FACTORS INFLUENCING THE UPTAKE OF ANTENATAL CARE SERVICES AMONG PREGNANT WOMEN IN SOUTH GAALKACYO DISTRICT, MUDUG REGION, SOMALIA

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DECLARATION

I certify that this thesis is my original work and it has not been used for any award at any institution

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APPROVAL

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DEDICATION

I dedicate this thesis to my family; dear wife and our children, my mother who supported my school from the beginning and my father for their support

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ABSTRACT

Prenatal attention is necessary for health care of pregnant mothers. The purpose of this research was to determine issues that influence the uptake of antenatal care service by expectant mothers in South Gaalkacyo district in Mudug Region, Somalia. Specific objectives of the study were: To assess pregnant women's awareness of Antenatal Care services (ANC); Determining the socio-economic factors that act as barriers to the uptake of ANC among pregnant women; Evaluating infrastructural factors that act as Barriers to uptake of ANC care services among pregnant women; and Assessing cultural factors that contribute to underutilization of ANC, in South Galkayo District, Mudug Region, Somalia. Maternal Mortality Rate (MMR) is 732 deaths of mothers for every 100,000 live births. The high maternal mortality is attributed to a number of factors some of which were investigated in this study. A sample population of 460 was selected from a target population of 6,847 pregnant women in the study area using Yamane formulae of 1967.This research used a descriptive cross-sectional study design. The target population was pregnant women aged between (15-49) years of age who met the inclusion criteria. The sampling techniques of this study were systematic and simple random sampling techniques. A Semi- structured questionnaire was used to collect quantitative data. Focus Group Discussion (FGD) and Key Informant Interview (KII) guides were used to collect qualitative data. Quantitative data was analyzed and presented in figures and pie Charts. Qualitative data was analysed using themes and sub-themes and presented in summaries of individual "quotes in boxes" after transcription and triangulation of saturated FGD and KII participation. Chi-square test was used to test the associations while logistic forward simple linear regression analysis using bi-variate and multi-variate was used to detect the relationship between study variables. The result showed that knowledge was poor among women (p=0.0001), source of income and family income influenced mothers' use of ANC services (P=0.002), accessibility and availability of ANC services affect the utilization at p-value of 0.016 and 0.005 respectively. Cultural belief on TBA and husbands' control over their wives were listed among reasons why women underutilize the ANC services. The study concluded that underutilization of ANC among expectant mothers is influenced by women's knowledge, level of education, socio-economic and cultural factors as well as infrastructural factors. Cultural beliefs in patriarchy negatively influenced wives to seek care. The study recommended the awareness by the government and health partners to sensitize women on the importance of ANC service utilization using the Community health workers and TBAs. Girl child education and micro-finance support to women group have to be undertaken by the Government and partners to address the education and poverty gaps. Taking health services to remote areas and use of mobile clinic outreaches were among the recommendation to address the accessibility and availability of health services gaps. The parliament should enact laws that reinforce women rights to alleviate men's control over their choice for ANC services.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ANC:	Antenatal Care
BEmOC:	Basic Emergency Obstetrics Care
FANC:	Focused Antenatal Care
FGD:	Focal Group Discussion
MDGs:	Millennium Development Goals
MoH:	Ministry of Health
PPH:	Postpartum Haemorrhage
RH:	Reproductive Health
SDG:	Sustainable Development Goal

DEFINITIONS OF KEY OPERATIONAL TERMS

Factors: These are attributes that affect the uptake of ante-Natal care services by the pregnant women worldwide.

Antenatal Care: ANC is the clinical assessment of mother and fetus during pregnancy, for the purpose of obtaining the best possible outcome for both the mother and the child.

Influence: The act of a factor or attributes affecting independent variable(s) influencing a Dependent variable.

Uptake: This is the process of utilizing or consumption of services like Anti-Natal services by the pregnant mothers**.**

Antenatal care services: The services received from a health care center regarding pregnant women in the world. **(Sources: Google, WHO website)**

CHAPTER ONE

INTRODUCTION

1.0 Introduction.

This chapter consists of background, problem statement, general objective, specific objectives, justification, research questions, hypothesis, scope of the study, limitations of the study and delimitations of the study.

1.1 Background of the study

Individually focused attention to pregnant mothers commonly referred to as Antenatal Care (ANC) is a model of prenatal clinic attendance that WHO introduced. This is a kind of approach which addresses specific health condition of an expectant mother.

The objective is to reduce visits to a clinic from 8 to4while providing focused care that improves motherhood outcomes. Individual care provides opportunity for educating the women to identify and react to signs related to risk of adverse conditions; for example, preeclampsia or an infectious disease and obstructed labour, which may result in perinatal tears and fistula (Mohamed et al, 2018).

The outcome of early check-ups would be reduction of deaths of mothers. The World Health Organization recommends that a woman without complications should have at least four visits to get sufficient prenatal care(Kariuki et al. 2016).

Antenatal care (ANC) is based on five principles that include quality care, individualized attention, medical examination for diagnosis of disease, classification of risks, and preparedness for birth and complications.

Depending on level of literacy the women are advised on topics ranging from readiness for the baby, complication readiness and indication for probable dangers. Additionally, they counsel on baby nutrition, urge to exclusively breastfeed and advise on fertility control (Gitonga, 2017).

During visits to the clinic women are inoculated against tetanus, prescribed folic acid and iron for prevention of bifida and anemia, blood examination for infectious diseases.
Wellbeing of mothers is closely related to healthy babies (Gitonga, 2017).
Quality of health care institutions manned by trained competent staff rather than numbers of facilities are critical in achieving the state of wellbeing. However, there are intervening limiting factors including socio-demographic, economic and cultural factors that impact on implementation of relevant strategies (Chorongo et al, 2016) to ascertain healthy mothers.

Globally, 830 pregnant women die due to preventable causes related to pregnancy and childbirth of which 99% of them emanate from developing countries. However, over 50% of pregnant women in developing countries do not receive the minimum four prenatal care visits beginning from early stages of pregnancy as recommended by the World Health Organization (WHO, 2018).

Global indicators of status of nutrition and health suggest that in Somalia people have some of the worst parameters. Poor participation of community and improvement of behavior coupled with low allocation of financial and human resources contribute immensely to the dismal indicators. In addition to combined problems of prolonged chronic conflict and drought in Somalia include other factor complications (UNICEF, 2015).

In a systematic analysis of WHO global data on deaths of pregnant mothers Say et al (2014) reported a range of complications that contribute to increasing numbers of loss of life. Figure 1.1 that was adapted (World Health Statistics, 2018) shows a summary of the various causes.

The complications are preventable through regular attendance prenatal services during pregnancy and birth of the baby, proper care after the delivery, severe bleeding, in particular post-partum hemorrhage, hypertension during pregnancy resulting in convulsions, coma and threat to life. Furthermore, illegal abortion and complications from delivery are responsible for about 73% of deaths of mothers (Say, et al.2014).

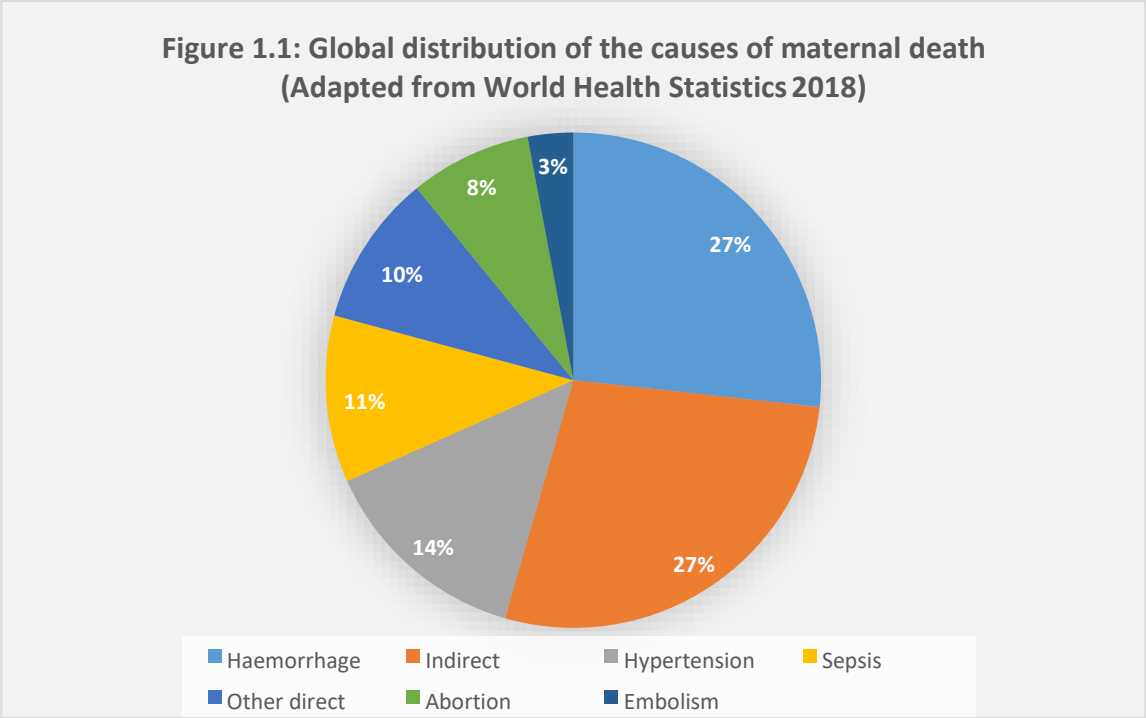


Figure 1 : Global distribution of the causes of maternal death (Adapted from World Health Statistics 2018)

Source: World Health Statistics, (2018).

Antenatal care has been considered as one of the interventions that intend to reduce maternal morbidity and mortality. In 2002, WHO has replaced the existing traditional antenatal care service model with focused antenatal care (FANC) mode in this approach pregnant women should visit the health facility four times during pregnancy to receive the essential services. (WHO Report, 2018).

1.2 Statement of Problem

Antenatal care (ANC) is a key strategy to improve maternal and infant health. However, survey data from sub-Saharan Africa indicate that women often only initiate ANC after the first trimester and do not achieve the recommended number of ANC visits. Drawing on qualitative data. Although maternal and infant mortality rates are declining worldwide due to strategies adopted by the world's governments and Health Agencies, they remain a public health concern. The Global mortality rate stands at 44%, that is, 216 per 100,000 live-births

(UNICEF 2015). In the United States of American it is ranks the 33rd of 179 Countries on health and well-being of women and children (SC, World Mother Report, 2015).

The Sub-Saharan Africa is the riskiest region contributing 99% of the world's mortality rate; a number of studies conducted revealed that Nigeria contributes 10% of the global burden (Sadiq et al 2013). In these countries, a woman faces 1-in-1800 risks of maternal death during delivery and this is the worst among developed nations surveyed according to Robeznieks, 2015).

Out of first 20 all African countries' ranking according to mortality rate, five of these countries are found in East Africa making the problem a great concern for researchers to dig deep into root causes of this maternal and child mortality rates in the world today. **Table1. 1 : Countries ranking according to Maternal Mortality Rates**

Rank Total	Country	Total Death per 100,000 by year 2015
1	Sierra Leone	1,360
2	Central African Republic	882
3	Chad	856
4	Nigeria	814
5	South Sudan	789
6	Somalia	732
7	Liberia	725
8	Burundi	712
9	Gambia	706
10	Democratic Republic of Congo DRC	693
11	Guinea	679
12	Côte d'Ivoire (Ivory Coast)	645
13	Malawi	634
14	Mauritania	602
15	Cameroon	596
16	Mali	587
17	Niger	553
18	Guinea-Bissau	549
19	Kenya	510
20	Eritrea	501

Source: World by Map 2015

Somalia ranked 6th among nations with highest maternal mortality rate that is 732 per 100,000 live births with infant mortality rate of **94.80**per 1,000 live births, Robeznieks, 2015).

This burden is still huge despite remarkable drop since 1990s. Again out a total of 20 countries ranked by infant mortality revealed that only Afghanistan is the odd one, the rest are found in Africa and four of these Countries are in Each Africa sub region which South ranking 16th in the list.

Somalia has suffered combined problems of chronic conflict and drought over the past two and half decades. The fragility of the country resulted in collapse of the health sector. The Somali people have some of the worst health and nutrition indicators. According to UN Interagency (WHO, UNICEF, UNFPA and the World Bank) Estimates in (2015). Antenatal care coverage is 26% and the number of basic emergency obstetric care facilities per 500 000 population is 0.8 compared with an international standard of 5. Mothers die due to lack of access to emergency obstetric care for timely treatment of the main complications of childbirth such as hemorrhage, obstructed labour, eclampsia and infection, UNICEF, (2017). the highest maternal mortality rate of 732 per 100,000 live births with infant mortality rate of 94.80per 1,000 live births in somalia acted as a proof of real problem that agitated the researcher to carry this study in south gaalkacyo district, mudug region, Somalia.

1.4 Justification of Study.

The research investigated underlying reasons that impinge upon use of individual maternal attention arising from diagnosis of probable pregnancy related complications.

A number of difficulties were found to arise prior to, during and post-delivery of baby. These include incessant bleeding, placenta previa or retention, pre-eclampsia, eclampsia, and obstruction of labour (UNICEF, 2017).

Untrained traditional birth attendants are not competent in such situations which require qualified obstetricians and medical experts.

1.5.0 Objectives of the study.

1.5.1 General Objectives.

The General objective of this Study was to establish factors influencing the uptake of antenatal care of pregnant women in South Galkacyo District, Mudug Region, Somalia.

1.5.2 Specific Objectives.

1. To assess the level of Awareness of pregnant women uptake of the Antenatal Care (ANC) services in South Galkayo District, Mudug Region, Somalia.
2. To determine the socio-economic factors that may contribute to uptake of ANC services among pregnant women in South Galkayo District, Mudug Region, Somalia.
3. To evaluate infrastructural factors that may contribute to uptake of ANC services among pregnant women in South Galkayo District, Mudug Region, Somalia.
4. To assess cultural factors that may contribute to underutilization of FANC in South Galkayo District, Mudug Region, Somalia.

