

**PERCEIVED FACTORS INFLUENCING PERFORMANCE OF MATERNAL AND CHILD
HEALTH PROGRAMS IN URBAN INFORMAL SETTLEMENTS IN KENYA: A CASE OF
THE GOVERNMENT'S MATERNAL AND CHILD HEALTH PROGRAM IN DAGORETTI
SUBCOUNTY, NAIROBI**

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DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

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DEDICATION

This work is dedicated to Mr. John Mokaya, Mrs. Modesta Nyakerario and Serana Misha. Thank you for being a great inspiration to and while undertaking my master's program.

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ABSTRACT

This study sought to understand how various perceived factors influence the performance of Maternal and Child Health Program. The researcher has vast experience in working in programs around children aged 0-5 years. This experience informed the choice of factors to settle for. These factors are; access to appropriate health services, personal characteristics of clients, availability of equipment in Mother and Child Health department in the facilities and COVID-19 mitigation protocols (as these have tremendously influenced the performance in MCHP over the last two years). This research project sought to establish the influence of these factors on performance of MCHP in terms of how services are offered and sort-for in health centers and in the community level. The Sub- County made significant progress in maternal and child health in the past years, through the support of the Ministry of Health and other stakeholders like non-governmental organizations (UNICEF, Concern Worldwide, Linda mama, Child Fund, feed the children, save the children, HOPE international, Afya jijini by USAID, just to mention a few). The research design for the study was survey design. The design employed aspects of both qualitative and quantitative research designs. The researcher intended to get detailed information by using survey through; using both open-ended and closed-ended questionnaires, conducting caregiver interviews (for female caregivers), and Key Informant Interviews (Nurses in the MCH Clinics, Community Health Workers, Community health Assistants). It is a sequential mixed methods study. In this study, there was need to first carry out a rapid telephone survey of households with expectant mothers and caregivers of children between 0-5 years living in these urban informal settlements. Based on the results of the rapid telephone survey, an in-depth qualitative interview (n=7) was carried out. Descriptive statistics that were used for preliminary analysis were; frequencies, means and standard deviations. For qualitative analysis, audio-recorded interviews were transcribed verbatim and content translated into English. After in-depth reading and reflection of the scripts, coding was done. Framework and content analysis was used to analyze qualitative data. Conclusions were; access to healthcare services positively affects the performance of MCHP, there was no significant influence of personal characteristics of clients to performance of MCHP, availability of equipment in the health facilities positively influences the performance or MCHP and, COVID-19 mitigation protocols negatively influenced the performance of MCHP.

LIST OF ABBREVIATIONS AND ACRONYMS

CCD	Care for Child Development
COVID-19	Corona Virus Disease.
ECD	Early Childhood Development
MCH	Mother and Child Health
MCHP	Mother and Child Health Program
MoH	Ministry of Health
UN	United Nations
UNICEF	United Nations' Children's Fund
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

There has been tremendous progress in developed countries in ensuring the health of mothers and children below five years. On the global scale, the state of maternal and child health is substandard. This can be owed to slow progress in health systems in countries in the Sub-Saharan Africa and southern Asia (Beat, Alliance & Figo, 2018). Over 20 years now, individual nations have put a major focus on improving maternal and child health systems. This is contrary to low income countries as there have been other areas of focus such as; managing hunger crises, political unrests and constant wars. State of the World Mothers Index in 2013 by Save the Children indicates that the ten worst countries for maternal health and child mortality are all in sub-Saharan African, Kenya included. WHO (2020) has reported a major setback in Mother and Child Health program, in the last two years. This has been the case for Kenya's major cities like Nairobi, more so in the informal settlements. Initially, pregnant women and caregivers of children (0-5) years would regularly visit the health facilities for routine appointments and checkups. The turnout has reduced. All pregnant women should continue to attend antenatal care visits and deliver with a skilled health provider to optimize healthy outcomes for both themselves and their newborns (UNICEF, 2020). Mothers and children have a right to access health care services, and should be able to seek for these services. Services provided in the MCH program are extremely important as it serves to increase utilization of quality Reproductive health, maternal, neonatal and child health services. The program has other objectives of; improved nutrition, water, sanitation and hygiene practices.

Afya Jijini, one of the projects developed by USAID to champion MCH Program in Nairobi proposed its purpose which is to promote health delivery around maternal and child health, holistically, within the county. It enables mothers to gain better access to health services, in terms of reproductive health, nutrition, hygiene, sanitation, water and childcare. In terms of healthcare; it ensures proper health is given to expectant mothers and their unborn babies, safe delivery and postnatal care for the children; growth monitoring and immunization. It also engages male caregivers by education them the importance of paternal involvement in their children's growth and development. The program looks into the economic capability of mothers, so that they do not shy away from seeking health services due to lack of money. It has ensured integration of the program in the already existing government health facilities. As it is a program funded by the USAID, people do not have to pay to receive the services. Although much effort has been put to ensure these, the anticipated achievements haven't been met yet. There has also not been wide coverage for the program. Kenya still has a high number of maternal deaths, 362 deaths in every 100000 births. Although the country has made some progress in reducing deaths of mothers, newborns and children, there still is a gap to ensure maximum utilization of MCH services to

ensure zero preventable deaths. These disparities could be due to challenges of ensuring quality, unavailability of proper services and inability to cater for costs of these services (UNICEF 2015). For these reasons and more, target persons of the MCHP are underprivileged and repudiated rights to live and flourish.

1.2 Statement to the problem

Children and women particularly experience heightened vulnerability to poor health and sub-optimal wellbeing. Deprivation and exclusion from important health and social services, coupled with a myriad of problems like crime, poor quality housing, poor sanitation, substance abuse, poor schooling conditions, sexual risk behavior, and climate change implications are commonly reported in urban informal settlements. Conversely, data and indicators from most cities are rarely disaggregated in terms of the type of urban dwelling and thus tend to mask the reality of the huge disparities existing within urban areas. Osindo, Bakibinga and Ngomi (2016) stated that urban informal settlements in Low and Middle Income Countries are typically comprised of a variety of marginalized sub-populations, such as low-income and poor urban dwellers, internal migrants from rural areas, internally displaced people and immigrants fleeing conflict and/or disaster in neighboring countries. Hence, the scale and complexity of social and health needs of caregivers and young children in urban informal settlements is often not well understood.

Maternal and child health has been an area of major focus over the years. However, the progress that has been made in this sector is slow compared to what was anticipated. Efforts to ascertain that Proper health care for both mother and child had been made, except that the results haven't been so forthcoming. More or less 150 million children across the globe are living in multidimensional poverty, without access to learning opportunities, health services, proper housing, good nutrition, hygiene and water. This was as reported in a study done by Save the Children in partnership with UNICEF (2015). Mother and Child Health Program was developed to cover reproductive health for women, including educating them on family planning, and the options they can take. It sorts to build-up provision of a consolidated reproductive health plan for women, and secure caregiving services to redirect the essential reproductive health needs that are still unresolved. This is especially in the low income earning communities in growing economies. Another goal for the program was to strengthen collaborations among stakeholders, which has not yet been achieved effectively.

When strategizing for possible solutions, stake-holders will need to put into consideration the long-term outcomes of COVID-19, as they still put emphasize of the most immediate effects. The program has been and still is essential especially for poverty stricken and marginalized communities living in the urban informal settlements of Nairobi. The slow progress in health utilization for mothers and children below 5years has been immensely frustrated by COVID-19 pandemic (UNICEF, 2020). If something is

not done, promptly, the mortality rates for mothers and children will deteriorate even further. As COVID-19 is still here, strategies need to be formulated so that the MCH target population does not become infected with the virus, and also ensuring that they keep seeking for relevant health services. Primary caregivers of children, women of reproductive age, and young children of age 0-5 years in Dagoretti informal settlements had not, for a while, had their integral health ensured. MCH program in the County was had made tremendous steps towards achieving standard Health services, especially for health needs that were initially overlooked. The onset of COVID-19 in the country has caused retrogression in this area. Due to these reasons, this research sought to establish perceived factors influencing the performance of maternal and Child Health Program in the informal settlements of Dagoretti sub-county.

1.3 Purpose of the study

The purpose of this study was to establish the perceived factors influencing the performance of Maternal and Child Health Program in the informal settlements of Dagoretti Sub-county, Nairobi, Kenya.

1.4 Research Objectives

This research study sets out:

- i) To determine the influence of access to health services on performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya.
- ii) To investigate the influence of personal characteristics of clients on performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya.
- iii) To examine the influence of availability of equipment in health facilities on performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya.
- iv) To assess the influence of COVID-19 mitigation protocols on performance of Maternal and Child Health program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya.

1.5 Research Questions

- i) What is the influence of access to health services on performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya?
- ii) How do personal characteristics of clients influence the performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya?
- iii) What is the influence of availability of equipment in health facilities influence the performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya?

- iv) How does a COVID-19 mitigation protocol influence the performance of Maternal and Child Health program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya?

1.6 Significance of the study

This study will benefit the stakeholders to the health of MCH clients who are; expectant mothers, primary caregivers of children under 5 and children aged 0-5 years. These include; representatives of the ministries of health, representatives of MCH clinics, and focal persons for children's holistic development, Community health worker and early childhood educators in formulating policies and coming up with projects that ensure improvement in performance of MCHP. The representatives of ministries of education and health will know the prevailing situation on the ground and plan for ways of managing related challenges. Health-care providers will know how to better inform MCH clients on how to adapt health seeking behaviors. It also seeks to help MCH clients in sensitizing them against negative health-seeking behaviors and also educating them on ways of continuing with mother and child health practices, even within their homes and community at large, when there are constraints in the health centers and are unable to access them. Consequently, children will benefit. Parents and caregivers, when enlightened, will develop utilize health services effectively. When all the stakeholders work together, the sub-county can then go back to the progress it had made in the MCH program.

1.7 Limitations of the study

This study was limited to the informal settlements of Dagoretti Sub-county. The findings from the study were not assumed to be suiting to the entire Nairobi region nor the country at large. It was not concluded that all of MCH program's target group across the country have been experiencing the same challenges regarding health seeking and utilization. Secondly, due to COVID-19 mitigation measures and ensuring that the safety precautions were observed, the researcher opted for over-the-phone interviews and online administration of questionnaires.

1.8 Delimitations of the study

The scope for this study is expectant mothers and primary caregivers of children under 5 years in the informal settlements of Dagoretti Sub-county, Nairobi County, Kenya. The study does not cover populations outside areas that are not informal settlements in the sub-county. It also does not look into the state of health of children above 5 years, women who are not primary caregivers of children below five and women who are not expectant.

1.9 Assumptions of the study

One of the key assumptions is that the service providers, stakeholders, expectant mothers and primary caregivers of children under 5 years would openly and truthfully share their views in a way that represents their reality and experiences within Dagoretti context. Another assumption is that all

stakeholders, primary caregivers and families involved in this study were aware of the current COVID-19 pandemic within the country. Lastly, it was assumed that these perceived factors influence all the health centers offering MCH services in Dagoretti sub-county.

1.10 Definition of significant terms used in the study

Accessibility: Physical, economic and informational reach to MCH services. The is the ability of clients of MCHP to reach health services, be it in the health facilities or within the community.

COVID-19 safety protocols: MoH set measures like lockdowns, curfews and social distancing, to prevent spread of COVID-19.

Child: Any persons below the age of 18 years. For this specific research project, the focus is on children aged 0-5 years as they are the target for the MCH program.

Health Facility Equipment: Items and tools necessary to undertake certain health procedures.

Perceived factors: These are components that are thought to have control on how the MCHP performs. These are factors perceived by professionals within the Maternal and Child Health, be it in provision of health services or research work round the same.

Personal characteristics: These are traits that are specific to each individual.

Maternal: Aspects relating to the mother of a child. This study focus on aspects of Mother's health, and ability to care for their children aged 0-5 years.

MCH Program: Mother and Child Health Program, developed to ensure sustainable health services for Women (women in their reproductive age, mothers of young children and expectant mothers) and children aged 0-5 years.

Urban informal settlements: Places with many living structures with small spaces in-between them, are unplanned and often semi-permanent. There is little or no infrastructure and security. Each of these units often have a high number of household members.

1.11 Organization of the study

This research project has five chapters. Chapter one is the introductory chapter. It contains; background of the problem, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, limitations of the study, delimitations of the study, basic assumptions, definition of key terms and organization of the study. Literature review forms chapter two of the study. Research methodology in chapter three; research design, the target population, the sample size and sampling techniques, the description of research instruments, research instrument validity and reliability, data collection procedures and data analysis techniques, ethical considerations and operationalization of variables. Chapter four consists of the research findings and discussions. Analysis of data is in this chapter. Summary, conclusions and recommendations makes chapter five of this research project.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The researcher located, read and evaluated what has been written and done on the research problem. A review of both the primary and secondary sources related to the study is written. What others have said concerning the research topic is explored. It is indicated how the research fits in to other people's views and perspectives. For this study, the literature looks into the performance of MCHP in terms of access to health services, personal characteristics of clients, availability of appropriate equipment in the health facilities, theoretical and conceptual frameworks.

2.2 Performance of Maternal and Child Health Program

Many children are yet to benefit from the progress in healthcare that has been made over the past decade. A great number of infants, globally, succumbed to death for causes that could be avoided through proper care. The main causes of infant deaths are; infections with the respiratory system, perinatal health issues, and infections to do with stomach like diarrhea. Most of these are brought about by ignorance, maybe in the health facilities, or by the caregivers. In a literal manner, they can be avoided if all parties involved in childcare played their roles as required to, that is, proper care during pregnancy, during birth and after birth (WHO, 2012). One report explains that a good statistic of children in majority of urban centers live in informal settlements, mostly slum areas. It is projected that nearly 60% of Nairobi's populace - over 2 million persons (half of whom are children), dwell in urban informal settlements. These children are unprotected from possibly devastating environments like toxins, noise, congestion and food scarcity (WHO, 2020). The MCH program assists in establishment, increment and ensures more growth of interventions with better and realistic outcomes. It's a program that strengthens how services are offered in both the public and private sectors, in the health of mother and child. This includes ensuring women do understand why spacing from one child to the next is very important, as it gives her the opportunity to give maximum care and attention to one child in the early years, but it also gives her body enough time to recover from pregnancy and birth. Hence the family planning strategy, with use of contraception. Scaling up and ensuring that these services are incorporated in almost all health facilities offering care for mother and child

A secured future is which the society safeguards the welfare of its' children by establishing channels that guarantee well-built health systems. Researches have shown that this yet to be ensured globally, at especially in the low and middle-income countries. Outcomes in the mother and child health are one of the main indicators of a nation's future (Osinde, 2016). The report goes head to say that underdeveloped MCH systems entail a low potential in other sectors. African countries in general are still yet to ensure

that the existing challenges that hinder effective development and progress in the MCH systems are solved. Therefore, there still leaves a lot to be done. Research shows that the utilization of maternal health services is high, except that most people who seek maternal health services from unlicensed private health facilities often lack basic care for obstetric emergencies care. A study conducted in Korogocho and Viwandani informal settlements in Nairobi indicated that only 52% of the expectant women attended all the recommended 4 antenatal visits in comparison to the 75% reported for the entire Nairobi city at the time (Wamukoya, Kadengye, Iddi & Chikozho, 2020).

