ORIGINAL RESEARCH ARTICLE

Measures adopted by indigent mothers in Kilifi County to tackle maternal health challenges during the COVID-19 pandemic: A qualitative study

DOI: 10.29063/ajrh2022/v26i12s.7

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Abstract

Many sub-Saharan African countries have experienced various challenges that threaten the quality of health services offered to the population. The COVID-19 pandemic disrupted access to healthcare services in many countries as they grappled with implementing measures to curb its spread. The consequences of COVID-19 have been catastrophic for maternal and newborn health. There is a dearth of information on expectant mothers' negotiation mechanisms to access maternal health services during COVID-19 in Kenya. This rapid qualitative study draws data from purposefully selected 15 mothers who were either pregnant or had newborn babies during the COVID-19 pandemic in Kilifi county in Kenya. Data were analyzed thematically and presented in a textual description. Women used the following alternatives to access maternal health: giving birth at the homes of traditional birth attendants (TBAs), substituting breastfeeding with locally available food supplements, relying on limited resources and neighbours for delivery and local savings and rotating credit associations. This study shows that urgent measures are needed to provide high quality maternal and child health services during and after the COVID-19 pandemic. These include but are not limited to developing special interventions for the pregnant women for any emergency and establishing trust between communities and individuals through the TBAs. *(Afr J Reprod Health 2022; 26[12s]: 57-65).*

Keywords: COVID-19, indigent mothers, Kilifi county, maternal health services, qualitative study

Résumé

De nombreux pays d'Afrique subsaharienne ont connu divers défis qui menacent la qualité des services de santé offerts à la population. La pandémie de COVID-19 a perturbé l'accès aux services de santé dans de nombreux pays alors qu'ils s'efforçaient de mettre en œuvre des mesures pour freiner sa propagation. Les conséquences du COVID-19 ont été catastrophiques pour la santé maternelle et néonatale. Il y a un manque d'informations sur les mécanismes de négociation des femmes enceintes pour accéder aux services de santé maternelle pendant la COVID-19 au Kenya. Cette étude qualitative rapide tire des données de 15 mères délibérément sélectionnées qui étaient enceintes ou qui ont eu des nouveau-nés pendant la pandémie de COVID-19 dans le comté de Kilifi au Kenya. Les données ont été analysées thématiquement et présentées dans une description textuelle. Les femmes ont utilisé les alternatives suivantes pour accéder à la santé maternelle: accoucher au domicile des accoucheuses traditionnelles (AT), remplacer l'allaitement par des compléments alimentaires disponibles localement, compter sur des ressources et des voisins limités pour l'accouchement et sur les associations locales d'épargne et de crédit rotatif. Cette étude montre que des mesures urgentes sont nécessaires pour fournir des services de santé maternelle et infantile de haute qualité pendant et après la pandémie de COVID-19. Celles-ci incluent, mais sans s'y limiter, le développement d'interventions spéciales pour les femmes enceintes pour toute urgence et l'établissement de la confiance entre les communautés et les individus par le biais des AT. *(Afr J Reprod Health 2022; 26[12s]: 57-65).*

Mots-clés: COVID-19, mères indigentes, comté de Kilifi, services de santé maternelle, étude qualitative

Introduction

Many sub-Saharan African countries have suffered various challenges that threaten the quality of health services offered to the population. With the Coronavirus Disease-2019 (COVID-19) outbreak, it is evident that access to quality antenatal care services would be further threatened in the region due to the competition for limited health care resources[1]. The COVID-19 pandemic caused significant disruption of essential health services in sub-Saharan Africa. As COVID-19 continues to

spread in Africa, health resources have been diverted to focus on general population needs rather than the specific needs of vulnerable groups, such as pregnant women and their children[2]. COVID-19 has shocked and altered the existing gender roles which to a larger extent curtailed the beneficial effects of gender roles on population health[3]. Even before the onset of the COVID-19 pandemic, women were already doing most of the world's unpaid care work. The initial research suggests that the crisis of COVID-19 and its consequent shutdown response have resulted in an intense increase in this burden[3]. Therefore, given the high burden of maternal and neonatal mortality in sub-Saharan Africa, there is an urgent need for innovative strategies to prevent the deterioration of maternal and child outcomes in already strained health systems[2,4].