1.5.3 Research questions

The research answered the below questions:

1. What is the level of Awareness of uptake of the Antenatal Care (ANC) services among pregnant women in South Galkayo District, Mudug Region, Somalia?
2. What are the socio-economic factors influencing the uptake of ANC services among pregnant women in South Galkacyo District, Mudug Region, Somalia?
3. What are the infrastructural factors influencing the uptake of ANC services among pregnant women in South Galkacyo District, Mudug Region, Somalia?
4. What are the cultural factors influencing the uptake of ANC services among pregnant women in South Galkacyo District, Mudug Region, Somalia?

1.6 Significance of Study.

The findings from this study should have an importance in terms of decision making on the provision of antenatal services and use as reference for the ongoing or planned Ministry of Health interventions. They will contribute to improvement of healthcare of prenatal and post-natal women with the objective of decreasing loss of life neonate and delivering mothers through increased uptake of antenatal care. Additionally, National and Regional Partnerswill use the findings to develop strategies for reduction of morbidity of mother and baby at district level and nationwide.

1.7 Scope of the study

1.7.1: Geographical Scope: The study area was South Galkacyo District, Mudug Region of Somalia and centered in the selected facilities.

1.7.2: Content scope: The research focused on gathering extensive data which aided in raising awareness about care of pregnant women with special needs. Expectant mothers are required to attend antenatal clinics a minimum of 4 times and maximum of 8 following WHO recommendations. Physical examinations undertaken during these visits establish probable pregnancy risks that a woman may encounter during the gestation period, at the point of delivery and postnatal.

1. 7.3: The time scope: The research work was immediately commenced after approval by the MKU and other regulatory bodies in the area of study. The researcher started his work in the month of May, 2021 and will end when the thesis is examined awaiting graduation acoording to time frame in the schedule.

1.8 Limitations of the Study

There were language barriers as some mothers who were interviewed were either illiterate or unable to read and write in English the official language for this study

Mothers feared victimization especially when they report weaknesses in the health services. As a consequence, they were inclined towards giving false information.

In some areas, the researcher and research assistants walked some distances; the researcher provided transportation cost to ease the data collection process and supervision of data collection.

1.9 Delimitations of the Study.

To overcome the issue of illiteracy, the researcher translated each question into Somali when asking the mothers. The researcher translated each question into Somali language when interviewing the mothers.

For the fear of victimization, the researcher assured the participants of nonbearing any consequences or be victimized.

1.9.1: Study Assumptions

It was assumed that the study subjects will fully cooperate and responded to research questions willingly and gladly.

It is assumed that logistics of the research in terms of weather, accessibility of difficult to reach areas and meetings with study subjects was accommodating facilitating smooth running of the project.

CHAPTER TWO LITERATURE

REVIEW

2.0 Introduction.

This chapter consists of the chapter introduction, Theoretical frameworks, Empirical framework, Critical Literature Review, Conceptual framework, and Summary of conceptual framework of the study. **2.1.0: Theoretical Literature Review.**

2.1.1: Antenatal Care Theory

World Health Organization adopted recommendations on Antenatal Care (ANC) that basically established frequency-oriented system of pre-natal health care (WHO, 2002). Table 1.1 below shows how the WHO adapted Antenatal Clinic Model. The major goal of frequent visits and categorization of pregnant women into low and high risk is to predict the complications ahead of time, to care for the mother and the fetus, WHO, (2016).

Table 2. 1 : WHO antenatal care model

Source: WHO, (2018).

S/No.	WHO FANC Model	2016 WHO ANC Model
	First Trimester	
1	Visit 1: 8-12 weeks	Contact 1: up to 12 weeks
2	Second Trimester	
	Visit 2: 24-26 weeks	Contact 2: 20 weeks
		Contact 3: 26 weeks
3	Third Trimester	
	Visit 3: 32 weeks	Contact 4: 30 weeks
		Contact 5: 34 weeks
4	Fourth Trimester	
	Visit 4: 32 weeks	Contact 6: 36 weeks
		Contact 7: 38 weeks
		Contact 8: 40 weeks

Antenatal care is a preventive method that provides check-ups at intervals. It enables doctors or midwives to conduct physical examination of expectant mother, determine her health status, and prevent and treat underlying health conditions. They attend to maternal health through the course of pregnancy and advise healthy lifestyle to benefit mother and baby. The World Health Organization (WHO) reported that in 2015 around 830 women died every day from problems in pregnancy and childbirth only 5 lived in high-income countries. The rest lived in low-income countries, (Dowswell et al, 2015).

Traditional prenatal care in high-income countries generally consists of monthly visits during the first two trimesters, from the 1st week to the 28th week. Fortnightly visits from the 28th week to the 36th week of pregnancy; weekly visits after 36th week to delivery, from the 38th week to the 42nd week and lastly an assessment of parental needs and family dynamics, WHO, (2017).

The greatest underutilization among pregnant women was found to be in Africa and Asia especially in low-income countries. Two thirds (69%) of the global pregnant women reported to have at least one ANC visit while half worldwide pregnant women receive the recommended number of antenatal care visits during pregnancy, this is representing for globally (62%), sub-Sahara Africa (52%) and South Asia 46%), UNICEF, (2016).

The Antenatal care coverage in Somalia is 26% and the number of basic emergency obstetric care (BEmONC) facilities is 0.8 in a population of 500 000 compared to an international standard of 5. Mothers die due to limited timely access to emergency obstetric care for managing pregnancy complications such as hemorrhage, obstructed labour and eclampsia among others, DHS, (2020).

2.1.1 Health Belief Model (HBM)

The health belief model is the psychological health behavior change model that is developed to explain and predict the health-related behavior, in particularly in regard to the uptake of health care services.

The health belief model was developed in 1950s by the social psychologists at the U.S. the public health service and remains one of the best known and most widely used theories in health behavioral research. (Janz, Nancy K.; Marshall H. Becker (1984).

The health belief model suggests that people's beliefs about the health problems of the community, perceived the benefits of action and barriers to action and self-efficiency explain engagement (or lack of engagement) in health-promoting behavior. (Rosenstock, Irwin (1974).

2.1.1 (a) History

The history of the health belief model is the one of the first theories of health behaviour, also the health belief model was developed in the 1950s by social psychologists, (Irwin M., S. Stephen Kegeles, and Howard Leventhal at the U.S (1950).

The public health services are to understand the widespread failure of screening programs for malaria of the children, (Becker et el (1984).

The health belief model has been applied to predict the wide variety of health-related behaviours such as being screened for the early diagnosis and detection of asymptomatic diseases and receiving vaccinations. The more recently of model has been applied to understand the patients' responses to sign and symptoms of disease, the compliance with the medical regimens, lifestyle behaviours (e.g., sexual risk behaviours), and behaviors related to chronic diseases, which may require long-term behavior maintenance in addition to original of health behaviour changes. Modifications to the model were made as late as 1988 to incorporate the emerging evidence within the field of psychology about the role of self-efficacy in decision-making and health behaviour.(Christopher J. (2010).

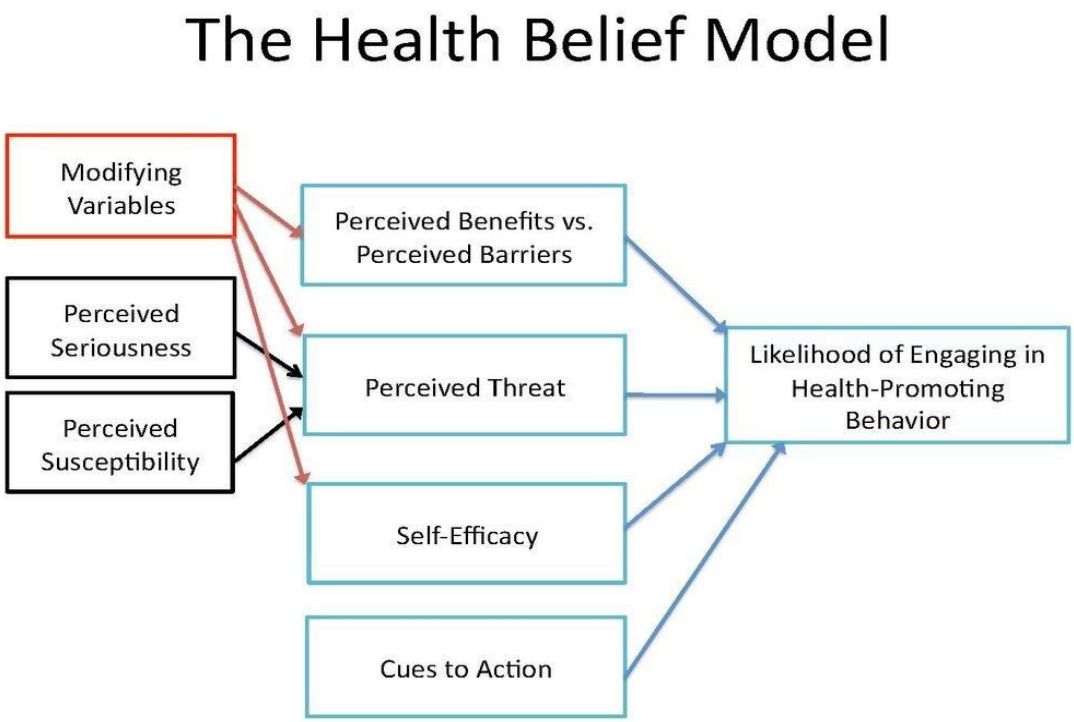


Figure 2. 1 : Health Belief Model

Source (Sajjad, ShaimunaFareehamodifies, (2016).

2.1.2: Social Cognitive Theory (SCT).

The social cognitive theory (SCT), is used in psychology, education, and communication, holds that portions of an individual's knowledge achievement can be directly related to the observing others within the context of social interactions, experiences, and outside media influences. This theory was advanced by Albert Bandura as an extension of his social learning theory. (Bandura, A, (2008).

The theory states that when the people observe the model performing health behaviourand the consequences of that behavior, they remember the sequence of events and use this information to guide subsequent behaviors. The observing a model can also prompt the viewer to the engage in behavior they already learned. In the other words, people do not learn the new behaviors solely by trying them and either succeeding or failing, but rather,

the survival of humanity is dependent on the replication of the actions and others. The depending on whether people are rewarded or punished for their behavior and the outcome of the behavior, the observer may choose to replicate behavior modelled. (Evans, R.I. & A. Bandura, (1989).

The media provides models for a vast array of people in many different of the environmental settings.The social cognitive theory is the learning theory based on the idea that people learn by observing others behaviours. These learned behaviours can be central to one's personality. While the social psychologists are agreed that the environment one grows up in contributes to behavior, the individual person (and therefore cognition) is just as important.

People learn by observing others, with the environment, behavior, and cognition acting as the primary factors that influence development in a reciprocal triadic relationship. In each behavior witnessed can change a person's way of thinking (cognition). Similarly, the environment one is raised in may influence later behaviors. For instance, a caregiver's mind-set (also cognition) determines the environment in which their children are raised.

(Bandura, A, (2011).

2.1.3: The Transtheoretical Model (Stages of Change)

The Transtheoretical Model (also called the Stages of Change Model), developed by Prochaska and DiClemente in the late 1970s, evolved through studies examining the experiences of smokers who quit on their own with those requiring further treatment to understand why some people were capable of quitting on their own. It was determined that people quit smoking if they were ready to do so. Thus, the Transtheoretical Model (TTM) focuses on the decision-making of the individual and is a model of intentional change. The TTM operates on the assumption that people do not change behaviors quickly and decisively. Rather, change in behavior, especially habitual behavior, occurs continuously through a cyclical process. The TTM is not a theory but a model; different behavioral theories and constructs can be applied to various stages of the model where they may be most effective.

The TTM posits that individuals move through six stages of change: Precontemplation, contemplation, preparation, action, maintenance, and termination. Termination was not part of the original model and is less often used in application of stages of change for health-related behaviors. For each stage of change, different intervention strategies are most

effective at moving the person to the next stage of change and subsequently through the model to maintenance, the ideal stage of behavior.

Precontemplation - In this stage, people do not intend to take action in the foreseeable future (defined as within the next 6 months). People are often unaware that their behavior is problematic or produces negative consequences. People in this stage often underestimate the pros of changing behavior and place too much emphasis on the cons of changing behavior.

