

**KNOWLEDGE OF DANGER SIGNS DURING PREGNANCY
AND HEALTH CARE SEEKING ACTIONS AMONG
PREGNANT WOMEN AT ILEMBULA RCH CLINIC, NJOMBE**

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Department of Community Health Nursing



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By

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**A Dissertation Submitted in (partial) Fulfillment of the Requirement for the
Degree of Master (Midwifery and Women's Health) of the
Muhimbili University of Health and Allied Sciences.**

October, 2017

CERTIFICATION

The undersigned certify that the supervisor has read and hereby recommend for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation entitled *Knowledge of danger signs during pregnancy and health care seeking actions among pregnant women at Ilembula RCH clinic, Njombe* in partial fulfillment of the requirements for the degree of Master of Science (Midwifery and Women's Health) of Muhimbili University of Health and Allied Sciences.

.....
Dr. Sebalda Leshabari (RNM, PHD)

(Supervisor)

Date.....

DECLARATION AND COPYRIGHT

I, **Agnes Lameck Lwiva**, declare that this dissertation is my own original work and that it has never been presented and will not be presented to any other university for a similar or any other degree award.

Date Signature.....

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This work is dedicated to my parents Mr Lameck Lwiva and Mrs Rose Lukilo Lwiva for their education foundation and encouragement that I was able to attain up to this level.

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DEFINITION OF TERMS

OPERATIONAL DEFINITION.

Knowledge:

Knowledge refers to correct response of the pregnant women on items regarding danger signs of pregnancy as measured by structured knowledge questionnaire.

Danger signs during pregnancy:

Danger signs during pregnancy refer to alerts of obstetric related complications that occur commonly in the middle and late pregnancy (WHO, 2015). The danger signs that was looked in this study include severe per vaginal bleeding, high grade fever, no or reduced fetal movement, convulsions or fits, swollen hands, face, feet or ankles leaking of fluid from vagina, difficult in breathing, severe pelvic or abdominal pain foul smelling vaginal discharge, troubled with blurred vision

Health care seeking action:

Refer to any action undertaken by pregnant women who perceive themselves to have a health problem or danger signs of pregnancy for the purpose of finding an appropriate obstetric care.

Care

The provision of what is necessary for the health, welfare, maintenance, and protection of someone or something.

ABSTRACT

Background: Knowledge of danger signs during pregnancy and health care seeking actions after recognition of danger signs is essential for the good outcome of the mothers and expected new born. Increased knowledge of danger signs during pregnancy to the pregnant women is crucial for reducing delays in seeking health care.

Aim: The aim of this study was to assess the knowledge of danger signs during pregnancy and its association with health care seeking actions among pregnant women at Ilembula DDH, Njombe.

Methods: A cross sectional descriptive study design employed quantitative approach was conducted to pregnant women attended at Ilembula RCH for routine Antenatal care. A systematic random sampling method was used to select women to be interviewed. The pregnant women were interviewed using a self administered semi structured swahili questionnaire with closed and open ended questions. Collected data was coded, entered, cleaned and analysed using the statistical package of social science (SPSS) version 21. Data analysis was done by using descriptive statistics and chi square test to show the association between variables.

Results: A total of 288 pregnant women have been incorporated in this study. 34% participants found to have good knowledge of danger signs during pregnancy. Maternal age, occupation, educational level, marital status and source of information were variables found to be statistical significantly with women's knowledge of danger signs during pregnancy ($p < 0.005$). Most women (78%) have been informed about the danger signs by health personnel when attending ANC visits. More than a half of pregnant women (56%) with good knowledge of danger signs during pregnancy sought for health care after recognition of danger signs during pregnancy. Likewise the findings have shown that there is statistical significance between knowledge of danger signs during pregnancy and health care seeking action ($p = 0.001$).

Conclusion: Based on this study the findings suggested that, poor knowledge of danger signs during pregnancy is one of the reasons of failure to recognize pregnancy related complications as well as making decision to seek for appropriate health care.

Recommendation: The Ministry of Health, Community, Development, Gender, Elderly and Children (MoHCDEC) and other stakeholders may need to design the monitored guidelines which will help to strengthen the ANC services provided to pregnant women including provision of targeted health education informations to pregnant women.

LIST OF ABBREVIATIONS

ANC.....Antenatal Care

DDH.....District Designated Hospital.

ELCT..... Evangelical Lutheran Church in Tanzania

FANC..... Focused Antenatal Care

JHPIEGO.....Johns Hopkins Program for International Education in Gynecology
and Obstetrics

MUHASMuhimbili University of Health and Allied Sciences

NBS National Bureau of Statistics

PMTCT..... Prevention From Mother To Child Transmission

RCHC.....Reproductive and Child health Clinic

SD..... Southern Diocese

SPSS..... Statistical Package of Social Science

TDHS.....Tanzania Demographic Health Survey.

WHO..... World Health Organization

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CHAPTER ONE

1.1 BACKGROUND OF THE STUDY.

Pregnancy complications are the main cause of maternal morbidity and mortality (WHO, 2016). Globally about 830 women die from pregnancy or childbirth related complications every day (WHO, 2015). Roughly it is estimated that 303000 women die during pregnancy and during childbirth due to postnatal complications (WHO, 2016). Studies show that maternal mortality is higher in women living in rural areas and among poorer communities (Alkema et al., 2016). The danger signs during pregnancy are signs of serious complications that can increase the risk of maternal deaths world wide such as; persistent vomiting, severe persistent abdominal pain, vaginal bleeding during pregnancy and delivery, swelling of face, fingers and feet, blurring of vision, fits of pregnancy, severe recurrent frontal headache, high grade fever, marked change in fetal movement, high blood pressure, sudden escape of fluid from the vagina (WHO, 2015). Knowledge of danger signs during pregnancy may contribute to timely access to appropriate emergency obstetric care (WHO, 2013).

Almost all maternal deaths (99%) occur in developing countries. More than half of these deaths occur in Africa (WHO, 2016). In Uganda a study conducted to pregnant women admitted due to pregnant complications indicated that there were poor knowledge of danger signs and birth preparedness which may compromise decision making for emergency obstetric complications and health care seeking timely (Mbalinda et al., 2014). In Ethiopia studies have shown that pregnant women's knowledge danger sign is associated with socio-demographic factors, and obstetric factors as well as source of information these contributes to the knowledge of danger signs during pregnancy which may influence the early health care seeking actions after recognition of pregnancy associated danger signs (Rashad & Essa, 2010). Lack of knowledge of danger signs during pregnancy is one of the reasons of failure to recognise pregnancy related complications as well as making decision to seek for appropriate health care. Increased knowledge of danger signs during pregnancy to the pregnant women is essential for reducing delays in seeking health care and in reaching a health facility (Kabakyenga et al., 2011)

In Tanzania inspite of 96 % of all pregnant women attending antenatal care at least once (TDHS, 2016), where they receive Antenatal services including heath education concerning pregnancy and the outcomes, nutrition, family planning and danger signs during pregnancy but the trends of maternal mortality in women of the age 15 up to 49 shows the increase of martenal mortality from 398 per 100,000 live bith (TDHS, 2015) to 556 per 100,000 live birth (TDHS, 2015 – 2016). Tanzania 2012 Census estimation of maternal mortality ratio by region showed that there were marked differences in maternal mortality ratio across regions ranging from 860 deaths to 187 deaths per 100,000 live births. Regions with maternal mortality ratio of more than 500 deaths per 100,000 live births were; Rukwa 860, followed by Njombe region which was 788 (NBS, 2015)

The most common cause of maternal deaths in Tanzania regions including Njombe region is due to factors that could have been detected and addressed during the antenatal care service period, such as hypertension, ante-partum hemorrhage, abortion, ectopic pregnancy, and pregnancy-related sepsis which are preventable (TDHS, 2015). This could be due to a lack of knowledge of the danger signs during pregnancy. A study done in Tanzania has shown that inspite of high attendance of pregnant women to the ANC, 98.4% of the participants who have attended antenatal care at least once but only 51.1% of women mentioned at least one danger sign of pregnancy complication (Pembe et al., 2009). Therefore these findings indicate that still little is known concerning danger signs during pregnancy even among women who attended antenatal care services.