The differences in how women fare during a pandemic compared to men are largely due to long-existing inequalities and social disparities exacerbated by the pandemic rather than biology[5]. Moreover, inequalities created and compounded by outbreaks leave women in more vulnerable positions[6]. Gender equality and the empowerment of women is recognized in the Sustainable Development Goals (SDGs) and by various United Nations (UN) and government commitments. However, mainstream public health and public policy have yet to invest substantially in research and action to tackle gender inequalities in health[7]. The health sector's inability to accelerate progress on a range of health outcomes focuses on the substantial impact of gender inequalities and restrictive gender norms on health risks and behaviours[8]. Public health policies and efforts have not addressed the gendered impacts of disease outbreaks[9].

Pregnancy, childbirth, and postnatal periods (maternal health) are critical experiences for women. Most potential maternal morbidity and mortality can be prevented when skilled birth attendants provide prompt and suitable care for women during pregnancy[10]. However, preventable causes of pregnancy and childbirth mortality is still a challenge in low and lower-middle-income countries. Poor access to quality antenatal care (ANC) contributes significantly to these preventable maternal deaths[11,12]. Despite that scientists continue to investigate the coronavirus and COVID-19, little is yet known about the maternal and foetal birth outcomes of infected women. Previous studies have identified gaps in access to and utilization of healthcare services, with healthcare providers and institutional biases contributing to these negative outcomes during pandemics[13,14]. Furthermore, the pandemic could cause inadequate antenatal and postnatal care, which can seriously impact maternal health and possible mortalities in poor socio-economic settings[15,16].

Early data from the United Nations Population Fund (UNFPA) suggests a drop in facility-based care in many countries and projections of rising maternal mortality due to COVID-19[17]. During pandemics, health systems worldwide are either stressed to their maximum capacity or anticipating becoming overwhelmed[18,19]. In Kenya, as the government intensified its efforts to contain the spread of the virus, particular health workers and facilities were redirected to deal with COVID-19 cases, which means that other health services, including maternal health care, were no longer priorities as they should and must be[20]. A recent study reported that Kenya lacks a robust pandemic emergency preparedness plan, as human and financial resources are inadequate to respond to emergencies[21]. Although existing disaster responses and risk mitigation committees include stakeholders across different sectors, these positions are politically motivated and lack adequate technical support[21,22].

Kenya introduced free maternity services (FMS) in all public hospitals in 2013 to encourage skilled care deliveries and provide financial risk protection and equitable access to MHS for poor and vulnerable populations[23]. Since the introduction of FMS, Kenya has made remarkable progress towards reducing mortality rates and improving coverage of health services[24]. Yet despite such successes, considerable inequities in health outcomes and the uptake of health services remain, disadvantaging the most vulnerable individuals[25]. Kenya recorded an increase in facility-based deliveries from 44% in 2008 to 61% in 2015[24]. This increase in skilled care deliveries has been partly attributed to the free maternity care policy introduced in June 2013[25,26]. Nevertheless, before

the emergence of COVID-19 in Kenya, high-quality and timely maternity healthcare services were unavailable, inaccessible, or unaffordable for millions of women worldwide, especially in low-resource countries[20].

Since March 13 2020, when the first case of COVID-19 was reported in Kenya, the government has implemented interventions and measures to curtail the spread of the virus and mitigate the socio-economic effects of COVID-19. For instance, strategies such as the nationwide dusk-to-dawn curfew have negatively impacted access to essential health services, particularly emergency obstetric and newborn care[20]. Moreover, the prioritization of COVID-19 patients to access healthcare services affected the allocation of healthcare resources. Studies have shown the consequences of COVID-19 on maternal health services in Kenya[21] experiences of slum dwellers[27] and how COVID-19 affected access to maternal healthcare in Kenya[20,28]. Recent study[22] reported that there were decreased antenatal attendance, immunizations, and hospital deliveries, along with an increase in stillbirths during COVID-19 in Kenya.

Moreover, a recent study in Kenya reported that women from identified economic reasons such as unemployment and loss of their sources of income as barriers to healthcare access[29]. Some women from poor socio-economic backgrounds in Kilifi County resorted to giving birth at the homes of birth attendants[20]. Economic difficulties pushed women not to access maternal health services in time. Such women were unemployed, lost their sources of income, and lacked money for transportation to health facilities. They therefore prioritized essential provisions such as purchasing food over going to the health facility[20]. The previous studies in Kenya have not extensively addressed the alternatives poor women used to access maternal health services during COVID-19 in Kenya. Moreover, it remains unclear how the pandemic has influenced maternal healthcare choices, particularly how women have altered their birth plans, a knowledge gap that this follow-up qualitative study primarily addresses.