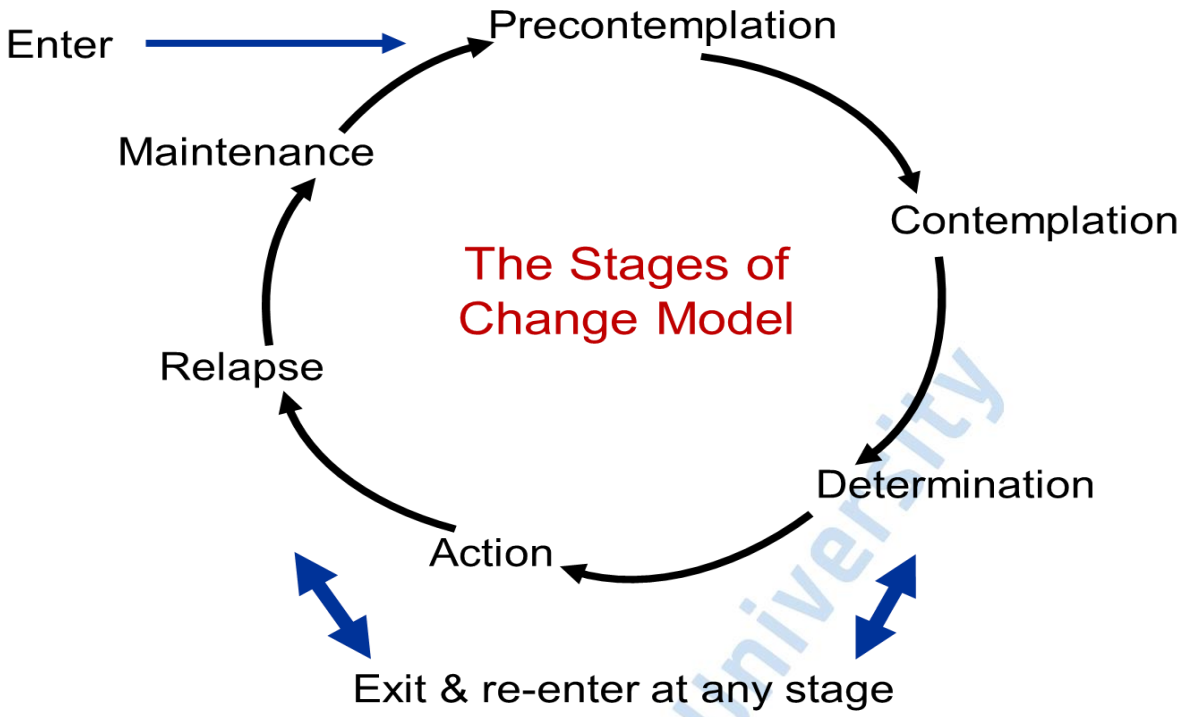
Contemplation - In this stage, people are intending to start the healthy behavior in the foreseeable future (defined as within the next 6 months). People recognize that their behavior may be problematic, and a more thoughtful and practical consideration of the pros and cons of changing the behavior takes place, with equal emphasis placed on both. Even with this recognition, people may still feel ambivalent toward changing their behavior.

Preparation (Determination) - In this stage, people are ready to take action within the next 30 days. People start to take small steps toward the behavior change, and they believe changing their behavior can lead to a healthier life.

Action - In this stage, people have recently changed their behavior (defined as within the last 6 months) and intend to keep moving forward with that behavior change. People may exhibit this by modifying their problem behavior or acquiring new healthy behaviors.

Maintenance - In this stage, people have sustained their behavior change for a while (defined as more than 6 months) and intend to maintain the behavior change going forward. People in this stage work to prevent relapse to earlier stages.

Termination - In this stage, people have no desire to return to their unhealthy behaviors and are sure they will not relapse. Since this is rarely reached, and people tend to stay in the maintenance stage, this stage is often not considered in health promotion programs.



Source: Prochaska and DiClemente in the late, (1970).

To progress through the stages of change, people apply cognitive, affective, and evaluative processes. Ten processes of change have been identified with some processes being more relevant to a specific stage of change than other processes. These processes result in strategies that help people make and maintain change.

Consciousness Raising - Increasing awareness about the healthy behavior.

Dramatic Relief - Emotional arousal about the health behavior, whether positive or negative arousal.

Self-Reevaluation - Self reappraisal to realize the healthy behavior is part of who they want to be.

Environmental Reevaluation - Social reappraisal to realize how their unhealthy behavior affects others.

Social Liberation - Environmental opportunities that exist to show society is supportive of the healthy behavior.

Self-Liberation - Commitment to change behavior based on the belief that achievement of the healthy behavior is possible.
Helping Relationships - Finding supportive relationships that encourage the desired change.

Counter-Conditioning - Substituting healthy behaviors and thoughts for unhealthy behaviors and thoughts.

Reinforcement Management - Rewarding the positive behavior and reducing the rewards that come from negative behavior.

Stimulus Control - Re-engineering the environment to have reminders and cues that support and encourage the healthy behavior and remove those that encourage the unhealthy behavior.

From the theoretical literature review, Health Belief Model will be suitable for my research and hence this model will be frequently vested with regard to this thesis.

The expected outcome of the research being proposed is the change in behavior and practices of the expectant mothers living within Galkacyo District. Such women will in future present themselves at the nearest maternity clinic for a minimum of four visits. It is expected that there will be advantages attached to this course of action against handicaps that they will have to overcome. Figure 2 depicts the practices for the women health benefits. The women will need to understand the health risks, severity of the probable health condition, and existence of likelihood of low immunity. What actions will the women take against these backgrounds is the question?

2.2.0: Empirical literature review.

2.2.1: Global Situation: Definition of antenatal care

Antenatal care is the process whereby mother and the growing fetus are systematically examined throughout the antenatal period. It is a form of preventive medicine in which risk factors are recognized early in the antenatal period and specific interventional measures are instituted. Pregnancy is a special event, and the family and community should treat a pregnant woman with particular care, WHO, (2021).

Globally, every day 800 women die due to complications related to pregnancy and childbirth. Ninety-nine per cent (99% of 800) of these deaths (n=792) occur in developing countries; approximately50% of the burden is in sub-Sahara Africa (Alkema et al.2016).

In Indonesia married girls aged 15 to 19years and young women 20 to 24 were studied with regards to major factors that lead to use of antenatal facilities (Efendi et al 2017).

It was found that comparatively adolescent girls were more akin to attend ANC than the young women; wealthy mothers complete the four recommended visits whereas poor ones are less likely; town dwellers, achievement of higher education and those who did not experience complications in earlier pregnancies attended prenatal care more readily.

They proposed that low income, sub-urban young women be prioritized in when it comes to interventions addressing pregnancy.

2.2.2: African context: Objectives of antenatal care in Nigeria.

The main aim of antenatal care is to ensure a healthy mother and infant at the end of the pregnancy. It reduces maternal and child mortality rates. To attain this objective, antenatal care should be seen as a major preventive health measure which guarantees that the mother remains healthy throughout pregnancy, WHO, (2021)

The World Health Organization technical working group in charge of antenatal care in Nigeria is of the opinion that antenatal care makes a significant contribution to maternal and perinatal health and is therefore an essential component of care for mothers and babies together with family planning, clean and safe delivery and essential obstetric care.

The concept of antenatal care in Nigeria has now shifted from providing medical management of pregnant woman to a combination of information sharing, medical care and helping the pregnant woman make informed decisions about life in general and the pregnancy in particular.

Tests

Your blood will be taken for routine tests like hemoglobin or packed cell volume estimation, complete blood count, blood grouping and genotype, Rhesus group, test for syphilis etc.
These tests are done routinely in Nigeria. Screening for rubella, is done routinely in some centres in Lagos. It has become necessary for you to be screened for HIV and Hepatitis B virus during booking because of the high positive rates in Nigeria and to reduce transmission from mothers to their babies.

Your urine will be tested on every visit for proteins, glucose and acetone. It may be sent for microscopy and culture if urinary tract infection which is common in pregnancy is suspected. Where glucose is present in your urine, your fasting blood sugar will be tested.

Ultrasound scanning has now become part of the booking investigations. It is offered routinely to all women at booking. In Nigeria, where facilities are available, it is done at 20-25 weeks or earlier for dating and suspected multiple pregnancy. Obstetric ultrasound scan is used to to check for fetal abnormalities. In later pregnancy, ultrasound scan is done for specific indications like: ante partum hemorrhage, big babies, intrauterine growth restriction, reduced fetal movements, and premature rupture of membranes.

Depending on the hospital or diagnostic centre, the price/cost of pregnancy ultrasound scan in Nigeria is around #2,500- #4,000 naira, Dr Akin Agboola, (2021).

2.2.3: Antenatal care in East Africa, Uganda situation.

The number of maternal deaths occurring globally is high; worldwide, approximately 830 women die daily from pregnancy-related complications, the majority of which are preventable (Every Woman Every Child, 2015; Kassebaum et al., 2016; World Health Organization, 2017).

Nearly all these maternal deaths (99%) occur in low- and middle-income countries (LMICs) (World Health Organization, 2016), and more than half occur in sub-Saharan African countries.

High maternal death rates in LMICs are recognized as a global health issue with important policy, program, and practice implications (Say et al., 2014; World Health Organization, 2005). The Millennium Development Goals (MDGs) were established under the United Nations Millennium Declaration, following the Millennium Summit of Nations in 2000 (Figure 1.1) (Fehling et al., 2013).

Presented by the United Nations, the MDGs were a list of global development goals centered on addressing socio-economic and health-related inequities (including poverty, gender equality, and maternal health) to be achieved by the global community by 2015 (United Nations, 2000; United Nations, 2015).

Among several health focused goals, MDG 5 sought to achieve universal access to crucial reproductive health services (i.e., family planning, contraceptive use, antenatal care, and skilled birth attendant assistance in delivery) by 2015 (World Health Organization, 2015).

Increasing health personnel training, improving resource allocation (i.e., medical supplies), removing user charges for basic health services, and supporting health education programs were among several strategies to achieve universal access (UNICEF, 2016).

The MDGs also aimed to reduce the maternal mortality ratio 2 (the number of deaths of a woman during pregnancy or within 42 days of termination, per 100 000 births) by three quarters between 1990 and 2015 (World Health Organization, 2015).

Since the launch of the MDGs, progress towards reducing global maternal mortality has been made: the global maternal mortality ratio has been reduced by nearly half and the number of births attended by skilled personnel worldwide has increased by 15% (Lane & Garrod, 2016; UNICEF, 2016).

Many countries have made substantial progress towards the MDGs, but globally the rate of declines in maternal mortality were less than half of the MDG target and further progress is needed to improve maternal health globally (Fehling et al., 2013). Building from the successes, lessons learned, and momentum gained from the MDGs, the Sustainable Development Goals (SDGs) were established in 2015 (Figure 1.2).

Guided by the underlying concept of ‘leave no one behind,’ the SDGs focus on vulnerable populations and aim to address inequalities by empowering the poorest subgroups (Razum et al., 2018; United Nations, 2015).

SDG 3 pledged to substantially reduce the global maternal mortality ratio by 2030 and effectively end preventable maternal mortality (Alkema et al., 2016). Considered more ambitious and regionally targeted than the MDGs, the SDGs aim to double the reductions in maternal mortality achieved during the MDG period (World Health Organization, 2015).

SDGs targets are especially ambitious for countries with the highest maternal mortality, many of whom fell short of the MDG goals (Alkema et al., 2016).

The SDGs include increasing the availability of high-quality, timely, and reliable data relevant to each country (i.e. national demographic information) to enable and inform context-specific development and improvements (United Nations, 2015).

2.2.4: Antenatal care in Somalia.

Somalia has some of the worst health indicators in the world. High mortality for mothers and new-born in the country is associated with factors such as limited access to emergency obstetric and new-born care healthcare services, high fertility rates.
Less than 27% of pregnant women in Somalia have access to antenatal care services. In addition, there is a shortage of qualified health staff, especially nurses and midwives and the long distances to referral centers contribute to poor uptake of ANC and facility deliveries. Social-cultural barriers also impact health seeking behavior by women and adolescents (World Bank Report, 2016).

Women do not have powers to decide on health care seeking options therebypreventing them from accessing maternal care and FP. Providers have their own biases and are often not in favor of providing FP to clients.

2.2.5: Importance of antenatal care

Attendance to prenatal and postnatal care services enhances safety of pregnancy through preventing, detecting risk factors, and managing pregnancy related complication (Perumal et al, 2016). Studies conducted in various communities worldwide suggest that in absence of antenatal care endangers the life ofexpectant mother and the unborn baby(Bauserman et al, 2015).

At the first contact to the health facility, the pregnant women receive complete assessment including screening the risk factors, obstetrical history, medical problems, and physical examination.

According to the situation analysis conducted by UNICEF for the reproductive health in Somalia, the socio-cultural factors affecting the RH in Somalia where, low levels of education and literacy, gender status and the role of men, high fertility and low demand/access to Family Planning methods, harmful traditional practices and poor healthseeking behaviourhinder ANC services utilization, (UNICEF, 2018)

Table 2. 2 : Antenatal care coverage in Somalia (UNICEF 2008)

Antenatal Care Coverage	Percentage	Source
Antenatal (one visit)	26 %	MICS 2006
% Women at least 4 visits	7.1%	MICS 2006
Percent pregnant women with at least two doses of Tetanus Toxoid Immunization	26.3%	MICS 2006
Pregnant women given Vitamin A	4-25%	UNICEF 2008

Source: (UNICEF, 2018).

Many factors affect the utilization of ANC services. According to studies conducted in a number of countries suggest age of the mother, unemployment, language barriers and lack of information/knowledge, multi-parity, time of pregnancy identification and factors like smoking can be associated to poor utilization of ANC services (Ali et al. 2018).

2.3.0: Critical Literature Review.

2.3.1: Focused Antenatal Care in**Africa**

Critically, there exist gaps in all levels of Focused Antenatal Care (FANC) services utilization globally, continentally, regionally, and locally in Somali and Galkayo district. Therefore, there is need to conduct this research to investigate on what hinders uptake of the services in South Galkacyo District, Mudug Region, Somalia.

Studies in Malawi concluded that although WHO 2016 guidelines recommended increasing antenatal visits to 8 times there was no improvement in attendances (Mchenga et al, 2019). In this context, the envisaged rise in quality of service provided to pregnant women. Besides, Mchenga et al 2019 reported in areas of low income the eight visits to clinics were not tenable.

The extents of the economic burden imposed by ANC challenges as well as the mechanisms through which these costs are imposed are relevant to health policy. In trading off between equally deserving demands on health budgets, and more broadly, development budgets, however, an understanding of the extent of the economic impact of an investment in ANC services interventions becomes important.

Shibre and Makonnen (2019) reported that in North East Ethiopia women of low socioeconomic status particularly adhere to attendance the first ANC visit.Other additional visits are dependent on numerous factors including education attainment of husband and wife, financial stability and jobs.

Besides, astudy done by Efendi and others (2016), suggest that educated women are more aware of the importance and advantages of using ANC services compared to non-educated women.

2.3.5: Antenatal Care in Galkacyo District

The gaps of the ANC services management and control are lack of health services, lack of training of the health care providers and the community awareness of the existence of the ANC services in Galkayo district.