Kenya's informal settlements report poor child health and development outcomes. For instance, 37% of infants were not fed within the first hour of birth, 40% were not exclusively breastfed for the first 6 months, and poor dietary diversity among young children. Other reported problems include the subjection of children to harsh disciplinary methods, child neglect and inconsistent guardianship. Examples of these are Kibera and Kangemi informal settlements of Nairobi. The research focuses on stimulation and early learning activities for young children who live in urban informal settlements (Magadi, 2010). The existing disparities in access and utilization of maternal and child health services in urban informal settlements, coupled with the scantiness of research on parenting practices in these dwellings, shows the need for more research and intervention in these marginalized settings.

Performance of MCHP amidst COVID-19 period has been particularly strenuous since the time when the virus hit the country. This is according to Stein, Ward and Cantelmo. (2020). They realized that a high number of healthcare providers contracted COVID-19 while on duty. Due to this, there was left with very little and strained human resource in the health industry. Pregnant women and caregivers of children below the age of 5 had minimal help in case they at all visited health facilities. The increased workload on the healthcare providers caused a major reaction on their mental health, therefore not leaving them with room to care for the MCH target group as required to. On a brighter side, the community health strategy was encouraging and adapted in most places. For instance, community healthcare workers were sensitized on providing the basic and most urgent services to mothers and pregnant women within their communities. This was so to reduce the workload and also minimize interactions in the health centers. They were able to get facilitation to conduct growth monitoring and immunizations of children, door to door, in their homes. Their health was also taken care of as various stakeholders supported with providing personal protective equipment for them while going into the communities (Abdu & Marleen, 2021). As they already had numerous trainings on giving health talks to women of reproductive age and expectant mothers, they conducted within the community. Community health workers and volunteers could then make referrals to relevant health centers for clients that needed more specialized and urgent services.

African does not fall short on decrees to endorse MCH programs. Each country has home-grown programs that look into the MCHP. It is true to say that most countries already have developed proper mother-child programs. They are incorporated in the health strategies and systems for women of child-bearing age and children. WHO (2020) clearly elaborates how there are well written plans and documentation, expect that action-wise there still is left so much to be desired. It cannot be said that all women and children have access to effective health services, at affordable charges. Majority of the population have no access to appropriate services. Services are still substandard. In addition, there has not yet been vast sensitization and education for the people on healthy behaviors. Often than not, funds allocated for these activities get mismanaged, sometimes embezzled. Timely and proper monitoring and Evaluation for mother and child health programs is yet to be ensured.

2.3 Access to health services and performance of MCHP

There have been distractions in utilization of health services and care in maternal health, health of pregnant women and young children (Shumba, Kimani & Maina, 2020). Assurance of sustainability through training of various community persons to champion these practices. For instance, community health workers, peer mentors and women themselves are persons that could be used to resolve the problem, and ensure that there is no further harm. An aspect of Health communication strategy that adapts techniques like those of marketing, creativity and invention of better ways to propel positive behavioral change in the society. The plan was to emphasize of the notion through community mobilization and public participation, letting all the people in the community (political and religious leaders, focal persons, youth leaders, families) be enlightened. This was so to create a bigger force to champion the MCH strategy, and minimize on opposition.

From the study conducted by Kringos, Caranci and Barbazza (2020), it was found that health structures have been strengthened in giving the people services that are reliable and that leave minimal gaps. The kind of services that clients trust and feel their needs have been met, more so for persons from poor environments where accessing money to seek these services from private centers is a major challenge. Ascertaining that clients do not have to pay much for these services when sort. Services like family planning are free in all public health facilities in the country. Therefore, people need not worry about finances when approaching the facilities. Residents of the informal settlements in Nairobi experience worse conditions due to economic challenges that cripple their ability to afford health services. Lacking roads that make access to health facilities within slums is a challenge in Nairobi (Magadi, 2016). Caregivers and mothers have a right to getting substantial and trustworthy information that is important for their wellbeing and the wellbeing of the children they care for. Access to this information goes a long way to ensure that there is a reduction in child and maternal mortality rates. It also ensures that young children get maximum care that promotes the integral development, which in turn promotes

thriving. Across the world, 80% of family units lack access to effective, dependable, efficient and quality maternal and child health education. This is even worse in Sub-saharan Africa (Silali, 2017).

An article based on findings from a research study on the factors that influence utilization of maternal health services (Banke-Thomas & Ameh, 2017) suggests that in order to improve accessibility of adolescent mother to health services, there should be a reduction in economic constraints. Additionally, these young caregivers need better exposure to health information and be provided with more opportunities to interact with health-care providers. This is important in promoting health utilization. Policies should be formulated or re-adjusted depending on current affairs, appropriateness and reliability of information. A corrupt government system, dictatorships, institutions that are fragile and lack of freedom for citizens could contribute to lack of or limited access to quality healthcare for mothers and young children. A good leadership achieves proper systems. Affording health services is a major challenge for households in Sub-saharan Africa. Also, coming up with effective strategies to solve this is another problem altogether. Lack of employment leads to not having a stable income for the families. Transport costs, buying food, accommodation charges, paying for drugs and necessary assessments create more constraints financially (Kinney, Kerber & Black, 2010). Eliminating charges could help with solving economic inaccessibility but it would need proper planning that ensures that quality is not compromised in the process. Some countries that have somewhat succeeded in this are; Ghana, South Africa and Uganda.

Women who are in consistent contact with health-care providers during their pregnancy, women who have exposure to proper and efficient information and women who cannot be said to be marginalized get to frequently visit health facilities for antenatal care (Singh, Neogi & Hazra, 2019). These women stand a better chance to deliver from health facilities. According to their research study, interaction with health systems through health-care providers, state of being or not being marginalized and frequency of attending the health facilities are crucial determinants of health utilization. The study found out that to increase access to health services even when the population lacks financing capacity to cater for costs, community based strategies have been effected. Interactions with peer-mentors and groups formed by these women have helped in sensitization and creating awareness on health practices that they need to adopt. In these forums, they also come up with strategies of mobilizing financial resources to help them whenever there is need to go to the health facilities. Besides creating awareness, the other main goal for creating these groups is to generate income to cater for the needs of these families in low economic setups. Women who took part in these community strategies sort for health services better and were better informed on reproductive health issues. This is supported by a study done in Kenya (Maldonado, Bone, Scanlon, Anusu, Chelagat & Jumah, 2020) that recommends that the communities in Sub-Saharan Africa should support and strengthen community approaches like community educational groups to

create maternal and child health awareness, especially in areas where access and coverage is still very low and resources limited. Rapid urbanization is associated with crowded living conditions, poor sanitation, and widespread poverty (Kinney, Kerber, Black & Cohen, 2010). With the vast growing population in the urban settlements, congestion becomes a major issue. This becomes an obstruction to planning development and residents end up living in sub-standard residential areas. The situation is also marked with lack of infrastructure, well-structured referral systems, lack of and overwhelm of human resource and under-equipped health facilities. This in turn leads to poor access to essential health services.

2.4 Personal characteristics of clients and performance of MCHP

Banke-Thomas and Ameh (2017) affirm that very little has been researched on how the age of caregivers influence their ability to seek and utilize health services, especially adolescent mothers. Aspects such as economic status, environmental exposure and education of both female and male caregivers play a great role on utilization of health services. They recommend improvements in educating the girl-child. In a study carried out in India on health utilization among women, 80% of expectant mothers attended the antenatal care clinic. Of those, 61% had attended the clinic at least three times throughout their pregnancy. 68% of expectant mothers gave birth in health facilities. There was a low utilization of health services (Singh, Neogi & Hazra, 2019). Usage of maternal health services reduce mortality rates. The usage of these services though is influenced by various factors, among which are; maternal education, living standards of the family unit the mother is part of, religious beliefs and background. Socio-economic aspects of clients, therefore, have a hold on their tendency to or not to seek health services. In the same study, they found out that a client who visit the antenatal care clinic when pregnant, have a high likelihood of delivering from a health facility, going for post-natal care consultations, taking the baby for routine monitoring and immunization. It is like a health practice where visits lead to more visits.

A study carried out on reproductive health practices show that almost 50% of Kenyan females aged 15-19 have already engaged in sex and by the time they are 20-24 years old, they are very active sexually (Adan & Githae, 2018). Most of these girls are single, not married and never been married. This constitute their most sexually active age. However, for various reasons like; culture, education, demographics and income, they are ignorant or lack proper support in seeking reproductive health services as often as they should. Magadi (2016) found out that sociological, economic and demographics of the urban population control how clients of MCH program seek and utilize health services. Aspects such as education levels, maternal age, birth-spacing perceptions and practices and the situations under which a woman conceives influence their health-seeking behaviors, hence the performance of MCHP. The report proceeds to state that, “Although the quality of antenatal care in the Nairobi slums seems fair, there is need for special attention on specific sub-groups of women, namely those with low educational

attainment (none or incomplete primary), older mothers aged 35 year or above and single mothers.” They are disposed to not getting effective and efficient health care services, when pregnant and post-pregnancy.

Researches have shown that more often than not, older women tend to prefer delivering their babies from home rather than from health facilities (Kyei-Nimakoh, Carolan-Olah, & McCann, 2017). This is in comparison to younger women. Age therefore is a factor determining women’s health-seeking behaviors. Few studies found lower ages for mothers being a hindrance. Marital status of a woman, specifically those that have no spouses, is linked to a lower utilization of health services. Stigmatization could be the reason for this. Unplanned and unwanted pregnancies have been reported to make women not seek or go for health services. The low levels of education among women, discrimination on gender-bases and lack of empowerment renders women vulnerable to seeking healthcare services, brings about inability to make independent health decisions and getting good opportunities for themselves and their children. This leads them to make uninformed choices, which could be fatal (Kinney, Kerber & Black, 2010). When women are educated, it is unlikely for them to die during childbirth. Children whose mothers who got schooled to primary level are 50% likely to succumb to death as compared those of mothers with no education at all. Education of mothers is a great contributor to performance of MCH.

Women should be sensitized against dangerous norms, which make them vulnerable to having inappropriate health practices. Some of these practices are like Female Genital Mutilation. Religious beliefs have been cited to be a component to receiving or not receiving obstetric services (Kyei-Nimakoh, Carolan-Olah, & McCann, 2017). Persons practicing Islam and African Traditional Religions tend not to seek for health services from health facilities. This cultures could prevent women from leaving the community or looking for proper health services. Also being afraid of certain procedures like surgery, blood transfusion and episiotomy could make women not seek for these services, especially when they are needed in MCH. Having a lower level of education than secondary and higher for women and their male partner (who is often the household head) is a strong barrier to utilizing prenatal health services. The later use health services better. Other studies have shown that the more children a woman has, the lower the likelihood for her to seek for MCH services. Furthermore, women with a higher parity tend not to comply to referrals soon enough.

2.5 Availability of equipment in health facilities and performance of MCHP

One study on maternal and neonatal health suggests that the mortality rates for both mothers (including during pregnancy) and their babies had been significantly high in the past years, as compared to developed nations (Bornemisza, Gruber & Witter, 2017). The major contributing factors lack of or the misappropriation of sufficient funds to develop structures, acquire necessary equipment, ensuring proper and effective training of healthcare workers in all capacities, lack of appreciation in terms of a well-deserved payment systems for already existing healthcare providers including doctors and nurses (most of these healthcare providers relocate to developed countries where they are better compensated for their services), lack of substantial health education for the people, healthcare malpractices, and anti-health knowledge, attitudes and practices among the people. Despite all these, there has been tremendous progress in resolving most of these challenges, over the past few years.

When expectant mothers deliver from health facilities, mortality rates of mothers and their newborn babies reduce. This is owed to skills of birth attendants, supporting infrastructure and proper referral systems within the facilities. (Singh, Neogi & Hazra, 2019). Findings from this study show that the quality of health services remains substandard. This is because a good number of the women who attended the clinics for antenatal care services, were not able to get all the necessary assessments done, neither where they give supplements taken during pregnancy. Even when delivering from the hospitals, clients left the facilities much earlier that it should be, therefore not much done in terms of post-natal assessments. It was concluded that many clients were not able to get quality antenatal services because of poor infrastructure and lack of equipment in the facilities. From the findings of one study conducted on institutional factors influencing performance of maternal and child health project in Isiolo, it was concluded that infrastructure in the health facilities does to a large extent influence the MCHP. These are things like; availability of spacious maternity wards, deliver rooms, safe water, electrical connectivity and relevant machines (Abdi, 1970). These are essentials and they ensure that that the mother and baby are effectively taken care of while in the facility.

Maufi (2021) shows that most health facilities in Sub-saharan Africa do not have satisfactory structures and equipment to facilitate effective service delivery. Furthermore, even facilities that have some of these equipment lack infrastructure that service them. For instance, lack of reliable electricity eventually causes a break down in some machines due to disuse. Facilities with better and functioning health equipment offer more and better services. Insufficiency of equipment and commodities cripple the health systems and hinder provision of quality services. Mothers and newborns could even succumb to perinatal death due to lack of appropriate equipment in the hospitals. This also creates mistrust and lack of satisfaction among clients. Once clients lose confidence in the health facilities, they lack motivation to seek services from them. Sumankuuro, Crockett and Wang (2018) show noteworthy obstacles

distracting delivery of quality and appropriate MCH services. These include lack of sufficient hospital equipment. Governments should invest in infrastructure (proper obstetric spaces, proper roads, electricity, water and communication channels), equipment and professionals that make work doable, assist in service provision and ensure quality. This would largely involve being on the lookout for opportunities and seizing to maximum on improving accessibility, creating awareness and ensuring that clients are able to afford the services.

Dalinjong, Wang, and Homer (2018) informed on the shortage of basic medicines, provisions, equipment and space during delivery of babies from developing countries in Africa. Most of the equipment in facilities are not functional as their working systems are outdated. There are reports of congestion in the health centers, where women experiencing labor pains would have to wait on long line-ups to receive services. The situation in the facilities forces them to even share beds with other mothers who have delivered, as beddings are limited. This is owed to insufficiency of health-care providers, rooms and equipment. Worse is when some of these women have to rest on the floors or beddings that have already been dirtied by other women when they were giving birth. Hygiene is of paramount concern. Women who undergo this lack privacy and have fears on their safety when in these centers. These and more related problems lead to a low quality service-provision system. Das, Gopalan, and Chandramohan (2016) stated that although there were significant improvements on structures in the health facilities, considerations should be put in increasing the capacity of healthcare providers in-terms of their clinical knowledge and knowledge in handling equipment. This would help in minimizing breakdowns of these apparatus while maximizing on their functionality. Costs for services greatly reduced except that this did not have a projection on improvements in patients' service satisfaction.

2.6 COVID-19 mitigation protocols and performance of Mother and Child Health Program

Report published by UNICEF (2020) says that children seem to be one of the groups of people that were largely negatively impacted by COVID-19 pandemic. This is owed to constraints in health sector as caregivers have not been able to take their children to health facilities for routine check-up, growth monitoring, immunization, treatment of illnesses and general consultations. During the COVID-19 pandemic, children have not been able to access effective health care, as opposed to the period before COVID-19 hit the globe. Abdu & Marleen (2021) argue that there are points of weakness in Kenya health systems that have crippled the structures during the pandemic period. Firstly, since there is limited number of health facilities in the counties, some major facilities were turned into isolation and quarantine centers, hence disrupting the usual work that goes on in these facilities. Similarly, limited resources (like hospital beds) made the situation even worse.