To improve maternal health, barriers that limit access to quality maternal health services must be identified and addressed at all levels of the health system (WHO, 2016). Some effort has been made to improve maternal health and reduce maternal mortality since the launch of the Safe Motherhood Initiative. The Safe Motherhood Initiative focuses on improving access to skilled attendants during delivery, improving referral systems for emergency obstetric care and monitoring progress through maternal mortality and morbidity audits. Knowledge of pregnant women on the danger signs of obstetric complications is the essential first step in accepting

appropriate and timely referral to obstetric and newborn care. Raising of pregnant women's knowledge of danger signs during pregnancy can improve mothers attitude on seeking medical care and it is crucial for safe motherhood (JHPIEGO, 2014). Therefore this study investigates how the knowledge of danger signs during pregnancy influencing the health care seeking actions.

1.2 PROBLEM STATEMENT

Most pregnant women fail to reach health care facilities before severe forms of pregnancy complications arise due to late recognition of danger signs during pregnancy which may compromise their decision on seeking health care. Maternal mortality rate remains high at 556 per 100,000 live births (TDHS, 2016). Regions with high maternal mortality ratio in Tanzania are Rukwa 860, followed by Njombe region which is 788 per 100,000 live births (NBS, 2015). Maternal deaths are avoidable if women with complications are able to recognize and seek appropriate emergency obstetric care. It is important for the pregnant women and their families to have a knowledge of danger signs during pregnancy to enable them to respond appropriately to complications which may arise because when women are informed about the danger signs of pregnancy will be in a better position to make reasonable decisions.

In the current situation 50% of women in low and middle income countries (Finlayson & Downe, 2013) including Tanzania pregnant women still fail to reach health care facilities before severe forms of pregnancy complications arise. Little is known about danger signs during pregnancy and its associations with appropriate health care seeking actions even among women who attended antenatal care, 98.4% of the participants attended antenatal care at least once in rural Tanzania, 51.1% of these women mentioned at least one danger sign of obstetric complications (Pembe et al., 2009). This indicates that there is lack of knowledge of danger signs during pregnancy even among women who attended antenatal care where they are expected to get the required information on obstetric complications in Tanzania, this may compromise their decisions on seeking health care.

Factors contributing to the knowledge of danger signs during pregnancy to pregnant women in Tanzania is similar in many developing countries. In Ethiopia the knowledge of women on danger signs may be associated with socio-demographic factors, obstetric characteristics factors and source of information about the danger signs of pregnancy (Hailu & Belhe, 2014). In urban Tanzania people who have the knowledge of danger signs they may have negative attitude, no finances or partners may affect their decisions on seeking health care (Mwilike, 2013). There are few studies which have been conducted on assessment of knowledge of danger signs during pregnancy and health care seeking actions in Tanzania, Also no available similar published studies which conducted at Njombe region. This motivated the researcher to assess the knowledge of danger signs during pregnancy and its associations with health care seeking actions among pregnant women at Ilembula RCH clinic, in Njombe region.

1.3 OBJECTIVES.

1.3.1 General Objective

The general objective of this study is to determine the knowledge of danger signs during pregnancy and its association with health care seeking actions among pregnant women at Ilembula RCH, Njombe.

1.3.2 Specific Objectives

1. To assess the knowledge of danger signs during pregnancy among pregnant woman at Ilembula RCH, Njombe.
2. To identify the source of information of danger signs during pregnancy among pregnant women at Ilembula RCH, Njombe.
3. To determine the health care seeking actions after recognition of danger signs during pregnancy among pregnant women at Ilembula RCH, Njombe.
4. To determine the association between knowledge on danger signs during health care seeking action

1.3.3 Research Questions.

1. What is the knowledge of pregnant women on danger signs during pregnancy?
2. What are the health care seeking actions after recognition of danger signs during pregnancy?.
3. What is the source of information of danger signs during pregnancy?.
4. Is there any association between knowledge on danger signs during health care seeking action?.

1.4 Conceptual Frame Work.

Conceptual framework is the model that represents key concepts and variables used in particular study and their relationship. It provides information on the relationship between independent and dependent variables (Jabareen, 2009). The conceptual model used in this study has been developed from literature review. This model suggests that the knowledge of danger signs during pregnancy depends on social demographic characteristics, obstetric characteristics and source of information. Health care seeking behaviour among pregnant women has been shown to be related with women's knowledge of danger signs during pregnancy. A concept of this model has been used in literature search as well as formulating questionnaire.



Figure 1: The conceptual frame work developed from literature review

1.5 Rationale of Study

This study seeks to assess the knowledge of danger signs during pregnancy and its association with health care seeking action among pregnant women. The information obtained from this study gives an insight which can help to improve the health education practice that may help to increase knowledge of danger signs during pregnancy at Ilembula in Wanging'ombe district in Njombe region. Moreover, the results obtained from this study can serve as a valuable piece of information to institution managers as well as other stakeholders. In that case it can contribute to the delivery of evidence based information which aims at improving quality of antenatal care services. Therefore this may help in the effort to reduce maternal and child morbidities and mortalities rates in Wanging'ombe district in Njombe region.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

One of the factors that contribute to maternal morbidity and mortality is lack of recognition to danger signs among pregnant women. Maternal morbidity and mortality could be prevented if women and their families could be able to recognize obstetric danger signs and promptly seek health care. The commonest danger signs during pregnancy include vaginal bleeding, severe headache or blurred vision, severe abdominal pain, swollen hands and face, reduced fetal movement, weakness and difficulty in breathing (Teng et al., 2015). Increasing knowledge of pregnant women about the danger signs would improve early detection of problems and reduce the delay to seek obstetric care (Hailu et al., 2010). Henceforth, assessing the level of knowledge of danger signs of pregnancy among antenatal women is very important. The literature review for this study focusing on knowledge of danger signs during pregnancy and their awareness to seek for health care among pregnant women. The literature review are discussed according to variables used in this study.

2.2 KNOWLEDGE OF DANGER SIGNS DURING PREGNENCY.

2.2.1 Maternal Age

Maternal age is one of the socio-demographic factors contributing to the knowledge of danger signs of pregnancy. Increased knowledge of danger signs in pregnancy among older mothers may be related to their experiences of pregnancy, which serve as an important source of information, particularly to those who had experience of obstetric complications during previous pregnancies (Duysburgh et al., 2013). A study done in Albeheira Governorate Egypt concluded that knowledge of obstetric danger signs was related to maternal age. Young age less than 30 years women are likely to have poor knowlege than those women with age above 30 years. (Rashad & Essa, 2010). The same study done in Tanzania revealed that women who are aged 31-39 years were eight times more likely to have knowledge of danger signs of pregnancy (Mwilike, 2013). While a study done in Southeast Nigeria noted that

53% of women with young age less than 30 years increased the probability of having good knowledge of the danger signs during pregnancy (Ossai & Uzochukwu, 2015). Another study done in Malaysia, the findings revealed that maternal age was significantly associated with women's level of knowledge. 69% of women aged above 35 years old had good knowledge of danger signs of pregnancy (Teng et al., 2015).