In Galkayo, Somalia, the socio-cultural factors affecting the RH in Somalia where, low levels of education and literacy, gender status and the role of men, high fertility and low demand/access to Family Planning methods, harmful traditional practices and poor healthseeking behavior hinder ANC services utilization (UNICEF, 2018) is corruption.

2.3.6 Level of Awareness of uptake of the Antenatal Care services among pregnant women

Many women in developing countries experience life threatening and other critical health problems associated with pregnancy or childbirth. Complications of pregnancy and childbirth end up in more deaths and disabilities than the other reproductive health problems in African countries, Antenatal care (ANC) presents a chance for recognition and appropriate

intervention for a few of the causes of maternal mortality in developing countries, especially in rural areas. . Awareness of ANC services positively affects pregnant women's satisfaction with the services in Lagos state. Efforts should be made to improve the level of awareness of pregnant mothers to achieve greater satisfaction with ANC services in Lagos state.(Ademuyiwa et al, 2020). The level of utilization of skilled

ANC attendance was more common among respondents aged > 35 years compared to the other age groups. About parity, as the parity increased the use of skilled ANC attendants decreased, more women with no education attainment received at least one ANC visit (78.6%) compared to educated women (77.5%). (kangbai et al 2020)

2.3.7 Socio-economic factors influencing the uptake of ANC services among pregnant women

A study conducted in Nepal looking at socio-economic and demographic factors affecting the ANC utilization found that women who are in service or trade related occupation are more likely to use ANC services four or more times than women whose occupation is agriculture, manual work or who are not working. Women from rich categories are more likely to utilize ANC four or more times than the women from poor category. Women from middle category are also more likely to utilize ANC services four or more times than poor category women. Similar finding is drawn in the analysis of a cross sectional quantitative study conducted in Sunsari district of eastern Nepal (Acharya et all 2018).

2.3.8 Infrastructural factors influencing the uptake of ANC services among pregnant women

In the study conducted by Ali et al reviewing factors affecting ANC utilization by women in Kerachi, Pakistan, it showed that quality of care women get affects their choice of utilization. Women were reported to initiate ANC late owing to the perceived bad quality of service at the healthcare facility. The women's criticisms were related mainly to lack of services, citing reasons such as being sent home without receiving services owing to insufficient staff, and having to purchase drugs, cards or diagnostic tests, although the service was supposed to be free. Another strong facility level predictor for skilled maternal care utilization was the performance of health facilities. The presence of all the six signal functions in the nearby basic essential obstetric care facility (health center) positively contributes to the utilization

of all indicators of skilled maternal services. Functioning obstetric facility means performing the essential services for normal situations and complications and these services should be available 24 hours a day and 7 days a week. The presence of all signal functions reflects better performance of a health facility. Distance to a healthcare facility was found to have a very strong association between distance and attendance of ANC. Generally, the distance has been identified as an important barrier to the use of services, especially in rural areas. There was a decay effect of the distance on the health care service utilization, i.e., as the distance increases from the healthcare facilities; utilization of services was reduced. Generally, the effect of distance on the use of services increases when it is combined with lack of transportation particularly in developing countries . Moreover, access to the facilities also has an effect on the frequencies of services being used. The factor of distance gets strongly adhered to other factors such as the availability of transport, the total cost of travel and women's restricted mobility.

2.3.9 Cultural factors influencing the uptake of ANC services among pregnant women

Cultural beliefs play an integral role in the decision-making process of antenatal care. Specifically, the belief and practice of when to disclose pregnancy prohibits women from seeking antenatal care in the first trimester. Identified maternal cultural beliefs included seeking advice from village elders, spousal fidelity, and disclosing pregnancy. Health workers mentioned that providers often held the same cultural beliefs and, therefore, turned women away if they tried to go against cultural norms.(Roberts et al 2016, The Role of Cultural Beliefs in Accessing Antenatal care in Malawi: A Qualitative Study)

2.4 The conceptual framework.

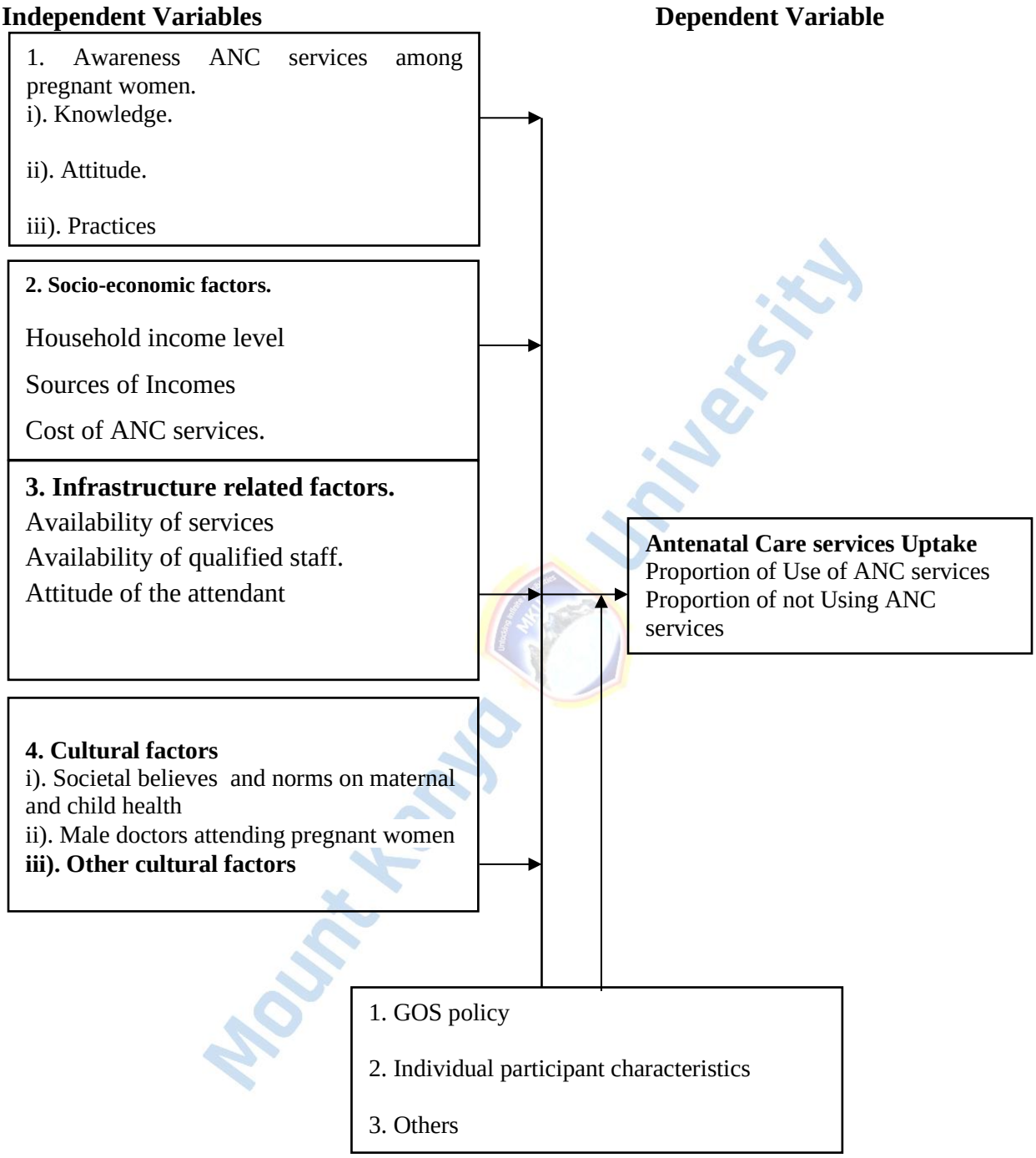


Figure 2. 2 : The Conceptual framework

Source: Literature Review by researcher.

2.5.0: Summary of the conceptual framework.

The ANC uptake in Somalia is low as 26% of expectant mothers utilize the services while 74% do not attend. 2.5.1: Independent variables.

2.5.1.1: level of awareness of pregnant women on FANC services include: knowledge, attitude, and practices of pregnant women **Focused Antenatal Care Utilization in Somalia.**

2.5.1.2: Socio-economic factors such as: The researcher will consider, Family income, Cost of transport
And the Cost of Ante- Natal Care services.

2.5.1.3: Infrastructure factors and not limited to: Availability of services, Availability of qualified staff and the overall Attitude of the staff providing Ante-Natal Care services in the health care facilities in somalia.

2.5.1.4: Cultural factors that include: Societal believes, Gender of the staff attending pregnant woman and other cultural factors in force in the community where the research was conducted

2.5.2: Depended variable, summary inclusive of Antenatal Care Uptake: % utilization, maternal health, and Child health and % Reduction Mortality rates.

2.5.3. Moderating variable, summaries that includes Government of Somalia and WHO Guideline and policy on Antenatal services and Individual Characteristics of Respondents.

CHAPTER THREE RESEARCH

METHODOLOGY

3.0: Introduction.

3.1: Research Design

The study was descriptive study based on cross sectional study design which aimed at generating quantitative and qualitative data collection in Galkayo District, Somalia. Descriptive research is related with describing the characteristics of individual or group. In such design the researcher present picture of the phenomenon in phenomena under investigation.

The possible method includes participants observation where the researcher respondents in natural sitting making and recording his or her observation without undue influence on the respondent**.** (Nganga et al (2010).

Descriptive cross-sectional research design is the most appropriate for this study because it is expected to yield new information and to generate clearer questions to maximize the reliability. It will help the researcher to obtain information concerning the cursed. In descriptive studies, the researcher must be able to find clearly what he wants to measure and must find adequate methods for measuring it alone with clear cut and definition of population he wants to study.

This study thus will be use qualitative and quantitative research methodologies and analysis. This is in agreement with a claim for positive view of research, which is about using the approach which the researcher deems most appropriate for the study each method being adapted appropriate at different stages in the research. (Patton's (1980).

3.2.0: Approach of The Study.

3.2.1 Quantitative

The quantitative of this study will used the questionnaire to collect data from the respondents; the Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into usable statistics and generalize results from a larger sample population of the study. (Leahey, Erin (2008).

3.2.2: Qualitative

The qualitative of this study will be used the focus group discussion (FGD) and the key informant interview (KII). The Qualitative data collection methods vary using unstructured or semi-structured techniques, (Corrine, Glesne (2013).

3.2.3 Mixed Qualitative and Quantitative

The mixed will be used both the quantitative and the qualitative of the study.

The mixed methods are referring to an emergent methodology of research that advances the systematic integration, or "mixing," of the quantitative and qualitative data within a single investigation or sustained of the study. (Corrine, Glesne (2012).

3.3: Location of the Study

In Figure 1.1 is the map of Somalia in which details of the country and study area are shown. Critically, the map depicts the areas of long-standing conflicts that have adversely impact upon the health sector in the country.

The study was carried out in South Gaalkayo district located in north central Mudug Region of Somalia.

The health delivery system in the district is public and private. The study concentrated on the southern part of Gaalkayo District. One functional referral district hospital and health centers located in this district and dispensaries run by non-skilled providers.

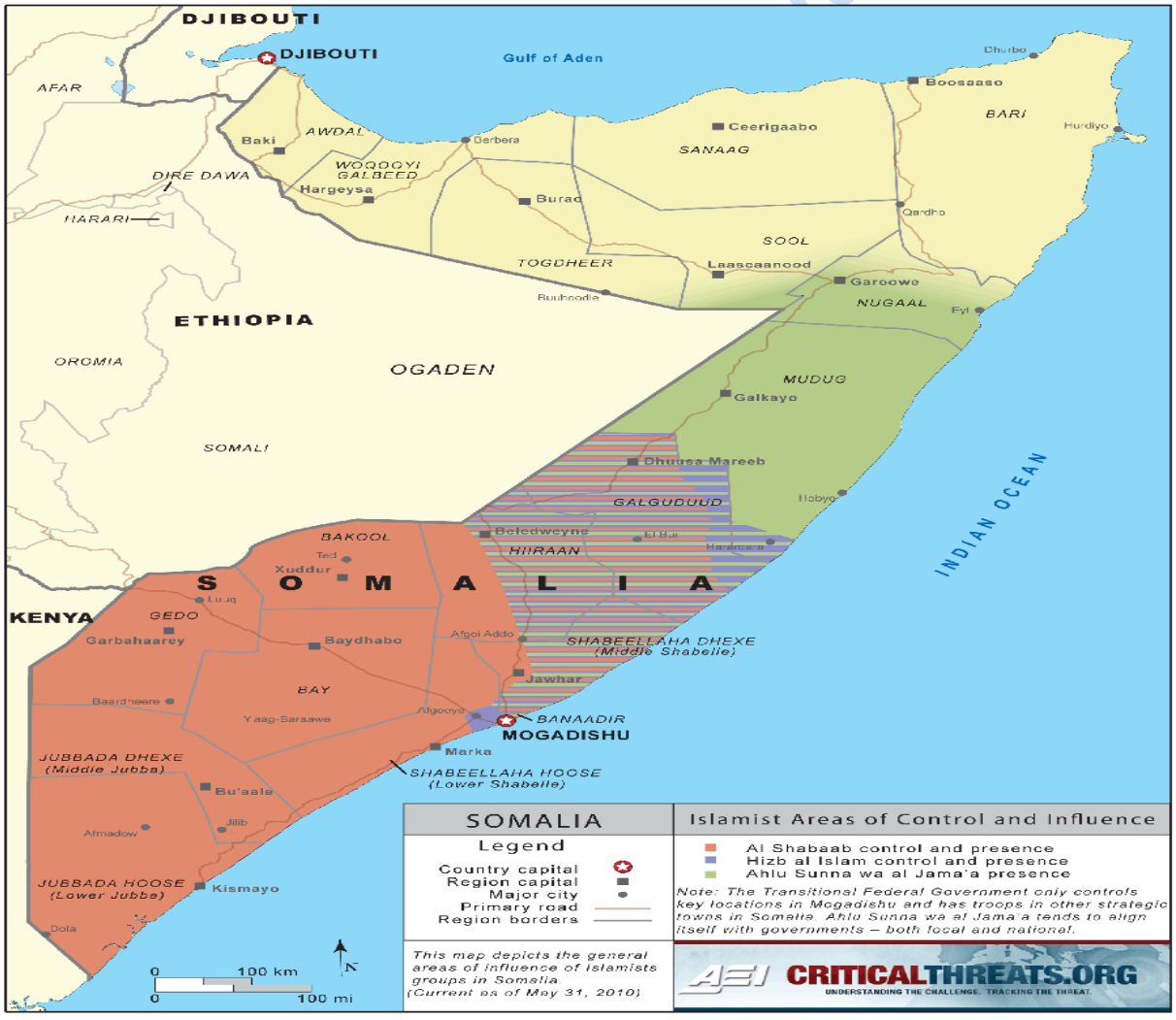


Figure 3. 1 : Map of Somalia showing study area of Gaalkacyo District, Mudug Region

Source: Adapted from Google Map, 2020

Inclusion Criteria

This study included pregnant women of the reproductive age of (15-49) during the study period.

