FACTORS INFLUENCING UTILIZATION OF ANTENATAL CARE SERVICES IN ZAMBIA

By

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Zambia

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A thesis submitted in partial fulfillment of the requirement for the degree of Master of Public Health

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Kalumba Foster

Declaration

Where other people's work has been used (either from a printed source or internet or any other source) this has been acknowledged carefully and referenced in accordance with the guidelines of the department.

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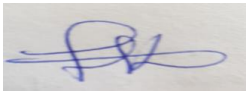
Signature: 

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DEDICATION

This thesis is dedicated to

My Dear late Mum: Mrs. Maria Mwansa

My Dear Dad: Mr. Abel Kaoma Ndaiseka

My lovely Kids: Joe, Patrick and Diana

My lovely Sister: Charity Nyemba Ndasa

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Abbreviations and Acronyms

AFHS	Adolescent Friendly Health Services
ANC	Antenatal care
AIDS	Acquired Immunodeficiency Syndrome
CCTS	Conditional Cash Transfer Scheme
CHWs	Community Health Workers
CHAs	Community Health Assistants
CHE	Current Health Expenditure
CSO	Central Statistical Office
CHAZ	Churches Health Association of Zambia
DHO	District Health Office
FBOs	Faith Based Organizations
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
ITNs	Insecticide Treated Net
IPTp	Intermittent Preventive Treatment in Pregnancy
LMIC	Low and Middle – Income Countries
MAMaZ	Mobilizing Access to Maternal Health Services in Zambia
MCDMC	Ministry of Community Development Mother and Child Health
MNH	Maternal and Neonatal Health
MNCH	Maternal Newborn and Child Health
MWH	Maternal Waiting Home
MoH	Ministry of Health
MMR	Maternal Mortality Ratio
NCDs	Non – Communicable Diseases
NGOs	Non – Governmental Organizations
NHIS	National Health Insurance Scheme
PHO	Provincial Health Office
PEPFAR	President's Emergency Plan for AIDS Relief
SBAs	Skilled Birth Attendants
SDGs	Sustainable Development Goals
SMAGs	Safe Motherhood Action Groups
SRHR	Sexual Reproductive Health and Rights

SSA	sub Saharan Africa
TB	Tuberculosis
TBAs	Traditional birth Attendants
UHC	Universal Health Coverage
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Funds
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization
ZDHS	Zambia Demographic Health Survey

Glossary

Antenatal care: "Antenatal care (ANC) can be defined as the care provided by skilled health care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy''(1).

Community empowerment: "The process of enabling communities to increase control over their lives''(2).

Skilled Birth Attendants: "Skilled birth attendants are competent maternal and newborn health (MNH) professionals educated, trained and regulated to national and international standards''(3).

Maternal mortality ratio: "The maternal mortality ratio (MMR) is defined as the number of maternal deaths during a given time period per 100,000 live births during the same time period''(4).

Health promotion: "The process of enabling people to increase control over their health and its determinants and thereby improving their health''(2).

Health literacy: "The degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions''(2).

Abstract

Background: Zambia is a lower middle-income country with a maternal mortality ratio estimated at 252 per 100,000 live births and neonatal mortality estimated at 27 deaths per 1,000 live births. About 97% pregnant women managed to attend the first antenatal care visit but this dropped to 64% among those who managed to attend 4 or more visits. Commencement of first visit is mostly in the 2nd trimester of pregnancy.

Objective: To explore factors influencing utilization of antenatal care services in Zambia in order to provide recommendations on how to increase uptake of the services.

Methodology: The Levesque et al (2013) conceptual framework access to health care was used to guide the study. The study was based on review and analysis of literature.

Findings: Gender inequality, low socio – economic status ,average distance to a health facility of 50 km or more and low health literacy, cultural practices were noted as demand side barriers to utilization of antenatal care services while on the supply side barriers recognized included : insufficient health care facilities, lack of transport, inadequate medical supplies, bad attitude of health care providers and inadequate skilled health workers.

Conclusion: Utilization of antenatal care services is still a challenge in Zambia due to inadequate access and provision of antenatal care services. Multiple interventions are required such as male involvement, community participation, performance-based financing to mention but a few.

Recommendations: To improve antenatal care services in Zambia, the government through MOH/MCDMCH to train more skilled health workers, to address gender inequalities, redistribute human resource between the urban and rural areas to ensure countrywide availability of heath staff, scale up community participation, to use mass media campaign to change some behaviors of people inclined to cultural practices, to conduct operational research to assess the effectiveness of the interventions implemented and improve the road network to enable access to health care facilities.

Key words: Antenatal care services, utilization, sub Saharan Africa, low and middle – income countries, Zambia.

Word count: 12,976

Introduction

Antenatal care is one of the key strategies that has been proven to prevent maternal bad outcomes (5). In Zambia, studies have shown that pregnant women are undergoing challenges in adhering to the recommended four antenatal care visits (6). In 2018 for example, the percentage of pregnant women who managed to attend the first antenatal visit was 97 % but this dropped to 64 % among those who managed to attend four or more visits (6). In 2013 – 14,about 96% of pregnant women attended Antenatal care visits at least once during pregnancy period, but only 24% commenced antenatal care in the first trimester (7). It has been reported that most women commence their antenatal visits at 4.8 months of gestation (8),a scary and unacceptable statistic.

Recently, the World Health Organization (WHO) recommended at least eight antenatal care visits for pregnant women due the unacceptably high maternal deaths, especially in the low and middle income countries (9). The MMR reported by ZDHS in 2018 was at 252 deaths per 100,000 live births while the neonatal deaths has increased from 24 deaths per 1,000 in ZDHS 2013 -14 to 27 deaths per 1,000 live births in ZDHS 2018(10).

Zambia however has made considerable efforts to provide antenatal services in an attempt to improve delivery of care to pregnant women. Examples of such efforts include; training more registered midwives, introduction of training certified midwives, building more clinics, intensifying outreach services to mention but a few (11)(12).

Despite the above interventions being put in place, there is still low utilization of the antenatal care services by the pregnant women (6). Understanding several factors that affect pregnant women's utilization of antenatal care services will provide relevant information for policy makers and program implementers in designing strategies on how to improve the use of antenatal care services in Zambia.

I have been in service for 24 years under Ministry of Health as a nurse, nurse midwife, nursing officer and currently as a senior tutor. This has exposed me to a lot of challenges pregnant women and adolescents face during pregnancy, childbirth and postnatally. I chose this topic in order to understand the factors that prevent pregnant women from utilizing the antenatal care services in Zambia and point out the possible evidence-based interventions that can increase the use of antenatal care services.

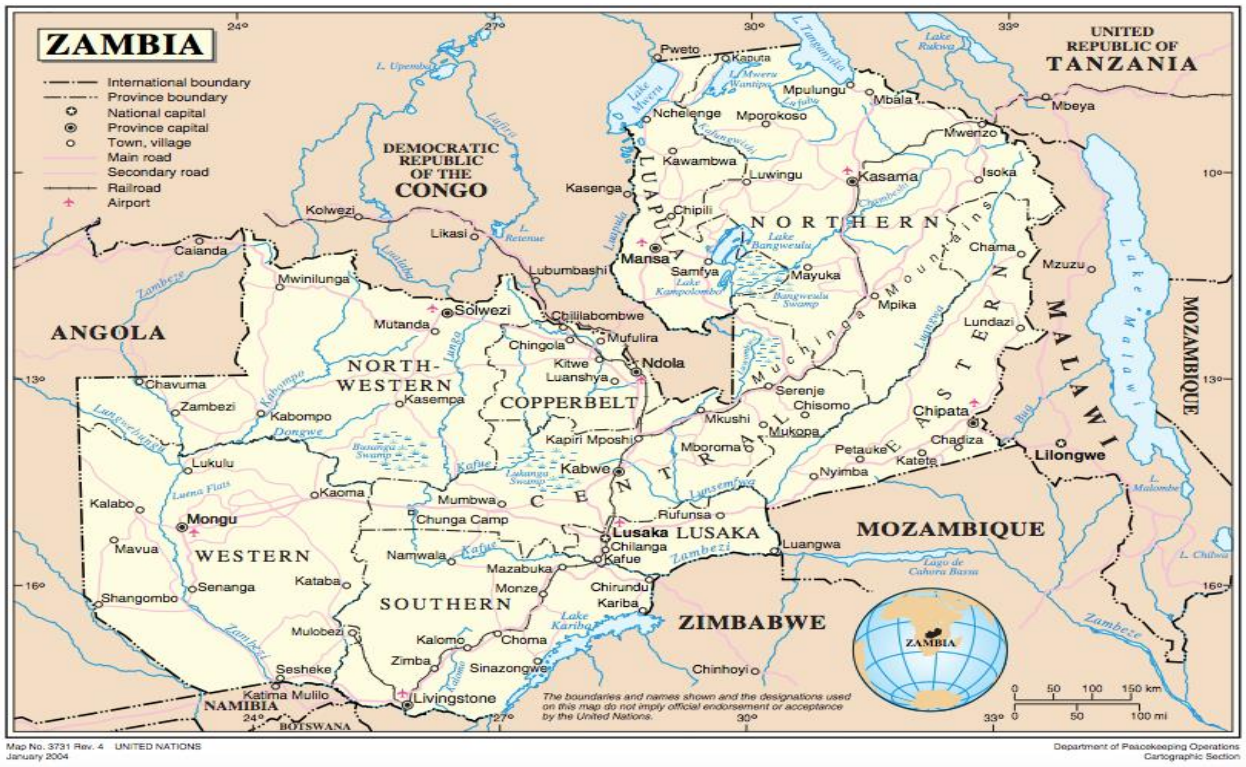
Chapter One: Background Information

Chapter one will present on the background and the health care delivery system in Zambia.

1.1. Geography and Administration

Zambia is in the southern part of Africa surrounded by the following countries Zimbabwe on the south, Congo DR on the north, Tanzania on the north east, Malawi on the east and Mozambique on the south east. It has the total land area of 752,612 square kilometers. The country has 10 administrative provinces and 105 districts(14).

Figure 1: Map of Zambia



1.2. Socio culture and economy

Zambia is a culturally diverse country with over 72 tribes and ethnic groups. The country has more than 80 languages spoken although English language is the one considered as official language for commerce, trade and education (15). In Zambia religious freedom is of paramount importance. About 87% of the population are Christians, 1% are Hindu and Muslim while the remaining 12% adhere to traditional beliefs or native religions(16). Unfortunately some social, cultural, religious beliefs and practices such as sexual cleansing,

unsafe traditional male circumcision and early marriages have been associated with undesirable health outcomes, resulting in transmission of STIs, teenage pregnancies and maternal trauma (17)(14).