Methods

This study was conducted in Kilifi County in Coastal Kenya. Kilifi is classified as an arid and semi-arid area. Over 65% of Kilifi residents face seasonal water shortages with droughts and floods compromising the productivity and food security[25]. The county's dependency ratio stands at 101.45 per cent. It has high poverty estimated at 66.7% and widespread food insecurity affecting approximately 67% of the households. Majority of the population is rural-based[25]. The predominant community is the Giriama sub-tribe of the larger MijiKenda community. The primary source of livelihood for the Giriama is subsistence agriculture supplemented by wage labour in the salt mines, small trade, cashew nuts, palm wine business and animal husbandry. Kilifi is among counties ranked among the top 15 contributing to the country's maternal and perinatal death burden[30]. Kenya's maternal mortality rate is still high at 342 per 100,000, while Kilifi County has a mortality rate of 289 per 100,000[25].

This rapid qualitative study utilizes data from 15 mothers purposively selected from 40 mothers who had participated in an ethnographic study between 2016 and 2018[20]. The 15 mothers were either pregnant or gave birth during the COVID-19 pandemic. In-depth interviews were conducted by the researcher with the assistance of a trained research assistant. All interviews were conducted at the homes where mothers were living as they felt comfortable and the COVID-19 safety measures were taken into consideration. Moreover, informal interviews were also conducted with the mothers. Questions were asked to encourage participants respond to the primary objective of this study. Examples of questions included were:.- What does COVID-19 mean to mothers in terms of clinic attendance?; What mechanisms do mothers use to access maternal health services when hospitals are closed due to COVID-19?; What are mothers likely to do differently to ensure their babies are healthy?; What lessons can mothers learn from the COVID-19 pandemic?; Any challenges encountered in accessing maternal health services and how mothers go about them?

Table 1 show the socio-demographic characteristics of the indigent mothers who participated in this study. The study used level of education and source of livelihood to measure indigence.

Data analysis began while the fieldwork was in progress. No software was used for the analysis. Data from in-depth interviews and

Table 1: The Socio-demographic characteristics of women interviewed

Age	Frequency	Level of education	Source of livelihood
18-28	5	Primary	Palm wine tapping and peasant farming
29-39	8	primary	Fish mongering and peasant farming
40-50	2	secondary	Peasant farming and fish mongering

Source (Author fieldwork notes, 2017)

informal interviews were analyzed through a contextualized content analysis by the author[31]. Data was also transcribed using computer-aided transcription software (F5 transcription-free). The findings are presented in textual descriptions and illustrated using verbatim quotations. Data analysis stopped when no new themes were emerging from the analysis. All participants were above eighteen years, provided informed consent, and were reassured about the confidentiality of their entire involvement in the study. No participants declined to participate or withdrew from the study. Ethical approval was obtained from Maseno University Ethical Review Committee- reference number MSU/DRPI/MUERC/00206/015.

Results

Several themes emerged in this rapid-qualitative study to identify the strategies that indigent mothers used to access maternal health services during COVID-19 pandemic in Kilifi county Kenya.

Giving birth at the traditional birth attendants

Traditional birth attendants (TBAs) played a critical role in maternal health during the COVID-19 pandemic. Pregnant women feared going to the hospital because they could contract the coronavirus. This meant that antenatal clinic attendance was very poor and there was no close monitoring of pregnancy progress. The majority of expectant mothers mentioned that even if they had money, they would never go for antenatal and delivery in the hospitals; rather they will go to TBAs, which was safe from COVID-19, and cheaper. Some women also avoided going to the hospital because they knew that they were a group at risk. For instance,

> *I could not go to the hospital because I feared getting COVID-19 anyway. Even if I get the money, I will still go to deliver in the local birth attendants' home, it is cheaper and the risk of contracting COVID-19 are almost none (Pregnant mother, expecting a child).*
>
> *I avoided going to the clinic since corona began. I had visited the hospital once and again. Going to the hospital using a motorbike is still risky because I am among the groups at risk of contracting the virus and I cannot tell the virus status of those who boarded the motorcycle. I will deliver at home (Pregnant mother, expecting her third child).*

Locally available food supplement

Even after giving birth at the homes of TBAs, mothers could still not go to postnatal clinics. Mothers missed all the clinic visits. As an alternative to prevent malnutrition of the baby, mothers relied on locally available food supplements such as porridge and milk from domestic animals. Some mothers had no problem giving their babies packet milk bought from the shop because they perceived such milk as being safe.