Exclusion Criteria

This study excluded women of below 14 years and above 49 years; women 15-49 years who are not pregnant; women attending at private health clinic as routine ANC services are not offered there; and those mothers unwilling to participate were excluded from this study The health services being offered at public health facilities are supported by local and international NGOs through funding from European and USA donors. Data was collected from the functional facilities. The district hospital is considered as major public health facility that provides primary and secondary health services to the communities in South Gaalkayo District (WHO Report, 2018).

3.4: Sample size determination.

The sample was determined using Yamane Formula (1967) $n = \frac{N}{1+N\,(e)^2}$ **f**rom the population of **6,847** women representing 4% of total population of 171, 436 persons.

n = estimated number of study subjects

e = level of significance at ≤ 0.05

N =the target population, 171, 436 persons in Gaalkayo District in Somalia.

Substituting the figures in the formula it becomes: $n = \frac{6{,}847}{(1+(6{,}847)\ x\ (0.05)^2} =$ $399.94\ participants$ approximately **400, default rate of 15% was calculated and found to 60. This made the sample size of 460 pregnant women**

There were five focus group discussions (2 FGDs) at the district hospitals, 1 FGD at each health center and four Key Informant Interviews (KII).

Table3.1: Showing Proportion of pregnant women by location in relation to sample size determination.

Facility Name	Proportion of pregnant women by location calculated from sample size of 460
Galkacyo South hospital	242 -A
Bandiradley health center	74 - B
Xaar-Xar health center	48 -C
SRC health center	43 -D
Bitaale health post	25 -E
Qarqoora health post	28 - F

Total	460

The Letters A, B, C, D, E and F were used in the place of facility name during data collection to conceal the identity of the facility for confidentiality purposes.

3.6.0: Sampling procedure

The researcher used cluster random sampling method single stage of probability type of sampling where participants will be clustered into six clusters namely, Galkacyo south hospital, Bandiradley health center, Xaar-xar health center, SRC health center, Bitaale health post and Qarqoora health post all in the study area with respective population as indicated in the table above.

The study population was inhabitants of Galkaayo district targeting pregnant women. The participants were randomly selected from these clusters based on exclusion and inclusion cteria. each cluster was composing of selected pregnant women based on the proportion of the population in the selected facility.

Participants for key informant interview was drawn from the health workers (midwives, nurses and, clinical officers) who are directly involved in ante-natal healthcare services delivery at the facilities level.

at the health facilities a qualitative method, participants were selected to participate in 8 FGDs and 12 KIIs were involved in interviews respectively. their recruitment on the study was voluntary as for other participants key informants were selected using purposive sampling technique among focal group discussion members and other experts involved in the antenatal health care services delivery.

3.6.1 Testing validity and reliability of research instruments

3.6.2: Validity.

Opinion of experts in the discipline was sought and included in the prepared questionnaire.

3.6.3: Reliability

A pilot study was conducted using a sub-population with similar characteristics. Randomly 50 participants were sampled for purpose of testing the research instrument. Data collected was entered in SPSS version 26 and subjected to analysis similar to the information collected during the proposed research. This gave the result of alfacrohnbach of 0.70. Internal

consistency should be determined before a test can be employed for research or examination purposes to ensure validity and reliability (IntJMed edu.2011)

3.6. 4: Inclusion Criteria

Mother those are pregnant of the reproductive age of (15-49) and have been Gaalkayo and have been attending ANC and of normal sound mind.

3.4.2 Exclusion Criteria

Excluded women of below 14 years and above 49 years.

3.7.0: Data collection instruments

The study was descriptive study based on cross sectional survey that looked at the women who was pregnant. It was aimed at generating quantitative and qualitative data.

Quantitative data was collected using questionnaire. Qualitative data generated through Key Informant Interviews and Focus Group Discussions and Key informant guide. Data was categorized following based on accessibility of maternal facilities, issues of insecurity, staff performance in delivery institutions and infrastructure.

Collection of data was taped throughout the study area. This was done for the following purposes:

a. Authentication of the data collection
b. Ensuring genuine recording of the information
c. Efficient extraction and transportation of data for tabulation and analyses, Wilunda et al, (2016)

3.7.1 Structured Questionnaires.

Structured questionnaires were for mothers in the selected location/facilities of study

3.7.2 Focus Group Discussions

Focus Groups was formed to involve in discussions to gather qualitative data based on their experiences with regards to attending antenatal care services.

3.7.3 Key Informant Interviews

Healthcare givers including traditional birth attendants, midwives, nurses, Clinical Officers and Obstetricians were interviewed.

3.8.0 Data analysis instruments

The data was tabulated, cleaned, and coded and classified as appropriate. Quantitative Data collection was analyze using SPSS version 26 to find the association between various Variables.

Qualitative data was classified according to themes and sub-themes based on Wilunda et al, (2016).Logistic Forward Linear Regression analysis is powerful statistical methods that will be examining the relationship between two or more variables of interest (dependent variable and independent variable). And P-value below 0.05 will be considered as statistically significant Bivariate and multivariate analyses were done to determine:

3.9.0: Ethical consideration.

The researcher will seek approval to conduct this study from the Mount Kenya University ethics and researcher committee. Approval will also be sought from the authority of Galkayo Province of Somalia Country. Permission will be sought from the Mount Kenya University (MKU) post graduate school. Informed consent will be sought from the participants or respondents

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents information from analyzed raw data. It displays the descriptive and inferential data in that order and the interpretation to the information and is structured as per the conceptual framework of the study. The response rate was 100%.

4.2: Socio-demographic characteristics of study participants

Table 1 presents the socio-demographic results of study participants; 38.4% aged between 16-20 years, 24.4% aged 21-25, 12.4% aged 31-35 years while less than 10% aged above 36 years old. Regarding parity, 34.7% of study participants reported to have three children,

24.7% had more than four while 16.9% had not more than two children **Table 4. 1 : Socio-demographic Characteristics of study participants**

Age	Freq.	Percent
16-20 Years	173	38.4
21-25 Years	110	24.4
26-30 Years	78	17.5
31-35 Years	56	12.4
36-40 Years	23	5.1
40-49 Years	10	2.2
Total	450	100
Parity	Freq.	Percent
<2	76	16.9
2	107	23.8
3	156	34.7
>4	111	24.7
Total	450	100

Source: Primary data.

4.2: Utilization of Antenatal Care Services in current pregnancy.

Majority of study participants as shown in figure 4.1, 59% had utilized antenatal care services, while only 41% reported not have utilized any of antenatal care services

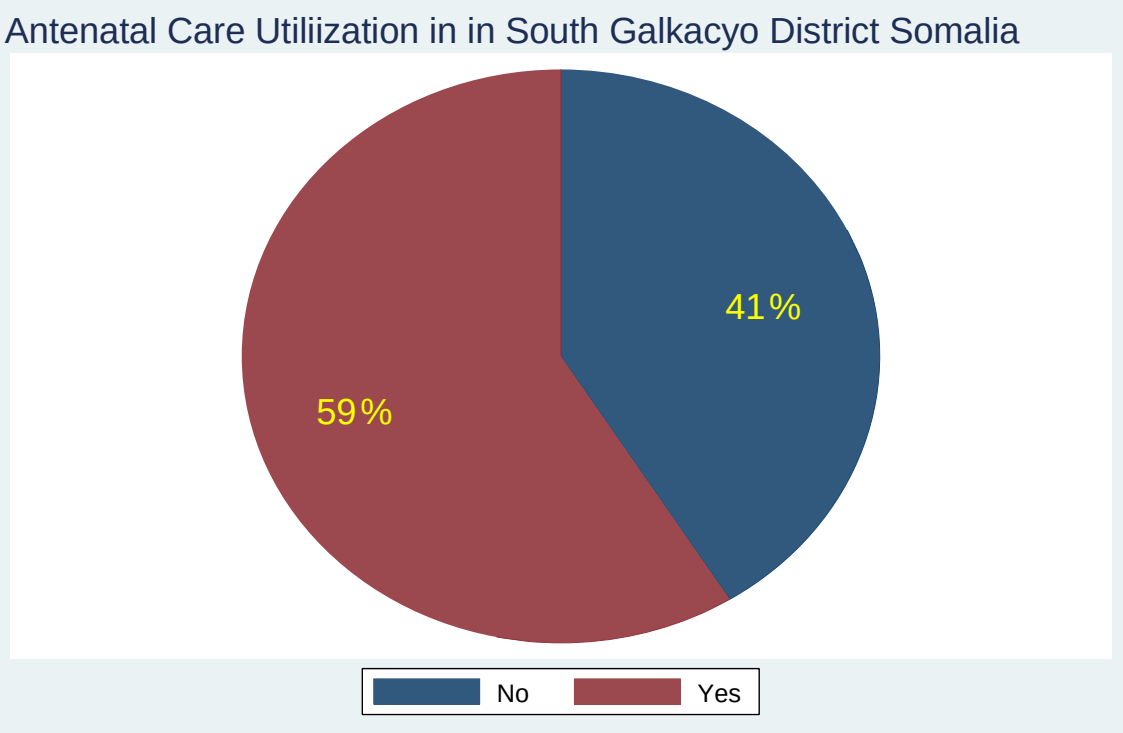


Figure 4. 1 : Proportion of ANC utilization

Source: Primary data.

4.2.1: Summary of Antenatal visits in current made among study participants Table 4.2 illustrate that the number of antenatal visits made by study participants was 2.3with the minimum of one visit and a maximum 6 visits.

Table 4. 2 : Descriptive statistics for number of Antenatal visits made in current pregnancy

Variable	Observations	Mean	Std. Dev.	Min	Max
Antenatal Visits made	450	2.3	.819	1	5

Source: Primary data.

4.2.2: Stage of pregnancy at first Antenatal Care Attendance in current pregnancy Table 4.3 shows the stage of utilization of first Attendance; 37.2% of study participants attended their first Antenatal care within the first three months of pregnancy, 24.5% attended ANC services when they were between 4-6 months of pregnancy, 16.3% could not recall and only 22% first used focused antenatal care services when they were 7-9 months pregnant.

Table 4. 3 : Stage of pregnancy at first Antenatal care attendance

Stage of Pregnancy	Freq.	Percent
0-3 Months	162	37.2
4-6 Months	107	24.5
7-9 Months	96	22.0
Can't Recall	71	16.3
Total	436	100

Source: Primary data.

4.2.3 : The First contact to the antenatal care clinics in previous pregnancy

Table 4.4 shows that in previous pregnancies, 110 (24.5%) respondents had made first visit during second trimesters, 167 (37.2%) had made first visit during first trimester, 96 (22%) had visited ANC during third trimester and 96 (16.3%) were not sure of the time of first visit.

Table 4. 4 : First contact to the antenatal care clinics in previous pregnancy

Period at The First Visit	**No**	**%**
First Trimester	167	37.2
Second Trimester	110	24.5
Third Trimester	96	22
Can't Recall	71	16.3
Total	450	100%

4.2.4: Utilization of ANC services in previous pregnancies

Table 4.5 show that 67% of the pregnant women in previous pregnancies had utilized antenatal care services while only 33.0% of them had not utilized.

Table 4. 5 : Utilization of Antenatal care services during previous pregnancy

Utilizing ANC services during last pregnancy	**Frequency**	**conceptual%**
Yes	301	67
No	149	33
Total	450	100

4.2.5: Percent of ANC visits made during previous pregnancy

129 (43%) who had utilized ANC had attended four or more antenatal visits during their last pregnancy, 84 (28.9%) attended thrice, 57 (19.1%) attended twice and 41 (9%) have attended once only

Table 4. 6 : Antenatal visits made during previous pregnancies

Number of ANC visits during previous pregnancies	No	%
Four times and above	129	43
Three times	84	28.9
Two times	57	19.1
One time	41	9
Total	450	100%

4.2.6: Source of focused Antenatal Care attendance

At least half of study participants got information about Antenatal care attendance, while relatives accounted for about 40.8% as the source of ANC. Traditional births attendants and Radio accounted for 5% and 3.8% as the source of ANC to the study participants as shown in table 4.7

Table 4.

7 : Source of focused Antenatal Care Attendance

Source of Information	Freq.	Percent
Health worker	200	50.4
Radio	15	3.8
Traditional Birth Attendants	20	5.0
Relative	162	40.8
Total	397	100.00

Source: Primary Data.