2.2.2 Level of Education

Level of education is a factor that influences women's knowledge. There is a need for the health care workers to provide health education using various educational methods. It has been found that among pregnant women with lower level of education will increase knowledge of the pregnancy danger signs. Women with higher level of education may have less difficulty in processing and understanding the information received during the time of attending antenatal care. (Duysburgh et al., 2013). In a study done Tanzania, In rural areas it has been noted that, women who have completed primary level of education increased the likelihood of receiving information on danger signs than those failed to complete their primary education (Pembe et al., 2009). However, the study conducted in Ethiopia pointed out that, mother's education found to be significantly associated with knowledge of danger signs during pregnancy. Mothers who attend secondary education were more likely to be knowledgeable about danger signs during pregnancy than their illiterate counterparts women. In that a study proves to us that women who attend secondary education were more likely to know danger signs of obstetric complication than illiterate mothers (Bililign & Mulatu, 2017).

2.2.3 Occupation

Studies revealed that employment status had significant association with knowledge of danger signs during pregnancy (Teng et al., 2015). A study done in Malaysia revealed that, 84% of women with high income had good knowledge than those women with low income (Teng et al., 2015). A community based cross sectional study done in Raya Kobo district of Ethiopia revealed that mother's occupation is a significant factor for the knowledge of obstetric danger signs during pregnancy. Private employees were more knowledgeable about pregnancy danger signs than house wives (Bililign & Mulatu, 2017).

2.2.4. Marital Status

Married women could be more likely to have good knowledge of danger signs during pregnancy because they get support from their spouses and families. In that case, they have a privilege to all matters that concern their pregnancy and its outcome including the necessary precautions to be taken compared to those who are not married (Amenu et al., 2006). Women who are married to husbands who finished more than secondary school were more likely to be knowledgeable than those whose husbands had not attended formal school (Amenu et al., 2006). A study done in Nigeria came out with findings that, 20% of women who were single are less likely to have good knowledge on the danger signs of pregnancy when compared with those 49% women who are married (Ossai & Uzochukwu, 2015). In a study done in southwest Ethiopia noted that, knowledge of danger signs of pregnancy is not affected by marital status.

2.2.5 Antenatal Care Visits

During antenatal care, health care workers are expected to educate pregnant women on danger signs of pregnancy so that women could understand and seek help immediately when they experience one or more of the symptoms. Studies shown that despite of good ANC coverage 96% (Mwilike, 2013) where pregnant women received antenatal care at least once from health facilities. Where women should have an opportunity to receive information on the danger signs but still the knowledge is poor.

2.2.6 Number of Antenatal Care Visits

Most of the studies have shown that knowledge of danger signs during pregnancy is associated with obstetric characteristics. A study done in Ethiopia has shown that, the frequency of ANC visit has significantly associated with respondents' knowledge about obstetric danger signs during pregnant. Mothers who had four recordable ANC were more likely to have knowledge about pregnancy danger signs by 91% than mothers having only one visit (Bililign & Mulatu, 2017). Another study done in Eastern Ethiopia has shown that Pregnant women who had two or more ANC visits are more likely to have good knowledge of obstetric danger signs than those who have paid only a single visit to ANC. That contributes to good birth preparedness practice implying the need for the behavioural change in terms of communication about the obstetric danger signs on the need to start ANC early through intensive use of the health extension workers (Tilahun & Sinaga, 2016). In Tanzanian rural areas the studies show that women who managed to attend four or more ANC visits are more aware of danger signs of obstetric complications than those who made less than four ANC visits (Pembe et al., 2009).

2.2.7 Gravidity and Parity

Gravidity and parity is related to the knowledge of danger signs during pregnancy. Increased knowledge among multiparous women may be related to their own experiences of pregnancy or events in the community (Teng et al., 2015). A study done in Egypt concludes that knowledge about obstetric danger signs is related to gravidity and parity, previous experiences with any obstetric complications and lack of antenatal care. It was suggested that there is a need to establish strategic plan to increase the knowledge to shape health care seeking actions of the public related to signs of obstetric complications (Rashad & Essa, 2010). Another study done in Malaysia found that, 60% of multiparous women with more than five number of pregnancies had higher level of education than those women who are less than five number of gravidity and parity (Teng et al., 2015).

2.3 SOURCE OF INFORMATION OF DANGER SIGNS DURING PREGNANCY

A study done in Ethiopia indicates that the source of information of obstetric danger signs during pregnancy is significantly associated with knowledge of danger signs during pregnancy (Sodere, 2014).

2.3.1 Health Care Providers

During ANC visit health care workers usually provide health information to women attending RCH clinic for antenatal services. Therefore, pregnant women who attend ANC clinic regularly are expected to be competent in the recognition of danger signs during pregnancy. In Ghana pregnant women have been given information by the health care providers about danger signs during pregnancy through verbal communication, pictures that are available on the walls at the ANC clinics and pictures on the back of ANC cards with all descriptions of the danger signs (Aborigo et al., 2014). Another study done in Gambia indicates that 90% of pregnant women attended ANC more than four times. However 71% responded that during ANC visit they spent 3 minutes or less with health care providers. Less than 40% responded that they have been informed about danger signs of pregnancy while 19% of women responded that they have not been made aware on what to do when complication arise (Anya et al., 2008). This indicates that although a high proportion of 90% women attended ANC sessions did not receive health information from health care providers.

2.3.2 Media

Women may read and listen to the radio or television and get information on danger signs of pregnancy through media. A study done in Ethiopia reveals that the source of information is significantly associated with knowledge of obstetric danger signs during pregnancy. About 21% of the participants had got danger signs information from the media (Sodere, 2014). A study done in Uganda recommends that the availability of mobile phones and radios need to be utilised by health educators innovatively so as to reach as many people as possible. Therefore this contribute in raising of knowledge of pregnancy danger signs (Kabakyenga et al., 2011). Another study was done in Nigeria to assess the knowledge of safe motherhood among

women indicates that, about a quarter of respondents in Birnin Gwari cluster and 13% in Kunchi cluster indicated that danger sign songs in the media were the sources of information (Okereke et al., 2013).

2.3.3 Relatives and Friends

Another source of information to pregnant women about danger signs during pregnancy is relatives and friends. Women can receive information on danger signs when they are gathering in groups of two or more women such as in the market places, when they carry out community based activities and during women's group meetings. Women who have delivered previously often share their experiences with their relatives and friends. In Nigeria over 10% of women in Birnin Gwari and almost 30% in Kunchi indicated that friends and neighbours were their sources of information (Okereke et al., 2013).

A study done in Ethiopia by Sodere(2014) noted that 18.4% of the women responded that they got information on danger signs of pregnancy from friends and while 7% of women received information from relatives.

2.4 HEALTH CARE SEEKING ACTIONS AMONG PREGNANT WOMEN

Maternal and child survival rate depends upon recognition of the problem, decision making about care, access to care and quality of care. Factors that may prevent women from promptly seeking care during pregnancy includes lack of knowledge and perceptions concerning the pregnancy related complications (Sharma & Vong-Ek, 2013). Women need to have clear concepts about symptoms that indicate emergencies during pregnancy and childbirth such as misconceptions regarding the severity of various conditions. The large proportions of pregnant women (73%) who do not have the knowledge about obstetric danger signs may delay in deciding to seek care (Bogale &Markos, 2015). The continuous search of health care attitude seem to be associated with the knowledge of danger signs of pregnancy in relation to marital status, maternal age, level of education and occupation.

In a study conducted in India to look for the pregnancy complications and health care seeking behaviour among married women shown that women's age may be related to the attitude about which health action she could take (Sigh et al., 2012).