> *No need for risking. My child can miss all those clinics until they say coronavirus is managed and is no longer there with us. I will just give my child healthy foods such as porridge and cow milk. (Mother 03, supposed to go for postnatal care).*
>
> *But now there is no enough milk in my breast, I don't see the harm in giving my child milk from the shop or the cow. Steve, this is still milk in fact very safe (Recently, delivered mother).*
>
> *But my child became so weak and I had to give him other foods including boiled water because I had no milk in my breast because we lacked food in the house (informal conversation with a mother).*

Relying on limited resources and neighbours for delivery

With the 'absent and not helping husbands' lock-down during the covid-19 and loss of casual labour,

mothers reported relying on their limited resources to assist their delivery locally or in nearby private health facilities. However, the private facilities were reported unaffordable by most women. Neighbours played a critical role during the COVID-19 pandemic. The respondents noted that some had to borrow money from their neighbours to access antenatal and postnatal services in private health facilities. Such an alternative enabled them to access maternal healthcare. For instance:

I relied on my neighbours to assist me in reaching the nearby clinic, though it was not easy paying for postnatal fees. This is my immediate source of help so I could not wait for my husband who was away to come and take me to hospital (Expectant mother 08, Kilifi county).

Our husband migrated to Mombasa town to look for job. He has not been sending us anything. Lockdown is here and we cannot fail to seek maternal healthcare in either local private hospital or the traditional midwife (Mother whose husband is away and not helping)

Sincerely during covid-19, things were not easy and I had to sell all my chicken and a goat to at least deliver in the private clinic. It was hectic during corona time (In-depth interview with Mother 06).

Local rotating savings and credit associations

To cope with the burden and pressure from multiple roles, respondents noted that they joined local rotating credit associations known as *chamas*. They could save and borrow money for health care and other family use during emergencies without bothering their husbands. Women in such associations, which are mostly kept secret from their husbands who could otherwise force the women to give them all the money, were better positioned to negotiate access to health care since they had an alternative for borrowing money from the associations.

My chama made my work easier. Imagine I borrowed money from chama and travelled to Mombasa to give birth. These chamas are so helpful when an emergency arises and you don't have money, you can borrow and refund later with some bit of interest (Recently delivered woman 13).

I have my chama where I can borrow money. This chama is mostly my secret and many other women I know of. It is a good thing that has helped me during this corona period (Woman 11, who had delivered her 9th child).

Discussion

This study identified the varying dimensions of the strategies used by indigent mothers to access maternal health services during COVID-19 pandemic in Kilifi County. There was a decline in the utilization of maternal health services during COVID-19. Such decline are attributable to the restricted access to health facilities arising from government COVID-19 containment measures[20,21,32]. Evidence from similar health emergencies, such as the Ebola outbreak in West Africa, also reported that such mitigating measures as well as the disease itself had a detrimental impact on maternal health and led to a 75% increase in maternal mortality in West Africa[33].

Although access to safe delivery care has been acknowledged as an essential health service, many poor pregnant women in Kenya suddenly found themselves with fewer options for care as health facilities were converted into isolation wards. Recent studies in Kenya[20,21,34] also noted that such changes led to confusion, as pregnant women and mothers did not know where to go to seek maternal health services. The findings from this study show that during COVID-19 pregnant women from poor socio-economic backgrounds gave birth at home with the help of a traditional birth attendant, also known as traditional midwives. Although the government of Kenya actively discourages TBA-supported births, the TBAs have been reported to avert maternal deaths during pandemics such as the COVID-19. Mothers used accessibility of TBAs as an alternative way to get maternal health services in the villages because they could easily pay and the TBAs are trusted by the community[20,34,35]. It is thus evident that health care obstacles peculiar to women are not always physical barriers in patriarchal societies, but also cultural barriers (such as, power distances, masculinity-femininity orientation) connected with gender usually discourage women from seeking access to healthcare. These cultural barriers limit access to healthcare during the pandemic,

especially in populations where traditional practices are deeply rooted in everyday life of the people. Breaking these socio-cultural barriers requires novel guidance through strategies like persuasive communication and adequate information to minimize or eliminate gendered cultural norms associated with health-seeking behaviours and mainstream health services to manage the spread of the virus[16].