Zambia is a lower middle-income country (LMIC) (18) (7) with a gross domestic product (GDP) of USD 27 Billion in the year 2014 (15).The country recorded positive GDP growth in the past recent years. High economic growth over the last few years contributed to infrastructure development. In 2010 the GDP had grown up to 10.3 % before it dropped to 5% in 2014 and further to 2.9% in 2015 (15) (7). In 2016 the GDP was at 3.7% and in 2019 it dropped to 1.7% (19).The country is politically stable with democratic elections conducted every 5 years. In Zambia unemployment rate is at 15% and is more common in urban areas, among the youth, women and the disabled people (15) (20). Zambia has tried to fight and regulate corruption in the past years but the country still face challenges in terms of governance and corruption (21)(22). Zambia has increased levels in income inequalities with the GINI co efficient of 0.531 in 2010 to 0.591 in 2018 (23)(24).The extreme poverty in rural areas is at 58% as compared to urban areas which is at 13%. This clearly demonstrates the wider discrepancy between the rural and urban areas. The country in gender inequality index was positioned at 135 out of 152 countries because of its risks to the rights of the girl child (25).

1.3. Sociodemographic

Zambia is a LMIC with a population of 17.3 million people in 2020 (26). The country has a policy of free education at the basic level which was introduced in 2002. The literacy rate is 83% and 68% for men and women respectively (8). According to united nations international children's emergency fund (UNICEF) 2019 report on education budget, international assessments were conducted in public schools among Zambian children only 5% and 2% of 15 years old students met the requirements in reading and mathematics. Zambia is not likely to achieve the sustainable development goal (SDG) number 4 by 2030 if the country continues with this learning outcome(27).

1.4. Disease burden in Zambia

Zambia has an increased burden of diseases such as high prevalence of HIV/AIDS, maternal and child health problems, tuberculosis, sexually transmitted infections (STIs), malaria, mental health problems, cancer diseases, diabetes mellitus, hypertension, cardiovascular diseases, and increasing number of non – communicable disease (NCDs)(7).

According to the analysis of disease pattern which was conducted from 2011 to 2015 there is a clear indication that malaria remained the topmost cause of morbidity and mortality in the country. Zambia is one of the countries mostly affected by HIV with the prevalence of 13.3% in 2010(8)(7),then11.3% in 2018 (28).

1.5. Health care system in Zambia

The Zambian government has implemented several policies to address issues such as reducing the burden of disease and human resource shortages. The government is the key player in creating policies and provision of care. Faith based organizations (FBOs) and non-governmental organizations (NGOs) also contribute in the provision of health care in Zambia (15). In Zambia, the Ministry of Health (MOH) and Ministry of Community Development Mother and Child Health (MCDMCH) develop policies and manage all referral services(7). The MOH is responsible for the training institutions and statutory boards while MCDMCH is responsible for primary health care services at community level, health posts, health centres and district hospitals.

Management of health institutions is done through Provincial Health offices (PHOs), District Health Offices (DHOs), and statutory bodies. Zambia has a decentralized system of health care consisting of eight third – level hospitals, 34 second – level hospitals, 99 first – level hospitals, 1,839 health centres and 953 health posts (7). Health posts cater for 7,000 people in urban areas and 3,500 people in rural areas. or a Radius of 5km. Health centers caters for more than 30,000 people in urban areas or at least 10,000 people within a 30km radius in rural areas. About 99% of the families are within a 5km radius of a health facility in urban areas as compared to 50% of households living in rural areas. Households living outside a radius of 5km from the health facility is approximately 46%(7). The health posts are run by the community health assistants. First tier hospitals serve for 80,000 to 200,000 people while a second level hospital caters for 200,000 to 800,000 people. Central Hospitals caters 800,000 people or more (29).

1.6. Human Resources for Health

The country is experiencing a shortage of health care providers. Those currently employed are unequally distributed between the urban and the rural areas. Additionally, the human resource management system which is weak and there aren't adequate training institutions. The WHO recommended bench mark of doctors, nurses and midwives is 4.45 per 1000 population which is far above Zambia's rate operating at 0.98 per 1000 population (15)(30)(31). To address this shortage, the Zambia national human resources for health strategic plan 2018 – 2024 was developed whose aim is to increase on the number of staff,

improve conditions of service, increase on training institutions, improve the human resources management system and to address issues concerning inequitable distribution of health care providers between rural and urban areas. The aim of the country is to develop sufficient human resource by the year 2030 (32) (15).

1.7. Health Care Financing in Zambia

Zambia introduced the national health insurance scheme(NHIS) in 2018 as a strategy to improve health care financing (33). It is believed that it will increase the resource package for health care services and strengthen the universal health coverage (UHC). Partners like president's emergency plan for AIDS relief (PEPFAR) and FBOs are working to assist in developing strategies for health care financing. At present no data is currently available on NHIS's effectiveness because the programme was recently piloted(14). According to ZDHS 2013 – 14, about 97% of Zambian men and women had no health insurance and only 2% had employer based insurance (8).

Zambia's allocation to the health sector will make it difficult to achieve the set goals and targets. In 2019, the health sector received 9.3% as a share from the government expenditure although 12% had been planned for the activities (34). This allocation is below the Abuja declaration of 15% towards the national health budget (35).The minimum level of health spending which is needed to advance towards the UHC is US$ 86 per capita but the current health expenditure per capita in Zambia is US$59(36) . In the lower income countries, it has been estimated that US $ 110 is the total cost per person of sustaining an essential UHC package at full coverage according to the third disease control priorities (DCP3). Clearly, Zambia falls below most criterion for health spending and extra financial resources are required to achieve the universal health coverage (37).

1.8. Reproductive health policy 2000

Zambia's reproductive health policy vision states that it aims "To achieve the highest possible level of integrated reproductive health of all Zambians as close to the family as possible so as to promote quality of life"(38). The reproductive health policy aims to address issues such as Safe motherhood, family planning, abortion, infertility, adolescent and sexual reproductive health, cervical cancers, maternal nutrition, and sexually transmitted diseases including HIV/AIDS (39). In line with this vision maternal health care services in Zambia are provided for free at all public and private health institutions (40).

The Reproductive health policy has some missing elements such as prevention, screening and referral of a women with mental health disorders, information education and

counselling, behavior change communication (IEC, BCC) for adolescents and young people. It doesn't also cover for reduction of harmful practices such as early marriage and violence against women. These are important elements that need to be included in the policy (38).

1.9. Timeline of the eight ANC Contacts recommended by WHO

The WHO has recommended a minimal number of eight ANC contacts to maintain good health of the pregnant woman and reduce on perinatal deaths (Table 1) This current WHO ANC adopted in 2016 has strong evidence suggesting that monitoring of the pregnant woman and the unborn baby in an organized manner helps in detecting complications. The word contact is used in the new model to emphasize an active connection between the health care worker and the pregnant woman. An essential package such as medical assessment and management, information, psychosocial and emotional support is provided during contacts. Most pregnant women in Zambia are failing to adhere to the WHO recommended timeline(41).

Table 1: Timeline of the eight ANC Contacts recommended by WHO

WHO FANC Model	*2016 WHO ANC model*
First Trimester	
Visit 1: 8 – 12 weeks	Contact 1: Up to 12 weeks
Second Trimester	
Visit 2: 24 – 26 weeks	Contact 2: 20 weeks Contact 3: 26 weeks
Third Trimester	
Visit 3: 32 weeks ***Visit 4: 36 – 38 weeks***	Contact 4: 30 weeks Contact 5: 34 weeks Contact 6: 36 weeks Contact 7: 38 weeks Contact 8: 40 weeks
Return for delivery at 41weeks if not given birth	

Source: ANC guidelines (41).

Chapter Two: Study Overview

2.1. Statement of The Problem and Justification

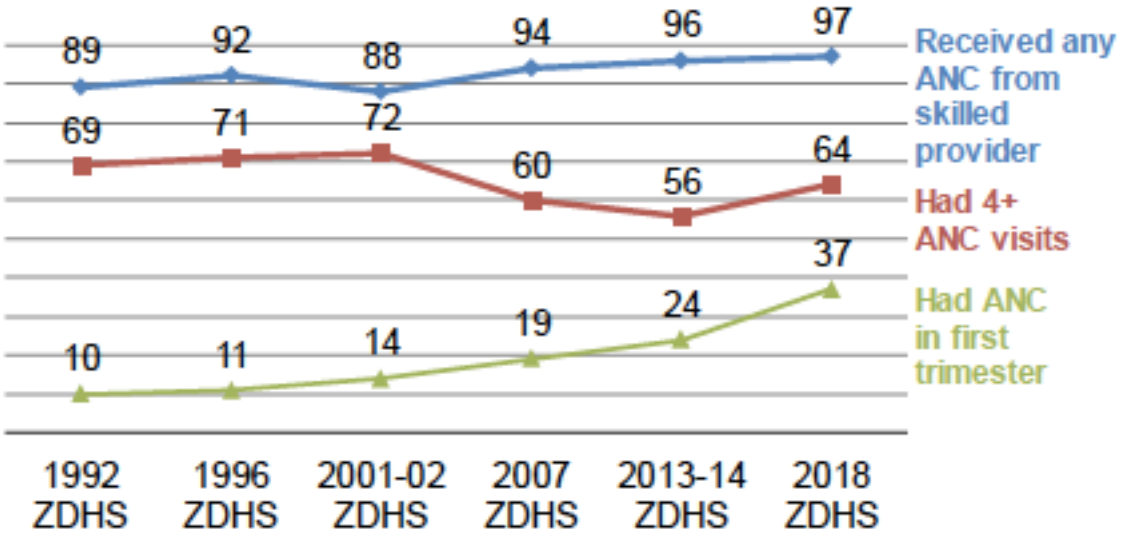
The healthcare system in Zambia is still experiencing challenges concerning ANC services. In Zambia antenatal care has been highlighted as one of the main strategies in maintaining the well-being of the pregnant women and the unborn baby (5). Evidence showed that pregnant women in Zambia do not attend the recommended four ANC visits (6). According to ZDHS conducted in 2018, the percentage of pregnant women who managed to attend their first antenatal visit was 97 % but this dropped to 64 % among those who managed to attend four or more visits (6). The trend in the ANC visit dropout in all the provinces in Zambia was similar but the highest dropout rate was recorded in Western province and Lusaka which had only 59 % of women who completing at least the four visits compared to the highest recorded rate in north western province of 70 % (6).

Table 2: Zambia ANC visits at first and fourth visits

Background characteristic	Percentage receiving antenatal care from a skilled provider[1]	Percentage with 4+ ANC visits
Mother's age at birth		
<20	97.6	58.5
20-34	96.9	64.6
35-49	96.0	65.0
Residence		
Urban	99.2	60.7
Rural	95.5	65.3
Province		
Central	97.2	60.0
Copperbelt	99.4	60.3
Eastern	96.4	65.1
Luapula	91.4	64.7
Lusaka	98.6	58.5
Muchinga	93.0	68.8
Northern	98.4	66.8
North Western	97.2	69.8
Southern	98.1	68.0
Western	94.4	59.2

Source: Zambia Demographic Health Survey 2018 key indicators (6).

Graph 1: Percentage of women age 15 – 49 who attended ANC from 1992 - 2018



Source: Zambia Demographic Health Survey 2018(10).