Some married women may recognise the danger signs of pregnant early but they would need to wait for their husbands to give them a consent to go to seek for the health care. Non educated husband who do not have any knowledge of danger signs of pregnant may not support the pregnant women to seek appropriate care. A Study done in Northern Ghana recommends that, efforts geared toward increasing maternal and family knowledge of obstetric danger signs will require innovative strategies to ensure adequate comprehension of health messages during antenatal clinics (Aborigo et al., 2014).

The economic status of some women may influence the knowledge of danger signs and lead to high maternal mortality rate. Women may recognise the danger signs but may fail to go to seek for the health care services due to lack of money and transport. In Thailand studies show that those who are unable to seek care for their morbidity are living in villages with poor social and health infrastructure. Such residents frequently cited financial constraints that prevented them from accessing modern services (Sharma & Vong-Ek, 2013). Lack of access to health care workers, health facilities, and proper transportation is seen as the main constraints for seeking care when complications arise. Therefore all of these issues seem to be related to poverty.

A woman's level of education has a significant influence on knowledge and attitude towards danger signs. Educated women likely to have better understanding for the information provided and make appropriate decisions when complications arise compared to non educated women. Therefore low level of education may lead to poor client understanding on pregnancy danger signs which may compromise the health care acquiring decision making. A study done in Turkey show that women who experienced antenatal bleeding faced difficulties to decide whether to seek care or ignore it. This has contributed by level of education and knowledge of the danger signs during pregnancy (Kosum & Yurdakul, 2012). Therefore this shows that the knowledge of danger signs during pregnancy has an impact on health care seeking actions among pregnant women.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY.

3.1 Study Design

Descriptive cross-sectional study design has been conducted to assess the knowledge of danger signs during pregnancy among pregnant women attended at Ilembula Hospital using quantitative method. A cross section design is the appropriate design because it enables the researcher to collect data at one point of time (Polit & Beck, 2008).

3.2 Study Setting

The study was carried in the Reproductive and Child Health Clinic at Ilembula Hospital. Ilembula Hospital is a health facility which has been designated as a District Hospital, situated at Wanging'ombe District in Njombe Region with effect from July 2013. It is owned and run by the Evangelical Lutheran Church in Tanzania, Southern Diocese (ELCT/SD). It provides a teaching and learning forum for the Nurse and Midwife Students of Ilembula School of Nursing. It is also used as a practical research place for other students both from within the country and from abroad. The hospital has a bed capacity of 317. At present the catchment area of the hospital is 15,000 sq km inhabited by a population of more than 450,000 people. It is located along the Dar es Salaam – Mbeya highway. It is about 5 km from the TANZAM highway, 100 km from Njombe town, 150 km from Mbeya city and 200 km from Iringa town. Therefore apart from serving people of Njombe Region, it serves people from Njombe, Mbeya, Iringa Regions and other parts of Tanzania.

It provides a wide variety of health care services such as internal medicine, pediatrics, surgery, gynecology, and obstetrics, dentistry, ophthalmology, orphanage unit as well as reproductive and child health (RCH) clinic. There are number of services which are carried out at Ilembula RCH clinic such as: antenatal care services, adolescent friendly health services, family planning services, postnatal care services, immunization, and weight check for less than five years children, prevention, care and treatment for HIV/AIDS services (PMTCT), counselling on nutrition, breastfeeding, healthy life style, deworming and cervical cancer screening. There are 7 health care providers who are working at Ilembula RCHC who are: 3 registered nurse midwives 2

certificate Nurses and 2 medical attendants. They are working 6 days per week and the average number of pregnant women attending RCHC per day is 20 women.

3.3 Study Population

The study population included pregnant women attending in Reproductive and Child Health clinic at Ilembula RCH clinic during the study period.

3.4 Sample Size Calculation

Because the population was not known Sample size was estimated by using the Kish Leslie formula for quantitative studies, which states that:

$$n = \frac{z^2 p (1 - p)}{D^2}$$

Where by;

N- Sample size

D-The standard error in the study, which was 5%

P- Proportion of women with knowledge of danger signs during pregnancy = 19% (Kabakyenga et al., 2011)

Z- The standard normal deviation of 1.96 corresponding to 95% confidence interval.

$$n = \frac{1.96^2 \times 0.19 (1-0.19)}{0.05^2}$$

n= 240

Therefore, the estimated minimum sample size was 240 women.

Adjusting the sample size for missing data or non-respondents, the sample size was raised by 20%, hence the maximum sample size was 288.

3.5. Sampling Procedure

The participants have been selected from among the pregnant women who have been attending the Antenatal care visit at Ilembula RCH clinic. A Systematic Random Sampling method was used to select study participants by dividing the total number

of pregnant women attending RCHC for Antenatal care services (1440) with estimated sample size (288) to obtain a random sampling interval 5 (the 'kth' value). After obtaining the sampling interval, the first participant was selected by using simple random sampling which was lottery method, In simple random sampling, each member had an equal chance to participate in the study. The five options (1 Yes and 4 No) was written and put into the container and the first five participants were asked to choose, the participant who got yes was recruited into the study while the following participants were selected in a systematic way.

3.6. Inclusion Criteria

All pregnant mothers who were available during the data collection period and those who were willing to participate after understanding all about the study, were included in the study.

3.7. Exclusion Criteria

Pregnant mothers who cannot give response like critical ill pregnant women, those unable to hear or communicate, and those with mental health problem were excluded from the study.

3.8 Data Collection

Questionnaires with both closed and open ended questions, developed by the principal investigator after revising literatures to assess the knowledge of danger signs during pregnancy was used to obtain data to exit clients attending in RCH clinic. Questionnaires was developed in English and it was translated into Swahili to make it simple during administration for the interview with the respondents. All data was checked for consistence and errors before processing.

The questionnaire was divided into four sections that are socio demographic characteristics, Obstetric characteristics, source of information about danger signs of pregnancy, and health care seeking actions. The socio-demographic characteristics section includes age, marital status, education level and occupation; obstetric characteristics including number of deliveries, number of pregnancies, month of pregnancy booked for care and the number of ANC visits which have been made. On the section of source of information women were asked if they have been

informed about any danger signs of pregnancy during antenatal care, and the other sources of information apart from health care providers. On the case of health care seeking actions women were asked to mention the health care actions they know after recognition of danger signs of pregnancy.

Two researcher assistants have been recruited. There were nurse midwives with knowledge on quantitative studies. Two days training session was conducted to two research assistants. The training session included description of the overall study purpose and objectives, data collection methods, sampling techniques and criteria for study participants and procedures for obtaining written consent from the participants. Each research assistant was assigned to administer questionnaires and make clarification to study respondents, all of them worked with principal investigator during participants' recruitment and venue preparation.

3.8.1 Data Management

The filling of questionnaires during interviews was supervised by the principal investigator to ensure that the data collected is correct and the response well understood by the interviewer. Data entry and cleaning was performed by the principal researcher with the aid of a statistician to ensure there is no information missing. The statistics expert has been involved to make a template for data entry. Collected data was coded, entered, cleaned and analysed using the statistical package of social science (SPSS) version 21.

3.8.2 Data Analysis

Data cleaning was done prior analysis. Data have been collected through questionnaire and analysed by using descriptive statistics and chi square test to show the association between variables. Open ended response was coded and categorised accordingly. Proportions and associations were calculated and compared using Chi square. In all analyses p values was used to determine statistical significance whereby p value of less than 0.05 was taken as significant.

The knowledge score was categorised into two namely poor knowledge and good knowledge. Pregnant women who mentioned below 3 danger sign were categorized as they had poor knowledge of danger signs during pregnancy. And those who

mentioned above 4 or more danger signs were categorised as having good knowledge. This method of scoring has been previously used to assess the knowledge of danger signs of pregnancy (Mbalinda et al., 2014; Okour et al., 2012).