This study also shows that after giving birth at home through the TBAs, the poor mothers relied on locally available food supplements to meet the nutritional needs of the babies. Due to poverty and other socio-economic conditions, mothers could not exclusively breastfeed their babies. Moreover, just like in other parts of the world, many health facilities were temporarily shut down during the COVID-19 pandemic in Kenya. This means that maternal and child under-nutrition rates may have increased due to COVID-19. However, breastfeeding has short- and long-term benefits for the mother and her infant. To benefit from the protective factors in breast milk, every effort should be made to support and enable early and immediate initiation of breastfeeding[36]. Respondents from this study reported utilizing locally available nutritious foods such as porridge to supplement breastfeeding because breast milk was not adequate for the baby due to lack of food for the mother. This means that exclusive breastfeeding was not possible during COVID-19 in Kenya. According to[37] the COVID-19 pandemic has posed several challenges to the provision of newborn nutrition and care interventions, including maternal support, breastfeeding and family participatory care. Breastfeeding protects neonates, infants and children against morbidity and death[36]. The advantages of exclusive breastfeeding have been well studied and they are universally recognized[38,39]. Exclusively breastfeeding improves the survival, health, and development of all children.

During pandemics, gender power relations at the household level pile more pressure on the poor women who also struggle with multiple roles, which further compounds women's ability to access maternal healthcare. Gender dynamics such as division of labour and multiple roles have been identified to affect maternal health and healthcare of women during and after pregnancy[40]. This study shows that during the pandemic, pregnant women were left with the burden of relying on their limited resources and sometimes help from the neighbours to access maternal health services either in the local health facilities or with TBAs. This means that maternal health services were treated as 'women-only' affair, which escalated gender inequality.. The study findings concur with previous studies which reported experiences of gender inequity during previous pandemics (e.g., SARS, Ebola) and the COVID-19 which escalated the increases in existing gender health inequalities in reproductive health care across many societies, with many compromised healthcare systems[16,41,42].

This study revealed that the poor women relied on local rotating savings and credit associations where they had small savings to get money for maternal healthcare. According to [43] such micro-credit programs enhances women's agency, access and control over economic resources and participation in household, thus improving their decision-making processes. Therefore, access to credit is a significant determinant of women's bargaining power, and their economic contributions to the household. Some scholars[44] also noted that such local rotating-credit associations are forms of social capital where the community members build trust and reciprocal relations thus contributing to the sustainability of local communities in rural areas and the poor women's socio-economic condition is shaped by the interplay of economic status, education, social status and awareness[45]. Thus, as an alternative, local rotating savings and credit associations played a critical role in ensuring that poor mothers get access to maternal health care during the COVID-19 pandemic.

Strengths and limitations

The main strength of this study is that the findings are extremely relevant. They offer important lessons for practitioners and policymakers in maternal health on what is likely to happen to indigent mothers during the healthcare crisis. Therefore, the findings from this study are significant for strengthening maternal health services provision in hard-to-reach areas to avoid an increase in maternal mortality during epidemics or pandemics in Kenya. However, the findings from this study cannot be considered representative of

the views of all indigent mothers in Kenya. Still, they might be applied among other Mijikenda communities with a similar set-up in Kilifi County.

Policy recommendations

The COVID-19 pandemic caused the interruption of health services globally, including maternal health services and in Kenya, the pandemic did not spare pregnant women. Based on the study findings, the policymakers must always act urgently to ensure that mothers and newborns can get the routine and emergency care they need without catastrophic health expenditures. One of such ways is by re-integrating traditional midwives into the maternal healthcare emergency response strategies during healthcare crises. Traditional midwives are trusted by their communities and can be of help during healthcare crises. Such re-integration will therefore, open a debate on the cooperation between the biomedical and indigenous systems in Kenya to avert maternal deaths during the health crisis in Kenya.

Conclusion

This article highlights how poor mothers negotiate for access to maternal health services and the well-being of their babies during the COVID-19 pandemic in Kenya. From this study, gender inequality is evident among mothers from poor socio-economic backgrounds as maternal healthcare is labelled 'women's-only-affairs'. Therefore, to access maternal health services, mothers gave birth at the traditional birth attendants, used locally available food supplements to feed babies, relying on limited resources and goodwill from the neighbours to give birth in the nearby private health facilities. They also relied on local savings and credit associations to cater to maternal health services. This study shows that urgent measures are needed to provide high-quality maternal health services during and after the COVID-19 pandemic. These include but are not limited to developing special interventions-for the pregnant women for any kind of emergency; establishing trust between communities and individuals through the TBAs. Moreover, TBAs should not only be utilized in times of pandemics but should form an integral part of Kenya's maternal healthcare system. However, this study is the tip-of iceberg. Thus, there is a need for longitudinal research to investigate the impacts of gender dynamics on access and utilization of maternal healthcare services during the COVID-19 pandemic in Kenya.