Oluoch, Chelagat and Nyikuri (2020) in their study to assess the effects of COVID-19 on access to maternal and child health services in informal settlements, state that a considerable number of women a reduction in the number of times they visited health facilities during the pandemic. This could be owed to the constraints set to curb the spread of the virus, for instance, the lockdown, curfews and quarantine protocols. Their research still shows that there was spread fear of contracting the virus if they visited the hospitals. Some women reported that they were asked from the health facilities not to attend scheduled appointments, especially those of routine growth monitoring for children, and only visit the hospitals in case of an emergency or other urgent health service. Deaths of mothers and infants are considerably high in developing countries, Kenya being in the midst (Shumba, Kimani & Maina, 2020). The endemic has disturbed important health services in mother and child health, which is projected to cause a rise in mortality rates. Additionally, lockdown and curfews limit the access of women and caregivers of young children in seeking services and accessing health centers when they need to. Efforts to curb these effects need not only be focused in the health facilities, but in the community as well. Expectant women need to trust that there are means that are safe for them to care for themselves, care for their unborn babies and secure a place to deliver. There is a critical necessity to come up with innovations and practices that prevent further decline in the health sector, more so in mother and child health in areas where these services are already strained.

Oluoch, Chelagat and Nyikuri (2020) reported that there was reduced reach to healthcare facilities during the pandemic as they were told to minimize the number of visits they make to the hospitals. They were also told that unless an issue was an emergency, they were not to go to the health facilities. This was to reduce contact, exposure, risk of contracting and transmitting the virus. There were other reasons that restricted their access; worry that they would get the virus, financial constraints, stigma and lockdown/curfew regulations. Contrary to this, few of the participants reported improvements in outpatient services due to decongestion in the health facilities. During previous crises, universal systems for healthcare have wriggled to continue with normal services and usage of them reduced. WHO (2020) indicated that efforts are usually channeled into responding to the prevailing pandemic and situation, while focus on all other concerning health-related activities stop. This kind of abandon of steady vital services is not intentional as these crises do, as a matter of fact, require argent response. Individuals having illnesses unrelated to COVID-19 have found it difficult to seek for health-care. Christopher and Kattey (2020) during a study on COVID-19, shows that a good number of caregivers said they were not able to find drugs from the health centers. The drugs were not reaching the facilities during the lockdowns, so they were told. They also said that they were forced to return to their homes whenever they went to the facilities to seek services.

When the health-care system is interrupted and ability to have proper nutrition reduces, a rise in infant and maternal deaths become shattering. As the focus was directed to managing the pandemic, minimal attention was given into routine health care. During Ebola pandemic in West Africa, a health research conducted approximated decrease of 22% coverage of healthcare as they were trying to manage the virus. Services that were affected included those offered in reproductive units, delivering children from the health centers, and care for mother and child after birth. Care for children, especially in the antenatal care clinics, and routine growth monitoring for children was greatly affected. The study tells that the decrease in health coverage was due to fear of contracting the virus, in case they went to health facilities, disturbances in the system and uncertainties about the situation. People had not gathered substantial information what exactly they were dealing with. Similar viruses like influenza affected how people utilized health services. This could be the case with COVID-19 pandemic, as stated by Stein, Ward and Cantelmo (2020). It is affecting the health sector in a similar manner. It is quite evident that crises bring about changes in how things are done, even in the health system.

There still are other contributing factors to why the health systems are still yet to fully implement the MCHP in the African context. Some of these factors are like; inadequacy of health centers with others having less healthcare providers as compared to number of patients they are able to tend to, low motivation, overworking and low payment for already existing healthcare providers, low literacy levels among citizens (especially among majority of women), lack of access of these services (especially for populations residing far off from health facilities), lack of family and community support, low income generation and socio-cultural challenges that hinder promotion of healthy behaviors (early and forced marriages, female genital mutilation, perceptions on women, traditions) among others (Shumba, Kimani & Maina, 2020). Nevertheless, the impact of the pandemic is perverse as even following the COVID-19 protocols and guidelines is challenging. For instance, keeping a social distance is quite difficult as most of these families in houses with small spaces to keep a distance, with a large number of inhabitants per house unit. In addition, quarantining and working from home was not a viable guideline as most of the breadwinners engage in casual work to earn them daily wages. Therefore, staying at home would help in preventing contracting the virus, but their families would suffer lack of finances to cater for their basic needs.

The mortality rates of mothers and babies have still been high in Sub-Saharan Africa, even in Kenya. Kimani, Maina, Shaibu and Shumbe (2020) explain this. There still is a gap in health service provision and utilization, which can in turn lead to a spike in maternal and neonatal mortality. In addition, the protocols such as lockdowns, curfews and quarantine that were stipulated made it almost impossible to sort for health services. The MCH target groups, being a vulnerable, stand a risk of contracting the virus and transmitting to family members. The article states that, "In this prolonged health crisis, pregnant

women deserve a safe and humanized birth that prioritizes the physical and emotional safety of the mother and the baby. There is an urgent need for innovative strategies to prevent the deterioration of maternal and child outcomes in an already strained health system.” It is suggested that the community health strategy be reinforced.

2.7 Theoretical Framework

Duncan, Edwards, Reynolds and Alldred (2006) state that mothers and caregivers in general adapt different care-giving styles, depending on aspects of their lives like; gender, age, race, ethnicity, religion, living environment, personality, education levels and socio-economic background. Various theories of human development support this.

2.7.1 Psychosocial theory

This theory was developed by psychologist Erick Erickson, in the 20th century. Erickson’s psychosocial (psychoanalytic) theory focuses on the interactions and experiences of human beings to acquire behaviors that determine how they live their lives. The theory has 8 stages that show how the environment impacts on human development. In assessing how persons acquire their health-seeking behaviors, or even their perceptions towards health systems, it is of importance to look deep into their socializations from aspects like; upbringing, family background, religious affiliations and culture as they constitute their environment. This theory is widely applied in areas like child development, social work and in propelling social change in the societies. Therefore, from the theory, it is true to say that in order for a caregiver to adapt certain behaviors in relation to seeking maternal and child health services, the human exposure and learning they are disposed to plays a major role. For instance, living in an environment where majority of individual’s value and often seek MCH services from health facilities will lead to caregiver developing the same habit. The society is a major agent of socialization. Therefore, a caregiver is likely to engage in anything that gets practiced and is upheld in a certain society.

2.7.2 Behaviorism

This is a theory of learning that was developed by behaviorists; Albert Bandura (1963), Ivan Pavlov (1897), John B. Watson (1913), B.F Skinner (1936) and Clerk Hull’s (1943). They suggested that learning entirely happens through association and reinforcement. Reflecting on behavioral theories, there are determinants of a person’s behavior. According to behaviorism, through conditioning, aspects such as the environment a person lives in do affect, to a large extent, how a person turns out. In Social learning theory, human beings develop behaviors through learning, and they learn through relations. Once a person learns or develops a certain concept, they change and acquire a certain behavior in reaction to what they have learnt. Similarly, caregivers learn to have health seeking behaviors from the interactions and associations they have. Also through continuous and consistent patterns that get

engraved in their minds and routines. Wambui, Kimani and Odhiambo (2018) explains that whether or not caregivers develop a positive attitude towards the MCH program does depend on the perceptions they've gotten. Similarly, in social change theory, a human being faces situations that demand that they adapt new ways that would in turn help them cope with the changing social dynamics. In relation to this, in childcare, caregivers get faced with challenges that they feel the need to turn to people who are more informed about those issues (pediatricians, nutritionists, childcare nurses) for guidance and help. In a modern society, caregivers have more trust in seeking help from childcare facilities, as opposed to the traditional and former societies.

2.7.3 Socio-cultural theory

It's an emerging theory by Lev Vygotsky (1931-1997). Sociocultural theory suggests that learning becomes integrated in a person's cognitive functioning depending on how they view the world, which is mostly reliant on the society. Lev believed that every individual constituting a society played a key role in enabling someone acquires certain functioning. Therefore, according to him, learning is incorporated in a person's relations with these people constituting their human environment. The theory is applied widely in areas like in classroom teaching where teachers have to encourage and provide many opportunities for learners to do group activities and play together. This is to promote their interaction, which in turn helps create relations that generate individual and group behaviors. Currently in work places, organizations are adapting strategies that require employees to work together in groups, besides personal work. Sociocultural sphere of a person does affect the behaviors they get to have. For example, if a pregnant woman comes from an ethnic group that does not see the need to attend the antenatal care clinic to monitor the progress of their unborn baby, the probability for them not seeking these health services is high. In addition, caregivers care for their children's health relating to what culture(s) they practice. Similarly, peer-education is widely encouraged where you find caregivers who have vast experience in caregiving get to interact with other caregivers in the community to help them adapt actions that promote the wellbeing of their children.

2.8 Conceptual Framework

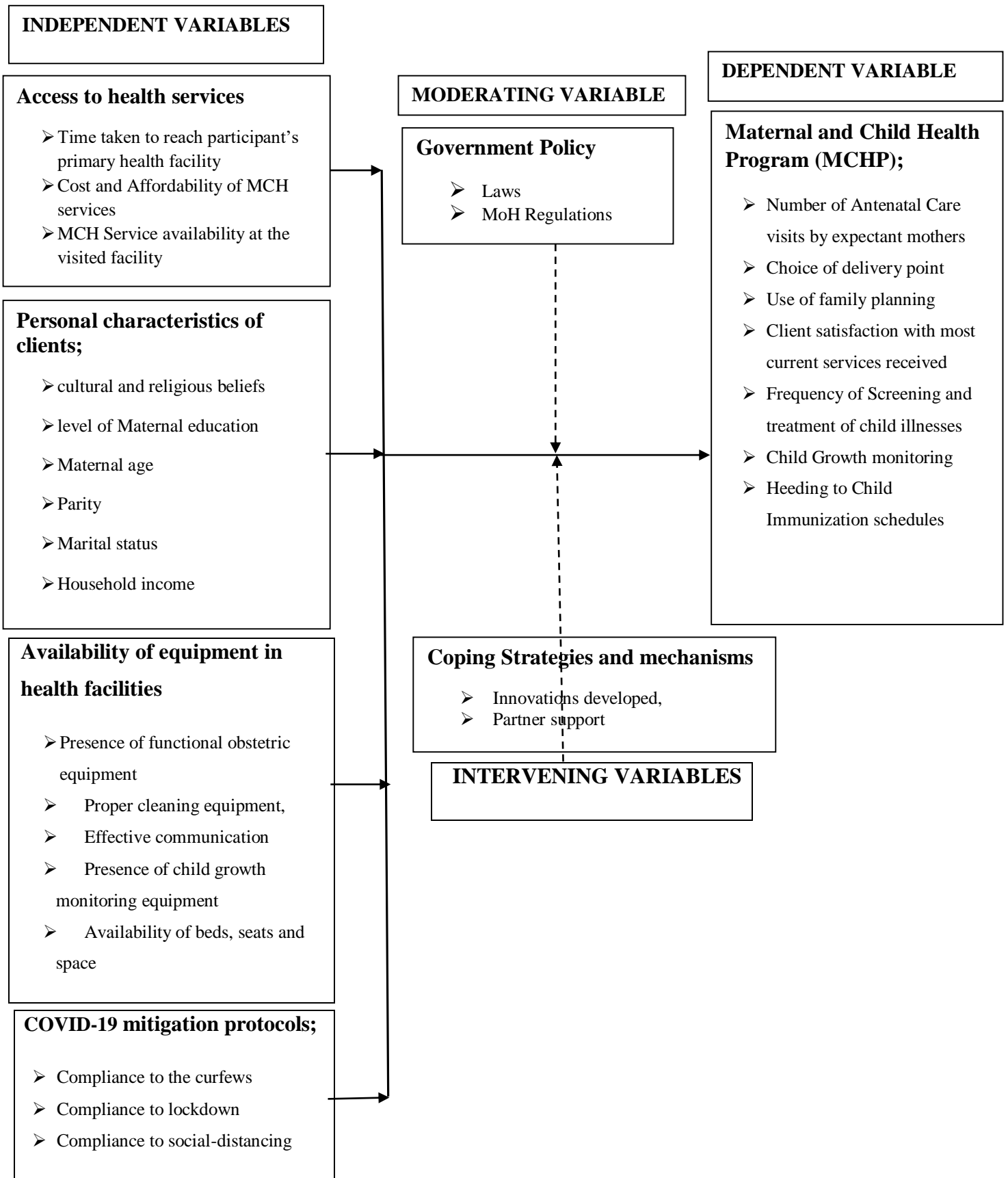


Figure 2.1: Conceptual Framework

Table 2.1: Knowledge Gap

Variable	Author	Findings	Research Gaps	Focus of the current study
Performance of Mother and Child Health Program (MCHP)	Oluoch, Chelagat, Nyikuri, Onyango, Guzman, Makanga and Dowd (2020) Osinde J. (2016).	The Mother and Child Health sector had made some progress, in most of the African countries. There is still much to be done to ensure maximum provision and utilization of health services. The outcomes in the MCH is a representation of a nation's future. Countries where great developments have been ensured in the MCH facilities have the futures well structured.	The study does not show the discrepancy between what was anticipated and how the situation is. The study fails to propose specific ways of improving the outcomes in the MCH clinics in low-income nations	To further investigate on factors hindering the MCHP from performing at level best. To explore viable ways of improving MCH in the context of informal settlements of urban areas in Kenya
Access to health services	Shumba, Kimani and Maina. (2020) Silali, M. (2017).	Clients of MCHP are still yet to fully gain access to effective health services, and this leaves a gap that needs to be bridged to ensure that they acquire desirable services.	It does not show exhaustively how the challenges presented to performance of MCHP can be solved.	To establish areas of weaknesses that prevent access of clients to proper health services.

		Across the world, 80% of family units lack access to effective, dependable, efficient and quality maternal and child health education. This is even worse in Sub-saharan Africa.	The study shows the discrepancy that's there within the MCH systems in developed nations and developing nations but lacks to suggest means of bridging the large gaps there are.	To explain further ways of bridging the gaps there are in terms of clients' access to health services.
Personal characteristics of clients	Banke-Thomas and Ameh (2017) Magadi (2016)	Women who have received education up to secondary and post-secondary levels tend to seek for MCH services more than women with very little or no education Sociological, economic and demographics of the urban population control how clients of MCH program seek and utilize health services.	The study does not explore further on how the age of women influence how they seek and receive MCH services. There is no clear if these sociological, economic and demographic factors affect the quality of health services clients get in the health facilities when sort.	To further explore the influence of age of MCHP clients (women) on their health-seeking and utilization. To establish if personal characteristics affect service provision in the health facilities, as much as they affects health seeking behaviors of clients.
Availability of effective equipment in health facilities	Maufi (2021)	Countries in the Sub-Saharan Africa do not have satisfactory structures and equipment to facilitate effective service delivery. Furthermore, even facilities that have some of these	The study does not give a suggestion for a sustainable solution that is within the control of the health systems. Those given are dependent of various	To identify solutions that are within the reach and control of health systems.

		equipment lack reliable infrastructure that service them.	policy makers and implementers.	
COVID-19 mitigation protocols (lockdown, curfews, wearing of PPEs and social distancing).	Stein, Ward and Cantelmo. (2020)	COVID-19 caused an unexpected disruption of the health structures globally. Much focus has been put in mitigating and preventing further spread of the virus, with already existing health facilities and human resource in health sector being concentrated on caring for the person's infected by the disease. Also, the set measures have hindered the access and provision of services.	It is not indicated how the health systems transitioned during this phase, and whether or not with time the disruption was minimized, and how. Projections of the systems going back to normality are not shown.	The study is focused on identifying how the disruptions in the health systems can be resolved. It also seeks to come up with ways of preventing disruption in health systems in case of future health crises.