Table 1: Shows criteria score categories of knowledge of danger signs during pregnancy among pregnant women

Score criteria	Score category
Above 4 mentioned danger signs	Good knowledge
Below 3 mentioned danger signs	Poor knowledge

3.8.3. Research Measurement of Variables.

-Independent variables: Socio-demographic characteristics, source of information on danger signs and Obstetric characteristics.

-Dependent variable: Knowledge of danger signs of pregnancy .

-Intervene Variable: Health care seeking actions.

In assessing knowledge about danger signs, a list of danger signs stated in WHO guide for essential practice was used. There are a total of common ten danger signs during pregnancy which include severe per vaginal bleeding, high grade fever, no or reduced fetal movement, convulsions or fits, swollen hands, face, feet or ankles leaking of fluid from vagina, difficult in breathing, severe pelvic or abdominal pain foul smelling vaginal discharge, troubled with blurred vision (WHO, 2015). Pregnant women who mentioned below 3 danger sign were categorized as they had poor knowledge of danger signs during pregnancy. And those who mentioned above 4 or more danger signs were categorised as having good knowledge (Mbalinda et al., 2014; Okour et al., 2012). Health seeking actions was determined by asking a woman the actions they would take after recognizing a danger sign during pregnancy. The actions mentioned included consulting a friend or relative, doing nothing and visiting health facility. The appropriate action to take was to visit a health facility for early and prompt care and management. Other mentioned health seeking actions were considered inappropriate.

3.8.4 Validity

Validity refers to the degree to which an instrument measures what it is supposed to be measuring (Polit & Hungler, 1997). Content validity of the research tool has been checked by the researcher's supervisors and Health care providers with research experiences especially those with good experience in quantitative research method, who made suggestions for changes. Modification to the questionnaire have been made where necessary prior to data collection.

3.8.5 Reliability

An instrument can be said to be reliable if it measures accurately and reflect the true measures of the attribute under investigation (Polit & Hungler, 1997). Pre-test to check reliability of the tool was done at Wangingombe health centre in RCHC to respondents with similar criteria. Twenty five eligible pregnant women were interviewed by the researcher to rule out ambiguities, omissions, inappropriate and bad format of the questions used. Detected problems was corrected to maintain data accuracy and appropriate justifications was made.

Internal consistency was used to measure reliability of the data collection tools, to ensure reliability of instrument. Before calculation of cronbachs Alpha, the test of data reliability to be used in the study was conducted, as it is known internal consistency is relevant to composite scores. Composite scores means that is the sum or average of two or more scores and not individual scores, and scores can be questions given to respondents. Then the researcher calculated cronbachs coefficient during data analysis. Data that was used to test internal consistency reliability should be standardized first and all the data should be measured in single dimension, the reliability analysis was done using cronbachs Alpha as the measure. The prepared questions had simple and clear instructions.

3.9. Ethical Consideration

Ethical clearance was granted from MUHAS Research and Publication Committee. Permission to use Ilembula District Designated Hospital facilities for the study was sought from Ilembula District Designated Hospital management. Information about the study was given to all clients before a written informed consent obtained from

individuals who agreed to participate in the study, to make sure that they have the right information. Making a well informed choice which included; aim of the study, risks and advantages, confidentiality of the results and other obtained information and then they was asked to sign. Antenatal services was provided as per routine recommended guidelines and results without being interfered by the study interview. All clients who refused to participate in the study, was not denied the rights to receive antenatal care.

3.10. Dissemination of the Study

The findings of the study will be disseminated at Muhimbili University of Health and Allied Sciences (School of Nursing), as the partial fulfillment of the requirements for the award of the Master of Science in Midwifery and Women's Health. Also the findings will be disseminated to Ilembula District Designated Hospital. It will be presented in conferences and published in International midwifery journals.

3.11. Limitation and Mitigation of the Study:

The study has been affected by social desirability of biasness as a self administered questionnaires was used for data collection, causing the respondents to report for what they believe the researcher will want to hear. To ensure that truthful answers are given, this bias was minimised through explanations to the respondents that there is no acceptable or unacceptable response.

CHAPTER FOUR

4.0 PRESENTATION OF FINDINGS AND DATA ANALYSIS

4.1 Introduction

This chapter presents the findings, interpretation and analysis of the data collected from the administered questionnaire. The collected data have been edited and cleaned for completeness in preparation for coding. Descriptive statistics such as percentage and frequencies alongside tables and charts were used to present data and all the variables of the study, by providing descriptive information for more detailed results, chi-square test has been performed to investigate association between knowledge of danger signs and health care seeking actions.

4.2 Socio-Demographic and Obstetric Characteristic of the Respondents

A total of 288 pregnant women have been involved in this study, based the age group majority were women with age 15 up to 39 years (91%). According to the level of education most women were completed secondary education (38%). Nearly 59% of women were married while the rest were single and divorced. (35%) of pregnant women had two ANC visits at the time of data collection. Among the respondents (32.2 %) of women were having one child while (30.9%) were having a history of two pregnancies during the time of data collection.

Table 2: Shows the socio-demographic and obstetric characteristic of the respondents

Characteristics	Frequency (n)	Percent (%)
Age of respondents		
15-19	79	27.4
20-29	100	34.7
30-39	82	29.1
40-49	25	8.7
Total	288	100
Level of education		
Uneducated	21	7.2
Complete primary school	83	28.8
Incomplete primary school	29	10
Secondary school	110	38.1
College	45	15.6
Total	288	100
Marital Status		
Single	101	35
Married	170	59
Divorce	17	5.9
Total	288	100
Number of ANC visits		
Once	61	21.1
Twice	101	35
Three times	85	29.5
Four times	41	14.2
Total	288	100
Parity		
Prim gravid	67	23.2
Once	93	32.2
Twice	76	26.3
Three times	34	11.8
>Four times	18	6.2
Total	288	100
Gravidity		
Once	60	20.8
Twice	89	30.9
Three times	81	28.1
Four times	37	12.8
> Five times	21	7.2
Total	288	100

4.3 Source of Information of Danger Signs during Pregnancy

Two hundred and forty six pregnant women (85.4%) got information from clinics concerning danger signs during pregnancy. From those who heard obstetric danger signs majority 78% got information about danger signs from health personnel.