4.2.7: Reasons for Antenatal care visits in

Qualitative interviews show that some of the reasons for initiated utilization of antenatal care attendance. Some of the reasons stated include

"I felt fatigued and headache and was advised by a relative"
"I went for advice and getting treatment"

"*For routine checkup"*
"*Heart palpitation and severe fatigue"*
"*I was feeling abdominal pain, fatigue and that is why I visited to the antenatal clinic"*
"Routine Checkup and to receive preventive and curative treatments"
"*When feeling not well and need for investigation and treatment"*
"*Routine checkup including test for my Hemoglobin level" ''For delivery''*

4.3: Objective One: Level of awareness of ANC services among pregnant women Table 4.8 presents the level of awareness of antenatal care services among pregnant women in the study area. 87.7 were fully aware of the availability of antenatal care services while only 12.3% were not aware

Table 4. 8 : Level of Awareness of Antenatal Care Services

Level of Awareness	Freq.	Percent
Aware of antenatal care	55	12.3
Yes	391	87.7
Total	446	100.0

4.3.1: Level of Knowledge on specific Antenatal Care Services among Study participants.

Table 4.9 presents multiple response question sets used to assess the study participant's knowledge. A total of 450 study participants responded to all the knowledge statements posed to them of which 393 respondents correctly answered the questions. Establishing rapport between pregnant mother and antenatal care provider as a routine activity was mentioned by 11.8%, detecting pregnancy related complications is conducted during antenatal 18.9%, receive all preventive measures including TT vaccination, Iron and folic acid supplementation, deworming, antimalarial as preventive 28.2% while pregnant woman is required to make 4 ANC visits was mentioned 15.1% of all responses. **Table 4. 9 : Descriptive statistics on correctly answered awareness statements**

Response Knowledge statements	**Frequency**	**Percent of Responses**
Establishing rapport between pregnant mother and antenatal care provider	53	11.8
Detecting pregnancy related complications is conducted during antenatal	85	18.9
Referral for specialized care is part of Antenatal	49	10.9
Treatment as part of antenatal care	68	15.1
Receive all preventive measures including TT vaccination, Iron and folic acid supplementation, deworming, antimalarial as preventive	127	28.2
A pregnant woman is required to make 4 ANC visits	68	15.1
Total	450	100

Source: Primary Data.

Overall Level of Knowledge

The knowledge statements composite scores were derived from the knowledge statements in table 4.10 and recoded to a three-item composite score. At least half of study participants 52.67% had poor knowledge of antenatal care

10 : Level of Knowledge on ANC services

Level of Knowledge	Freq.	Percent
Poor	237	52.67
moderate Knowledge	126	28.00
Good Knowledge	87	19.33
Total	450	100.00

4.4: Objective two: Socio-economic factors.

Table 4.

Regarding the level of education, more than half of study participants 58.1% hadn't received any formal education, 23.6% had primary level of education while only 4.5% had tertiary level of education. Regarding household breadwinners, 92.2% attested that the husbands were the household breadwinners while the rest were the household breadwinners. Business was the major source of income for 25.1% of study participants. Majority of them 58.1% had other source of income, while a paltry 0.7% engaged in farming as shown in table 4.10

Table 4. 11 : Socio-Economic characteristics of study participants.

Household breadwinner	**Freq.**	**Percent**
Wife	35	7.8
Husband	415	92.2
Total	450	100
Source of Income	Freq.	Percent
Farming	3	0.7
Animal Production	72	16.3
Business	111	25.1
Other	257	58
Total	443	100
family Income	**Freq.**	**Percent**
<50	73	16.22
100-150	152	33.78
150-200	143	31.78
200-250	59	13.11
>250	23	5.11
Total	450	100
Level of education	**Freq.**	**Percent**
Primary	106	23.6
Secondary	62	13.8
Tertiary	20	4.5
None	261	58.1
Total	449	100
Means of transport	Freq.	Percent
Walking	178	39.56
Paid for transport	272	60.44

4.5.: Objective Three: Health Infrastructure facility related factors

4.5.1: Location of Health facility factors

Figure 4.2 shows that 79% of health facilities in the study area were located in urban areas while 21% were located in rural areas.

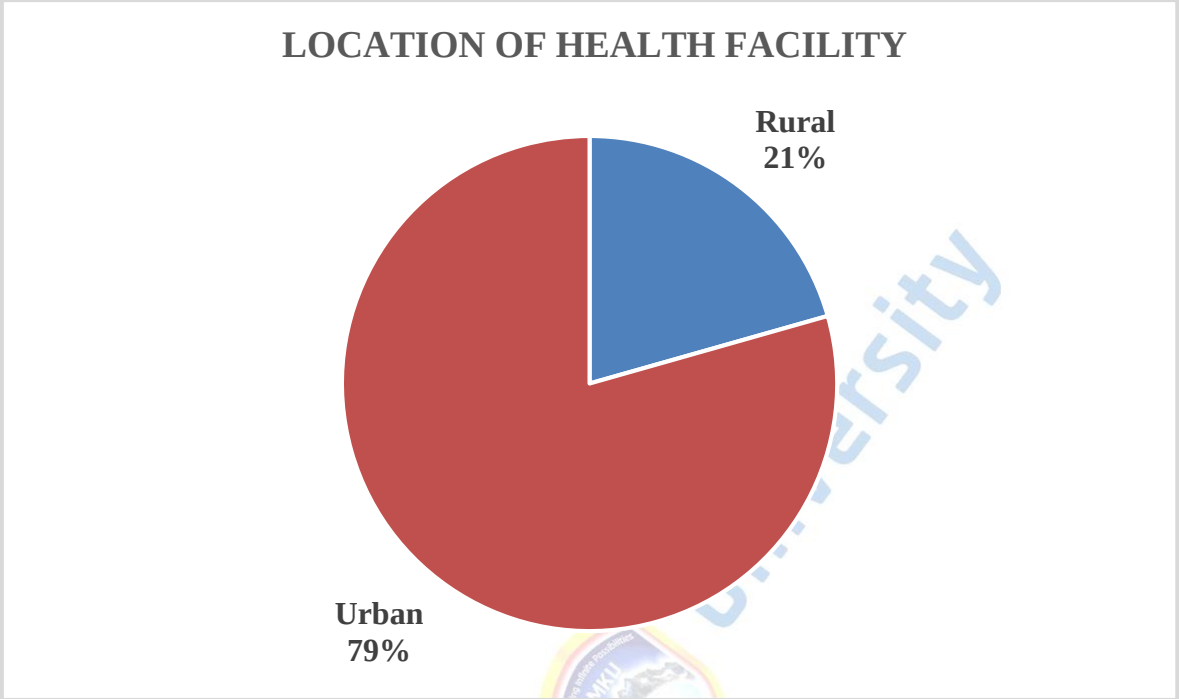


Figure 4. 2 : Location of Health facilities in the study area

Source: Primary Data.

4.5.2: Accessibility of health facility

A large proportion of study participants asserted that the health facilities were accessible, 11.4% were on the contrary that the health facility were not accessible as shown in table 4.11

12 : Accessibility of health facility

Accessibility of health facility	Freq.	Percent
No	51	11.4
Yes	398	88.6
Total	449	100.00

Source: Primary Data.

4.5.3: Availability of female health care providers

All study participants attested that there were no female health workers all health facilities that they sought

Table 4.

Table 4. 13 : Availability of Female Health care provider

Female provider			
Freq.			Percent
Yes	450	100.00	
Total	450	100.00	

Source: Primary Data.

4.5.3: Perceived Health care workers Attitude

A majority of study participants 98% expressed that health care workers at the health facility were friendly to them and only 2% were unhappy.

Table 4. 14 : Perceived health care workers

Workers Attitude	Freq.	Percent
Friendly	438	98.0
Unfriendly	9	2.0
Total	447	100.00

Source: Primary Data.

4.5.4: Perceived satisfaction of Antenatal Care Received

Figure 4.4 illustrate that 88.1% of study participants were satisfied with antenatal care services received at the health facilities while 11.9% were unsatisfied with the level services accorded to them

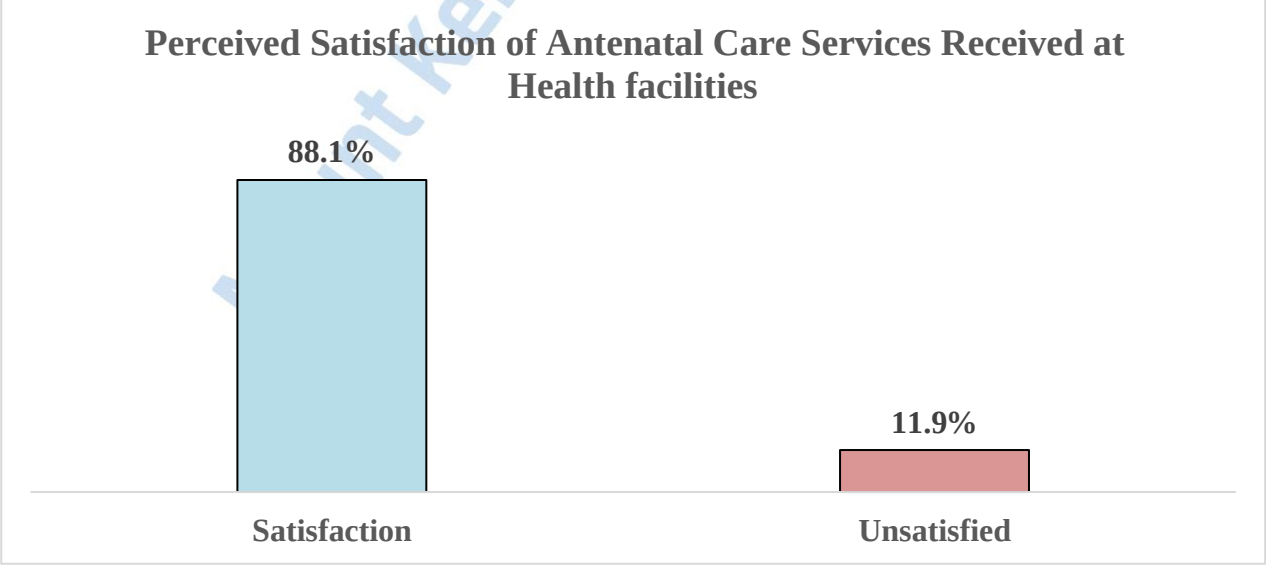


Figure 4. 3 : Perceived satisfaction of antenatal care received.

Source: Primary Data.

4.5.5: Payment for antenatal care at the health facilities

Figure 4.4 illustrate that 96% of study participants in the study area did not pay for antenatal care services. Only 4% paid for ANC services.

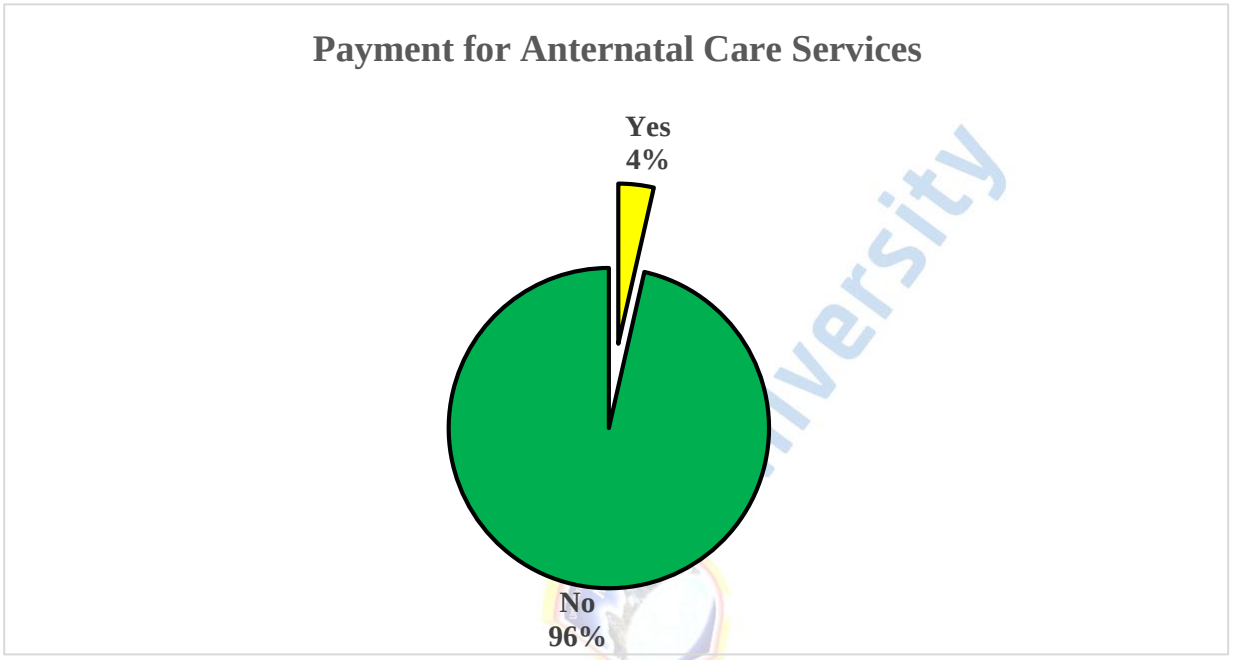


Figure 4. 4 : Payment for antenatal care at the health facilities

Source: Primary Data.

4.6: Objective four: Cultural factors influencing the utilization of Antenatal care

Qualitative responses illustrate that study participants sought maternal health services from traditional birth attendants

"*Traditional birth attendants continue to influence pregnant women not to attend regularly to the ANC"*
"Traditional and cultural norms. communities still believe the TBAs"
"We believe the traditional birth attendants at the village, and we only seek medical help when necessary" we are nomadic communities and believe the traditional culture. Traditional birth attendants are sometimes our primary contact when become pregnant and seek for advice The lack of support of husbands also played an essential role in seeking antenatal health care
"*Lack of husband support, traditional norms that exist and influence by mothers which don't encourage pregnant women to attend"*

"Some women are denied permission by their husbands"
"*Husband makes the decision as well the influence for TBAs and Mother in-law"*

4.6: Test of Associations

4.6.1: Influence of socio-demographic factors on use of antenatal care services in South Galkacyo District, Mudug Region, Somalia

Table below displays the associations between socio-demographic and economic characteristics the influence the use of antenatal care services in the study area. Fisher's exact test shows that the level of education (*p=0.001*) and sources of income *(p=0.002)* were statistically significant with the use of antenatal care services.