According to ZDHS 2013 – 14 statistics, 96% of pregnant women attended ANC visits at least once during their pregnancy period ,but only 24% commenced ANC in the 1st trimester and 25% had four visits during their pregnancy(7). Even though Zambia has recorded a high percentage of ANC turnout compared to other southern African countries (2), it is worrying that most women commence their first antenatal visit at 4.8 months of gestation (8).

This rules out any possibility of early interventions in the first trimester which is considered one of the most risky stages of pregnancy with 10% to 15% of all pregnancies usually ending up with complications (2). The MMR reported by ZDHS in 2018 was 252 deaths per 100,000 live births while the neonatal deaths has increased from 24 deaths per 1,000 in ZDHS 2013 -14 to 27 deaths per 1,000 live births in ZDHS 2018(10).

A study conducted in 2015 in Zambia on utilization of focused antenatal care found that all pregnant women who were sampled had a minimum of one ANC visit,40% did not have the four essential visits and 80% of the first visits did not take place in the first trimester(41). The ZDHS key indicators study conducted in 2018 revealed that 97% of the mothers reported that they saw the health care provider once for antenatal care. This is only a 1% increase from the rate reported in ZDHS 2013 – 14. Recently, the World Health Organization (WHO) has recommended 8 ANC visits for pregnant women due the unacceptably high maternal deaths especially in the LMICs (9) which implies that there is need for efforts to improve access and utilization of ANC services. Underutilization of antenatal health care

services have bad outcomes on the wellbeing of women who are pregnant and add to the increased rates of maternal deaths as well as neonatal mortalities (42). A study conducted in Egypt showed that high risk pregnant women who did not attend four ANC visits had a 53-times higher risk of unfavorable outcomes for the child and 12-times higher risk of pregnancy-related complications for the women compared to those who attended the four visits (43).

In Zambia in 2018 a survey which was conducted by ZDHS revealed the pregnancy related maternal mortality ratio of 278 deaths per 100,000 live births (6). Another survey was conducted in the country by Zambia national public health institute in 2018 in which they wanted to find out the trends in maternal mortalities. The study found 674 maternal deaths and the causes were attributed to direct and indirect causes. The tabulations were as follows: hemorrhage accounted for 38.7 percent, indirect causes accounted for 28.3 percent, pregnancy induced hypertension accounted for 13.1percent, infections during pregnancy accounted for 6.8percent, unsafe abortions 5.9 percent, unrecorded causes 5.3percent, 1.3 percent by unforeseen complications and 0.4 percent by obstructed labour (44). Looking at two surveys conducted in the same year showing different results is an indication that the reporting could have been overestimated or underestimated.

Zambia however has made considerable efforts to provide antenatal services in an attempt to improve delivery of care to pregnant women. Such efforts include training more registered midwives, introduction of training certified midwives, building more clinics, intensifying outreach services, creation of community health groups such as Tradition Birth Attendants (TBAs), Community Health Workers(CHWs) and Safe Motherhood Action Groups (SMAGs), intensifying referral services for MCH, training more doctors in obstetrics and gynecology, training more nurses in theatre skills among others (11).In Zambia the TBAs and the SMAGs have a huge task of sensitizing and encouraging community participation in quality of ANC services. They usually focus on creating awareness on pregnant women's right to attend ANC services for their own health and wellbeing and the health of unborn baby, the significance and role of male involvement, promotion on sexual and reproductive health rights, birth preparedness and complication readiness (40).

Despite the above interventions being put in place, there is still low utilization of the ANC services by many pregnant women in Zambia (6). Different factors affecting the utilization of antenatal care have been identified which include educational level of a pregnant woman, parity, marital status, employment status, children spacing, age, time taken to the health facility,socio economic status, cultural factors client's perception on the service provided,

attitude of health care providers, poor quality of services at health facilities, shortage of health workers (9) (46), traditional harmful practices, poor infrastructure, lack of drugs, lack of family planning services and information, lack of knowledge of danger signs and complications and unorganized referral system (2).

Although there have been many studies highlighting factors affecting the use of antenatal care by pregnant women in Zambia, there are no or few studies that comprehensively reviewed the factors. Therefore, this review is essential to generate information capturing the several determinants and how they interact to affect antenatal care use. This study will provide information relevant for policy makers and program implementers in designing strategies on utilization of antenatal care by pregnant women in Zambia.

2.2. Study Questions

1. What social economic factors influence pregnant women from utilizing antenatal care services in Zambia?
2. What cultural factors prevent pregnant from utilizing antenatal care services?
3. What facility related factors hinder pregnant women from utilizing antenatal care services in Zambia?
4. What evidence-based practices are used to improve antenatal care services in Zambia and other countries?
5. What can be done to improve use of antenatal care services?

2.3. General Objective

The aim of this study is to explore factors influencing utilization of antenatal care services among pregnant women in Zambia in order to provide recommendations on how to increase uptake of antenatal care services.

2.3.1. Specific Objectives

1. To explore and analyse social economic factors that prevent pregnant women from accessing antenatal care services
2. To explore and analyse cultural factors that prevent pregnant women from utilizing antenatal care services
3. To explore and analyse health facility related factors affecting utilization of antenatal care services
4. To analyze evidence based/ informed practices that improve antenatal care services in Zambia within districts, provinces and in other countries
5. To make recommendations to Zambian government and relevant stakeholders in order to proffer interventions and improve the antenatal care services

2.4. Methodology

A literature review will be conducted using available information from the literature. This is a descriptive research. Studies produced within last 15years were checked. Studies in Zambia and LMICs with similar settings like Zambia are used. The review analyzed evidence based/informed factors related with the problem of utilization of ANC services.

Inclusion Criteria

Articles associated to socio economic, cultural and facility related factors that prevent pregnant women from utilizing ANC services were included in the review. Literature review was also done on articles that had best practices that increased the uptake of ANC services in Zambia and other low- and middle-income countries.

Exclusion Criteria

Literature with no data on factors influencing utilization of ANC services, articles with best practices that were not targeted at increasing the uptake of ANC services and those not in line with used model in this study were all excluded.

2.4.1. Search Strategy

Studies that are published, grey literature and peer reviewed articles were acknowledged by using diverse combined key words through computerized databases and search engines. Search engines; GOOGLE and GOOGLE Scholar and Pub Med. Academic research data bases: Zambian government websites, UNICEF, UNFPA, WORLD BANK, WHO websites, Journals, articles, books and reports.

Table 3: Key Words Used

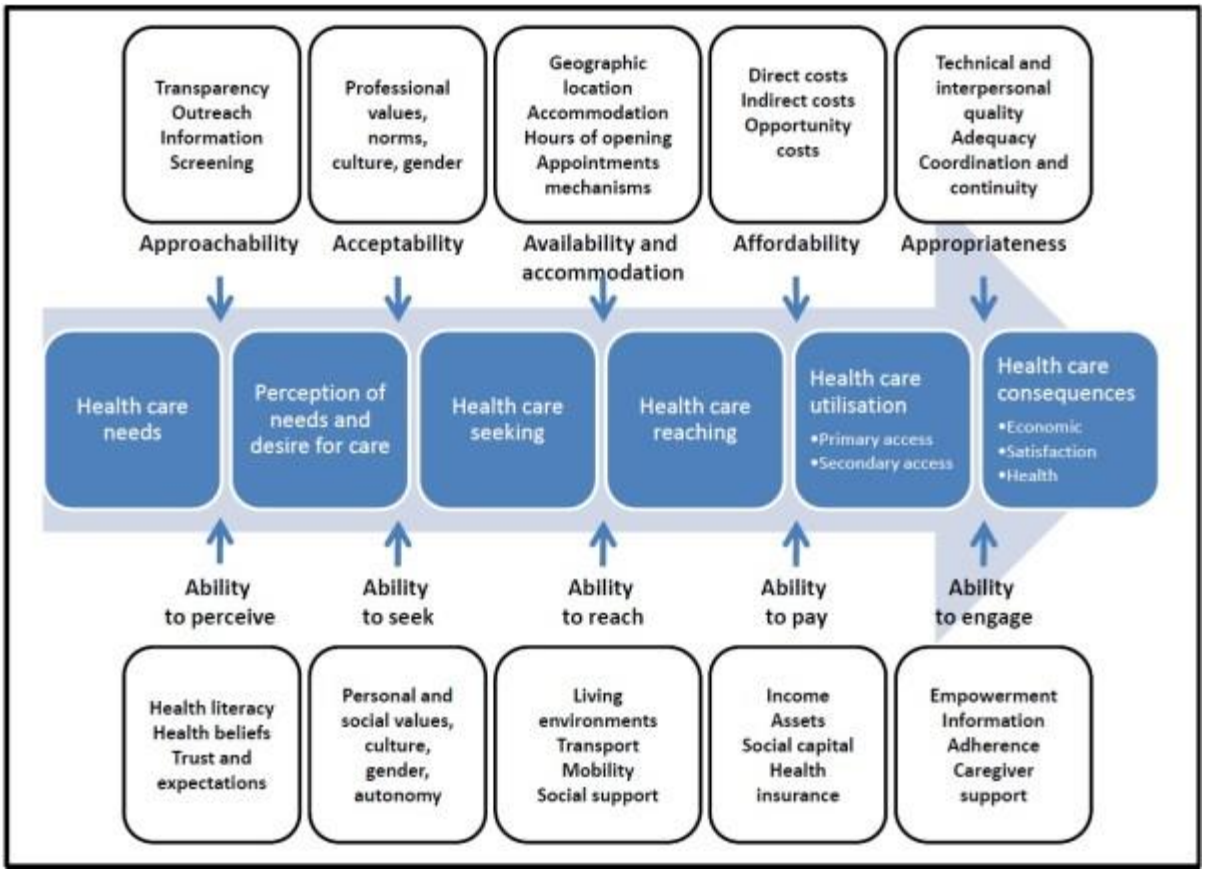
	OBJECTIVES	KEY WORDS	CONTEXT
1	To explore and analyse social economic factors that hinder pregnant women from accessing antenatal care services	• Employment status • Source of income • Gender inequities • Male partner involvement • Decision makers at household • Level of education • Domestic workload • Women empowerment • Health information	Low- and Middle-Income countries OR Sub Saharan Africa OR Zambia
2	To explore and analyse cultural factors that prevent pregnant women from utilizing antenatal care services	• Cultural and traditional beliefs • Family support • Community practice (TBAs) • Gender inequities • Autonomy	Low- and Middle-Income countries OR Sub Saharan Africa OR Zambia
3	To explore and analyse health facility related factors affecting utilization of antenatal care services	• Attitude of health care providers • Availability of ANC services • Availability of ANC guidelines • ANC accommodation • Approachability or Ability to perceive • Outreach, Healthy literacy • Health information • Acceptability OR Ability to seek • Availability OR ability to reach • Accessibility	Low- and Middle-Income countries OR Sub Saharan Africa OR Zambia