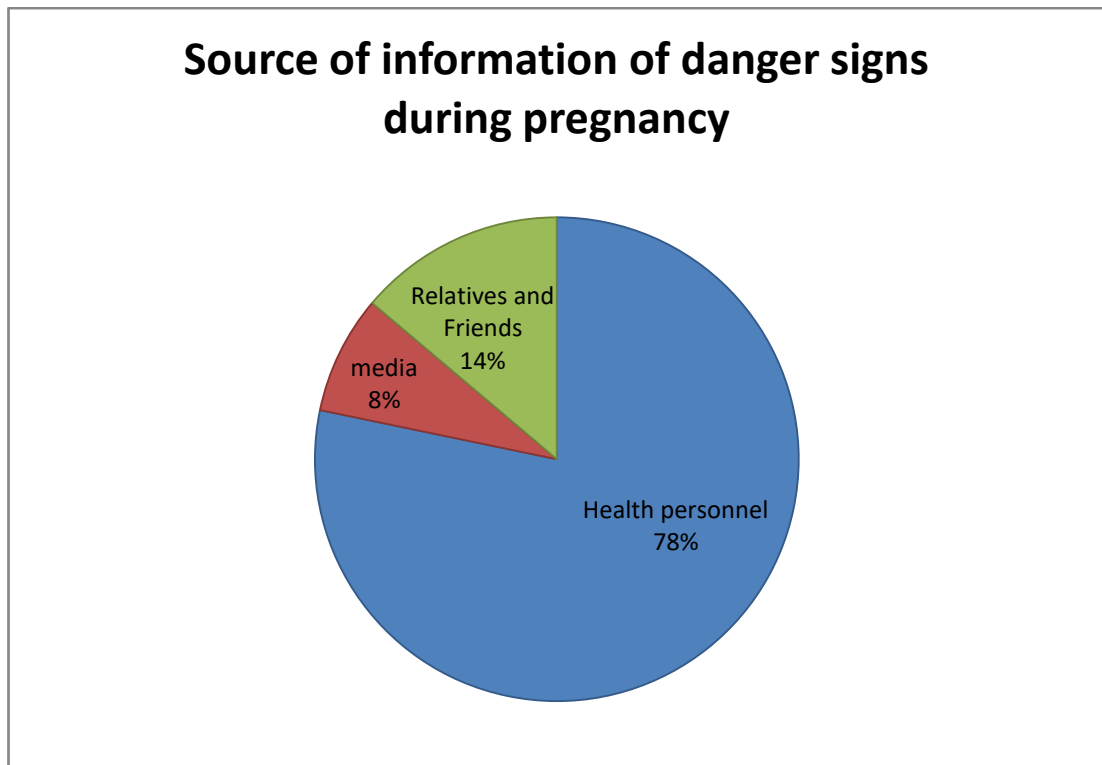


Figure 2: Source of information of danger signs during pregnancy

4.4 General Knowledge of Danger Signs during Pregnancy

The knowledge was categorised into two namely poor knowledge and good knowledge. Pregnant women who mentioned below 3 out of ten (10) danger sign were categorized as they had poor knowledge of danger signs during pregnancy. And those who mentioned above 4 or more danger signs were categorised as having good knowledge .

When asked to mention the danger signs, only 34% (n=98) were able to mention at least four danger signs correctly. This means that there is large percentage (66%) of women with poor knowledge of danger signs during pregnancy at Ilembula compared to those with good knowledge.

Table 3: General knowledge of danger signs during pregnancy

Danger signs during pregnancy	Frequency (n)	Percent (%)
Mentioned below 3 danger signs (Poor)	190	66
Mentioned above 4 danger signs (Good)	98	34
Total	288	100

The following table (Table 5) shows the frequency of the stated danger signs that may occur during pregnancy. The commonly mentioned danger signs were vaginal bleeding (70%); leaking of fluid from vagina (49%); and reduced or no fetal movements (44%). Few women stated convulsion or fits as danger signs during pregnancy.

Table 4: Knowledge of danger signs during pregnancy.

Danger signs during pregnancy	Yes n (%)	No n (%)
Per vaginal bleeding,	203 (70)	85 (30)
High grade fever	71 (25)	217 (75)
No or reduced fetal movement	128 (44)	160 (56)
		267 (93)
Convulsions or fits,	21 (7)	
Swollen hands, face, feet or ankles	56 (19)	232 (81)
Leaking of fluid from vagina,	142 (49)	146 (51)
Difficult in breathing.	26 (9)	262 (91)
Severe pelvic or abdominal pain	101 (35)	187 (65)
Foul smelling vaginal discharge	74 (26)	214 (74)
Troubled with blurred vision,	47 (16)	241 (84)

4.5 Health Care Seeking Action on Danger Signs during Pregnancy

One hundred sixty two (56%) of pregnant women responded that they will go to the health facility for care and treatment after recognizing they having danger signs of pregnancy.

Table 5: Health care seeking actions of women after recognition of danger signs during pregnancy.

Health care seeking actions	Frequency (n)	Percent (%)
Go to health facilities	162	56
Inform family members	89	31
Don't know	37	13
Total	288	100

4.6.0 ASSOCIATION BETWEEN INDEPENDENT AND DEPENDENT VARIABLES.

4.6.1 Association between Social Demographic Characteristics and Knowledge of Danger Signs during Pregnancy.

From the table below results reveals that there is statistical significance association between socio-demographic factors including age, education level, and marital status of the respondents and knowledge on danger signs during pregnancy since the p-value calculated was < 0.05 , as a results null hypothesis rejected in favor of alterative hypothesis

Table 6: Chi-Square and P Values of Cross-Tabulation between Demographic Variables and Knowledge

VARIABLE	KNOWLEDGE		P - value
	Good knowledge n(%)	Poor knowledge n(%)	
Age			0.0000
15-19	39 (40)	40 (21)	
20-29	39 (40)	61 (32)	
30-39	19 (19)	65 (34)	
40-49	1 (1)	24 (13)	
Level of education			0.0000
Uneducated	1 (1)	20 (11)	
Complete primary school	8 (8)	75 (39)	
Incomplete primary school	4 (4)	25 (13)	
Secondary school	43 (44)	67 (35)	
College	42 (43)	3 (2)	
Marital status			0.040
Single	45 (46)	56 (30)	
Married	48 (49)	122 (64)	
Divorce	5 (5)	12 (6)	

4.6.2 Association between Obstetric characteristics and Knowledge

From the table below results shows that, there is no statistical significance relationship between obstetric characteristics and knowledge of danger signs during pregnancy as obstetric variables were tested with chi-square value. The calculated p-value were greater than 0.05 therefore the null hypothesis was accepted.

Table 7: Chi-Square and P Values of Cross-Tabulation between obstetric characteristics and Knowledge

VARIABLE	KNOWLEDGE		P - value
	Good knowledge n(%)	Poor knowledge n(%)	
Parity			0.103
Below once	27 (28)	40 (21)	
One	33 (34)	60 (32)	
Twice	26 (26)	50 (26)	
Three times	10 (10)	24 (13)	
Above four times	2 (2)	16 (8)	
Gravidity			0.116
Once	23 (23)	37 (19)	
Twice	31 (32)	58 (31)	
Three times	31 (32)	50 (26)	
Four times	10 (10)	27 (14)	
Above five times	3 (3)	18 (9)	
Number of ANC attendance			0.734
Once	20 (20)	41 (22)	
Twice	37 (38)	64 (34)	
Three times	30 (31)	55 (29)	
Four times	11 (11)	30 (15)	

4.6.3 Association between Source of Information and Knowledge.

For variable source of information calculated p-value obtained was 0.012 which was less than 0.05 therefore there is statistical significance relationship between sources of information and knowledge on danger signs during pregnancy.

Table 8: Chi-Square and P Values of Cross-Tabulation between source of information and Knowledge

VARIABLE	KNOWLEDGE		P - value
	Good knowledge n(%)	Poor knowledge n(%)	
Source of information			
Health personnel	84 (86)	141 (74)	0.012
Media	7 (7)	16 (9)	
Relatives and friends	7 (7)	33 (17)	

4.6.4 Association between Knowledge of Danger Signs during Pregnancy and Health Care Seeking Action.

The table below results reveals that p-value calculated was 0.001 which is less than 0.05 therefore there is statistical significance between knowledge of danger signs and health seeking action.

Table 9: Chi-Square and P Values of Cross-Tabulation between Knowledge and health care seeking actions

VARIABLE	KNOWLEDGE		P - value
	Good knowledge N (%)	Poor knowledge N (%)	
Go to health facilities	68 (69)	94 (49)	0.001
Inform family members	27 (28)	72 (38)	
Don't know	3 (3)	24 (13)	

CHAPTER FIVE

5.0 DISCUSSION

5.1 Knowledge of Danger Signs during Pregnancy

In this study the researcher aimed to determine the knowledge of danger signs during pregnancy and its association with health care seeking actions after recognition of danger signs. The primary target population has been the pregnant women who have been attending service at Ilembula RCH in Njombe region during data collection period. Out of the women under the study, n=98 (34%) are seen to have good knowledge of danger signs during pregnancy. This findings is higher than the studies done in Jordan (15.2%) ,Uganda (19%) and Ethiopia (24.1%) they had poor level of knowledge about the danger signs during pregnancy (**Okour et al., 2012; Kabakyenga et al., 2011; Workineh et al., 2014**). However, it is lower than the findings of the study conducted at KwaZulu-Natal, South Africa 52% (Hoque & Hoque, 2011). This difference might be due to difference in implementation of relevant health intervention programs. Sometimes due to socio-cultural differences the above results of the findings do differ. If a pregnant women and their family recognise danger signs of obstetric complications they may seek care timely (**Kabakyenga et al., 2011**). In general, the study has shown that there is statistical significant between knowledge of danger signs and heath seeking action ($p= 0.001$).