2.9 Summary of the Literature review

From the literature done on the variables, it clearly shows that the factors the researcher picked out do influence performance of Maternal and child health program. The different research studies that have looked into the MCHP globally do concur on these factors. The conceptual framework has shown a diagrammatic relationship presentation of the independent variables; access to health services, personal characteristics of clients, availability of equipment in the health facilities, and COVID-19 mitigation protocols and the dependent variable, MCHP. The theories described also do agree that the interactions that individuals have in their environment affect their learning (often through conditioning), which make them acquire behaviors in response. Knowledge gap highlights the areas that are still yet to be addressed by the different researched done in the area of MCHP.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section comprises of the research design, population, sampling procedure and sample size, instruments, validity and reliability, procedure for data collection and data analysis.

3.2 Research design

Research design entails the general approach chosen by the researcher to incorporate various aspects of the study in a clear and reasonable manner, thus, warranting effective tackling of the issue at hand. It creates the outline for data collection and analysis (Barbara, 2006). This proposed study followed a cross-sectional study design comprising of mixed-methods approach. The mixed-methods with comprised a sequential quantitative-qualitative approach. Besides, the survey tool was in the format of a quester-view, with both open ended and closed items. This enabled elaboration of some of the quantitative responses. The questionnaire was administered to expectant mothers and women who are primary caregivers of children between 0-5 years living in the urban informal settlement of Dagoretti sub-county. Key Informant Interviews were administered to Nurses in the MCH Clinics, Community Health Workers and Community Health Assistants.

3.3 Target Population

The population that was described comprise of expectant mothers, caregivers of children of ages 0-5 years and health care providers in MCH departments in Dagoretti South Sub-County, Nairobi, Kenya. The area of enumeration is relatively large, as it comprises of a large number of people living in a small geographical space. In other terms, densely populated urban informal settlements. Also, focus was on government/public health facilities offering MCHP services in these areas. Wards within the sub-county with the villages with informal settlements are; Ngando, Mutui-ni, Kabiro, Gatina and Kawangware. Random sampling was used on the target population to get the participants to be used in the study. The table below gives estimated numbers of the target population, as gotten from client registers in the sub-county health facilities and the community health records through the community health Assistants.

Table 3.1: Target Population

Ward	Category	Estimated Population
Mutuini	Expectant Mothers	25
	Households with children under 5 years	65
Ngando	Expectant Mothers	36
	Households with children under 5 years	71
Gatina	Expectant Mothers	42
	Households with children under 5 years	93
Kabiro	Expectant Mothers	31
	Households with children under 5 years	61
Kawangware	Expectant mothers	34
	Households with children under 5 years	95

Source: Ministry of Health: Department of Mother and Child Health at Riruta and Chandaria Health Centres.

3.4 Sample Size and Sampling Procedure

According to McNeill and Chapman (2005), sampling is the statistical procedure of choosing a subgroup (known as a “sample”) of a populace of interest with an aim of making observations and statistical extrapolations about that population. In this section, the sampling procedure and the sample size was discussed.

3.4.1 Sample size

Households of children aged between 0-5 years in these informal settlements are 385. Households with expectant mothers are 168. To get the sample size for both categories, a formula was used. For the qualitative study, the research targeted 2 households (one female caregiver from one

household and one male caregiver from the other) with children 0-5 years and a pregnant woman. The researcher also interviewed health care workers working in Maternal and Child health clinics, baby care centers and special units. This work aimed at getting in-depth insights into the situation faced by the households and healthcare professionals. The study used the following formula proposed by Yamane (1973) to determine the sample size;

Yamane (1973) formulae

$$n = N / (1 + N * e)^2$$

Where n = sample size

N = the population size

e = the acceptable sampling error (7%) at 93% confidence level

Hence,

$$N = N (\text{population of all wards}) / (1 + \text{population of all ward}) (0.07)^2$$

$$n \text{ for expectant mothers} = 168 / (1 + 168) (0.07)^2 = 37$$

$$n \text{ for households with children under 5 years} = 385 / (1 + 385) (0.07)^2 = 118$$

To determine the sample size from each stratum, proportionate stratification was used. By means of proportional stratification, this ensures that the sample size from each stratum is proportional to the population size of the stratum (Saini & Kumar, 2018). Strata sample sizes are calculated using the following formula:

$$n_h = (N_h / N) * n$$

where n_h is the sample size for stratum h,

N_h is the population size for stratum h,

N is total population size,

and n is total sample size.

Table 3.2: Sample size table

Ward	Category	Application of fomula (Nh / N) * n	Sample size (nh)
Mutuini	Expectant Mothers	$25/116*37$	8
	Households with children under 5 years	$65/385*118$	20
Ngando	Expectant Mothers	$36/116*37$	11
	Households with children under 5 years	$71/385*118$	22
Gatina	Expectant Mothers	$42/116*37$	13
	Households with children under 5 years	$93/385*118$	29
Kabiro	Expectant Mothers	$31/116*37$	10
	Households with children under 5 years	$61/385*118$	19
Kawangware	Expectant mothers	$34/116*37$	11
	Households with children under 5 years	$95/385*118$	29

From the workout in the table above, the sample size for households with children under 5 years is 119 (20+22+29+19+29). The sample size for expectant mothers is 53 (8+11+13+10+11).

Table 3.3: Qualitative Key Informants' list

Category of Healthcare providers	Population	KII Sample size workout	Sample size(n=8)
Community health workers	20	20/35*10	6
Community health assistants	4	4/35*10	1
MCH nurse/clinician	11	11/35*10	3

Source: Ministry of Health: Department of Mother and Child Health at Riruta and Chandaria Health Centres.

The three Government Health facilities in the informal settlements of Dagoretti are Chandaria, Mutuini and Riruta. There are four community health assistants, twenty community health workers and eleven clinicians working in the MCH clinics. The sample sizes are; one community health assistant, six community health workers and three clinicians.

3.4.2 Sampling procedure

The sampling procedure was first be purposive sampling in order to get the population of the target group (households with expectant mothers and households with children under 5 years) in the study area. After the researcher got the numbers of the target groups, the team went ahead to calculate the sample size for each category as indicated in table 3.2 under sample size. Simple random sampling was applied to arrive at the sample size for the study. The strata take care of the diversities in the population. The strata contained same characteristics as the entire population; hence, the data collected was generalizable to be for the entire population of the target groups.

3.5 Research Instruments

The instruments that were used to collect data are; consolidated questionnaire containing a variety of tools capturing different aspect of their lives, with both open-ended and closed questions and Key Informant Interview guide. These tools are further described in detail in the proceeding section.

3.5.1 Key Informant Interviews' guide

Key Informant interviews were done to gauge the perceived factors that influence the performance of MCHP. Emerging trends in health seeking behaviors were also asked. This targeted MCH service providers. These are; nurses, community health workers and community health assistants. Questions were related to how these perceived factors influence on the ability of expectant mothers and caregivers seek and receive MCH services, and service provision of healthcare providers. The discussions were done via telephone, and took approximately 45 minutes. The discussions were tape recorded to assist in report writing.

3.5.2 Caregiver Questionnaire

The quantitative questionnaires had some questions related to their socio-economic demographics, health seeking behaviors, nutritional practices, mental health, coping strategies and child rearing practices. It also contained questions relating to their health seeking and utilization during COVID-19 pandemic. This was over telephone calls whereby each interaction took approximately 30 minutes.

3.5.3 Piloting of the Instruments

Mat Roni, Merga and Morris (2019) define pilot testing is a tryout of your research study, allowing the researcher to test the research approach with a small number of participants before one goes on to carry out the main study. Piloting of the research instruments was done in readiness for the main research study and process. Piloting is a crucial stage for any study as it helps the researcher to recognize any potential area within the instruments that needs readjusting or to be improved, to better collect data. It also helps in becoming more amicable with the data collection strategy. Therefore, piloting enables the researcher to have absolute faith in the instruments, hence making them more ready for the actual process. The researcher used three days to pilot the instruments. A window of two days was given to adjust the tools depending on the pilot results. The instrument was piloted on 10% of the study sample size (Tappin & Ruth. 2014). The questionnaire was administered to 12 female caregivers of children under 5 years and 5 expectant mothers. Key informant interview guide was piloted on 10 healthcare providers.

3.5.4 Validity of the Instruments

To establish validity, the researcher prepared the research instruments guided by the research objectives and research questions. Research instruments were subjected to expert judgement in order to have a reliable opinion. They were tested through the process of piloting. The responses obtained was penetrated and analyzed thoroughly in order to know what needs improvement. According to Li (2016), validity is simply the means by which a test or an instrument is able to accurately measure what it's supposed to. They go on to point out that validity helps to strengthen conclusions, inferences, and or propositions. Content validity of the questionnaire was tested by carrying out a pilot on the instruments. Any ambiguity and suggestions noted from the pilot study was corrected on the questionnaires before the actual study. The supervisor was also instrumental in checking both the construct and content validity.

3.5.5 Reliability of the Instruments

The reliability of this study was tested through Cronbach's Alpha which was used to measures the internal reliability. Cronbach's alpha reliability coefficient usually ranges between 0 when no variance is reliable and 1, when all variance is reliable (Gholamabbas, Mohammad & Kambiz, 2018). When the coefficient is closer to 1.0, this shows that the internal consistency of the items in the scale is very high. An alpha (α) score of 0.70 or higher is considered satisfactory (Kirk & Miller, 2005). To ensure highest degree of consistency in terms of findings, test-retest technique was applied. After preparing the instruments, they were subjected to judgement from the research project supervisor and other experts. When the data collection tools have been tested, re-tested and passed, actual data collection immediately commenced.

3.7 Procedure for collecting data

The researcher developed a detailed survey to be administered by telephone to household members within these urban informal settlements. Topics to be explored include health seeking behaviors, nutritional practices, child rearing and related outcomes. In emergency and humanitarian settings, the World Bank (2020) developed guidelines for carrying out a Rapid Telephone Survey, and provides guidelines on how to carry out these surveys in the context of COVID-19.

Together with 2 well-trained research assistants, the researcher administered a short interview using semi-structured interview guide with health care practitioners in the MCH departments. The guide focuses on how the perceived factors influence their service delivery and how this in turn

influences utilization of health services among expectant mothers and children under 5 years. In-depth interviews with health care workers were done to allow for a deeper understanding of some of the issues and trends seen in the survey. Given the current strain on the health care workers, the over-the-phone interview was less than 30 minutes.

3.8 Data analysis

When data collection was finalized, analysis was done. That is, it was organized in a presentable way in order to attach meaning and identifying research finding arising from the collected data. To analyze data, the researcher organized the data in relation to the research questions and objectives. Guided by the same research questions and objectives, themes arising from the data was identified. It entailed organizing the information of the existing facilities, equipment, physical and human resources, activities relating to health seeking behaviors. This information was explained according to their importance with regards to the study.

Quantitative data was analyzed using SPSS. Descriptive statistics such as frequency and means was used for preliminary analysis. For qualitative analysis, audio-recorded interviews were transcribed verbatim and later translate the content into English. After in-depth reading and reflection of the scripts, an initial coding using Nvivo was done. Framework analysis was used to analyze qualitative data.

3.9 Ethical concerns

When conducting the research study, the researcher was guided by ethical principles. Firstly, it ensured that all participants underwent an informed consent process where they were given full information on what the study entailed, and be let to decide whether or not they would like to take part in it. Research participants were protected from any form of physical and psychological harm. Information that was collected from the study was treated with confidentiality, in terms of not making public the participants' identities. The participants were bribed or given any form of promises in order to take part in the research process. Information collected was used for the specific purpose, which the respondents were explained to. The identities of participants were disclosed during analysis or report writing. In relation to keep COVID-19 safety measures, the researcher and assistants observed the guidelines proposed by the Ministry of Health. This are; maintaining social distancing, wearing a face mask and having a hand sanitizer whenever they are carrying out research related activities that are besides the telephone data collection.

The researcher worked closely with the community health strategy team in the respective sites to identify households meeting the survey eligibility criteria (using a random approach; that is, households with expectant mother and those with children aged between 0-5 years). The community health volunteers sought permission from the participants by telephone to share their telephone numbers with the study team for the telephone interview and secure appointments. The researcher with the assistants contacted household members, obtained consent and conducted the interviews. All discussions were audio recorded, where necessary and with consent. For healthcare professionals, liaison with the MoH management to identify personnel working in these areas. Thereafter, they were contacted and invited for a telephone interview.

Research objectives	Variables	Indicator	Measurement scale	Tools of data analysis	Type of analysis
To determine the influence of access to health services on performance of MCHP	<u>Independent</u> Access to health services; Physical, economic and information accessibility	<ul style="list-style-type: none"> - Access to MCH related information, number of clients able to access the information and how they apply this information in their lives. - Time-taken for clients to reach their nearest health facility offering MCH services - Proper referral systems - Affordability of services 	Ordinal	Percentage Mean Frequencies Standard Deviation Probability	Descriptive and Inferential
To establish the influence of personal characteristics of clients on performance of MCHP	<u>Independent</u> Personal characteristics of clients	<ul style="list-style-type: none"> - Maternal level of education - Maternal cultural and religious beliefs - Maternal age - Parity - Maternal marital status 	Ordinal	Percentage Mean Frequencies Standard Deviation Probability	Descriptive and Inferential

To examine the influence of equipment in the health facilities on performance of MCHP	<u>Independent</u> Equipment in the health facilities	<ul style="list-style-type: none"> - Safe and secure surgical instruments - Proper cleaning equipment, - Effective communication - Monitoring equipment - Availability of beds, seats and space - Appropriate machines 	Ordinal	Percentage Mean Frequency Standard Deviation Probability	Descriptive and Inferential
To assess the influence of COVID-19 mitigation protocols on performance of MCHP	<u>Independent</u> COVID-19 mitigation protocols	<ul style="list-style-type: none"> - Functioning of health systems during the pandemic with the lockdown, curfews, social and distancing. - Ability to seek health services from facilities. 	Ordinal	Percentage Mean Frequency Standard Deviation Probability	Descriptive and Inferential

		<ul style="list-style-type: none"> - Utilization of hospital spaces during the pandemic. - Resources (physical, technological and human) being focused on fighting and mitigating the virus. 			
	<p><u>Dependent</u> Mother and Child Health Program</p>	<ul style="list-style-type: none"> - Antenatal care - Routine growth monitoring and immunization - Mother and Child Health talks - Reproductive health e.g Family planning 	Ordinal	Percentage Mean Frequencies Standard Deviation Probability	Descriptive and Inferential

		<ul style="list-style-type: none"> - Proper Nutrition - Health and safety - Sanitation and hygiene 			
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Table 3.4: Operational Definition of Variables

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This section communicates how the findings and the results correlate with study objectives. Data analysis was in line with specific objective where various patterns were outlined, interpreted and implication drawn out of them.