Table 4. 15 : Test of Association between socio-demographic, and the use of ANC services

	Antenatal Care Attendance		
Age	**Yes**	**No**	
16-20 Years	113(45%)	138(55.0%)	
21-25 Years	34(30.9%)	76(69.1%)	
31-35 Years	22(39.3%)	34(60.7%)	*9.15(4), p=0.057*
36-40 Years	13(56.5%)	10(43.5%)	
40-49 Years	3(30%)	7(70%)	

Parity			
Less than two	27(35.3)	49(64.5)	
two	49(45.8)	93(54.2)	*4.069(3), p=0.254*
three	68(43.6)	88(56.4)	
more than four	41(36.9)	70(63.1)	
Source of Income			
Farming	2(66.7%)	3(33.3%)	
Animal Production	38(52.8%)	34(47.2%)	*15.1(3), p=0.002*
Business	30(27.0%)	107(93.0%)	
Other	113(44.0%)	144(56.0%)	

Source: Primary Data.

4.6.2: Influence of Socio-Economic factors on antenatal care attendance.

Table 4. 16 : Test of association between socio-economic factors on utilization of antenatal care

	Antenatal Care Utilization		
level of Education			
Primary	3(2.8%)	103(97.2%)	*fisher's Exact*
Secondary	1(1.6%)	61(98.4%)	*p=0.001*
Tertiary	1(5%)	19(95%)	
None	4(1.5%)	256(98.5%)	
Household Income in(u.sd)			
<50	48(65.8)	25(34.3)	
100-150	34(22.4)	118(77.6)	χ^2 *=63.57, df=4*
150-200	13(9.1)	130(90.9)	*p=0.0001*
200-250	5(8.5)	54(91.5)	
>250	4(17.4)	19(82.6)	
Source of Income			
Farming	0(0%)	3(100%)	
Animal Production Business	16(22.2%)	56(77.8%)	*15.1(3), p=0.002*
	4(3.6%)	107(96.4%)	
Other	37(14.4%)	220(85.6%)	
Family Income	No	Yes	
<50	48(65.8)	25(34.3)	

100-150	34(22.4)	118(77.6)	χ^2=65.001, df=4, p=0.0001
150-200	13(9.1)	130(90.9)	
200-250	5(8.5)	54(91.5)	
>250	4(17.4)	19(82.6)	

4.6.3: Influence of level of Knowledge on utilization of Antenatal Care services Table 4.15 shows the test of association between the respondent level of knowledge and utilization of antenatal care services. Chi-square test of independence shows that there is a significant association between the study participants level of knowledge and use antenatal care services in the study area.

Table 4. 17 : Test of Association between the level of knowledge on utilization of ANC

Poor Knowledge	84(35.4)	153(64.6)	43.001, df=2, p=0.0001
moderate Knowledge	13(10.3)	113(89.7)	
Good Knowledge	7(8.1)	80(92)	

4.6.4: Influence of Health facility factors on the use of antenatal care services in South Galkacyo District, Mudug Region, Somalia

Table 4.16 illustrate bivariate associations between health facility factors and the use of antenatal care services in South Galkacyo District Somalia. Chi-square test of independence illustrates that reliability of transport system in the study area was statistically associated with the use of antenatal care services(χ^2=13.34, *df=1p=0.001)*. Accessibility of health facility(χ^2=5.76, *df=1p=0.016),*health care workers' attitude was also statistically significantly associated with the use of antenatal care attendance (χ^2=8.1, *df=2p=0.014).*

Table 4. 18 : Test of association between Health facility factors and the use of antenatal care services

Health facility factors	Antenatal Care Attendance		
Distance to Health Facility	**Yes**	**No**	***χ^2(df) p-value***
Less than 5Km	55(45.8)	65(54.2)	3.06(1), *p=0.080*
More than 5 Km	129(39.2)	200(60.8)	
Reliability of Transport			
Reliable	147(41.2)	210(58.8)	13.34(1),
Unreliable	26(37.7)	43(62.3)	*p=0.001*
Accessibility of Health facility			
Yes	12(23.5)	39(76.5)	*5.76(1), p=0.016*
No	46(11.6)	352(88.4)	
Availability of ANC service at health facility	No	Yes	
Yes	1(11.1)	8(88.9)	*0.0266(1),*
No	57(13)	383(87)	*p=0.870*
Health care workers Attitude	No	Yes	
Friendly	176 (40.2)	262(59.8)	*8.1(1), p=0.005*
Unfriendly	6 (66.7)	3(33.3)	
Satisfaction	No	Yes	
Yes	8(15.7)	43(84.3)	*0.362(1),*
No	48(12.7)	331(87.3)	*p=0.547*

Source: Primary Data.

4.6.5: Logistic regression analysis

Table 4.17 displays the predictors to the use of antenatal care services. Regarding study participants' sources of income, those in business compared to those who practiced farming as a source of income were 3.787 times more likely to use antenatal care services. Concerning the reliability of transport, those who perceived to have reliable transport were

0.019 times likely to use antenatal care services as compared to those did perceive to have an unreliable form of transport. The odd of ratio is less than one that is 0.019 showing the significance of perceived transport availability

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter covered the summary, discussion, conclusion and recommendations

5.1 Summary

The study looked at the factors influencing the women choice to utilize the antenatal care services in South Galkaayo District, Mudug region of Somalia. A mixed method of qualitative and quantitative method was used to collect the data using the questionnaires, focus group discussions and key informants interview. 450 pregnant women participated in the study and was found that most of the mothers don't attend the antenatal care services with many of them mentioning poor knowledge, lack of availability and access of health facility, cultural belief as reasons for underutilization of the ANC services. Data analysis strongly related poor knowledge, low income, and 'husbands' behaviors of control over their wives to the ANC services utilization.

5.2 Discussion:

The study found that young women of age 16- 20 years (38.7%) were keen to attend to the antenatal care services compared to mothers in the age group 40-49 years, this is corroboration with the study by Efendi et al 2016 in which was found that comparatively adolescent girls were more akin to attend ANC than the young women. The study found FANC utilization was 67% which about two-thirds of the mothers while one-third don't utilize the services posing them at high risks of maternal and infant mortality and morbidity, it is reported that educated women are more aware of the importance and advantages of using the Ante Natal Care services compared to non-educated women. The education level among the study participants was 58.1% corroborating with the findings of Effendi et al 2016

UNICEF published findings stated that pregnant women in Somalia experience a number of handicaps including lack of education, poor attitude of the husband and the community regarding pregnancy, early marriages and extreme female genital mutilation (FGM) that complicate maternal health thereby reducing chances of live births (UNICEF 2017). Of 59% women who attended for antenatal care, 37.2% where seen during their antennal visits 24.5%

attended ANC services when they were between 4-6 months of pregnancy, 16.3% could not recall and only 22% first used focused antenatal care services when they were 79 months pregnant. This indicates dwindling proportion of women attending the subsequent visits particularly at the stages where most of pregnancy related morbidities occur. Health workers' role in raising awareness of pregnant mothers proved to be effective, majority of the mothers in the study listed their sources of information as coming from health workers by 50.4%. This is in line with a study conducted in Uganda in which was found that Health workers played a great role (72.04%), followed by the media (15.46%) and friends (12.50%) in creating awareness about ANC. A significant number of respondents went to TBAs with reasons such as "near and accessible. (Peter Chris et al 2015). lack of awareness or unavailability of focus antenatal care and above-all inability to make individual decisions on matters pregnancy (UNICEF 2017). The study found that about 40% of women know that when they visit the facility, they under physical examination and history taking. Most of the respondents expressed poor knowledge of ANC services while 19 and 28% expressed good and average knowledge respectively.

Knowledge and awareness of ANC services has found to influence expectant mothers' utilization of ANC services (MuluwasAmentie 2015)

Aburne et al 2019 cited cultural beliefs about pregnancy that it is not a disease and pregnant women, and girls ought to attend to domestic responsibilities including fetching water from the source carrying the load to the homestead, the use of traditional birth attendants and concerns about health worker attitudes and quality of health services are also some of the factors that may contribute to low ANC uptake in this area. Lack of health knowledge among Somali mothers living in Sweden has been reported as one of the barriers in antenatal care.

The study found that cultural beliefs still hold the pregnant mothers back from utilizing the ANC services, many of the respondents sought advice from the traditional birth attendants instead of skilled ones. *"We believe the traditional birth attendants at the village, and we only seek medical help when necessary".* Social-cultural barriers also impact health seeking behavior by women and adolescents (World Bank Report, 2016). Women do not have powers to decide on health care seeking options thereby preventing them from accessing maternal care and FP. Participants in this study cited women's being denied by husbands or mother-in-law. "*Husband makes the decision as well the influence for TBAs and Mother in-*

law". Infrastructural factors as transport and health workers' attitude were found to positively influence the ANC utilization by the pregnant mothers. Hundred percent of the attendants of the attendants are females and 98% of women reported the availability of transport

5.3 Conclusion

Underutilization of FANC among expectant mothers in Mudug region of Somalia is influence by women knowledge, level of education, socio-economic and cultural factors as well as infrastructural factors. Yong mothers of adolescent age where eager to attend their antenatal care in comparison to old mothers. The role of husbands in banning their wives to seek antennal care was documented as negatively influencing. Cultural beliefs in traditional birth attendants despite proves that pregnancy without skilled attendants carries high risks of fetal and maternal morbidities and mortalities still exit.

5.4 Recommendation

- Somalia government and health partners in the area should increase awareness through health education to sensitize women on the importance of ANC service utilization through the use of community health workers and TBAs at the community level to track women and link them to the facilities
- Somali government and partners should encourage girl child education and create micro-finance support for women groups
- The government should also increase the number of health facilities in rural areas and adapt community outreach activities to provide ANC services to remote and hard to reach areas to improve availability and accessibility of ANC services
- The government and health partners to work in attaching and integrating TBAs into facilities workforce to refer pregnant women for the ANC services and formulate a policy that reinforces the women rights

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APPENDICES

APPENDIX I: GUIDE FOR FOCUS GROUP DISCUSSION

Dear Participant,

My name is Omar Abubakar Haji pursuing studies in Public Health at Mounty Kenya University, located in Thika, Kenya. **Omar Abubakar Haji, Cell phone: +252619671717/+25290759111**

The purpose of this research is to understand factors that determines the pregnant women's ANC utilization in South Galkayo district. This information is important in assisting planners for better designing the service delivery and to plan affective health education for pregnant women.

1. What will make you decide to attend antenatal clinic?

2. How may a pregnant woman be helped to attend the clinic at least 4 times during pregnancy?
3. How many of you have attended a clinic for pregnant women? (Show of hands)
4. Who attended to you when you visited the clinic? Male or female staff member
5. When will go back to the clinic? Is this the 1st, 2nd, 3rd, or 4th visit?
6. If will not attend, explain reason(s)

The information you provide will be used strictly for this research only.

Your participation in this study is voluntary and you are free to withdraw whenever you choose.

Please ask me any question concerning the study so as to get a better understanding of the research. If you are fully satisfied and you agree to participate in the study you may sign the consent form provided.

APPENDIX II: GUIDE FOR KEY INFORMANT INTERVIEW

Dear Participant,

My name is Omar Abubakar Hajipursuing studies in Public Health atMounty Kenya University, located in Thika, Kenya.**Omar Abubakar Haji, Cell phone: +252619671717/+25290759111**

The purpose of thisresearch is tounderstand factors that determines the pregnant women's ANC utilizationin South Galkayo district. This information is important in assisting planners for better designing the service delivery and to plan affective health education for pregnant women.

1. What are the reasons why women don't attend the FANC?
2. What socio-economic factors do you think prevent women from attending the FANC?
3. What factors related to the health care workers and the facilities in which they work that prevent women from using the FANC?
4. What cultural factors do you think make women not to utilize the FANC?

The information you provide will be used strictly for this research only.

Your participation in this study is voluntary and you are free to withdraw whenever you choose.

Please ask me any question concerning the study so as to get a better understanding of the research. If you are fully satisfied and you agree to participate in the study you may sign the consent form provided.

APPENDIX III: STRUCTURED QUESTIONNAIRES

1. Write the questionnaire Number here: _____
2. Date interviewed: _____
3. The Village Name: _____
4. The name of interviewer: _____
5. Name of health facility: _____Urban/Rural: _____

SECTION XX: CHARACTERISTICS OF RESPONDENTS

How old are you?

11-15 =1 ☐
16-20 = 2 ☐
21-25 = 3 ☐
26-30 = 4 ☐
31-35= 5 ☐
36-40 = 6 ☐
40-49= 7 ☐

Have you ever studied any formal education/ school?

Yes=1 ☐
No =2 ☐

If the answer is yes, what is the highest level of education you had?

primary = 1 ☐ Secondary =2
Tertiary = 3 ☐
None = 4 ☐
☐ ☐

How many children have you gave birth? <2= 1 ☐ 2 = 2 3=3 ☐ 4 and above=4 ☐ Are all these alive? Yes=1 ☐ No =2 ☐

SOCIO-ECONOMIC AND CULTURAL FACTORS

Which one works for the family for feeding? Wife = 1 ☐ Husband = 2☐

Tell me what are the key sources income to your family? Farming = 1 ☐ animal production =2 ☐ Business =3 ☐ others=4 ☐ if others please mention them

……..

Have you been utilizing ANC services during your current/last pregnancy?

Yes =1 ☐

No = 2 ☐

If yes, when did you did you started your first ANC contact?

1) 1-3 Months (first trimester)
2) 4-6 months (second trimester)
3) 7-9 months (Third trimester)

How many times did you visited to the ANC clinic? Current or your last pregnancy

1) Four times and above
2) Three times
3) Two times
4) One time

Whopermitted you to attend antenatal care clinic? Tick below who gave you permission

Yes = 1 ☐ Husband

No = 2 ☐ Mother

Mother-in-law

Please specify any other.....