		• Affordability OR Ability to pay • Appropriateness OR Ability to engage • Professional values • Technical OR Interpersonal Quality	
4	To analyze evidence based/ informed practices that improve antenatal care services in Zambia within districts, provinces and in other countries	• Antenatal • Pregnancy • Four focused visits • 8 ANC visits • Community participation • Maternal services • Cash transfer scheme • Transport costs • Performance based financing • Quality of care • Skilled birth attendants • Male involvement • Use • Interventions • Evidence informed • Evidence informed • Practices	Low- and Middle-Income countries OR Sub Saharan Africa OR Zambia
5	To make recommendations to Zambian government and relevant stakeholders in order to proffer interventions and improve the antenatal care services		

2.4.2. Conceptual Framework

In order to come up with the appropriate model for analysis, three models were reviewed. Anderson and Newman framework of health services utilization which talked about predisposing factors, enabling factors and need factors(47). Anderson's behavioral model which measures equity in health care access and help in addressing and developing policies was also checked. The Levesque et al. (2013) framework access to health care was reviewed and used for this study because it explains the important determinants that have influence on access to care in a comprehensive manner. The framework explores more factors related to access and utilization of ANC services that can be analyzed. The model classifies the supply and demand side factors and defines the pathway through which accomplishment for utilization of services can be done (48). It explains the health system related factors that influence an individual to access health services and these includes: Approachability, Acceptability, Availability and accommodation, Affordability and Appropriateness of services on the supply side. On the demand side there are factors that influence an individual to access the services and it includes : ability to reach the place where services are provided, ability to pay for the services ,ability to perceive the need for care, ability to seek care and ability to engage(48). The model also talks about health care needs, perception of needs and desire for care, health care seeking, health care reaching, health care utilization and health care consequences(48).

Figure 2: Conceptual framework Access to Health Services



Source: Levesque et al.(2013) (48).

2.4.3. Limitations of study methodology

Articles published in English were considered. There might have been better articles published in other languages like French from the French speaking countries in the sub Saharan Africa which were excluded in the study. Most of the literature review done was found online meaning that those which were not online for example hard copies were not accessed. The study was very much dependent on published literature. The true reflection of the current situation of the problem under study in Zambia is lacking because primary data was not considered. It was no possible to collect primary data from the primary source in Zambia in the given time frame due to non-availability of funds.

Chapter Three: Factors Preventing Women from Utilizing Antenatal Health Care Services in Zambia.

Introduction

Chapter three discusses study findings regarding factors influencing utilization of antenatal care services and the Health care needs of pregnant women in Zambia. The five dimensions of access on the supply – side and demand – side determinants will be represented. The five dimensions of accessibility of services includes approachability, acceptability, availability, affordability and appropriateness represented in the upper part of the framework and the lower part talks about abilities of potential users such as ability to perceive, ability to seek, ability to reach, ability to pay and ability to engage. These abilities are embedded in the process of utilizing health care, describes the causes and consequences of interacting with health workers as well as making use of the services.

3.1. Ability to perceive

The population's ability in the country to identify their need for health care services is very important so that they can access quality health care including ANC services. The concept of ability to perceive need for care among population is critical and determined by different factors like health literacy, knowledge about health and beliefs about health and sickness(48).

Health Literacy, Health Beliefs, Trust and Expectations

Knowledge about health is an important determinant because it empowers women to be familiar with their rights and health status in order to ask for good health services (48). A population based cross sectional study conducted in Zambia involving a total of 13,646 participants found that only 35.1% of individuals (46.5% were males and 24.5% females) were considered to have adequate health literacy levels (49).

According to ZDHS 2018 13% of girls and 16% of boys of 15 to 19 years old had sexual intercourse by the age 15 years. About 29% adolescents of 15 to 19 years had begun having children by the time the survey was conducted. It was reported that 42% of adolescents who began childbearing had no education compared to 23% who had secondary education. About 46% of adolescents who began childbearing are from the lowermost quintile compared to 8% from the uppermost quintile. In the survey it not clearly stated on the proportion of those who were pregnant at the time the survey was being conducted (10). A retrospective study conducted in rural Zambia found that Mbereshi mission hospital recorded the highest percentage of adolescent pregnancies of 50.7%. The adolescent mothers

became pregnant at the mean age of 17.5 years(50). In a study conducted by Ngoma in Zambia in 2016 found that girls usually drop out from school early making it difficult for them to understanding complications during pregnancy and they have no or little information of the importance of seeking for medical attention early (51).

In the same study by Ngoma it was reported that Zambian pregnant women had a lot of beliefs. Some pregnant women believe that they are not expected to eat eggs because they will give birth to a child without hair. Others believe that they are not supposed to eat red bream fish because it will cause hemorrhage during labour and delivery. There are also some sex related beliefs such as not engaging in extra- marital affairs because it will cause bad luck to them. It is believed that having an extra – marital affair will prolong labour or cause an obstruction and the woman may end up dying. When a woman is pregnant it is believed that she is not supposed to have sex in the last trimester of pregnancy because the baby will be born with sperms at birth or will have depressed fontanels. Pregnant women also believe that use of condoms during pregnancy will led to a weak baby. There is a belief that witchcraft exists so pregnant women are requested to take herbs to prevent witchcraft (51).

3.1.1. Approachability

Approachability describes the actual fact that providers in health organizations /health institutions put in place the system that will make pregnant women establish that ANC services exists, can be reached and have effect on an individual's health (48). The government of Zambia introduced and implemented the Safe Motherhood Action Groups (SMAGs) program in 2003 to increase awareness of the need to get ready for pregnancy complications and childbirth(52). SMAGs educate women on how to recognize obstetric danger signs and how to use emergency transport to health facilities for experts in maternal and neonatal health services (MNH). Insufficiencies which include poor ongoing support, insufficient supplies and shortage of transport such as bicycles needed for them to fully implement their work is reported. The study was done in six districts where interventions were implemented, and evaluation was done in phases. It was a quasi-experimental study in which 1140 women were recruited at baseline and they all participated. In the final survey 927 women participated and the study showed an increase between baseline and final survey. Women who knew that they were supposed to commence ANC in the first trimester increased from 51.2% to 73.8%, women who became aware of three or more obstetric danger signs increased from 55.9% to 61.2% and women who used emergency transport from the saving schemes increased from 0.7% to 16.1% (52). Antenatal health care

services can be made certainly approachable by giving health information to the general population through outreach programs and health education(40).

Health Information, Outreach and Transparency

Information and communication technology (ICT) is one of the advanced methods through which health information can be produced and shared worldwide. Accurate and readily available health information is necessary to guide pregnant women and their family members to make informed decisions about their health and how they can easily approach the health services rendered (53). Health care providers in Zambia mainly depend on interpersonal communication. This is usually done during hospital visits, outreach programs to disseminate the health related information(54).

In 2010, Zambia introduced the national community health assistant strategy to address the challenges faced in the health work force. Community health assistants (CHAs) are helping in providing the health care services to the hard to reach communities (12). Health promotion and disease prevention are the main duties for community health assistants. In addition they also refer clients to the next level which is the health Centre(55). Zambia is also using TBAs and the SMAGs to reach out to pregnant women. They have a huge task of sensitizing and encouraging community participation in quality of ANC services. They usually focus on creating awareness on pregnant women's right to attend ANC services for their own health and wellbeing and the health of unborn baby, the significance and role of male involvement, promotion on sexual and reproductive health rights, birth preparedness and complication readiness (40).

3.1.2. Perception of ANC needs and desire for care

The ability to perceive the need for ANC services and readily available health care facilities stimulates mother's desire for care. Ability to perceive is determined by factors such as knowledge, health literacy and beliefs related to ANC services. Approachability helps pregnant women to be aware that some ANC services exists, can be easily reached and have influence on pregnant mothers and the unborn baby. Different components such as information and transparency indicating the availability of treatments and services and outreach activities could help to make services more or less friendly.

A qualitative study which involved 84 respondents was conducted in the rural and remote parts of Zambia in 2012. The aim of the study was to find out why rural or remote pregnant women only managed to attend one ANC visit instead of the four recommended visits by WHO. The study found that most pregnant women did not commence early the ANC visits

because they were unsure about the proper time to start the ANC visit and were waiting for approval from an elderly woman. Some pregnant women failed to report for subsequent visits because services were not available at health posts. The study did not bring out the number or percentage of women who were not aware when to start ANC or those who failed to report for subsequent visits. The nomadic type of living also made it difficult for some pregnant women to start ANC and continue with the subsequent visits. The study further reported that pregnant women who managed to attend only one ANC visit with skilled health care worker wanted to judge the status of their health and their unborn baby(56).

A descriptive cross-sectional study which included 194 pregnant women was conducted in Zambia on perception of care among them. It was found that 98% of them agreed that ANC clinic is useful. About 55% reported that they were provided with a seat and 43% agreed that the toilet facilities were in good standard. Overall 99% reported that they would come back for the subsequent visits. Minority of the pregnant women did not respond whether they were satisfied with the information and nursing care they received. Approximately 9 % did not answer whether nurses were useful,8% did not answer whether nurses were pleasant and 6% did not answer whether nurses provided information (57).

3.2. Ability to seek

Ability to seek health care describes an individual's freedom and capability to choose to seek care, knowledge about the alternatives available and the person's right. This explains the challenge of ensuring that care accommodates the needs of different cultural, socioeconomically under privileged and vulnerable populations(58). In a study about one more pill to take during pregnancy, malaria and HIV in 2014, it was discovered that according to the Zambian culture a pregnant woman is not supposed to pronounce her pregnancy until it starts to show because she will call for bad luck. Some pregnant women who attend ANC visits before the pregnancy is visible tie herbs to their traditional clothes to prevent bad outcomes. Such cultural beliefs are quite prevalent in many Zambian tribes (59).

Similarly to a qualitative study which recruited 44 women participants and 24 men participants conducted in Zimbabwe found that pregnant women were afraid of seeking health care during the 1st trimester because of the cultural beliefs and concern that in the earliest time of pregnancy they are exposed to witchcraft (60). This 'taboo' of not talking about pregnancy delay pregnant women from seeking antenatal care early. An Ethnographic Qualitative research was conducted in Zambia in 2012 involving 80 key informant interviews and 29 focus group discussions found that it is the responsibility of elderly women to

disclose the pregnancy. This can lead to delay in seeking antenatal care services and lost opportunities for early diagnosis of complications (61).

Personal and social values, culture, gender and autonomy

A hospital based cross sectional study was conducted in Shanghai on utilization of ANC services among migrant women. About 767 women were recruited in the study. The study found that Pregnant women with high parity see no need for antenatal care services because they tend to depend on their previous experiences. They become confident with the previous experiences and take antenatal care services insignificant (62). In Zambia women are facing challenges concerning empowerment, such as inequality to access education, discrimination in employment and occupation. According to Central Statistical office (CSO) in 2010 only 5.4% women in rural areas can make independent decisions of their husband's incomes (63). According to ZDHS 2018 about 33% married women and 35% married men said that husbands have control over women's income. About 56% men and 57% women reported that they made decisions together. A few numbers of approximately 9% men and 10% women reported that wives made a decision over their husband's earnings.