5.2 Health Care Seeking Actions after Recognition of Danger Signs during Pregnancy.

Out of women with good knowledge of danger signs during pregnancy more than a half (56%) of women responded that they will sought for health care after recorgnising that they having danger signs during pregnancy. This finding is contrast with findings from a study done in urban Tanzania which shown shown three quarter of women who had recognized signs for complications during pregnancy had attended health facility for care and management after they had recognized they having danger signs during pregnancy (Mwilike, 2013). This differences could be due to geographical positions and socio-cultural differences.

5.3 Source Of Informations of Danger Signs during Pregnancy.

In this study the findings has shown that majority n= 246 (84.2%) they had been informed about the danger signs when attending ANC for follow up and from those mothers about n= 225 (77%) of the study participants had got danger signs information from health personnel. This is higher than a study done in Ethiopia which shown 59.2% got information from clinic (Sodere, 2014). When respondents asked through open ended questions about other sources of information apart from health pesonnel they mentioned media, friends and relatives (22.9%) as other sources of information. It was supported by the study done in Nigeria over 10% of women in Birnin Gwari and almost 30% in Kunchi indicated that friends and neighbours were their sources of information (Okereke et al., 2013).

5.4 Association between Socio-Demographic Characteristics and Knowledge of Danger Signs during Pregnancy.

This study revealed that the respondent's age, occupation, educational level and marital status are significantly associated with knowledge of danger signs during pregnancy. It was found that maternal age had significant association with knowledge of obstetric danger signs during pregnancy ($p= 0.0000$). It is shown that pregnant women with age less than 30 years are likely to have good knowledge of danger signs during pregnancy than those with their age above 30 years. Among 34% of pregnant women with good knowledge 80% of them are women with the age less than 30 years. This is congruent to the study done in Southeast Nigeria found that 53% of women with younger age group less than 30 years old increased the probability of having good knowledge of the danger signs during pregnancy (Ossai & Uzochukwu, 2015). But it is contrast with the study conducted at Malaysia which found that 69% of women with age above 35 years old had good knowledge of danger signs of pregnancy (Teng et al., 2015).

In this study, the respondent's educational level seems to play a role in terms of knowledge on obstetric danger signs since the p value calculated was ($P=0.0000$) this indicates that there is association between education level of the respondents and

knowledge of danger signs during pregnancy. This is similar with the study done in rural Tanzania which found that, women who have completed primary level of education increased the likelihood of receiving information on danger signs than women with incomplete or no formal education (Pembe et al., 2009). Therefore, There is a need for the health care workers to provide health education using various educational methods among pregnant women with lower levels of education this will help to increase knowledge of the pregnancy danger signs to illiterate women.

Marital status found to be statistical significant associated with knowledge of danger signs during pregnancy ($p=0.040$). 49% of respondents who are married they had good knowledge of danger signs compared to those who are single and divorced. This is relevant with the study which has been conducted in Nigeria, it was reported that, 20% of women who are single are less likely to have good knowledge than those 49% women who were married (Ossai & Uzochukwu,2015). Married women could be more likely to have good knowledge of danger signs during pregnancy because they get support from their spouse and families hence they will be more motivated to matters that concern their pregnancy and its outcome including the necessary precautions to be taken compared to those who are not married.

5.5 Association Between Obstetrics Characteristics and Knowledge of Danger Signs during Pregnancy.

According to this study parity, gravidity and number of ANC visits are not statistical significant with knowledge of danger signs during pregnancy. Regarding the number of ANC visits the findings is suprising because it is believed that pregnant women who having high number ANC visits are expected to have good knowledge of danger signs during pregnancy than those with low number of ANC visits. Similar results also shown by the studies done in Ethiopia and Uganda. A study done in urban Tanzania also indicate that variables such as parity, gravidity and number of ANC visits are not significantly related to knowledge of danger signs during pregnancy (Mwilike, 2013; Kabakyenga et al,2011).

5.6 Association Between Knowledge of Danger Signs during Pregnancy and Health Care Seeking Action.

Study revealed that there is statistical significance between knowledge of danger signs and health seeking action, since the p-value calculated was 0.001. This indicated that the most of women (66%) with poor knowledge of danger signs during pregnancy may fail to seek health care at a right time after recognizing that they having danger signs of pregnancy compared to those women with good knowledge. This finding is compared with the findings of the study done in Goba District Ethiopia which found that large proportions of pregnant women (73%) who do not have the knowledge about obstetric danger signs may delay in deciding to seek care (Bogale &Markos, 2015). Therefore this findings shows that the knowledge of danger signs during pregnancy has an impact on health care seeking actions among pregnant women.

CHAPTER SIX

6.0. CONCLUSION AND RECOMMENDATION.

6.1. CONCLUSION

Knowledge of danger signs during pregnancy among pregnant women at Ilembula was low. From this study findings can be concluded that knowledge of women on danger signs during pregnancy is associated with maternal age, occupation, educational level, monthly income, marital status and source of information. Furthermore the findings shown that there is statistical significance relationship between knowledge of danger signs and health seeking action. In addition to this study the women's knowledge of danger signs of pregnancy is not related with respondent's religion, parity, gravidity, age at first ANC booking and number of ANC visits.

Based on this study findings, majority of women had been informed about the danger signs by health personnel when attending ANC visits. Regarding this the knowledge of danger signs among pregnant women still poor. Out of women with good knowledge, more than a half of women with good knowledge of danger signs during pregnancy will sought for health care after recognising that they had danger signs during pregnancy. Therefore, the large proportions of pregnant women who do not have good knowledge of danger signs during pregnancy are likely to delay in deciding to seek health care timely.

6.2 RECOMMENDATION

Regarding to the findings of this study, I would like to recommend according to practice, policy and further research.

6.2.1 For the practice

Vital measures needed to increase the level of knowledge of danger signs during pregnancy. Formulation of protocols which helps to improve health education practice is recommended. The hospital management may need to formulate the brochures, posters and banners that contains messages concerning danger signs during pregnancy in simple words which is easy to read and follow so that every woman can

be able to understand. Moreover the health care practitioners they require to update their knowledge more frequent so as to disseminate correct informations to clients.

6.2.2 For the policy

The Ministry of Health, Community, Development, Gender, Elderly and Children (MoHCDEC) and other stakeholders may need to design the monitored guidelines which will help to strengthen the ANC services provided to pregnant women by designing appropriate strategies including provision of targeted health education informations to pregnant women.

6.2.3 For further research

The study intended to assess knowledge of danger signs during pregnancy and its association with the health seeking actions among women attended RCH clinic for the routine ANC follow up. The tool used to collect data was self administered questionnaire, therefore the indepth individual views were not captured. Further qualitative studies of similar research are recommended in order to capture indepth individual views.

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APPENDICES

Appendix A: Informed Consent form

Muhimbili University of Health and Allied Sciences,
School of Nursing,
Box 65001,
Dar-es-salaam, Tanzania.