Acknowledgements

The authors would like to thank the anonymous reviewers of the article for their insightful suggestions. We are also grateful to all women who participated in this study some under difficult circumstances due to COVID-19 pandemic. This article was written as part of a Wellcome Trust funded project '*Reimagining Reproduction: Making babies, making kin and citizens in Africa*' (project number 222874/Z/21/Z), and we hereby acknowledge its support. Part of this work was supported by the Netherlands Organization for Scientific Research-WOTRO Science for Global Development grant number W 08.390.006. A research project on social protection and part of knowledge agenda of INCLUDE, the knowledge platform on Inclusive Development Policies. The Josephine de Karman scholarships (2018), also funded fieldwork which this article is based administered by the University of Bern. French Institute for Research in Africa (IFRA) (2017 and 2018) in Kenya also financed fieldwork for the study.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Wellcome Trust project number 222874/Z/21/Z. The Netherlands Organization for Scientific Research-WOTRO Science for Global Development grant number W 08.390.006.

Contribution of authors

The main researcher (first author) was a PhD student in this multidisciplinary project. He is currently a postdoctoral fellow at the Centre for the Advancement of Scholarship, University of Pretoria. He conducted the rapid ethnographic study and drafted this manuscript. The co-authors

included national and international social anthropologists and an international public health specialist. The co-authors participated actively in data analysis. All authors mentioned in this article approved the manuscript.