4.2 Response Rate

Out of the 119 caregivers involved in the research, 89 caregivers responded to the questionnaire. This represents 75% of the sample size. In addition, out of the possible 53 expectant mothers, 42 responded to the questionnaire, a representation of 79% of the sample size. The return rate was sufficient for drawing the study conclusions from. Mugenda and Mugenda (2003) suggested that a rate of 70% is adequate. In this context, all attributes to high response rate goes to the procedure of data collection. The results are shown in table 4.1.

Table 4.1: Response Rate

Category	Frequency	Percentage
Caregivers that responded to questionnaire	89	75%
Caregivers who did not respond to questionnaire	30	25%
100%Total	119	100%
Expectant Mothers who responded to questionnaire	42	79%
Expectant mothers who did not respond to questionnaire	11	21%
Total	53	

4.3 Social Demographic Characteristics

In this section, the respondents were required to indicate their general information including gender, age in years, current marital status, person living with their partners in the same household, main source of income/occupation, highest level of education, the number of children, children below 5 years and finally whether the caregivers were expectant or not during the period of the study.

Table 4.2: Social Demographic Characteristics

Demographic factors	Categories	Frequency	Percentage %
Gender	Male	4	4.5
	Female	85	95.5
Age bracket	Below 25 years	27	30.3
	25-30 years	31	34.8
	31-35 years	13	14.6
	36-40 years	13	14.6
	41-45 years	3	3.4
	above 45 years	2	2.3
Current marital status	Single/never married	18	20.2
	Single but cohabiting	3	3.4
	Currently married	57	64
	Separated/divorced	9	10.1
	Widowed	2	2.2
Living with partners in the same household	Yes	58	96.6
	No	2	3.4
Main source of income/occupation	Paid employee private/public sector	2	2.2
	Own business	15	16.9
	Apprentice	13	14.6
	Unpaid family worker/house wife	28	31.5
	Casual labourer	1	1.1
	Domestic worker	1	1.1
	Retired civil/private sector	26	29.2
	Unemployed (able to work)	3	3.3
Level of education	Standard 1-5	1	1.1
	Standard 6-8	34	38.2
	Secondary school not completed	19	21.3

	Secondary school completed	23	25.8
	College/University and above	12	13.5
Respondents number of children	One	24	27.0
	Two	27	30.3
	Three	23	25.8
	Four	12	13.5
Number of children below 5 years	Zero	27	30.3
	One	51	57.3
	Two	11	12.4
Expectant or not	Yes	42	47.2
	No	47	52.8

The respondents were requested to indicate their gender. The study findings showed that majority of the respondents were females as shown by 95.5% while the rest were male as shown by 4.5%. This is a clear indication that women are predominant in child care in the informal settlement. However, the researcher considered all the respondents irrespective of their gender to collect reliable information concerning perceived factors influencing the performance of Maternal and Child Health Program in the informal settlements in Dagoretti Sub county, Kenya. Further, the researcher sought to determine the respondents age in years. Majority (65.1%) of the respondents were below 30 years (25-30 years =34.8% and below 25 years= 30.3%). Further, majority (96.6% of the respondents were living with their partners. The main source of income/occupation as indicated by 29.2% were retired civil/private sector servants. The majority (60.6%) of the respondents had at least reached high school.

Regarding the number of children, 30.3% of the respondents had two children, 27.0% of the respondents had one child, 25.8% had three kids, 13.5% of the participants had four kids and 3.4% of the respondents had five kids. Majority (57.3%) had one kid under the age of 5 years and 12.4% of the respondents indicated they had two kids.

4.3.1 Relationship between socio-demographic factors and MCH services

The study sought to determine the relationship between various demographic factors and the uptake of routine growth monitoring services for caregivers of children aged 0-5 years. The results were as shown in Table 4.11

Table 4.3: Relationship between socio-demographic factors and MCH services

Variable	Routine growth monitoring services Uptake			
	Uptake n %	No uptake n %	Total	Significance (p-Value)
Age Bracket				
Below 25 years	13	5	18	$\chi^2 = 2.588$ df = 5 p = <0.763
25-30 years	17	6	23	
32-35 years	5	4	9	
36-40 years	7	2	9	
41-45 years	1	0	1	
Above 45 years	2	0	2	
Marital Status				
Single/never married	5	6	11	$\chi^2 = 6.116$ df = 5 p = <0.295
Single but cohabiting	2	0	2	
Currently married	31	10	41	
Separated/divorced	5	1	6	
Widowed	1	0	1	
Main source of income				
Own business	9	1	10	$\chi^2 = 9.860$ df = 7 p = <0.197
Unpaid family worker/house wife	5	2	7	
Apprentice	16	6	22	
Casual labourer	1	0	1	
Domestic worker	0	1	1	
Retired civil/private sector	14	5	19	
Unemployed (able to work)	0	2	2	
Level of Education				
Standard 1-5	0	1	1	$\chi^2 = 5.496$ df = 4 p = <0.240
Standard 6-8	18	5	23	
Secondary school not completed	11	3	14	
Secondary school completed	10	7	17	
College/University and above	6	1	7	

The study did not find any significant relationship between age bracket ($\chi^2 = 2.588$; df=5; p=0.763) and uptake of routine growth monitoring services for caregivers of children aged 0-5 years. In

addition, there was no significant relationship between marital status and uptake of routine growth monitoring services; ($\chi^2 = 6.116$; $df=5$; $p=0.295$). Further, there was no significant relationship between source of income and uptake of growth monitoring services as indicated ($\chi^2 = 9.860$; $df=7$; $p=0.197$). The study did not find significant relationship between caregivers' level of education and routine growth monitoring services uptake ($\chi^2 = 5.496$; $df=4$; $p=0.240$).

4.3.2 Relationship between socio-demographic factors and number of times they have received antenatal care

The study sought to determine the relationship between various socio-demographic factors and the number of times they have received antenatal care. The results were as shown in Table 4.12

Table 4.4: Relationship between socio-demographic factors and number of times they have received antenatal care

Variable	Number of times they have received antenatal care						Total	Significance (p-Value)
	2.00	3.00	4.00	5.00	6.00			
Age Bracket								
Below 25 years	1	2	3	2	0	8	$\chi^2=11.357$ df =12 p= <0.499	
25-30 years	0	1	2	1	0	4		
31-35 years	0	0	0	2	0	2		
36-40 years	0	1	0	1	1	3		
Marital Status								
Single/never married	0	2	0	0	2	0	$\chi^2=29.402$ df =16 p= <0.021	
Single but cohabiting	1	0	0	0	1	1		
Currently married	2	3	6	0	11	2		
Separated/divorced	0	1	0	1	2	0		
Prefer not to answer	0	1	0	0	1	0		
Main source of income								
Paid employee private/public sector	0	1	0	0	0	1		
Own business	0	0	0	0	1	1		

Unpaid family worker/house wife	0	0	1	0	0	1	$\chi^2=25.002$ df=16 p= <0.070
Apprentice	0	1	0	2	0	3	
Retired civil/private sector	1	2	4	4	0	11	
Level of Education							
Standard 6-8	0	1	1	2	1	5	$\chi^2 =10.927$ df=12 p= <0.539
Secondary school not completed	1	0	3	2	0	6	
Secondary school completed	0	2	0	2	0	4	
College/University and above	0	1	1	0	0	2	

The study did not find any significant relationship between age brackets ($\chi^2 =11.357$; df=12; p=0.499) and the number of ANC uptake. However, there was significant relationship between marital status and number of ANC services uptake; ($\chi^2 =29.402$; df=16; p= 0.021). There were no statistical differences in the utilization of ANC and the following demographic characteristic; main source of income and level of education.

4.4 Maternal and Child Health Program

This section of the paper examines various aspects of maternal and child health services in the urban informal settlements, specifically Dagoretti Sub- County in Nairobi. Specifically, the study looked at the number of antenatal care visits by expectant mothers, choice of delivery point, use of family planning, client satisfaction with most current services received, frequency of screening and treatment of child illnesses, child growth monitoring and heeding to child immunization schedules. The respondents were asked about their awareness of maternal and child health programs available in the area, places to get the services, uptake of routine growth monitoring, immunization services, and the general antenatal care services.

4.4.1 Awareness of MCH services offered in area of residence

The study sought to determine whether the respondents were aware of maternal child and health services offered in the area of residence. The results were as illustrated in Table 4.13

Table 4.5: Awareness of MCH services offered in area of residence

		Frequency	Percent
Antenatal care services	Yes	78	87.6
	No	11	12.4
Family planning services	Yes	79	88.8
	No	10	11.2
Delivery care services	Yes	83	93.3
	No	6	6.7
Growth monitoring and Immuniation for children aged 0-5 years	Yes	74	83.1
	No	15	16.9
Health talks relating to Nutrition, safety and hygiene	Yes	71	79.8
	No	18	20.2

According to the study findings, out of the 89 respondents, 83 (93.3%) of the respondents were aware of the delivery services offered in their areas of residence, 88.8% of the respondents were aware of family planning services, 87.6% of the respondents were aware of antenatal care services, 83.1% were aware of growth monitoring and immuniation for children aged 0-5 years and 79.8% of the respondents were aware of health talks relating to nutrition, safety and hygiene. This is a clear implication that the verse majority of the people living in the area were aware of maternal and child health services.

4.4.2 Location where the services mentioned above are recieved

The study sought to determine whether the respondents were aware of the places to access the various maternal and children health services in the area. The results were as illustrated in Table 4.14.

Table 4.6: Location where the services mentioned above are recieved

		Frequency	Percent
Public health facilities	Yes	89	100
	No	0	0
Private health facilities	Yes	40	44.9
	No	49	55.1
NGO affiliated structures in the community	Yes	69	77.5
	No	20	22.5
Community Forums and initiatives	Yes	73	82.0
	No	16	18.0

From the findings, 100% of the respondents indicated that they would get their services in the public health facilities. In addition, 82.0% indicated they would get their services in community forums and initiatives and 77.5% indicated in NGO affiliated structures in the community. In addition. However, less than half (44.9%) of the respondents indicated that they would get their services from private health facilities. This is an indication that the majority of the respondents were willing to seek their services in the cost effective facilities in their area of residence.

4.4.3 Caregivers of children aged 0-5 years

Further, the study sought to examine whether the caregivers of children aged 0-5 years were uptaking or not uptaking MCHP services. The findings were as illustrated as in Table 4.15.

Table 4.7: Caregivers of children aged 0-5 years

		Frequency	Percent
Take child/ren for routine growth monitoring in the health facility	Yes	58	93.5
	No	4	6.5
Take child/ren for scheduled Immunization appointments	Yes	49	79.0
	No	13	21.0

From the findings, 58 (93.5%) of the sixty two caregivers indicated that they were taking their child/ren for routine growth monitoring in the health facility. In addition, the study established that 49 (79.0%) of the caregivers were taking their child/ren for scheduled immunization appointments.

4.4.4 Expectant mothers seeking antenatal care

The study sought to determine whether the expectant mothers were seeking antenatal care. The results were as illustrated in Table 4.16

Table 4.8: Seeking antenatal care

	Frequency	Percent
Yes	39	92.9
No	3	7.1
Total	42	100

From the findings, a significant proportion of the expectant mothers (92.9%) of the respondents were seeking antenatal care and only 7.1 percentages were not. The study findings concur with findings of Singh et al., (2019) research that over 80% of expectant mothers attended the antenatal care clinic. This implies that majority of the expectant mothers had embraced antenatal care in Dagoretti Sub County.

4.4.5 Antenatal care providers

The respondents were asked to indicate their antenatal care providers. The results were as illustrated in Table 4.17

Table 4.9: Antenatal care providers

	Frequency	Percent
Community health worker	6	14.3
Doctor	17	40.5
Nurse/midwife	19	45.2
Total	42	100

The quality of antenatal care relates to who provides antenatal care. Overall, nurses or trained midwives are the predominant antenatal care providers in the informal settlements (Dagoretti Sub County) accounting for about 45.2% of the cases, while doctors provide antenatal care in about

40.5% of the cases. In addition, 14.3% of the expectant mothers were seeking their services from community health workers. It is, however, important to note that respondents may not be able to precisely distinguish between nurses or midwives and doctors, since the public often mistakes sometimes-male midwives or nurses for doctors.

4.4.6 Facility they receive antenatal care

The study sought to determine the health facility expectant mothers were receiving their antenatal care for their current pregnancy. The results were as shown in Table 4.18

Table 4.10: Facility they receive antenatal care

	Frequency	Percent
Public health facilities	22	52.4
Private health facilities	3	7.1
NGO affiliated structures in the community	10	23.8
Community Forums and initiatives	7	16.7
Total	42	100

From the findings, majority (52.4%) of the respondents sought care from public health facilities. This could be as results of majority of the households in the informal sectors are poor and most of the services in hospitals are offered for free. In addition, the study established 23.8% sought care from NGO affiliated structures in the community, 16.7% sought help from community forums and initiatives and only 7.1% of the respondents sought help from private health facilities. Further, a high proportion of the expectant mothers 82.2% indicated that they were planning to give birth in the same facility they were receiving their antenatal care from while the remaining proportion would change.

4.4.7 Number of months before receiving first antenatal care for the current pregnancy

The study sought to determine the number of months the respondents had stayed before receiving the first antenatal care. Results were as illustrated in Table 4.19.

Table 4.11: Number of months before receiving first antenatal care for the current pregnancy

No. of months	Frequency	Percent
Three	7	16.6
Four	18	42.8
Five	15	35.6
Six	2	5.0
Total	42	100

For the majority of births in the informal settlements (83.4%), antenatal care starts during the second trimester and a small proportion (16.6%) starts towards the last month of the first trimester. This pattern is consistent with the rest of the Kenyan population, though women in the slums tend to initiate antenatal care later. This implies that despite the high prevalence of ANC, the proportion of women who initiated the visit in the first trimester of pregnancy remains low compared to those living in formal settlements.

4.4.8 Number of times they have received antenatal care

The study sought to determine the number of times expectant mothers have received antenatal care during their current pregnancy. The findings were as illustrated in Table 4.20

Table 4.12: Number of times they have received antenatal care

No. of times	Frequency	Percent
Two	2	4.8
Three	10	23.8
Four	12	28.6
Five	15	35.7
Six	3	7.1
Total	42	100

More than half of the expectant mothers in the slums received more than four antenatal care visits as shown by 71.4%. The median number of antenatal care visits of 4 is the recommended, but comparable to the national median of 3.7 visits is better. This implies that majority of the expectant mothers who took part in this study were following the MoH guidelines in regard to seeking antenatal care services. In addition, the study concurs with survey findings by Wamukoya et al., (2020) that over 50% in the informal settlements of the expectant women attended all the recommended 4 antenatal visits.

4.4.9 Services given by healthcare provider

The respondents were asked to indicate whether they had received various services by their healthcare providers at least once. The findings were as illustrated in Table 4.21.

Table 4.13: Services given by healthcare provider

		Frequency (f)	Percent (%)
Measure your blood pressure	Yes	42	100
	No	0	0
	Don't know	0	0
Take a urine sample	Yes	22	52.3
	No	17	40.6
	Don't know	3	7.1
Take blood sample	Yes	36	85.7
	No	6	14.3
	Don't know	0	0
Listen to baby's heartbeat	Yes	42	100
	No	0	0
	Don't know	0	0
Talk to me about which foods to eat	Yes	19	45.2
	No	12	54.8
	Don't know	0	0
Talk to me about breastfeeding	Yes	14	33.3
	No	28	66.7
	Don't know	0	0
Ask if i had vaginal bleeding	Yes	17	40.5
	No	25	59.5
	Don't know	0	0

According to the study results, all (100%) the expectant mothers who had attended antenatal care had their blood pressure checked and baby’s heartbeat listened to. In addition, 85.7% of the expectant mothers had their blood sample taken and 52.3% had their urine sample taken. However, its clear that a significant proportion (66.7%) of expectant mothers had not been advised on breastfeeding and 59.5% had not asked about about vaginal bleeding. Also, over half of the population (54.8%) indicated that they had not talked about the which types of foods to consume. Some of the reasons the respondents gave that inhibited the discussion was that the nurses did not have ample time and that others indicated the facilities were not adequately equipped with enough staff to handle all their cases.