3.2.1. Acceptability

Acceptability relates that health care providers in health institutions should realise that there are cultural and social factors that influence pregnant women to accept or not to accept the ANC services provided (64). The acceptability of ANC services among women who are pregnant relies on professional values, norms, culture and gender of health care providers.

Professional values, norms, culture and gender

If Health care providers exercises professionalism, become friendly to all pregnant women (including adolescents who are pregnant, disabled pregnant women and HIV positive pregnant women) and develop the attitude of non-Judgmental then this will promote acceptability and increased uptake of ANC services. A qualitative study conducted in Lusaka , Zambia which enrolled 24 disabled participants and 25 safe motherhood health promoters found that the disabled pregnant women in some settings face different social, attitudinal and physical obstacles to access safe motherhood and reproductive health services(65). A qualitative study conducted in 2011 in Zambia on adolescent's needs, health workers attitudes and experiences demonstrated that adolescents had opted to seek care from private health practioners and traditional healers. This is because services were quicker and

private compared to public health institutions where they were scolded for being sexually active(66).

3.2.2. Health care seeking

Ability to seek health care describes the notion of individuals' autonomy and capacity to choose to seek antenatal health care services. Knowledge about the options related to health care and individual's rights would help to make a decision about obtaining antenatal health care services. Ability to seek and acceptability are interrelated (48). According to ZDHS 2018 about 97% of mothers were reported to have had gone to a health facility to seek ANC services once during their pregnancy period while 64% managed to see the health professionals at least four times (6).

3.3. Ability to Reach

The ability to reach health care explains a pregnant woman's mobility and readiness of transport, job-related flexibility and knowledge about the ANC services provided in health institutions that would help her reach physically(48).

Living Environments, Transport, Mobility and Social Support

In Zambia, one of the major barriers experienced by pregnant women seeking ANC services is non-availability of transport to health care facilities(67). According to ZDHS 2007 ,about 57% of women observed that distance to the health facility is a barrier in accessing health care services(68). A qualitative Study conducted among 15 sampled women in mangwe district, Zimbabwe found that most pregnant women were unable to access antenatal health care services due to either lack of transport, high transport costs for ANC visits or long distances to the health facility. Lack of transport and high transport cost was due to the bad roads and only one bus serviced the district once per day. Respondents also reported that distance from home to the health facility was more than 40 km (69).

A cohort survey of 1,562 perinatal outcomes was conducted in 2004 – 05 in Kwale district, Kenya It was found that pregnant women who lived more than 5km from the health facility were unlikely to attend ANC services (70). Interestingly a study conducted in rural Haiti using data from the 2000 demographic health survey discovered that the presence of health facilities within 5km increased the utilization of ANC services to 4 visits or more(71). A Qualitative exploratory study conducted in 2008 in south eastern Tanzania involving 440 participants found that women who had support from their spouses /partner utilized ANC services 3 weeks earlier than those who did not have support(72).

3.3.1. Availability and Accommodation

Availability of health services and accommodation of pregnant women's needs are key pillars for access to health care in the country. "Availability and accommodation relates to the timely geographic location, hours of operation and capacity of service offered" (48) .

A study conducted in Zambia in 2005 using data from 2005 Zambia health facility census and 2007 ZDHS discovered that out of 1,391available health facilities providing ANC services 93% were recorded as offering ANC services. About 85% of the health facilities were managed by the government while 9% were run by CHAZ. Out of the 1,391 health facilities 73% were health centers,16% were urban health centers,5.5% were health posts, first level hospitals providing ANC services were at 4%, second and third level offering ANC services were at 1.4% and 1 facility could not be classified(5). Another study conducted in 2016 in Zambia by Ngoma found that most pregnant women registered for their ANC visit in the 2nd and 3rd trimester of pregnancy due to the negative attitudes of midwives and absence of female midwives at the health facility(51).

Geographic location, Accommodation hours of opening

In Zambia, there are certain areas which are difficult to access, for example the sandy and swampy areas along the Zambezi river and its tributaries in the country's Western province gets flooded every year. Communities living on either part of the flood plains are thus divided making it difficult for individuals to visit the health facilities. There are no proper roads because of its sandy terrain. There is no public transport except for a few government vehicles based in Western province.

A cross sectional comparative and descriptive study in which 12 health workers,13 traditional healers and 100 community members were recruited as participants was conducted by J. Stekelenburg in Kalabo district of Western province. It was found that 76% of participants had to walk to the health facility while 50% walk for two hours or more. This prevents women from seeking health care services or seek the services very late(73).

Figure 3: Paddlers moving from one side of the river to another side during floods

Source: portfolio: The Zambezi, Africa

In a study conducted in Lusaka at Matero and Kanyama clinic which was looking at experiences of antenatal care among pregnant adolescent. It was reported that the clinic only operated from 08:00 hours to 13:00hours. Interestingly the 12 adolescents enrolled in the study complained not only about the limited operating hours but also that the clinic preferentially treated elderly couples over adolescents. The second pregnant adolescent complained that health care providers take about two to three hours before they commence their duties. The third adolescent complained that they report at the center around 06:00hrs but go home around 16:00hrs which is quite late without taking any food(74).

A qualitative study conducted by Choolwe et al in 2018 on implementation of a community – based intervention in the most rural and remote districts of Zambia revealed that there was an increased uptake of 42% for focused ANC. This was due to the presence of SMAG program in the rural and remote communities. The SMAG program in Zambia is aimed at improving access to maternal and neonatal health services (MNH) (52). A cross sectional study in which involved 2,481 participants was conducted in 2013 by Choulagai et al in western Nepal. The study found that living within 30 minutes walking distance from the health facility increased use of ANC services (75). In a study conducted by Peters et al in 2008 in the LMICs, it revealed that distance between health facility and the client has been discovered to be the biggest challenge for access to health care services (76).

3.3.2. Health care reaching

This segment is about how antenatal health care services can be reached both physically and in an appropriate manner within a stipulated time. A detailed discussion is under ability to reach and availability and accommodation

3.4. Ability to Pay

When the person is willing and capable to pay for the services. "It describes the capacity to generate economic resources – through income ,savings, borrowing or loans – to pay for health care services without catastrophic expenditure of resources required for basic necessities (e.g. sale of home).''(48).

Income, Assets, Social Capital, Health Insurance

Unemployment of a poor pregnant woman is one of the factors that will make it difficult for a woman to raise money to pay for transport to reach the health facility hence delay in seeking health care(51). Unemployment rate for females in Zambia increased in 2008 from 7.7% to 9.2% then it reduced to 6.5% in 2014. In males in 2008 it was at 8.1% then reduced to 6.3% in 2012. In 2014 it increased to 8.4% (77). In 2019 the unemployment rate in females was estimated at 12.24% compared to males at 10.66% (78).

According to ZDHS 2018 about 75% of men aged 15 – 49 years are employed compared to 45% of their female counter part. About 34% of females work in agriculture as compared to 31% of males. Approximately 31% of women have been reported to make decisions over their own earnings while 51% make joint decisions with their spouses. About 18% of women reported that their husbands make decisions over their own earnings. In the same survey 22% of women reported to share ownership of a house with their wives as compared to 14% of men who share with their spouses. About 18% of women share their land with their husbands while 12% of men share their land with their spouses. It was also reported that 15% of men own their land alone as compared to 6% of women who own their land alone. In Zambia in 2018 health insurance was reported at 2% in women while 3% in men respectively. No significant change has been reported compared to ZDHS 2013 -14 report (10).

Studies conducted in Ghana, Indonesia and Rwanda on the impact of health insurance on utilization of maternal health care services. It has been reported that providing free health insurance for the poor and income – sensitive premiums as well as offering antenatal care with low or no extra payment can encourage increased uptake of maternal health care services (79). A hospital based cross sectional study was conducted in Shanghai on

utilization of ANC services among migrant women. About 767 women were recruited in the study. It was discovered that there were some factors that were linked with appropriate use of ANC services such as pregnant women's high income for their household than those with low income for their household. Additionally these women started their ANC visits as early as 12 weeks of pregnancy (62).

3.4.1. Affordability

According to Murry and Evans in 2003 financial access to health services depends on the health financing system of the country (80).

In Zambia maternal health care services are provided in all health care facilities both private and public sectors. The services are offered free of charge in accordance with the national health services act of 2005 which removed user fees in all primary health facilities(81).

Direct costs, indirect costs and opportunity costs

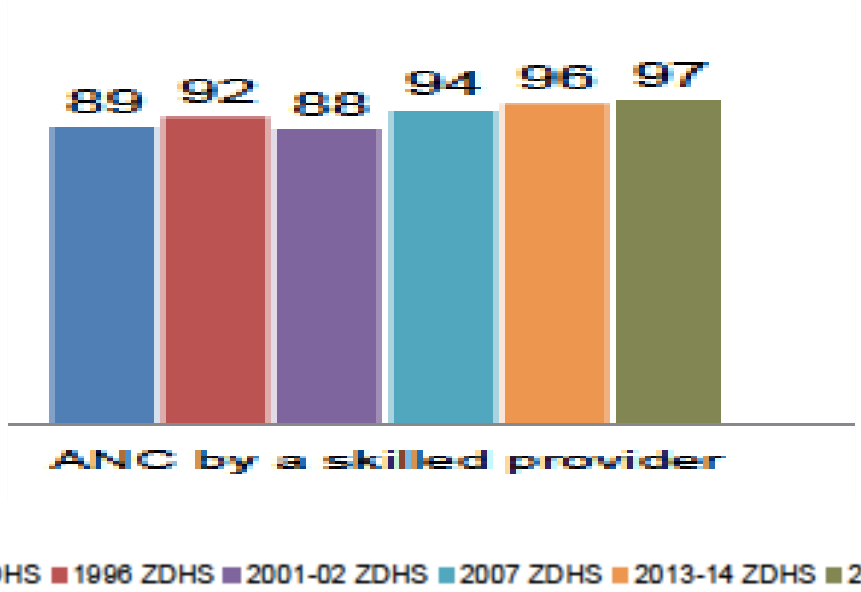
According to world bank 58% of the Zambian population are living below the poverty line of US$1.90 per day (82). In 2006 user fees were officially stopped. However, there is varied evidence on utilization of health care services. There is no clear evidence that removal of user fees increased health care utilization even among the poor. A study conducted in Zambia on the impact of removal of user fees found that utilization of health care services increased for a short period of time but had long term effects(83).

3.4.2. Health care utilization

According to ZDHS approximately 97% of mothers utilized the ANC services at least once during their pregnancy while 64% utilized four times during their pregnancy in 2018 (6). This is a worrying situation whereby pregnant women fail to adhere to the recommended ANC visits. Studies that have been done in economics using the utilization model by using variables such as total cost of care, time spend for travelling and the opportunity associated to it, income of the client, quality of care observed and the behavior of health care providers (84). A hospital based cross sectional study was conducted in Shanghai on utilization of ANC services among migrant women. About 767 women were recruited in the study. The study findings were that 90.1 % managed to attend at least one ANC visit while 49.7 % had attended five or more ANC visits(62).