At what stage of the pregnancy did you attend antenatal care?

Do you attend antenatal care for routine check or only when there is obstetric problems?

Routinely even without havening problem =1☐

Only when I have obstetric problem I seek help =2☐

Is there is any specific reasons why you have initiated to attend the antenatal care clinic at that period?

_____

_____

_____ Do you know how many antenatal care visits is recommend for a pregnant woman to attend the ANC clinic during the whole pregnancy period? Enter Number

When there is no problem _____ =1 ☐

When there are problems _____ =2 ☐

Don't know =3 ☐

Do you know or aware what are the benefits of attending antenatal care? If there is benefits which haven't been mentioned please probe further

Establishing rapport between pregnant mother and antenatal care provider=1 ☐

Detecting pregnancy related complications as early as possible =2 ☐

Getting individualized health promotion and education =3 ☐

Received all preventive measures including TT vaccination, Iron and folic acid supplementation, deworming, antimalarial as preventive 4 ☐

Treatment =5☐

About the importance of focused antenatal care-where do you receive information?

Health worker (CHW/Midwife) =1 ☐

Radio =2 ☐

Traditional Birth Attendants =3 ☐

Relatives = 4 ☐

Others (Specify)……

Did the services you received in the antenatal care clinic satisfactory to you?

Yes = 1 ☐

No = 2 ☐

What would you like most about focused antenatal care services at this facility?

Good health worker attitude =1 ☐

Short waiting hours =2 ☐

Availability of staff =3 ☐

Flexibility of clinic schedules =4 ☐

Is the service provided by the clinic/facility ask to pay in order to start focused antenatal care clinics?

No =1 ☐

Yes =2 ☐

How much _____

Did the amount is affordable to you?

Cheap =1 ☐

Fair =2 ☐

Expensive =3 ☐

Not Applicable =4 ☐

In your knowledge is there are any cultural or pregnancy traditional barriers that prevent pregnant lady to come and start antenatal care as early as possible?

_____

_____

_

Did you pay money for transportation to reach the antenatal clinic? Yes= 1 ☐ No = 2☐

HEALTH FACILITY AND INFRASTRUCTURAL FACTORS

Are you living within 5 Km distance to the facility? Yes = 1 ☐ No = 2 ☐

Are there means of transport available? Yes = 1 ☐ No = 2 ☐

If yes, how reliable are they? Daily = 1 ☐ weekly = 2 ☐

Is the health facility is accessible during whole week? Yes = 1 ☐ No = 2☐

In the facility, is the antenatal care service available? Yes = 1☐ No = 2 ☐

Is a female health provider available in the health facility? Yes =1☐ = 2 H☐lo see the attitude and communication from he health workers? Friendly = 1 ☐ unfriendly = 2 ☐

APPENDIX IV: RESEARCH AND TAPE-RECORDINGCONSENT FORM

Name of participant……

Research site…….

Area Representative……

Endorsement on this form confirms I/We have clearly understood the explanation by the researcher on what the research is about.

It is understand that I have a right to withdraw from this study without facing any penalties.

I understand that the information I have provided will be kept confidential and anonymous.

I/We fully agree that the proceedings of these interview/discussions be tape recorded for purpose of genuine extraction of the data.

Participant's signature……..……. Date…… **APPENDIX: V : QUALITATIVE DATA**

Focus group discussion (FGD)

1. **What will make you to attend antenatal clinic and utilizing focused antenatal care services?**
   - When I feel unwell, I seek for consultation and treatment
   - For routine check up and to get the preventive and curative treatment To know the status of the fetus and my general health To do some blood test and see whether I am anemic or not.
   - To receive the tetanus toxoid immunization and check up
   - My delivery is very close
   - I delivered cesarean section in my previous and it was advised to follow up with the hospital for any subsequent pregnancies due to the possible complications

2. **Please tell us about your experiences when you have attended to the antenatal clinic? Who attended to you when you visited the clinic? Male or female staff member**
    - The attitude of the health workers was good.
    - My blood pressure has been measured; my abdomen was examined including checking the status of fetus and his condition. Some tests were done
    - I also receive some advice and get medications accordingly
    - Coming to the ANC give chance to identify diseases and conditions and get treatment or referral to the main hospital if needed
    - All FGDs mentioned that they have been attended by female staff
    - Some women mentioned they have received health education **3. Do you know the complications that may occur during pregnancy?**
    - Anemia most of the FGDs participants were repeating this answer
    - Some have said, eclampsia and high blood pressure
    - Abdominal pian, Vaginal Bleeding said by few numbers
    - Don't know
4. **How many antenatal care visits is a pregnant woman supposed to make during the whole pregnancy period?**
    - Different responses were given by the different FGDs from 1 visit, 2 visit, 3 and even 5 visits.
    - Very few numbers said 4 times during pregnancy
5. **What are the benefits of antenatal care and FANC?**
    - Treatment for diseases
    - Check blood pressure
    - To identify the anemia and get treatment early
    - Birth plan advice from the healthcare provider

6. **What is/are the reason(s) for women in this area not to go for antenatal care services?**
    - Distance to the facilities and
    - lack of transportation/ Not having money for transportation
    - No one taking care for the children at home
    - Busyness as result of working or taking care of my children and housework responsibilities for the whole day
    - Lack of health services at the village
    - Services are not available for whole the week- mobile team come in weekly base. lack of awareness to the importance of antenatal care services Poor quality services in the facilities.
    - Lack of equipment and supplies
    - Services not available whole the week (at PHUs)

Key Informative Interviews (KII)

1. **What is your cadre as a health work?**

- Vast majority of the health workers interviewed are midwives and nurses Public/community health workers.
- Hospital and facility in charges -from medical doctor to clinical officer

2. **Have you been trained in reproductive and child health activities and in Focused Antenatal care-FANC?**
   - Vast majorities are trained for BEmONC and ANC service provision
   - community health workers are not trained, and they are not engaged to prescribe medication or any treatment. Their role is for advice and referral to the facilities.
3. **When did you last receive in-service training in life skills in Obstetric or integrated maternal and neonatal care?** Most received training within the last 2 years
   - Some have said they received before 3 years

5. **What role do you play in focused antenatal care delivery?**

   - For midwives and nurses:Provide antenatal care and maternal health services
   - For community health workers: they involved health education and referral of pregnant women o the health facilities
   - Hospital director and clinical officer at the hospital and health centers – they mostly play management role and overall responsibilities for the smooth running of the facilities during day-to-day activities and making sure clients including pregnant women receive services as planned

7. **During antenatal visits, what are the services provided to individual clients?**
   - Antenatal card is given for pregnant women. History and assessment recorded in the card
   - Routine investigation including Hb, urine and Syphilis is provided to the pregnant women in the first contact and then accordingly for follow up visits.
   - Regular follow up and subsequent visits are advised for all pregnant woman to receive both preventive and curative treatment with continued assessment for the condition of women and here fetus.
   - In the hospital- CEmONC services including blood transfusion for severely anemic pregnant women are available
   - Health centers provide all BEmONC services including ANC services in 6 days per week.
   - PHUs and outreach teams provide limited services to pregnant women in the rural areas. the ANC services are available one per week and even supplies aren't much enough
   - Referral to the hospital for pregnant women with obstetric complication from PHUs/outreach team and health centers.

7. **During antenatal visits, what information/health education provided to clients?**

   - Education on pregnancy related complications and danger signs
   - Birth scaping and plan
   - Birth plan and delivery
   - Importance of nutrition during pregnancy

- Importance of attending ANC

8. How many information education and communication sessions are conducted perweek on focused antenatal care?

- Health centers provide ANC services in 6 days per week (from 7am to 2PM). Community health workers are attached in the ANC department to provide education
- PHUs and outreach teams provide limited services to pregnant women in the rural areas. the ANC services are available once per week

8. Problems are encountered while providing antenatal care services to pregnant women.

- Some pregnant women don't come for the required visits advised
- Because of not coming regularly some women come when they developed complications including severely anemic, missed abortion and even fetal death in some times.

10. How many times a week do you offer FANC services?

- Health centers provide ANC services in 6 days per week (from 7am to 2PM). Community health workers are attached in the ANC department to provide education
- PHUs and outreach teams, ANC services are available once per week

11. At this health facility, what time do you open and close the antenatal clinic?

- From 7am to 2PM.

12. What is your comment regarding barriers to utilization of focused antenatal care services in South Galkayo district and specifically in this area?

- Lack of transportation
- Lack of supplies and equipment
- Lack of Awareness by the pregnant women
- Limited number of skilled staff especially at the remote rural areas

13. What cultural factors do you think make women not to utilize the antenatal care services FANC?

- Traditional birth attendants (TBAs) sometimes play role in discouraging pregnant women to go for routine antenatal care services
- Grandmothers don't see important for ANC visit and believing traditional experience on this.

14. What do you see related to health care workers and the facilities that makepregnant women not to come to the focused antenatal care services?

1) In the main health facilities, no issue related to health care workers in terms of capacity and knowledge. Facility based staff are trained to provide the services

2) Because of the load of patients in the hospital and main health centers, pregnant women sometimes experience delayed laboratory and investigation results waiting for somehow few hours
3) Stock out of supplies including laboratory reagents. most women prefer when coming to have blood tests and other possible investigation which make them trust to the treatment when it done with laboratory test.

15. What could be done to encourage pregnant women to come to the antenatal clinic-

4) Increase awareness raising activities through all possible means so that pregnant women should be at the center and receive all information about the ANC importance
5) Enough supplies and laboratory reagents and tests to be available at health facilities
6) Training of health workers on ANC and maternal health
7) Community health Workers to be deployed at Community level and track women to connect to the facilities, provide awareness activities
8) Establish community outreach activities to provide ANC services to the remote and distant areas who are not able to come to the facilities
9) Training staff at the PHUs and Community based health Workers to provide quality services to the pregnant women.

APPENDIX VI : Table 4.18: Logistic regression analysis

Variables

Age	**A.O.R**	**p-value**	**[95% Conf**	
16-20 Years	**Ref**		Lower	Upper
21-25 Years	0.865	0.871	0.152	4.939
31-35 Years	0.348	0.245	0.058	2.066
36-40 Years	0.145	0.07	0.018	1.171
level of education				
Primary	**Ref**			
Secondary	4.24	0.189	0.491	36.606
Tertiary	0.826	0.836	0.135	5.056
None	0.797	0.632	0.315	2.018
Source of Income				
Farming	**Ref**			
Animal Production	1.34	0.574	0.483	3.714

Business	3.787	**0.033**	1.117	12.834
Distance to health facility				
Less than five	**Ref**			
More than 5 Km	0.65	0.358	0.259	1.631
Perceived Reliability of transport				
Un-reliable	**Ref**			
Reliable	0.197	**0.015**	0.053	0.728
Parity	1	.	.	.
Less than two	**Ref**			
Two	1.501	0.554	0.391	5.77
three	1.917	0.351	0.489	7.517
More than 4	3.343	0.156	0.63	17.731
Satisfaction of ANC Received				
Satisfied	**Ref**			
Not satisfied	1.042	0.941	0.355	3.053
Accessibility of Health facility				
Yes	**Ref**			
No	0.269	0.119	0.052	1.401
Health care Workers Attitude				
Friendly	**Ref**			
Unfriendly	0.398	0.428	0.041	3.892
Knowledge of Antenatal Care Services				
Poor Knowledge	1			
moderate Knowledge	4.772	0.000	2.535	8.985
Good Knowledge	6.275	0.000	2.772	14.205

APPENDIX VII : RESEARCH APPROVAL

Jamhuuriyada Federaalka Soomaaliya
Dowlad Goboleedka Galmudug
Wasaarada Caafimaadka iyo
Daryeelka Bulshada

جمهورية الصومالية الفدرالية
حكومـــة اقليـــم جلمـــدج
وزارة الصحة والرعاية المجتمع

وزارة الصحة والرعاية المجتمع

Somali Federal Republic
Galmudug State of Somalia
Ministry of Health and Human Service

Ref: 00013 **Date 29/7/2021**

TO: WHOM IT MY CONCERN

SUBJECT: APPROVAL FOR YOUR RESEARCH STUDY ON FACTORS DETERMINING UPTAKE OF ANTENATAL CARE SERVICES AMONG PREGNANT WOMEN IN SOUTH GAALKACYO DISTRICT, MUDUG REGION, GALMUDUG STATE-SOMALIA

Dear Dr Omar Abubakar Haji

I hereby write this letter to inform you that the - ministry of health of Galmudug state reviewed your application letter in which you requested for an approval.
The ministry of health wishes to inform you that your request has been approved and you may proceed to carry out the study in South Galkacyo district as planned.
Any one concern is requested to render possible assistance to the researcher to conduct this study and offer their best cooperation.
We wish you all the best as you carry out the study.
Kind regards,

Dr liban Abdulkadir
GMOH : Regional Medical Officer
Dr.liban77@gmail.com:
Celphone: +252 615890604

Signature .....

APPENDIX VIII : MOUNT KENYA UNIVERSITY ETHICAL CLEARANCE

Mount Kenya University

REF: **MKU/ERC/1856**
TO: **OMAR ABUBAKAR HAJI**

Date: 29 July 2021

REG: **MPH/2018/77137**

Dear Sir/Madam,

RE: FACTORS DETERMINING UPTAKE OF FOCUSED ANTENATAL CARE SERVICES AMONG PREGNANT WOMEN IN SOUTH GAALKACYO DISTRICT, MUDUG REGION, SOMALIA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **929.** The approval period is **28/07/2021 - 27/07/2022.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used
ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to comply with any additional requirements from the relevant authorities in the country where this study will be conducted.

Yours sincerely,

The Chairman
Mount Kenya University
Ethics Review Committee
P. O. Box 342 - 0100, Thika

Dr. Peter G. Kirira
Chairman, Mount Kenya University IERC