4.5 Access to MCH services

Under this section, the study sought to determine the influence of access to health services on performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya. Specifically, the study sought to determine time taken to reach participant’s primary healthy facility, cost and affordability of MCH services and MCH service availability at the visited facility.

4.5.1 Accessibility of healthy facility

The respondents were asked to indicate how difficulty or easy it is for one to reach the nearest health facility that offers MCH services. The findings were as illustrated in Table 4.22

Table 4.14: Accessibility of health facility

	Frequency	Percent
Easy	79	88.8
Difficulty	10	11.2
Total	89	100

From the findings in Table 4.22, majority (88.8%) indicated that it was easy for them to access facilities offering MCH services while 11.2% of the respondents indicated otherwise. This implies that the health facilities are not far placed from the people in the informal settlements. In addition, the study concurs with Kringos et al., (2020) findings that health structures have been strengthened in giving the people services that are reliable and that leave minimal gaps. However, the results contradict those of Silali (2017) that across the world, 80% of family units lack access to effective, dependable, efficient and quality maternal and child health education.

4.5.2 Availability of channels/platforms passing information on MCH

The study sought to examine whether the respondents knew of any channels or platforms through which they can receive information on MCH. The results were as shown in Table 4.23

Table 4.15: Availability of channels/platforms

	Frequency	Percent
Yes	29	32.6
No	60	67.4
Total	89	100

Table 4.23 shows that majority (67.4%) indicated that they did not have a channel or platform to access information on MCH. However, a significant proportion 32.6% had the access. Some of the channels/platforms the respondents were getting information from included through vernacular radio stations. Radio is believed to be the most reliable channels as majority of women in slums spends most of their days at home. Access to print media was noted to be limited due to the low level of education acquired by majority of the slum dwellers. In addition, door-to door campaigns by community workers to play a major role in creating ANC awareness. According to Banke-Thomas et al., (2017), in order to improve accessibility of adolescent, young caregivers need better exposure to health information and be provided with more opportunities to interact with health-care providers.

4.5.3 Payment for MCH services

The study sought to determine whether the respondents were paying for MCH services in the health facilities. Findings were as illustrated in Table 4.24

Table 4.16: Payment for MCH services

	Frequency	Percent
I have to pay for services	4	4.5
I receive services without paying	22	24.7
I pay for some services while other services are offered freely	63	70.8
Total	89	100

Table 4.18 shows that majority 70.8% of the respondents were paying for some services while others were offered freely and 24.7% were receiving the services without paying. However, a minority proportion (4.5%) were paying for the MCH services received. This implies that in most of the facilities, MCH services were partially sponsored in the informal settlement. These findings correlate with those of Kinney et al., (2010) that eliminating charges could help with solving economic inaccessibility but it would need proper planning that ensures that quality is not compromised in the process. Some of the services paid for by the respondents include laboratory services such as urine sample and measure Hemoglobin level. Services received for free as noted by the respondents includes; blood pressure testing, vaccination, listen to baby's heartbeat and family planning.

4.5.4 Affordability of MCH services

The study further sought to determine how difficult or easy to cater for the costs of services when receiving MCH services from the health facilities. Results are illustrated in Table 4.25

Table 4.17: Affordability of MCH services

	Frequency	Percent
Easy	79	88.8
Difficulty	10	11.2
Total	89	100

Table 4.25 results indicate that majority (88.8%) found it easy to pay for their services but 11.2% indicated otherwise. This implies that majority of the respondents were able to afford for their MCH services. These findings contradicts with those of Magadi (2016) that notes that residents of the informal settlements in Nairobi experience worse conditions due to economic challenges that cripple their ability to afford health services.

4.6 Equipment availability for MCHP

The third objective of the study was to determine the effect of availability of equipment in health facilities on performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya. Specifically, the study sought to determine the presence of functional obstetric equipment, proper cleaning equipment, effective communication, presence of child growth monitoring equipment and availability of beds, seats and space. From the findings,

health care providers focus their efforts on enhancing services that already exist and making sure, they have sufficient equipment. Key Informant Interview further supported this.

“Our facility has a weighing scale; salter scale or similar hanging scale for under-fives, thermometers and blood pressure apparatus.” (KII,1)

“Essential equipment (needles and syringes, nasogastric tubes, oxygen equipment, self-inflating resuscitation bags –AMBU bags with masks of different sizes, nebulizers or spacers) is available.” (KII,2)

“A functioning blood pressure apparatus and a fetoscope are essential equipment and are available in the ANC service delivery area.” (KII,3)

“The partograph—a document used to monitor an individual woman’s labour—is promoted internationally as a means for improving quality of care by helping providers take appropriate and timely decisions, based on the progress of labour at every stage.” (KII,5)

“A functioning angle poise lamp or torch that could be used as a source of light during clinical examinations and procedures. Equipment required for IUCD insertion and removal is lacking at a significant number of the facilities.” (KII, 1). This concurs with the findings by of Singh et al., (2019) that many clients were not able to get quality antenatal services because of poor infrastructure and lack of equipment in the facilities.

“Our facility lacks the capacity to offer a comprehensive essential obstetric care that can provide the expected service and we are expected to refer the clients. In cases where life-saving emergency obstetric care is required, the capacity to provide a caesarean section (CS) and to transfuse blood is essential.” (KII, 4). This concurs with the findings of Singh et al., (2019), that the quality of health services remains substandard as a good number of the women who attended the clinics for antenatal care services, are not able to get all the necessary assessments done.

“Health management information system (HMIS) is key in a health care delivery system and has to be functional for a successful system of health care. Mobile phone technology and a Medical Records System are important in a health delivery system in order to obtain disease surveillance, demographic and statistical data for planning and follow up.” (KII, 3)

“Space is inadequate, when women share beds, there is no privacy. The linen may be adequate but it could be better, we have only one resuscitator yet so many babies are born every day. Sometimes examination lights are not functioning. There is no ventilator in the maternity so very sick patients are sent to ICU” (KII,6). This is in line with opinion of Sumankuuro et al., (2018) that there are noteworthy obstacles distracting delivery of quality and appropriate MCH services such as lack of sufficient hospital equipment.

“Infrastructure hmmm, that is where I think the challenge is, it is not so much but at least we are dealing with what we have. This labour ward has a 3-bed capacity but sometimes women coming in can be 5-7 and some will be on the floor and sometimes you can even have 3 women pushing at the same time.” (KII, 1). This is in line with findings of Maufi (2021) that most health facilities in Sub-Saharan Africa do not have satisfactory structures and equipment to facilitate effective service delivery.

4.7 Covid-19 related questions

The fourth objective of the study was to assess the influence of COVID-19 mitigation protocols on performance of Maternal and Child Health program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya. In order to achieve this objective, the study sought to reveal on compliance to the curfews, lockdown and social distancing.

4.7.1 Perceived seriousness of the COVID-19

The study sought to determine what extent the respondents perceive COVID-19 as a serious threat to the health and livelihood of their household. The findings were as illustrated in Table 4.26.

Table 4.18: Perceived seriousness of the COVID-19

	Frequency	Percent
Not serious	6	6.7
Somewhat serious	5	5.6
Very serious	78	87.6
Total	89	100

Findings in Table 4.19, eighty 87.6% of the respondents perceive COVID-19 as very serious, 6.7% perceive it not serious and 5.6% perceive it somewhat serious. This was supported by findings from KII, 9:

“However not that much, but to some extent psychological disturbances was experienced rising from a lot of questions about COVID-19. The community also had some mistrust on health care givers and developed a feeling that you could easily infect them.” KII, 9.

However, the above findings were contrary with the observation of KII 1 and KII 5.

“They believe that corona is not exist, hence not following the guidelines as expected.” KII, 1.

“The community has misconception that there is no covid-19, they therefore hardly following the MoH protocols of wearing masks, keeping social distance.” KII, 5

KII 2 and KII 4 felt there is the need to continue observing the MoH guidelines.

“People should continue wearing masks, general hygiene and keeping physical social distance. That should not be discarded now simple because cases being reported are reducing.” KII, 2.

“Hand washing-helps in even managing other diseases that are related to hygiene, for example cholera. As people and children generally keep washing their hands regularly, they reduce the chances of contracting these other diseases.” KII, 4.

4.7.2 Sought advice or treatment during COVID-19 crisis

The study further sought to examine whether the respondents had sought advice or treatment during COVID-19 crisis/lockdown. The results were as shown in Table 4.27

Table 4.19: Sought advice or treatment during COVID-19 crisis

	Frequency	Percent
Yes	72	80.9
No	17	19.1
Total	89	100

Results indicate the eighty point nine percent sought either advice or treatment during the COVID-19 crisis but 19.1% indicated otherwise. This high percentage of participants seeking healthcare advice can be owed to the community health workers who would take services to the clients’

doorsteps. For the health care providers, they have received support during the COVID-19 period as indicated by KII 1, KII2, KII 5 and KII 9;

“We were supported with trainings from CMEs (From county government).” KII, 1

“We have received Support for outreaches.” KII, 2

“We were given Covid-19 protocol, one from the county.” KII, 5

“Materials and PPEs are provided, though not enough, from the county.” KII, 9;

4.7.3 Advice or treatment sought

The study sought to determine the form of advice or treatment the respondents sought during the COVID-19 crisis. Findings were as illustrated in Table 4.28

Table 4.20: Advice or treatment sought

	Frequency	Percent
Antenatal care	24	27
Growth monitoring and immunization for your child/children aged 0-5 years	11	12.4
Treatment of a childhood illness	3	3.4
Nutritional health service	51	57.3
Total	89	100

The study established that over a half of the respondents, 57.3% had sought nutritional health service and 27.0% had sought antenatal care services. In addition, a small proportion of 12.4% of the respondents sought services for growth monitoring and immunization for their child/ren and 3.4% of the respondents sought for a childhood illness.

4.7.4 Extent of agreement on various statements on seeking advice or treatment in COVID-19 crisis

The respondents were asked to indicate the extent of agreement or disagreement on various statements on seeking advice or treatment in COVID-19 crisis. The results were as illustrated in Table 4.29

Table 4.21: Extent of agreement on various statements on seeking advice or treatment in COVID-19 crisis

Statements	Mean	Std. Deviation
I think my service provider has everything needed to provide complete treatment/advice	2.955	0.928
When I go for treatment/advice, they are careful to check everything when treating and examining me	2.888	0.910
I have to pay for more of my medical care than I can afford	2.146	0.899
The treatment/advice I have been receiving is just about perfect	3.258	1.028
Where I get treatment/advice, people have to wait for too long to get the service	1.955	0.638
I am dissatisfied with some things about the treatment/care I receive	1.876	0.809
I have doubts about the ability of the service providers who treat/advise me	2.449	0.905
Service provider sometimes ignore what I tell them	2.135	0.815

From the findings, the respondents were uncertain on the treatment/advice they had been receiving being perfect or not as shown by a mean of 3.258 and standard deviation of 1.028. The respondents were uncertain that their service provider had everything needed to provide complete treatment/advice as shown by a mean of 2.955 and standard deviation of 0.928. Additionally, the respondents were uncertain that care givers check everything when treating and examining them as shown by a mean of 2.888 and standard deviation of 0.910. The respondents had doubts about the ability of the service providers who treat/advise them as shown by a mean of 2.449 and

standard deviation of 0.905. The respondents have to pay for more of my medical care than they can afford as shown by a mean of 2.146 and standard deviation 0.899. The respondents felt ignored sometimes by service providers as shown by a mean of 2.135 and standard deviation 0.815. In addition, the respondents agreed that people have to wait for too long to get the service as shown by a mean of 1.955 and standard deviation of 0.638. Further, the respondents also agreed that they were dissatisfied with some things about the treatment/care they received as shown by a mean of 1.876 and standard deviation of 0.809.

4.7.5 Failure to attend scheduled appointments

The respondents were asked to indicate whether had missed any of their scheduled appointments or check-ups for their child(ren) under 5 years such as immunization and growth monitoring during the COVID-19 crisis/lockdown. The results were as shown in Table 4.30.

Table 4.22: Failure to attend scheduled appointments

	Frequency	Percent
Yes	30	33.7
No	48	53.9
Not sure	11	12.4
Total	89	100

According to the findings, majority (53.9%) of attended all the appointments. However, a third of the respondents as shown by 33.7% had failed to attend. Also, a small proportion of 12.4% of the respondents were not sure about the attendance. This implies that even with COVID-19 crisis, majority of the people in the informal settlements valued caregivers appointments for their child/ren. Howeverm this contradicts findings by Oluoch et al., (2020) that there is a considerable number of women a reduction in the number of times they visited health facilities during the pandemic. Some of the reasons that were noted by those who missed the scheduled appointments included; clinics were not opened, fear of contracting the virus, closure of health centres where they were seeking their services, lack of finances, caregivers in public hospital refused to attend some and did not have money to seek services from the private facilities. Other reasons noted were that the child had completed clinic attendance and that government facilities were far and the respondents did not have finances for transport. This was supported by KII, 1 and KII, 2.

“Caregivers of children below 5years of age missed scheduled appointments, as some went upcountry.” KII, 1.

“Most pregnant women missed appointments as well, citing fears of getting infected with the virus. Again, some of them are the basic providers hence opt to look for food than coming to hospital.”

KII, 2. Oluoch et al., (2020) opines that there was reduced reach to healthcare facilities during the pandemic as in order to reduce contact, exposure, risk of contracting and transmitting the virus.

4.7.6 Effect of COVID-19 crisis on healthcare seeking practices

The study sought to determine the extent to which COVID-19 crisis has affected the respondents healthcare seeking practices. The results were as illustrated in Table 4.31

Table 4.23: Effect of COVID-19 crisis on healthcare seeking practices

Statements	Mean	Std. Deviation
My safety within health facilities	2.955	1.270
The safety of my baby (unborn/under 5 years) within health facilities	3.011	1.248
Your ability to attend ANC visits/appointments as recommended or scheduled [for expectant mothers]	2.381	1.359
Your ability to consult or physically visit health facilities on issues pertaining mother’s own care	3.011	1.284
Your ability to consult or physically visit health facilities on issues pertaining the health for a child under 5 years [sickness, check-up, vaccines, growth monitoring]	3.074	1.282
Your ability to visit the health facilities for other common ailments/health problems	2.281	1.297
Your ability to visit the health facilities for emergency care and surgical services	2.247	1.334
Your ability to procure/access drugs or other medical supplies	2.865	1.299

Your ability to afford costs associated with seeking health services	2.944	1.265
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According to the findings, the respondents were uncertain about the safety of their baby (unborn/under 5 years) within health facilities as shown by a mean of 3.011 and standard deviation of 1.248. Also, the respondents were uncertain about their ability to consult or physically visit health facilities on issues pertaining mother's own care as shown by a mean of 3.011 and standard deviation of 1.284. Further, the study established that the respondents were uncertain about their ability to consult or physically visit health facilities on issues pertaining the health for a child under 5 years such as sickness, check-up, vaccines and growth monitoring as shown by a mean of 3.074 and standard deviation of 1.282. The crisis have somewhat a little affected their safety within health facilities as shown by a mean of 2.955 and standard deviation of 1.270. Also, the respondents notes that COVID-19 crisis have somewhat a little affected the respondents ability to afford costs associated with seeking health services as shown by a mean of 2.944 and standard deviation of 1.265, their ability to procure/access drugs or other medical supplies as shown by a mean of 2.865 and standard deviation of 1.299. This correlates with Christopher et al., (2020) that during a study on COVID-19, a good number of caregivers said are not able to find drugs from the health centers. Also, Covid-19 has affected caregivers' ability to attend ANC visits/appointments as recommended or scheduled for expectant mothers as shown by a mean of 2.381 and standard deviation of 1.359 and their ability to visit the health facilities for other common ailments/health problems as shown by a mean of 2.281 and standard deviation of 1.297. In addition, the respondents indicates that their ability to visit the health facilities for emergency care and surgical services had a little been affected by COVID-19 crsisis as shown by a mean of 2.247 and standard deviation 1.334.