Table 4: Trends in Antenatal Care,1992 – 2018

Percentage with one ANC visit



Source: Zambia Demographic Health Survey 2018 key indicators(6).

3.5. Ability to Engage

The client's health literacy and willingness to participate in her own care will make it possible for her to be engaged in care that needs optimal service (48).

Empowerment, information, adherence, caregiver and support

Women empowerment through education is an important key strategy that can lead to achievement of sustainable development goal because it can improve their social, political, economic and health status(85). Health care providers have the responsibility of providing accurate information so that clients can make informed decisions about their health. Pregnant women are supposed to be responsible for their health and are expected to be actively involved in making their own informed decisions (86). In a ZDHS 2013 – 2014, women and men were asked about their participation in the four household decisions namely own health care, purchasing most important household, procuring everyday needs for the household and visiting relatives or family members. It was discovered that men are more likely to contribute to decision making than women. This is due to gender inequalities and cultural practices which is appreciated in Zambia. Women typically make decisions about

purchase of daily household requirements and visits to family and relatives while men are responsible for making decisions about access to health and procurement of major household goods. This subjects women to less authority on decisions concerning their own health care (8). A study conducted in Indonesia in which data was collected from the Indonesia Demographic Health Survey found that educated women had a higher recognition of the presence of ANC services and the opportunity of utilizing the services(87). In a descriptive study conducted in Nigeria which recruited 102 pregnant women it was argued that educated women utilize the information more successfully than those who are not educated. It further stated that those who are educated are very much alert of the health problems and the availability of the health care services (88).A cross sectional study conducted in central Ethiopia in which 422 women were recruited as participants revealed that women with no education were two times less likely to attend ANC services (OR=2.645) as compared to those with some education (89). Collectively these studies demonstrate that the level of education of a woman has a strong bearing on her accessibility to ANC services.

3.5.1. Appropriateness

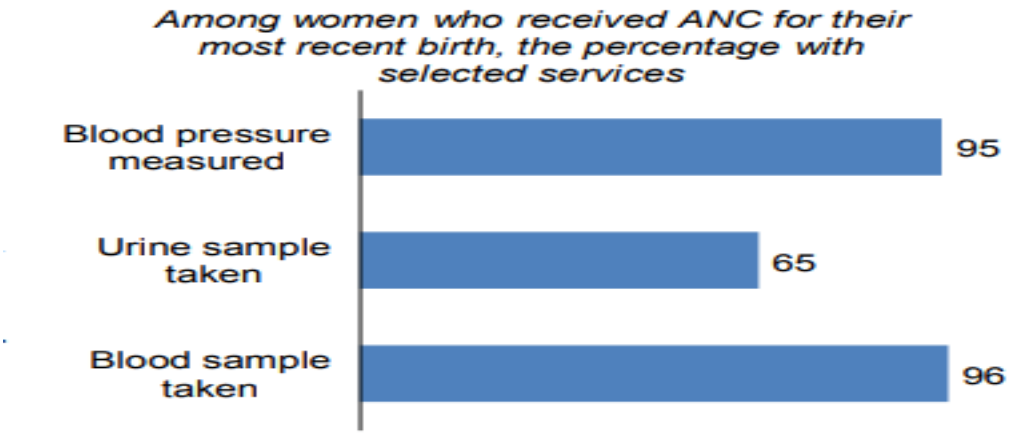
This is defined as the suitability between an individual's needs and services including the quality of the services provided. It calls for an individual's full involvement in making decisions as well as care (48).

Technical and Interpersonal Quality

The Zambian government has put in a number of interventions in order to improve quality of health care services and these includes infrastructure developments, increased a number of training institutions for health workers, protocol and guideline developments, increased drugs and medical supplies, policy developments and monitoring and evaluation programmes (7). A cross sectional study conducted in Zambia which recruited 39 health facilities offering primary health care found that 52.9% pregnant women received low quality of ANC services while 47.1% received high quality of ANC services (45).

During the antenatal visits' services such as collection of blood and urine samples are done and tested, blood pressure is also measured. The proportion of urine samples had shown an increase from 25% in 2001 to 65% in 2018, blood sample was recorded to have had increased from 44% in 2001 to 96% in 2018 then blood pressure in 2007 was at 87% in 2001 then reduced to 80 % in 2007 and went up to 95% in 2018. This was reported in the ZDHS 2018 (10).

Graph 2: Percentage of women who received ANC with selected services



Source: Zambia Demographic Health Survey 2018 (10)

A study was conducted in Zambia using data from Zambia Health Facility Census 2005 and Zambia Demographic Health survey 2007. It was discovered that out of 1,299 ANC facilities in Zambia only 16% offered hemoglobin tests which detects anemia in pregnancy. About half of the facilities provided syphilis testing and urine testing was provided by lower than a quarter.

In another study conducted in Zambia which used data from ZDHS 2007, administrative and health facility census data found that employment status of women, quality of ANC provided and husbands education status are negatively linked while care of children at house household, parity and money are positively linked with insufficient use of ANC services . Both community and individual determinants have influence on the use of ANC services (41). A qualitative exploratory study conducted in Tanzania in 2008 in which 440 women were recruited. It was found that pregnant women reported late at the health facility to start ANC due to perceived bad quality of care (72). Further women explained that they were sent home due to lack of services and these included the following ; inadequate staff, failure to purchase drugs, cards and diagnostic tests meanwhile services were thought to be free of charge (72).

3.5.2. Health care consequences

The ability to engage denotes pregnant women's motivation and capacity to actively participate in the process of receiving quality health care. The chance for an individual to use

untrained health care provider cannot be compared to another person who has used highly specialized services, if the services brings out different outcomes or satisfaction (48). Appropriateness can also be achieved if female health care providers are put in health facilities offering antenatal care. This can increase on the uptake of ANC services. Antenatal mothers should also be involved in the decision making about the services they are receiving from the health facilities. This will create increased production as well as happiness to them. It is also important for health care providers to find out from pregnant women about their economic status as well as their mental and psychological well-being. This can lead to improvement in provision of health services and increased adherence to the ANC services provided (48).

Chapter Four: Evidence Based/Informed Practices

Introduction

Chapter four discuses evidence based or informed practices that have been proven to increase the uptake of antenatal care services in Zambia and other developing countries. The Levesque et al's (2013) conceptual framework was used to guide this section. The strategies or interventions discussed in this section were chosen based on the factors that hinder pregnant women from accessing ANC services analyzed in chapter three. The interventions aimed at improving the uptake of ANC services and were evaluated on the applicability and possibility to the Zambian health care system.

4.1. Approachability/ability to perceive and Acceptability /ability to seek

Socio cultural factors, gender inequalities and low health literacy were some of the factors identified to prevent pregnant women from accessing the ANC services. Community based interventions such as home visiting, community mobilization and counselling services which are integrated have been seen to increase the uptake of ANC services. This approach will also improve approachability, client's ability to perceive, accept and seek for health care (90).

Community participation is one of the key strategies in improving women's and adolescents' health. Engaging community health volunteers is one of the important resources of achieving this strategy(91).

In Zambia, there is evidence to show the effectiveness of integrating community workers such as SMAGs, TBAs, community health workers and community volunteers into the health care system. During the mobilizing access to maternal health services in Zambia (MAMaZ) programme the percentage of pregnant women who attended antenatal care in the first trimester improved from 47% to 71% then for the pregnant women who managed to attend at least 4 ANC visits improved from 30% to 43%. This programme was implemented in six provinces out of 10 provinces in Zambia (92).

Interventions that involve male in maternal and newborn health care during pregnancy ,childbirth and after delivery has shown to be very effective and has resulted in more positive and newborn health outcomes (93). In rural Tanzania a community based safe motherhood promoter strategy was reported to be effective where male and female safe motherhood promoters were trained to conduct home visits. The safe motherhood promoters were teaching partners of pregnant women on danger signs and complications of pregnancy. No biasness was reported. Initiation of ANC visits started at four to six weeks

pregnancy and it increased from 18.7% at baseline to 56.9% in 2006 at the end of the program (94).

Evidence showed that an outreach program to male partners and community leaders in Pakistan for Afghan refugees revealed remarkable progress in ANC and post-natal visits which contributed to the reduction in maternal mortality ratio. The ANC attendance of three or more rose from 49% in 2000 to 90% in 2006. The MMR reduced from 291 per 100,000 live births in 2000 to 102 per 100,000 live births in 2004(95). In Kenya evidence showed that male involvement in maternal health care is a determinant that can increase utilization of ANC services. About 68% of pregnant women whose husbands accompanied them for at least one ANC visit delivered with the skilled birth attendants as compared to 43% of pregnant women whose husbands did not attend ANC visit (96).

In Kampala, Uganda the SASA intervention approach was implemented by the center for domestic violence in 2007 – 2012. This strategy was done in eight communities, four interventional communities and four control communities. It was a community mobilization on women's experiences of intimate partner violence (IPV). It involved community members, women support groups, leaders and institutions. The strategy aimed at addressing gender inequalities and IPV. It was seeking to change norms and behaviors in the community that end up in gender inequality. The effect was that IPV was reported higher in the control communities as compared to the intervention communities. About 52% women did not report of the previous experience of physical IPV. The approach has been reported to be very effective for primary and secondary prevention of IPV (97).

According to Mtega Mass Media Campaign is one of the most widespread and cost-effective mode of conducting health promotion(98). In Malawi a Mass Media Campaign was launched on utilization of maternal health services. The results for antenatal care services recorded significant increase (AOR= 2.62;95% CI = 1.45 – 4.73). Pregnant women who were exposed to Phukusi la Moyo (PLM) had 2.6 times higher attending ANC visits compared those who were not exposed. Mass Media Campaigns are helpful in addressing communities that are inclined to cultural practices(99).

4.2. Availability and Accommodation/ability reach

There are some factors under this section that prevent pregnant women from accessing ANC services such as long travel to the health facilities, inadequate health facilities, insufficient skilled health workers and non-availability of transport. A study conducted in Malawi found that procuring a motorcycle ambulance was 19 times lower priced as compared to a car

ambulance. This mode of transport reduced delay in reaching the health facility by approximately 35% to 76% and was found to be cheap and cost effective thus motorcycle ambulances can be distributed in a lot of health facilities to improve access to ANC services (100).

In Zambia a cross sectional study showed evidence that the use of a maternal waiting homes (MWHs) increased the uptake of ANC and post-natal visits. MWHs is an intervention that has been acknowledged in Zambia to increase the need for maternal care services. About 59% of the participants reported to have had attended 4 or more ANC visits ,37.8 % attended two to three ANC visits and 3.6% managed to attend at least once ANC visit. About 45% of mothers managed to attend PNC visits after delivery (101).