References

1. Ogunkola IO, Adebisi YA, Imo UF, Odey GO, Esu E and Lucero-Prisno D El. Impact of COVID-19 pandemic on antenatal healthcare services in Sub-Saharan Africa. *Public Heal. Pract 2021; (2):* 100076.
2. Kimani RW, Maina R, Shumba C and Shaibu S. Maternal and newborn care during the COVID-19 pandemic in Kenya: Re-contextualising the community midwifery model. *Human Resource Health 2020;* (18): 3–8.
3. Power K. The COVID-19 pandemic has increased the care burden of women and families. *Sustain. Sci. Pract. Policy.* 2020; (6): 67–73.
4. The United Nations Population Fund (UNFPA). Maternal , Newborn and Adolescent Health During Pandemics. 2020. Available from: https://wcaro.unfpa.org/sites/default/files/pub-pdf/en-rmnah-web_2.pdf
5. Simba H and Ngcobo S. Are Pandemics Gender Neutral ? Women ' s Health and COVID- Front. Glob. Womens Health. 2020; (19)1: 1–6.
6. Wenham C, Smith J and Morgan R. COVID-19: the gendered impacts of the outbreak. *Lancet.* 2020; (395): 846–848.
7. George AS, Amin A, GarcÍa-Moreno C and Sen G. Gender equality and health: laying the foundations for change. *Lancet.* 2019; (393): 2369–2371.
8. Heise L, Greene ME, Opper NS, Maria H, Caroline N, Marcos Z, Debrework D, Gary LG, Margaret EH, Sarah H, Sarah H, Jody K, Jeni L, Ruth R, Anita R and Geeta RG. Gender inequality and restrictive gender norms: framing the challenges to health. *Lancet.* 2019; (393): 2440–2454.
9. Smith J. Overcoming the 'tyranny of the urgent': integrating gender into disease outbreak preparedness and response. *Gend. Dev.* 2019; (27): 355–369.
10. World Health Organization (WHO). Maternal health. 2018. Available from: https://www.who.int/westernpacific/health-topics/maternal-health 2018.
11. Lawn, JE, Lee AC, Kinney M, Sibley L, Carlo WA, Paul VK, Pattinson R and Darmstadt GL. Two million intrapartum-related stillbirths and neonatal deaths: Where, why, and what can be done? *Int. J. Gynecol. Obstet.* 2009; (107): S5–S19.
12. Alkema L, Chou D, Hogan D, Zhang S, Moller AB, Alison G, Fat DM, Boerma T, Temmerman M, Mathers C, Say L. Global , regional , and national levels and trends in maternal mortality between 1990 and 2015 , with scenario-based projections to 2030 : a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. *Lancet.* 2015; (6736): 1–13.
13. Office for National Statistics ONS and Committee on Health Care for Underserved Women. American College of Obstetricians and Gynecologists [ACOG]. Committee OpinionNo. 649: racial and ethnic disparities in obstetrics and gynecology. *Obstet. Gynecol.* 2015; (126): 130–134.
14. Moaddab A, Dildy GA, Brown HL, Bateni ZH, Belfort MA, Sangi-Haghpeykar HC and Steven L. Health care disparity and pregnancy-related mortality in the United States, 2005-2014. *Obstet. Gynecol.* 2018; (131): 707–712.
15. Caul S. Deaths Involving COVID-19 by Local Area and Socioeconomic Deprivation: Deaths Occurring Between 1 March and 30 June 2020. 2020. Available from: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsinvolvingcovid19bylocalareasanddeprivation/deathsoccurringbetween1marchand30june2020.
16. Ahinkorah BO, Elvis J, Hagan J, Ameyaw EK, Seidu A, Schack T, Elvis J and Jr H. COVID-19 Pandemic Worsening Gender Inequalities for Women and Girls in Sub-Saharan Africa. *Front. Glob. Women's Heal.* 2021; (2): 1–6.
17. UNFPA. COVID-19 Technical Brief for Maternity Services - Update 1: May 2020. 1–55. 2020. Available from: https://www.unfpa.org/resources/covid-19-technical-brief-maternity-services.
18. McQuilkin PA, Udhayashankar K, Niescierenko M and Maranda L. Health-care access during the Ebola virus epidemic in Liberia. *Am. J. Trop. Med. Hyg.* 2017; (97): 931–936.
19. Iyengar P, Kerber K, Howe CJ and Dahn B. Services for mothers and newborns during the Ebola outbreak in Liberia: The need for improvement in emergencies. *PLoS Curr.* 2015; (7).
20. Ombere SO. Access to Maternal Health Services During the COVID-19 Pandemic: Experiences of Indigent Mothers and Health Care Providers in Kilifi County, Kenya. *Front. Sociol.* 2021; (6): 1–8.
21. Wangamati CK and Sundby J. The ramifications of COVID-19 on maternal health in Kenya The ramifications of COVID-19 on maternal health in Kenya. *Sex. Reprod. Heal. Matters.* 2020. https://doi.org/10.1080/26410397.2020.1804716.
22. Ombere SO. *Negotiating Access to Maternal Health Services During COVID-19 Pandemic in Kilifi County, Kenya: Rapid Qualitative Study. In: Roy, S., Nandy, D. (eds) Understanding Post-COVID-19 Social and Cultural Realities: Global Context.* (Springer Nature). 2022; https://doi.org/10.1007/978-981-19-0809-5_7.
23. Gitobu CM, Gichangi PB and Mwanda WO. The effect of Kenya's free maternal healthcare policy on the utilization of health facility delivery services and maternal and neonatal mortality in public health facilities. *BMC Pregnancy Childbirth.* 2018; https://doi.org/10.1186/s12884-018-1708-2.
24. Kenya National Bureau of Statistics (KNBS), Ministry of Health/Kenya, National AIDS Control Council/Kenya, Kenya Medical Research Institute & National Council for Population and

Development/Kenya. *Kenya Demographic and Health Survey 2014*. 2015.