Further, the research sought to determine how the extent COVID-19 has influenced service provision and delivery, the study sought to examine the challenges providing care (especially for expectant mothers and children of 0-5 years living in the informal settlements. From the Key Interviews:

“The facility doesn't provide nurses with full protective equipment, there is worry of contracting the illness. As they are also caring for COVID-19 positive patients.” KII, 2.

“There is increased workload as many people needed counselling but people providing the services were few.” KII, 3.

“Ignorance from some people who visited the facility. For instances, people not wearing masks, and generally not following the MoH guidelines.” KII, 4.

“Mental health problems, general stress and integral wellbeing was affected.” KII, 5.

“I worry I might contract the Virus as I am a frontline worker and probably transmit it to family members.” KII, 7.

However, even with the challenges mention above, various ways have been adopted to cope with these challenges. From the Key Informant Interviews:

“Minimized visitations unless it's absolutely necessary.” KII,2.

“Training mothers on providing the children with some services they get from the facility.”
KII,3.

“Training on home-based care is emphasized on female caregivers than male caregivers. The therapists provide training for the caregivers.” KII, 5.

“Caregivers were given intense training on what to do from home, for their children living with disabilities.” KII, 6.

“Listening to other people's problems and resolving them, makes them have mental overwhelm. There's a big gap in providing therapists with support and help related to mental health.” KII,7.

4.7.7 Care and services to be improved

The responders were asked to give their opinions on what needs to be improved in terms of the care and services provided at the health facility you visit during this period of COVID-19. From the findings, the respondents suggested that; health staff to be free with patients, patients to be provided with medicines/drugs in public hospitals, dispensaries to be re-opened and social distancing to be encouraged, addition of more doctors in public health facilities, add more governments health facilities and cleanliness in the health centers. In addition, the respondents suggested communication should be improved, encourage people to wear masks, ensure the MoH guidelines are followed, introduce more free services and improve the timeline for healthcare service provision and limit the number of people in hospitals.

Key Informant Interview further supported this;

“The government should ensure Proper training of health workers, especially when situations like these arise (COVID-19).” KII, 1.

“The integral welfare of Health workers to be looked into. For instance, providing them with proper PPEs.” KII, 2

“There is a serious need of sensitization to community about what corona is and all that it involves. For the facilities, the PPEs are scarce and should be provided adequately.” KII, 5.

“Transportation for patients to be looked into, for example, providing more ambulances.” KII, 6.

“The COVID-19 response team to be trained better on how to enter the communities to take suspected cases, and not instill fear to community members.” KII, 7.

“Welfare for CHVs to be ensured. Especially getting appreciation token.” KII, 8.

“They healthcare providers should also be sensitize on how to work without fear of infecting and also being infected more so on dealing with Antenatal care mothers.” KII 9.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings of the research, draws conclusions makes recommendations on establish the perceived factors influencing the performance of Maternal and Child Health Program in the informal settlements of Dagoretti Sub- County, Nairobi, Kenya.

5.2 Summary of Findings

From the study findings, majority (65.1%) of the caregivers were less than 30 years. Also, majority (64%) of the caregivers were currently married. There was significant relationship between marital status and utilization of ANC services. From the findings, majority of respondents lived with their partners and this might have influenced their uptake of ANC services. This study revealed that most of respondent were unpaid family worker/house wife and there was no statistical significance between employment status and utilization of ANC services by the adolescent mothers. Further, the study showed most of the caregivers' highest level of education was primary. This indicated that most adolescents became mothers while at their basic level of education. This can be associated with many young people engaging in sex at a tender age and little understanding about contraceptives. The study however showed, there was no significant relationship between level of education and uptake of MCH services and utilization of ANC services.

The study established that majority of the caregivers are aware of the delivery services, family planning services, antenatal care services, growth monitoring and immuniation for children aged 0-5 years. In addition majority indicates that they can only get their services from the public health facilities,communtiy forums and initiatives and NGO affiliated structures. However, a significant proportion would also accesss the services in a private health facility. Study findings also indicates that over two third of the caregivers were taking their child/ren for routine growth and scheduled immunization appointments.

The study found that significant proportion of the expectant mothers (92.9%) was seeking antenatal care from trained nurses, doctors. A small proportion was seeking from community health workers. Over half of the expectant mothers were seeking from public health facilities with just a small proportion seeking antenatal services in private health facilities. From the findings, over two thirds of births in the informal settlements, antenatal care starts during the second trimester and just a small proportion starts towards the last month of the first trimester. This pattern is consistent with the rest of the Kenyan population, though women in the informal settlements tend to initiate antenatal care later. Less than half of the births in the slums received more than four antenatal care visit during pregnancy as shown by 71.4%. The median number of antenatal care visits of 4.0 is equal to that encouraged by WHO. During the antenatal care clinic, caregivers blood pressure checked and baby's heartbeat listened to. In addition, 85.7% of the expectant mothers had their blood sample taken and 52.3% had their urine sample taken. However, its clear that a significant proportion (66.7%) of expectant mothers had not been advised on breastfeeding and 59.5% had not asked about about vaginal bleeding. Also, over half of the population (54.8%) indicated that they had not talked about the which types of foods to consume. Some of the reasons the respondents gave that inhibited the discussion was that the nurses did not have ample time and that others indicated the facilities were not adequately equipped with enough staff to handle all their cases.

The study sought to determine the influence of access to health services on performance of Maternal and Child Health Program (MCHP) in the informal settlements of Dagoretti, Nairobi, Kenya. From the findings it was evident that majority (88.8%) of resident in the informal settlements would access facilities offering MCH services. However, the area was noted to have inadequate a channel or platform through which the residents use to access information on MCH. A third of the participants accessed the information through vernacular radio stations and a small percent through print media. In terms of affordability of the MCH services, majority 88.8% of the respondents paid for some services which included; laboratory services such as measure of urine sample and Hemoglobin level. Many services were offered for free especially the public facilities such as blood pressure testing, vaccination, listening to baby's heartbeat and family planning.

The study sought to examine the influence of COVID-19 mitigation protocols on performance of Maternal and Child Health program (MCHP) in the informal settlements of Dagoretti, Nairobi,

Kenya. It is evident that COVID-19 is perceived a serious threat to the residents of the informal settlement as indicated by 87.6%. It is clear that even with the majority of the respondents perceiving the virus a very serious threat to their health, a significant proportion had sought advice or treatment during COVID-19 crisis/lockdown. Nutritional health service was the most sought (57.3%) followed by antenatal care with 27.0% response rate.

However, majority of the caregivers were not certain on whether the treatment/advice they had been receiving was perfect as shown by a mean of 3.258. In addition, the caregivers uncertain that their service provider had everything needed to provide complete treatment/advice and that they check everything when treating and examining them. Caregivers have doubts about the ability of the service providers who treat/advise and they have to pay for more of my medical care than they can afford sometimes. Caregivers feels ignored by service providers and have to wait for too long to get the service and this process made them feel dissatisfied.

In determining whether the caregivers had missed any of their scheduled appointments or check-ups for their child(ren) under 5 years, the study established a third (33.9%) had failed to attend. However, a significant proportion (53.1%) attended all the scheduled appointments. Reasons that made the caregivers to miss their respective appointments were; closed health facilities, fear of contracting the virus, closure of health centres where they were seeking their services, lack of finances, caregivers in public hospital refused to attend some and did not have money to seek services from the private facilities.

Further, the caregivers and expectant mothers noted that COVID-19 crisis made them uncertain about the safety of their baby (unborn/under 5 years) within health facilities. The ability to consult or physically visit health facilities on issues pertaining mother's own care was found to be uncertain. In addition, the COVID-19 crisis have a little influence on caregivers safety within health facilities, ability to afford costs associated with seeking health services, their ability to procure/access drugs or other medical supplies, ability to attend ANC visits/appointments as recommended or scheduled for expectant mothers, ability to visit the health facilities for other common ailments/health problems and ability to visit the health facilities for emergency care.

To overcome the challenges mentioned above, the Key Informant Interviewees notes that there should be minimized visitations to the health facility unless it's absolutely necessary. Caregivers should also be trained on providing the children with some services they get from the facility. In addition, listening to other people's problems and resolving them, makes them have mental overwhelm and therapists with support and help related to mental health should be handled with a lot of care.

5.3 Discussions of Findings

From the study findings, a majority (65.1%) of the caregivers were less than 30 years. Also, the majority (64%) of the caregivers were currently married. There was a significant relationship between marital status and utilization of ANC services. This finding was contrary to other studies such as a Kenyan study done by Adan and Githae (2018) that established that most of the caregivers are single, not married, and have never been married. From the findings, the majority of respondents lived with their partners and this might have influenced their uptake of ANC services. This study revealed that most of the respondents were unpaid family workers/housewives and there was no statistical significance between employment status and utilization of ANC services by the adolescent mothers. Further, the study showed most of the caregivers' highest level of education was primary. This indicated that most adolescents became mothers while at their basic level of education. This can be associated with many young people engaging in sex at a tender age and little understanding about contraceptives. The study however showed, there was no significant relationship between the level of education and uptake of MCH services and utilization of ANC services. This concurred with Magadi (2016) who established that sociological, economic, and demographic factors of the urban population control how clients of the MCH program seek and utilize health services.

The majority of the caregivers are aware of the delivery services, family planning services, antenatal care services, growth monitoring and immunization for children aged 0-5 years, health talks relating to nutrition, safety, and hygiene offered in their areas of residence. In addition, the majority indicates that they can only get their services from the public health facilities, community forums and initiatives, and NGO affiliated structures. These findings concur with a study by Magadi (2016) that residents of the informal settlements in Nairobi experience worse conditions

due to economic challenges that cripple their ability to afford health services from private health facilities.

It is clear that over two-thirds of the caregivers were taking their child/ren for routine growth and scheduled immunization appointments. Also, the study revealed that the majority of the expectant (two-third) had made at least 4 antenatal care visits. A study by Asweto, Aluoch, Obonyo, and Ouma (2014) established that expectant mothers who travel less than one hour had seven times more likely to have early ANC initiation and five times more likely to have at least 4 ANC visits than mothers who travel more than one hour. In Dagoretti, informal settlements nearly all mothers had to travel less than 30 minutes to access ANC services.

The study found that a significant proportion of the expectant mothers (92.9%) were seeking antenatal care from trained nurses, doctors. This concurs with Magadi (2010) who argues that about half of the deliveries in the slums take place in a health facility, about three-quarters of all deliveries in Nairobi as a whole occur in a health facility. Births that are delivered in a health facility are likely to be attended to by a doctor, nurse, or midwife while those delivered at home are likely to be attended to by a traditional birth attendant, relative, or other unskilled persons.

The study established that over two-thirds of births in informal settlements, antenatal care starts during the second trimester and just a small proportion starts towards the last month of the first trimester. This pattern is consistent with the rest of the Kenyan population, though women in the slums tend to initiate antenatal care later. A study by Ochako and Gichuhi (2016) found that only a minority of pregnant women (36.1 %) make the required minimum of four ANC visits in public health facilities in Kenya.

There is a positive relationship between access to health services on the performance of the Maternal and Child Health Program. The majority of the residents in the informal settlements have access to the facilities offering MCH services, especially the public health facilities. Services such as blood pressure testing, vaccination, listening to the baby's heartbeat, and family planning are offered for free in the slums in public health facilities. This concurs with findings of a previous study by Kringos, Caranci, and Barbazza (2020) which established that services like family planning are free in all public health facilities in the country.

Availability of equipment in health facilities has a positive effect on the performance of the Maternal and Child Health Program. These findings are in line with Singh et al., (2019) who noted when expectant mothers deliver from health facilities, mortality rates of mothers and their newborn babies reduce. This is owed to the skills of birth attendants, supporting infrastructure, and proper referral systems within the facilities. A health management information system is key in a health care delivery system and has to be functional for a successful system of health care. Further, the study established availability of Mobile phone technology and a Medical Records System are important in a health delivery system to obtain disease surveillance, demographic and statistical data for planning and follow-up. These findings correlate with Silali (2017) that access to this information goes a long way to ensure that there is a reduction in child and maternal mortality rates by ensuring that young children get maximum care that promotes integral development which in turn promotes thriving.

The study established that the COVID-19 crisis had a negative influence on the performance of Maternal and Child Health. COVID-19 is perceived as a serious threat to the residents of the informal settlements. This concurs with SPAU's (2020) report that indicates that COVID-19 on the overall economy would equally affect the agricultural and food security sector. This could be associated with movement restrictions and quarantine measures that resulted in less trade of and accessibility to food, sending prices higher at the same time that populations found themselves less able to engage in economic activities.

The study established that the majority of the caregivers were not certain on whether the treatment/advice they had been receiving was perfect or not. Also, the study established that the caregivers did not have confidence in the health care service providers. Caregivers feel ignored by service providers and have to wait for too long to get the service. However, the findings were contrary in a study by Oluoch et al., (2020) that most respondents perceived improvements in quality of care due to short-waiting times, hygiene measures, and responsive health personnel.

The study established that factors such as closed health facilities, fear of contracting the virus, closure of health centers where they were seeking their services and lack of finances made the caregivers to miss their scheduled appointments for children under the age of 5 years during the COVID-19 crisis. According to Veloso and Tarro (2020) tools used to mitigate the threat of a pandemic such as COVID-19 may very well threaten child growth and development. Such tools

entail social restrictions, shutdowns, and school closures, contribute to stress in parents and children, and can become risk factors that threaten child growth and development and may compromise the child(ren) health.

COVID-19 crisis affects caregivers' safety within health facilities, ability to afford costs associated with seeking health services, caregiver's ability to procure/access drugs or other medical supplies, and ability to attend ANC visits/appointments as recommended or scheduled for expectant mothers. These study findings concur with those of Oluoch-Aridi et al., (2020) study which argues that less than half of women reported reduced access due to fear of contracting Coronavirus, de-prioritization of health services, economic constraints, and psychosocial effects were reported due to the imposed lockdown and curfew.

