings.⁴⁸

Limitations

The study comes with various limitations; some of the secondary data had to be limited for the study's inclusion due the poor or missing data collection for health records recordings especially in marginalized rural areas; hence not a clear representation of rural areas data for study findings generalization and impacting biasness. The comparison for the papers used in the review had challenges in regards to knowledge gaps about the Corona Virus as a disease hence another study limitation.

Conclusion

In summary of the given study findings, COVID-19 pandemic devastatingly affected sexual reproductive health service access and utilization among young and adult women in Kenya. The finding suggests gaps exist in crisis management and preparedness with the most vulnerable among societies bearing the most detrimental effects. The Kenyan government is bearing an oversight on the essential need for proper access and utilization of reproductive health services among women and adolescent girls.

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Conflicts of interest

The authors declare no conflict of interest.

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