25. Kenya National Bureau of Statistics & ICF International. *Kenya 2014 Demographic and Health Survey Key Findings*. vol. 6 KNBS and ICF International. 2015.
26. Pyone T, Smith H and Van Den Broek N. Implementation of the free maternity services policy and its implications for health system governance in Kenya. *BMJ Glob. Heal.* 2017; (2): 1–11.
27. Nyadera IN and Onditi F. COVID-19 experience among slum dwellers in Nairobi: A double tragedy or useful lesson for public health reforms? *Int. Soc. Work.*2020;(63): 838–841.
28. Oluoch-Aridi J, Chelagat T, Nyikuri MM, Onyango J, Guzman D, Makanga C, Miller-Graff L and Dowd R. COVID-19 Effect on Access to Maternal Health Services in Kenya. *Front. Glob. Women's Heal.* 2020: 1.
29. Oluoch-Aridi J, Chelagat T, Nyikuri MM, Onyango J, Guzman D, Makanga C, Miller-Graff L, and Dowd R. COVID-19 Effect on Access to Maternal Health Services in Kenya. *Front. Glob. Women's Heal.* 2020: (1); 1–9.
30. Mbugua S and Kerry M. *Maternal Health Indicators in High-Priority Counties of Kenya: Levels and Inequities. DHS Further Analysis Reports No.110.* 2018.
31. Braun V and Clarke V. *Successful qualitative research: A practical guide for beginners.*2013. Available at: https://www.researchgate.net/profile/Nur-Afifah-Abas/post/The_role_of_the_conceptual_framework_in_abductive_explorative_research_using_reflexive_thematic_analysis/attachment/61517623b3729f0f61882824/AS%3A1072555687436291%401632728611715/download/Important+Successful+Qualitative+Research+a+practical+guide+for+beginners+-+Clarke+%26+Braun.pdf
32. Kimani RW, Maina R, Shumba C and Shaibu S. Maternal and newborn care during the COVID-19 pandemic in Kenya: Re-contextualising the community midwifery model. *Hum. Resour. Health.* 2020; (18): 3–7.
33. Delamou A, Ayadi AMEl, Sidibe S, Delvaux T, Camara BS, Sandouno SD, Beavogui AH, Rutherford GW, Okumura J, Zhang WH and De Brouwere V. Effect of Ebola virus disease on maternal and child health services in Guinea: a retrospective observational cohort study. *Lancet Glob. Heal.* 2017; (5); e448–e457.
34. Ombere SO, Haller T, Nyambedha EO and Merten S. Cultural Practices During Pregnancy and Birth Among the Giriama Community in Coastal Kenya : A Qualitative Study. *Int. J. Childbirth.* 2021; (11): 154–165.
35. Byrne A, Caulfield T, Onyo P, Nyagero J, Morgan A, Nduba J and Kermode M. Community and provider perceptions of traditional and skilled birth attendants providing maternal health care for pastoralist communities in Kenya: A qualitative study. *BMC Pregnancy Childbirth.* 2016; (16): 1–12.
36. Lubbe W, Botha E, Niela-Vilen H and Reimers P. Breastfeeding during the COVID-19 pandemic - a literature review for clinical practice. *Int. Breastfeed. J.* 2020; (15): 1–9.
37. Latorre G. Martinelli D, Guida P, Masi E, De Benedictis R and Maggio L. Impact of COVID-19 pandemic lockdown on exclusive breastfeeding in non-infected mothers. *Int. Breastfeed. J.* 2021; (16): 1–7.
38. Verduci E. Lorella M, Vizzari G, Vizzuso S, Cerasani J, Mosca F and Zuccotti GV. The Triad Mother-Breast Milk-Infant as Predictor of Future Health : A Narrative Review. *Nutrients.* 2021; (13): 1–15.
39. Victora CG, Bahl R, Barros AJD, França GVA, Horton S, Krasevec J, Murch S, Sankar MJ and Walker N. Breastfeeding 1 Breastfeeding in the 21st century : epidemiology , mechanisms , and lifelong eff ect. *Lancet.* 2016; (387): 475–490.
40. Morgan R, Tetui M, Kananura RM, Ekirapa-Kiracho E and George AS. Gender dynamics affecting maternal health and health care access and use in Uganda. *Health Policy Plan.* 2017; (32): v13–v21.
41. Connor J, Madhavan S, Mokashi M, Amanuel H, Johnson NR, Pace LE and Bartz D. Health risks and outcomes that disproportionately affect women during the Covid-19 pandemic: A review. *Social Science and Medicine* vol. 2020; (266).
42. Chattopadhyay A and Govil D. Men and maternal health care utilization in India and in selected less-developed states: Evidence from a large-scale survey 2015-16. *J. Biosoc. Sci.* 2020; https://doi.org/10.1017/S0021932020000498.
43. Sedai AK, Vasudevan R and Alves Pena A. Friends and benefits? Endogenous rotating savings and credit associations as alternative for women's empowerment in India. *World Dev.* 2021; (145): 105515.
44. Darmenova Y and Koo EJ. Towards local sustainability: Social capital as a community insurance in Kazakhstan. *J. Eurasian Stud.* 2021; (12): 113–121.
45. Sivakami M and Rai S. *What Do We Know About Sexual and Reproductive Health of Adolescents and Youth in India : A Synthesis of Literature*. (Springer). 2019; https://doi.org/10.1007/978-981-13-6593-5..