5.4 Conclusions

The study concludes that access to health services has a positive relationship with the performance of Maternal and Child Health. Caregivers are aware of the delivery services, family planning services, antenatal care services, growth monitoring and immunization for children aged 0-5 years, health talks relating to nutrition, safety and hygiene offered in their areas of residence. This has made a huge proportion of the residents to seek the MCH services. This could be owed to the use of the community health strategy that ensures that health information and other services are taken into the community. Community health assistants and community health volunteers move from door to door of clients to offer services that do not require visiting the health facilities. When they assess the situation and recognize need for further assessment, they refer the participants to the health facilities and encourage them to seek for appropriate services. It can therefore be said that there is effective access to health services, which in turn influences the performance of MCHP positively.

There is high percentage of caregivers having at least four ANC visit (57.2%) as recommended by WHO. This indicates high utilization of MCH services of antenatal care services. Age, caregivers living with their partners, sources of income and level of education were not significantly influencing the pattern of MCH services uptake. However, marital status had an influence on ANC services uptake. Age of clients did not seem to have much influence of the performance of MCHP. This is because women of all ages sort for health services. This can also be owed to the community

health strategy that makes sure that all people in the community are encouraged to seek for services by creating awareness and holding health promotion functions. So is the education levels of the clients. Despite these clients living in urban informal settlements, they do not face a significant challenge affording health services as most of these services are partially or fully paid by different organizations; the government, community initiatives and NGOs.

The study concludes that availability of equipment in health facilities have a positive influence on performance of Maternal and Child Health Program. Health management information system is key in a health care delivery system and has to be functional for a successful system of health care. Mobile phone technology and a Medical Records System are important in a health delivery system in order to obtain disease surveillance, demographic and statistical data for planning and follow up. Also, a functioning blood pressure apparatus and a fetoscope are essential equipment and are available in the ANC service delivery area.

The study finally concludes that COVID-19 have a negative influence on performance of Maternal and Child Health program. An increased risk of distress and psychiatric problems during pregnancy and postnatal during the pandemic which discourages the caregivers seeking MCH. Likewise, as the health systems are focused on mitigating the virus, very little focus has been put in ensuring that service provision and utilization in the health centers are not interfered with. As a way of preventing the virus from spreading, participants said that they were asked not to attend the health facilities, unless there was an urgent need to.

5.5 General Recommendations

The study recommends that the local leadership in the Dagoretti informal settlement should take the initiative to educate the caregivers in each and every household the importance of seeking MCH services in the health facilities. The MoH should also adopt new media in passing the information coupled with door-to door campaigns by community workers to play a major role in creating ANC awareness. This could be through the use of community health strategy.

The study also recommends both the national and county governments should use their respective MoH to encourage continuous passing of information to the residents regarding maternal

healthcare services in public hospitals. The MoH needs to address the issues of workers such as providing the required equipments to help them better their working environment. More technological infrastructure should be adopted so as to better the quality of the MCH services.

The study recommends that with the help of COVID-19 task force, there is need to put every effort as a vital contribution to safe childbirth and high-quality maternal care, and to continue to work toward the achievement of more measures to prevent the devastating health, social and economic impact of a COVID-19 outbreak particularly among women living in informal settlements.

5.6 Recommendations for Further Research

The study confined itself to the perceived factors influencing the performance of Maternal and Child Health Program in the informal settlements of Dagoretti Sub- County, Nairobi, Kenya. The study should be replicated in all other Sub-Counties in Nairobi County, focusing on informal settlements. In addition, the study recommends that future research should focus on influence of institutional factors on provision of both the antenatal and post-natal services. Barriers to utilization of both services should also be assessed in the informal settlements in Nairobi County and other regions in the Kenya.

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APPENDICES

Appendix I: Transmittal letter

Mokaya Mercy Moraa,
P.O Box 70386-00400,
Nairobi.

Dear Participant,

RE: REQUEST FOR YOUR PARTICIPATION IN A RESEARCH STUDY

As a requirement for award of the degree of Master of Arts in Project Planning and Management at the University of Nairobi, I'm supposed to undertake a research study. I'm interested in analyzing the perceived factors that influence the performance of Maternal and Child Health Program in the informal settlements of Dagoretti Sub-County, Nairobi, Kenya. You have randomly been selected as you constitute the target group for this survey. You are at liberty to choose to/not to take part in this. If you agree to participate, you will be required to respond to some questions pertaining to Maternal and Child Health Practices via telephone call (for safety reasons). This will take approximately 30 minutes. There is no individual gain in participating but the information you will give will go a long way in informing formulation and improvement of policies. Confidentiality is guaranteed. Your name will not be identified while writing the research findings or study report.

For any more information or clarification, I may be contacted on mobile 0727975665 or email moraamercy23@gmail.com.

Thank you for agreeing to participate,



Appendix ii: Questionnaire on Perceived Factors influencing the performance of MCHP in the informal settlements in Dagoretti Sub- County, Nairobi, Kenya.

Thank you for agreeing to participate in this research study. You are required to respond to some questions pertaining to perceived factors influencing the performance of Maternal and Child Health Practices via this telephone call (for safety reasons). This will take approximately 30 minutes. There is no individual gain in participating but the information you will give will go a long way in informing formulation and improvement of policies. Confidentiality is guaranteed. Your name will not be identified while writing the research findings or study report. If you are ready, we shall begin.

Section A: Social demographic characteristics (tick the response that apply and type in where written response are needed)

ITEM	RESPONSE CHOICE	CODE
Participant Identification Code		
Gender	1. Male 2. Female	
Indicate your age bracket	Below 25 years 25-30 years 31-35 years 36-40 years 41-45 years above 45 years	
What is your current marital status?	1. Single/never married 2. Single but cohabiting 3. Currently married 4. Separated/Divorced 5. Widowed 97. Other (specify) 98 Don't know/prefer not to answer	

ITEM	RESPONSE CHOICE	CODE
Do you live with your partner in the same household?	1. Yes 2. No 99. Not applicable	
What is your main source of income/occupation?	1. Paid employee (public/private sector) 2. Household owns farm 3. Livestock keeping 4. Own business 5. Employer 6. Unpaid family worker/ housewife 7. Apprentice 8. Casual labourer 9. Domestic worker 10. Student 11. Retired civil/private sector 12. Unemployed (able to work) 13. Unemployed (unable to work) 14. Other (specify)	
What is your highest level of education?	1. None 2. Standard 1-5 3. Standard 6-8 4. Secondary school not completed 5. Secondary school completed 6. College/University and above	
How many children do you have ?	_____ (write number)	

ITEM	RESPONSE CHOICE	COD E
How many of your children are below 5 years?	_____ (write number)	
Are you or you currently expecting a baby?	1. Yes 2. No 98. Don't know	

SECTION B: Maternal and Child Health Program

MCH Services

1 a) What are the MCH services that you are aware of which are offered in your area of residence ? (tick all that apply)

- i) Antenatal care services
- ii) Family planning services
- iii) Delivery care services
- iv) Growth monitoring and Immunization for children aged 0-5 years
- v) Health talks relating to Nutrition, safety and hygiene
- vi) Any other, specify

1 b) From where does one receive the above mentioned services

- i) Public Health facilities
- ii) Private Health facilities
- iii) NGO affiliated structures in the community
- iv) Community Forums and initiatives

2 (specific to caregivers of children aged 0-5 years)

a) Do you take your child/ren for routine growth monitoring in the health facility?

Yes

No

b) Do you take youe child/ren for shcheduled Immunization appointments

Yes

No

c) If No to (a) and/or (b) above, could you please briefly explain why.....

.....

.....

.....

.....

3 (specific to expectant mothers)

Antenatal care		
a. Do you see anyone for antenatal care for this pregnancy?	a) Yes b) No	[]
b. If yes to (9) above, Whom do you see?	a) Doctor b) Nurse/Midwife c) Traditional Birth attendant d) Community Health Worker/Field worker e) Other(specify)	[]
c. Which health facility do you receive antenatal care for this pregnancy?		
d. Do you plan to deliver from the facility you have mentioned in (11) above? If No, where do you plan to deliver? (specify place of delivery)	a) Yes b) No	[]
e. How many months pregnant were you when you first received antenatal care for this pregnancy?	a) months b) don't know	[]
f. How many times have you receive antenatal care during this pregnancy?	a) months b) don't know	[]
g. As part of your antenatal care during this pregnancy, has a healthcare provider do any of the following at least once:		

i) Measure your blood pressure	a) Yes b) No c) Don't know	[]
ii) Take a urine sample	a) Yes b) No c) Don't know	[]
iii) Take a blood sample	a) Yes b) No c) Don't know	[]
iv) Listen to baby's heartbeat	a) Yes b) No c) Don't know	[]
v) Talk to you about which foods to eat	a) Yes b) No c) Don't know	[]
vi) Talk to you about breastfeeding	a) Yes b) No c) Don't know	[]
vii) Ask if you had vaginal bleeding	a) Yes b) No c) Don't know	[]

a) If No to 3 (a) above, could you briefly explain why)

.....

.....

.....

Section C: Access to MCH services

4 a) How difficult or easy is it for you to physically reach the nearest health facility that offers MCH services? Kindly explain.....

.....

.....

4 b) i) Do you know of any channels/platforms through which you can receive information on Mother and Child Health?

Yes [__]

No [__]

ii) if Yes to 4b (i) above, what kind of channels/platforms do you have access to, and from where exactly? Briefly explain.....

.....

.....

4 c) i) Do you normally pay for MCH services in the health facilities?

a) I have to pay for services [__]

b) I receive services without paying [__]

c) I pay for some services while other services are offered freely [__]

ii) If choice (c) is selected, prompt to know what services are paid for and what services are given free of charge (*list the services*)

Services paid for

Services received for free.....

iii) (*for those participants that pay for MCH services*) How difficult or easy is it for you to be able to cater for costs of services when receiving MCH services from the health facilities? Briefly explain.....

.....

Section D: Covid-19 related questions

5. Overall, to what extent do you perceive COVID-19 as a serious threat to the health and livelihood of your household?

- [1]. Not serious [2]. Somewhat serious [3]. Uncertain/indifferent
 [4]. Very serious [98] Dont Know/prefer not to answer.

6 a). Have you sought advice or treatment during COVID-19 crisis/lockdown?

- [1]. Yes [2]. No

b). Which form of advice or treatment did you seek (multiple responses. Tick all that apply)?

1. Antenatal care
2. Growth monitoring and immunization for your child/children aged 0-5 years
3. Treatment of a childhood illness
4. Nutritional health service
5. Treatment of a maternal health complaint/illness
6. Mental health issue/counselling
97. Other specify

d). If you sought advice or treatment in [since COVID—19 crisis/lockdown], how strongly do you agree or disagree with each of the following statements (tick where it applies):

<i>Statement</i>	<i>1. Strongly Agree</i>	<i>2. Agree</i>	<i>3. Indifferent /uncertain</i>	<i>4. Disagree</i>	<i>5. Strongly disagree</i>
I think my service provider has everything needed to provide complete Treatment/advice					
When I go for treatment/advice, they are careful to check everything when treating and examining me					
I have to pay for more of my medical care than I can afford					

<i>Statement</i>	<i>1. Strongly Agree</i>	<i>2. Agree</i>	<i>3. Indifferent /uncertain</i>	<i>4. Disagree</i>	<i>5. Strongly disagree</i>
The treatment/advice I have been receiving is just about perfect					
Where I get treatment/advice, people have to wait for too long to get the service					
I am dissatisfied with some things about the treatment/care I receive					
I have doubts about the ability of the service providers who treat/advise me					
Service provider sometimes ignore what I tell them					

9 a). Since COVID-19 crisis/lockdown, have you missed any scheduled appointments or check-ups for your antenatal care?

[1]. Yes [2]. No [3] Not sure [99]. Not applicable

b). If yes, what was the reason for missing your scheduled clinic appointment?

10 a). Since COVID-19 crisis/lockdown, have you missed any scheduled appointments or check-ups for your child(ren) under 5 years e.g. immunization and growth monitoring?

[1]. Yes [2]. No [3] Not sure [99]. Not applicable

b). If yes, what was the reason for missing your scheduled clinic appointment?

12. We interested in learning how this period of the COVID-19 crisis has affected your healthcare seeking practices. Has the COVID-19 crisis/lockdown affected the following:

	<i>1. Not at all</i>	<i>2. Somewhat a little.</i>	<i>3. Indifferent/ uncertain.</i>	<i>4. Very much.</i>	<i>99. Not Applicable</i>
My safety within health facilities					
The safety of my baby (unborn/under 5 years) within health facilities					
Your ability to attend ANC visits/appointments as recommended or scheduled [for expectant mothers]					
Your ability to consult or physically visit health facilities on issues pertaining mother's own care					
Your ability to consult or physically visit health facilities on issues pertaining the health for a child under 5 years [sickness, check-up, vaccines, growth monitoring]					
Your ability to visit the health facilities for other common ailments/health problems					
Your ability to visit the health facilities for emergency care and surgical services					
Your ability to procure/access drugs or other medical supplies					

	<i>1. Not at all</i>	<i>2. Somewhat a little.</i>	<i>3. Indifferent/ uncertain.</i>	<i>4. Very much.</i>	<i>99. Not Applicable</i>
Your ability to afford costs associated with seeking health services					

13. In your opinion, what needs to be improved in terms of the care and services provided at the health facility you visit during this period of COVID-19?

Appendix iii: Qualitative Interview guide for perceived factors influencing the performance of Maternal and child health program in urban informal settlements

(Administered to health professionals in facility and community setting)

1. Introduction. Could you tell us briefly about what you do in the MCH department in your institution?
2. What services do you offer? *(prompt to know if these services are offered)*
 - Antenatal care services [___]. - Postnatal care services [___]
 - Family planning services [___]. – Screening of child illnesses [___]
 - Delivery care services [___]. - Immunization for children aged 0-5 years [___]
 - Growth monitoring of children aged 0-5 years [___]
 - Health talks relating to Nutrition, safety and hygiene [___]
 - Any other, specify
 -
3. The services stated in (2) above, would you say that they are easily accessible and readily available to expectant mothers and children aged 0-5 years living in the informal settlements of Dagoretti? Kindly explain in-terms of;
 - Distance between your health facility to these informal settlements
 - availability of relevant MCH information
 - scheduling of appointments
 - referral systems
 - whether the services offered can be afforded by the clients.
4. would you say that the MCH department in your health facility is provided with sufficient equipment?
 - What obstetric care equipment does your facility have? (probe for safety, quality, durability, servicing and sufficiency of the equipment).
 - Is there any equipment that you need that your facility currently lacks? (If yes, probe to know which equipment these are)
 - Do you think the current equipment hinders you from fully doing your job in the MCH department? (if yes, probe to know in what ways)
 - What other challenges do you face relating to the equipment?

5. What has been the experience working with MCH clients living in informal settlements?
 - Their acceptability of the services offered in the MCH department
 - How often they revisit the facility for MCH services
 - Common reasons for visits and revisits to the MCH department
 - Practices adapted from the coaching and health talks received and health-seeking behaviors
 - Any other experience
6. The research team is interested in learning how, and to what extent COVID-19 has influenced service provision and delivery.
 - Are there any particular challenges for providing care (especially for expectant mothers and children of 0-5 years living in the informal settlements)
 - Any changes or patterns observed in relation to health utilization and health seeking habits during the COVID-19 crisis and what are the causes?
7. Finally, what other experiences have you had working in the MCH program that has not been asked about? Describe briefly.

Interviewer(s) to conclude the interview by thanking the participant for their time and contribution.