The performance-based financing (PBF) program in Burkina Faso which was introduced in 2011 to 2013 in 3 districts recorded significant increase in maternal health indicators. The provision of ANC visits at fourth and fifth visit was 2.3 times higher in the intervention facilities than the comparison facilities after the implementation of PBF. There was an 8.5% increase of ANC provided to women in the first trimester in the PBF districts compared to the non PBF districts per month. The mean figure of ANC visits increased by 27.7% (102).

4.3. Affordability/ability to pay

There are financial interventions aimed at protecting expectant families from catastrophic expenditure; and these include free maternal services, national health insurance and saving schemes and grants.

Evidence in Ghana showed that providing free maternity services under the national health care scheme increased the ANC visits. Pregnant women who had national health insurance had a maximum of six ANC visits and a minimum of four ANC visits than those who did not have national health insurance (103).

In Zambia the MAMaZ introduced a social fund in order to supplement on the community participation approach. This was aimed at helping the communities to establish and expand their capability to improve access to maternal and newborn health services. The social fund contributed to community saving schemes and grants for projects in the community. The underprivileged communities were the ones eligible to apply for this grant. The grant was given to communities who came up with activities that were income generating such as goat rearing or establishment of shops. The results showed that 251 pregnant women with complications out of 250,000 people were saved. The percentage of pregnant women who attended ANC in the first trimester increased from 47% to 71%. Pregnant women who

managed to attend four visits or more increased from 30% to 43%. The total cost for the all programme was ZMK 522,581 equivalent to 70,000 euros. 20% was used for toping up savings while 80% was used as grants (92).

Figure 4: Pictures of income generating activities

Source: Mobilizing Access to Maternal health services in Zambia(92).

4.4. Appropriateness/ability to engage

In northern Tanzania a strategy of training health care providers in youth – friendly health services were implemented between 2004 and 2007. About 429 health care providers were trained. The results showed that after the introduction of this strategy understanding, knowledge and attitude towards the adolescents improved(104).

Table 5: Interventions

	Intervention	Intervention	Intervention	Intervention	Intervention
Determinant 1 Socio economic factors	Provision of saving schemes and grants	Free maternal services under insurance	Male involvement		
Determinant 2 Cultural factors	Mass media campaign	Community participation			
Determinant 3 Health facility related factors	Outreach programs And training of health workers in youth friendly services	SASA intervention approach	Maternity waiting homes	Performance based financing	Motorcycle ambulance

Chapter Five: Discussion of Study Findings

Introduction

Chapter 5 is going to discuss the study results presented in chapter 3 using the Levesque et al. (2013) framework access to health care.

5.1. Ability to perceive/Approachability

The study findings were that women who had knowledge about the availability of ANC services were able to access the services as compared to those who did not have knowledge. In Zambia health information is usually given during hospital visits and outreach programs but the CHAs, CHWs, SMAGs and TBAs who are engaged to conduct outreach programmes are not adequate to reach out all the remote and rural areas. This will make pregnant women to have low access to health information and ANC services. An increased number of CHAs, CHWs, SMAGs and other community volunteers will allow pregnant women access the services and health information.

The strategy from Tanzania of safe motherhood promoters that involves males and females might be good for Zambia, because the gender roles may be similar. The male safe motherhood promoters will be conducting home visits to educate partners of pregnant women about the danger signs of pregnancy and other related health information. This will increase access to health information and services by pregnant women.

The study findings on why rural women in the inaccessible and substandard parts of Zambia manage to attend only one ANC visit was that some pregnant women were still unsure on when to commence their first ANC visit and they did not know the schedule for the ANC visits. The study had 84 participants but did not clearly state how many women were unsure on when to start the ANC visit. This clearly demonstrates that information is lacking in some pregnant women, and this influences them to start their visits very late. In the same study some pregnant women were reported to have nomadic type of living. This situation is prevalent in western province of Zambia during the flood season. Communities live on either part of the flood plain thus separating the two parts. This division makes it difficult for pregnant women to visit the health facility leading to low utilization of ANC services.

Girls' human rights is compromised and diminished during teenage pregnancy because they will lose their chance to fully understand their socio-economic development potential. Education for girls and women is very important. Study findings in Zambia shows that boys and girls engage in sexual intercourse at the age of 15 years which clearly demonstrates that they need comprehensive sexual education in schools to reduce on teenage pregnancy.

Adolescents who become pregnant need financial empowerment so that they can continue with their schooling. They also need information on where to access the ANC services otherwise they will end up visiting the traditional healers. They need a supportive environment and health care providers who are non-judgmental. If these adolescents are not supported during this period they will resort to stay at home or go for unsafe abortion which will increase on the number of MMR.

In the study findings it has been discovered that women have beliefs of which some are harmful, and others are not harmful. Health care providers need to be aware that some beliefs are not harmful and need to be encouraged and those which are harmful need to be discouraged. Good and effective communication between health care providers and pregnant women is important. If pregnant women are not treated well at first glance, they will decide to stay at home due to unfriendly environment and this will prevent women from utilizing the ANC services.

5.2. Ability to seek/Acceptability

In Zambia a pregnant woman is not allowed to pronounce her pregnancy early because it is believed that it will call for bad luck. This is considered as the responsibility for elderly people and the elderly people will only announce the pregnancy when it is visible. This usually calls for delay in seeking care leading to missed opportunity in early diagnosis of complications. Pregnant women with high parity see no need for early ANC visits because they depend on the previous experiences. The perception of having complications is reduced especially if they have been delivering normally. This is a determinant that will affect the utilization of ANC services.

In Zambia women do not have power to make decisions over their husbands' income, this could be attributed to gender inequalities and social cultural practices which is appreciated in Zambia. This subjects women to less authority on decisions concerning their own health. It also subjects' women to delay in seeking ANC services. Some women are employed while others are not employed. Those who are working can easily make their own decisions of seeking for ANC services than those who are not employed. Those who are employed can easily find money for transport to the health facility compared to the unemployed women. Some pregnant women do not have autonomy to make decisions for seeking ANC services. These decisions are usually made by husbands, in-laws or grandparents. This situation will prevent pregnant women from utilizing the ANC services.

In the study findings it has been discovered that some health care workers in Zambia are judgmental towards the disabled pregnant women because they think that disabled people are not supposed to be sexually active. Some health care workers have bad attitude towards the adolescents who are pregnant because it is believed that adolescents are not supposed to be sexually active. This scenario usually subjects adolescents to seek for health services from private health practioners and traditional healers where they are not scolded. Bad health workers attitude towards adolescents and disabled people may be due insufficient training on how to deal with the disabled people and adolescents. This can also be attributed to lack of supervision and mentorship to those who are already in service. Zambia can adopt the initiative from Tanzania of training health care providers in offering AFHS in all public institutions. This is a good strategy, however new programs come with challenges such as inadequate funding and resources for the program to be implemented. This may call for NGOs and other relevant stake holders to come and assist. Integration of the services into the already existing services can bring some challenges as well though this is important for success.

5.3. Ability to reach/Availability

In Zambia closeness to the health facility is one of the factors that can increase the uptake of ANC services. Increased uptake of ANC services can be seen in pregnant women who walk to the health facility in less than an hour and with no transport cost to access the services. Lack of transport and high transport costs and bad roads are barriers that can hinder women from utilizing the ANC services like the case of Zimbabwe and Zambia. Pregnant women feel uncomfortable travelling long distances in a bad road hence they will be discouraged to come for subsequent visits. The distance to the health facility and time spent in reaching the facility are important determinants in seeking antenatal care services. Some areas in Zambia still are not yet developed. There are no proper roads because of its sandy terrain. Some pregnant women walk two or more hours to reach the health facility. This prevents women from seeking health care services early or seek the services late. Distance to the health facility is the biggest challenge women are facing.

In Zambia the health facilities are unevenly distributed between the urban and the rural areas. Government introduced the CHAs to supplement on the existing human resource but the number of CHAs is still inadequate to cater for all the remote and rural areas. The CHAs are also not skilled and do not provide the basic obstetric emergencies. The skilled health care providers are inadequate and are not evenly distributed making the rural parts to suffer

most. The available ambulances are not adequate to cater for all the health facilities to help in transporting women to the health facility.

Interventions such as MWHs have been proven to be successful and have increased the uptake of ANC visits in Zambia for women in their late pregnancy. This strategy needs to be strengthened and government through MOH should build more MWHs with the minimal required standards.

Transport is very cardinal in reaching the health facilities especially in the hard to reach areas. Communities can be empowered with the locally available mode of transport such as oxcarts in order to refer the obstetric emergencies to the next level as quickly as possible. This intervention can reduce on delay in reaching the health facility and it can be done with support from the Zambian government and NGOs. Zambia can adopt the strategy of buying motorcycle ambulances which are cheaper than car ambulances. In Malawi buying of bicycle ambulances has been proven to be cheaper than buying car ambulances. Long distance to the health facility with previous bad experience can make women to stay at home. Living within 30 minutes walking distance from the health facility increase the uptake of ANC services. This calls for the government to build more health posts as close to the family as possible in order to improve the ANC uptake.

Support given to a pregnant woman during her pregnancy period is very important. According to the study findings women who had support from their spouses and family members utilized the services than those who did not have support. Lack of support from spouses, family and community members is a barrier in seeking ANC services and can influence the woman to stay at home.

5.4. Ability to pay /Affordability

Unemployment and low social economic status of pregnant women are some of the determinants that hinder pregnant women from accessing ANC services. Maternal health care services are provided for free in Zambia, but study findings show that there are extra costs that women encounter during pregnancy such as transport costs. Some pregnant women decide to stay at home because of long distances to the health facility and they don't have money to pay for transport due poverty levels which is still high in Zambia

Some pregnant women are told to buy new clothes for their unborn baby and themselves. This usually hinder them to make follow up visits for fear of being scolded. Some women have even opted to deliver at home for fear of being shouted and embarrassed.

The intervention of giving grants to disadvantaged communities is a very good initiative introduced by MAMaZ. Giving ownership to the community is another added advantage because the community will come up with its activities that can increase their social funds. This can improve the maternal health care services including ANC services.

5.5. Ability to engage/Appropriateness

The health care system in Zambia has been facing challenges such as inadequate medical supplies and equipment, insufficient skilled health care providers and insufficient infrastructure. These challenges have been preventing pregnant women from accessing quality ANC services. Pregnant women need health information in order to participate in their care and their own health. The literacy levels in Zambian women is low which hinders them to fully participate in their care. Pregnant women can be empowered through health education using the SMAGs, TBAs, CHWs and CHAs though these cadres find it difficult to reach out all pregnant women because they are few and they have challenges in terms of transport.

The strategy of husbands escorting wives from Kenya can be adopted. This can help couples to make informed decisions together especially in terms of family planning after the unborn baby is delivered for continuity of care. This strategy can be important to improve the utilization of ANC services but usually strategies when they are introduced, they come with challenges that need clear explanations to the community so that they become acceptable.

Male involvement has been proven to be effective in increasing the uptake of ANC services. Male involvement needs to be encouraged during pregnancy, childhood and postnatally. This can reduce on underutilization of ANC services because men will understand the importance of the ANC visits.

In the study findings pregnant women in Tanzania were sent away due insufficient drugs, inadequate antenatal cards and insufficient diagnostic tests meanwhile services are thought to be for free. There is no published study in Zambia that talked about pregnant women are sent away due to non-availability of services. However, a study that was conducted in Zambia on service provision of ANC found that out of 1,299 ANC facilities in 2005 the screening tests were not usually available. Hemoglobin tests used to detect anemia was done in only 16% ANC facilities, half of the facilities provided syphilis tests and urine testing was provided in less than a quarter. These are important barriers that prevent pregnant women from utilizing the services. Pregnant women feel very discouraged after travelling long distances then they are turned away that logistics are not in place.

Lack of quality of care at the health facility provided can hinder women from accessing the ANC services. This in the long run can prevent pregnant women to come for follow up visits.

5.6. The framework's usefulness to the study

The framework was useful in responding to the study questions by putting out the factors the study required to explore. The model enabled the study to explore the demand – side and supply – side factors that prevent pregnant women from utilizing the ANC services. The framework however failed to address policy issues that could affect pregnant women's access to ANC services.

5.7. Limitations of the study

There were limited studies in Zambia as most of information used were from the developing countries with similar settings like Zambia. The available information in Zambia had lack of data on the coverage of different components of ANC services in Zambia. Disaggregated age data on certain components of ANC was missing which is very important to the study. Disaggregated data on certain groups and provinces is also missing. The quality of data in some articles was of low quality. In some studies, instead of mentioning the percentage or number they were writing words like 'some, majority, most' this could not give a clear picture of the study. Despite a lot of projects implemented in Zambia information on evidence-based interventions or practices was lacking.

Chapter Six: Conclusion and Recommendations

6.1. Conclusion

In Zambia accessing the recommended ANC services still poses a challenge in the country. Both the demand – side and the supply – side factors have been appreciated in the study to influence pregnant women's access to ANC services. The study discovered several major factors on the demand – side that prevent pregnant women from utilizing the ANC services in Zambia such as gender inequalities, low socio – economic status, age, cultural practices, average distance to the health facility of 50km or more, low health literacy among pregnant women and pregnant adolescents.

The supply – side factors noted to be barriers for pregnant women's access to ANC services are as follows; insufficient health facilities, inadequate transport especially for emergencies, insufficient medical supplies, inadequate health information, bad attitude of health care providers ,lack of knowledge of health workers on cultural beliefs and inadequate skilled health workers.

In addressing barriers to ANC services several evidence-based interventions have been recognized for considerations. This includes training of male and female safe motherhood promoters to conduct home visitation, increasing on the number of skilled health workers, strengthening free maternity services with health insurance, performance based financing, mass media campaigns, strengthening MWHs,strenghthening community participation and ownership, use of locally available transport such as oxcarts and boats for emergencies, addressing gender inequalities, introduction of social funds (saving schemes and grants) to disadvantaged communities to come up with initiatives that can raise the funds in order to improve maternal and new born care.

6.2. Recommendations

6.2.1. At Policy Level

1. The government of the republic of Zambia through MoH to increase on the national health budget according to Abuja declaration of 15% in order to help the health sector meet its planned goals and targets.
2. The government through ministry of transport and communication to construct more good roads in rural and remote that can assist ANC pregnant women to access easily

the health facilities. This is important because most of the maternal deaths are high in rural and remote areas.

3. The government through MOH and other stakeholders to conduct operational research on attitudes of health workers and check on the effectiveness of the interventions implemented whether they are improving the ANC services. This can be followed with refresher courses, capacity building and supervisory visits to check on appropriate attitudes and code of practice.

6.2.2. At Health Service Delivery Level

1. The government through MoH to continue long term strategies such as training and recruiting more skilled health workers , build more additional health institutions to reduce on distance to the health facility, build more additional training institutions in order to increase on skilled health workers, ensuring that medical supplies and equipment are available at all times to improve quality of services at health facilities.
2. The government through MoH to redistribute human resource between the urban and the rural areas to ensure countrywide availability of health staff.
3. The MCDMCH to scale up community participation approach which includes the leaders, women's support groups, home visiting volunteers, SMAGs and TBAs that focusses on improving ANC attendance.
4. The MCDMCH to strengthen the strategy of male involvement in sexual and reproductive health services in order to increase the uptake of maternal health care services.
5. The MCDMCH to utilize mass media campaigns to change the behaviors of people especially in communities which are highly inclined to cultural practices by engaging traditional leaders and community volunteers.

6.2.3. NGOs and Civil Society at community level

1. Communities and women must be empowered through social funds and conditional cash transfer scheme to come up with initiatives that can improve maternal and newborn care.
2. Communities must be mobilized and supported by NGOs and civil society through MCDMCH to come up with locally available modes of transport that can assist in referring obstetric emergencies to the next level of care.

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Appendix 1: ANC Contact interventions

BOX 3: ANC CONTACT INTERVENTIONS

CONTACT	GESTATION PERIOD	FOCUS*	NEED TO DO**	NEED TO HAVE	BY WHOM
Contact 1	Up to 12 Weeks	• ANC counseling (Nutrition, birth preparedness and danger signs and pregnancy to be introduced early enough) • Medical assessment and management • Clinical inquiry on IPV/SGVB	• Counseling • Medical assessment and management/ referral • Create rapport with clients • Enquiry and make appropriate referral of IPV/SGVB	• Counseling kits, Guidelines, test kits(HIV, RPR, urinistix), Medical equipment(BP machines, bathroom scales, glucometers, glucostix, haemacue and microcuvettes, reagents) • Good interpersonal and counseling skills	• SMAGs and CHAs to do counseling only and refer appropriately • Nurses, midwives, Cos, MLs, MOs (each health provider to perform roles applicable to their scope of practice)
Contact 2	13 to 20 Weeks	• ANC counseling including birth plan and preparedness, danger signs in pregnancy (Family planning should be introduced at this stage. All the available methods should be taught for a women to have a wider choice) • Medical assessment and management	• Counseling • Medical assessment and management/ referral • Create rapport with clients • Ultra Sound scan • Home visits • Enquiry and referral of IPV/SGVB	• Guidelines, counseling kits test kits, Medical equipment (BP machines, bathroom scales, tape measure, glucometers, glucostix, haemacue and microcuvettes, reagents), • Ultra Sound machine • Good interpersonal and counseling skills	• Nurses, midwives, Cos, MLs, MOs, EHTs, CHAs, SMAGs (Each health provider to perform roles applicable to their scope of practice) • Ultrasonographer for ultra sound
Contact 3	21 to 26 Weeks	• ANC counseling including birth plan and preparedness, danger signs in pregnancy • Medical assessment and management • Counseling for Family Planning and breast feeding • Management of pain during labour	• Counseling • Medical assessment and management/ referral • Create rapport with clients • Home visits • Enquiry and referral of IPV/SGVB • Ultra Sound scan if not done in second contact	• Guidelines, test kits, Medical equipment(BP machines, bathroom scales, tape measure, glucometers, glucostix, haemacue and microcuvettes, reagents), • Good interpersonal and counseling skills	• Nurses, midwives, Cos, MLs, MOs, EHTs, CHAs, SMAGs (Each health provider to perform roles applicable to their scope)
Contact 4	27 to 31 Weeks	• ANC counseling including birth plan and preparedness, danger signs in pregnancy • Medical assessment and management • Counseling for Family Planning and breast feeding • Management of pain during labour	• Counseling • Medical assessment and management/ referral • Create rapport with clients • Home visits • Enquiry and referral of IPV/SGVB	• Guidelines, counseling kits test kits, Medical equipment(BP machines, bathroom scales, tape measure, glucometers, glucostix, haemacue and microcuvettes, reagents), • Home visit bag and accessories • Good interpersonal and counseling skills	• Nurses, midwives, Cos, MLs, MOs, EHTs, CHAs, SMAGs (Each health provider to perform roles applicable to their scope)

CONTACT	GESTATION PERIOD	FOCUS*	NEED TO DO**	NEED TO HAVE	BY WHOM
Contact 5	30 to 33 Weeks	• ANC counseling • Medical assessment and management • Counseling for Family Planning and breast feeding • Management of pain during labour	• Counseling • Medical assessment and management/ referral • Create rapport with clients • Home visits • Enquiry and referral of IPV/SGVB	• Guidelines, counseling kits test kits, Medical equipment(BP machines, **bathroom scales,** tape measure, glucometers, glucostix, haemacue and microcuvettes, reagents), • Home visit bag and accessories • Good interpersonal and counseling skills	• nurses, midwives, Cos, MLs, MOs, EHTs, CHAs, SMAGs (Each health provider to perform roles applicable to their scope)
Contact 6	34 to 35 Weeks	• ANC counseling including birth plan and preparedness and danger signs • Medical assessment and management • Counseling for Family Planning and breast feeding • Management of pain during labour	• Counseling • Medical assessment and management/ referral • Create rapport with clients • Home visits • Enquiry and referral of IPV/SGVB	• Guidelines, test kits, Medical equipment(BP machines, bathroom scales, tape measure, glucometers, glucostix, haemacue and microcuvettes, reagents), • Home visit bag and accessories • Good interpersonal relationship	• Nurses, midwives, Cos, MLs, MOs ,EHTs, CHAs, SMAGs (Each health provider to perform roles applicable to their scope)
Contact 7	36 to 37 Weeks	• ANC counseling including birth plan, preparedness and danger sins • Medical assessment and management • Counseling for Family Planning and breast feeding • Management of pain during labour	• Counseling • Medical assessment and management/ referral for • Create rapport with clients • Home visits • Enquiry and referral of IPV/SGVB	• Guidelines, test kits, Medical equipment(BP machines, bathroom scales, tape measure, glucometers, glucostix, haemacue and microcuvettes, reagents), • Good interpersonal relationships	• Nurses, midwives, Cos, MLs, MOs, EHTs, CHAs, SMAGs (Each helath provider to perform roles applicable to their scope)
Contact 8	38 to 40 Weeks	• ANC counseling including birth plan and preparedness and danger signs • Medical assessment and management • Counseling for Family Planning and breast feeding • Management of pain during labour	• Counseling • Medical assessment and management/ referral • Create rapport with clients • Home visits • Enquiry and referral of IPV/SGVB	• Guidelines, counseling kits test kits, Medical equipment(BP machines, bathroom scales, tape measure, glucometers, glucostix, haemacue and microcuvettes, reagents), • Good interpersonal relationship	• Nurses, midwives, Cos, MLs, MOs, EHTs, CHAs, SMAGs (Each health provider to perform roles applicable to their scope)

** Comprehensive details of activities at each contact are outlines in the integrated ANC package presented in annex 1*
***The list of interventions to be delivered at each contact and details about where they are delivered is and by whom are not meant to be prescriptive but rather adaptable to the individual woman and the local context to allow for flexibility in the delivery of the recommended interventions.*