Consent to participant in a research study

Title: Knowledge of danger signs during pregnancy and health care seeking actions among pregnant women at Ilembula RCH clinic, Njombe.

Study Aim: To assess the knowledge of danger signs during pregnancy and health care seeking actions among pregnant women at Ilembula RCH clinic, Njombe.

Procedures: Your participation in the study will be voluntary. Participation will require you to answer some basic questions on what you understand concerning danger signs during pregnancy and health care seeking actions. Participation in this study will not cause you to delay or discontinue from receiving antenatal services.

Risk: The study will not harm you in any way. Time taken will be about 30 minutes

Benefit: This study will help to provide information about knowledge of danger signs during pregnancy and the health care seeking actions after recognition of danger sign. So that the researcher will be able to recommend appropriate strategies concerning results obtained.

Confidentiality: All information collected will be kept in confidential and these will be maintained by the use of the code numbers and carefully data storage

Compensation: There will be no reimbursement of any kind in participation.

The right to participate/Refuse participation: You have the right to agree or refuse to participate or withdraw from the study at any time.

Questions/Problems:

1. For further question or problems you may contact the principle investigator (P.I);

Agnes Lameck Lwiva,

Muhimbili University of Health and Allied Sciences,

School of Nursing, Box 65001, Dar-es-salaam, Tanzania.

Phone number: 0769 546116 or 0689546116.

You're free to ask any question before, during and after the interview.

2. If you ever have questions about your rights as a respondent, you may call

Dr Joyce Masalu,

Chairman of the Senate Research and Publications Committee.

Muhimbili University of Health and Allied Sciences,

P.O. Box 65001, Dar-es-salaam. Tel: 2150302-6

Consent: I have read and understood this consent form and I agree to take part in this study. I have no further questions and I understand that by signing this form below I am approving to participate in this study. I have signed this form pair and I have my copy of the consent to keep.

Signature of the participantDate.....

Code number of the participant

Signature of Researcher Date.....

Appendix B: Consent Form Swahili Version Version

Fomu Ya Kuridhia Kushiriki Katika Utafiti

Chuo Kikuu cha Afya na Sayansi Shirikishi cha Muhimbili
Kitivo Cha Uuguzi,
Sanduku La Posta 65001,
Dar-Es-Salaam, Tanzania.

Ridhaa ya kushiriki katika utafiti.

Lengo: Utafiti kuhusu uelewa wa akina mama wajawazito juu ya dalili za hatari kipindi cha ujauzito na hatua watakazochukua baada ya kugundua dalili za hatari, katika kliniki ya wajawazito iliyopo Hospitali ya Ilembula, Njombe.

Mwenendo/Hatua: Naomba ushirikiano wako katika kujibu maswali yangu yanayohusiana na nini unachoelewa kuhusu dalili za hatari na hatua gani zinazotakiwa kuchukuliwa mara tu utapogundua dalili za hatari wakati wa ujauzito.

Muda: Utafiti utachukua uda wa dakika 30 tu.

Madhara: Hakutakuwa na madhara yoyote yale utakayoweza kuyapata ukishiriki katika utafiti huu.

Faida: Utafiti huu utakusaidia wewe kuzitambua zaidi dalili zote za hatari wakati wa ujauzito na hatua gani uchukue baada ya kugundua dalili ya hatari.

Siri: Usiri utazingatiwa katika kipindi chote cha utafiti.

Fidia: Sitaweza kukupa kitu chochote kile kama malipo kabla, wakati au baada ya utafiti.

Maswali/wasiwasi:

Endapo utakuwa na swali au wasiwasi wowote ule wasiliana na mtafiti mkuu

Agnes Lameck Lwiva,

Chuo Kikuu cha Afya na Sayansi Shirikishi cha Muhimbili
Sanduku la Posta 65001,
Dar-es-salaam, Tanzania.

simu namba: 0769 546116 au 0689546116.

Kama utakuwa na maswali yoyote kuhusu ushiriki wako unaweza kupiga simu kwa mwenyekiti wa kamati ya chuo ya utafiti na machapisho

Dr Joyce Masalu,

Chuo Kikuu cha Afya na Sayansi Shirikishi cha Muhimbili

S.L.P 65001 Dar es Salaam,

Namba ya simu: 2150302-6

Ridhaa: Nimesoma vizuri na nimeelewa taarifa zote zilizoandikwa katika fomu hii. Nakubali kushiriki katika utafiti huu kwa kuweka saini yangu na kupata nakala yangu.

Saini ya mshiriki..... Tarehe.....

Namba ya utambulisho wa mshiriki.....

Saini ya mtafiti.....Tarehe.....

**Appendix C: Questionnaires English Version.
Socio- Demographic Characteristics of Respondent.**

1. What is your Age ?
 1. 15- 19
 2. 20–29
 3. 30–39
 4. 40- 49
2. What is your marital status ?
 - 1) Single
 - 2) Married/Cohabiting
 - 3) Divorced/Separated/Widowed
3. What is your highest level of Educational?
 - 1) Never gone to school
 - 2) Primary school incomplete
 - 3) Primary school complete
 - 4) Secondary school
 - 5) Collage level and above
4. What is your occupation?
 - 1) Peasant
 - 2) Housewife
 - 3) Petty businesswomen
 - 4) Other
5. What is your monthly income?
 - 1) 1000/= - 9,999/=
 - 2) 10,000/= - 99,999/=
 - 3) 100,000/= - 199,99/=
 - 4) 200,000/ and above
6. What is your religion?
 - 1) Muslim
 - 2) Christian
 - 3) Other religion

Obstetric Characteristics of respondent

7. What is your total number of deliveries?

- 1) Below 1
- 2) 1
- 3) 2
- 4) 3
- 5) >4

8. What is the number of pregnancies?

- 1) 1
- 2) 2
- 3) 3
- 4) 4
- 5) >5

9. How many antenatal care visits do you attend ?

- 2) 1
- 3) 2
- 4) 3
- 5) 4
- 6) >5

10 Month when booked antenatal care:

- 1) <3
- 2) >4

Source of information on danger signs of pregnancy

11. Were you Informed the danger signs of pregnancy during antenatal care visits:

- 1) Yes
- 2) No

12. Apart from health care provider is there any other source of information which informed you about the danger sign of pregnancy?

- 1) Yes
- 2) No

13. If yes what are they?

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14. Do you know the danger signs during pregnancy

- 1) Yes
- 2) No

15. If “Yes” Mention any danger signs which you know.

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Health care seeking actions.

16. What action(s) to be taken after experienced danger signs of pregnancy mentined above.

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Appendex D: Questionnaire Swahili version.

DODOSO LA UELEWA WA DALILI ZA HATARI KWA MAMA MJAMZITO

Sehemu ya kwanza:

1. Taja umri wako.

- 1) 15 - 19
- 2) 20 - 29
- 3) 30 - 39
- 4) 40 - 49

2. Hali ya ndoa:

- 1) Sijaolewa
- 2) Nimeolewa
- 3) Taraka

3. kiwango cha Elimu:

- 1) Sijasoma
- 2) Nimemaliza Elimu ya Msingi
- 3) Sijamaliza Elimu ya Msingi
- 4) Nimemaliza kidato cha nne/sita
- 5) Chuo na Elimu ya juu

4. Unafanya kazi gani? :

- 1) Mkulima
- 2) Mama wa nyumbani
- 3) Mjasiriamali
- 4) Nyinginezo

5. Kipato chako kwa mwezi

- 1) 1000/= - 9,999/=
- 2) 10,001/= - 99,999/=
- 3) 100,000/= - 199,99/=
- 4) 200,000/ na zaidi.

6. Dini yako?

- 1) Muislam
- 2) Mkristo
- 3) Dini yinginezo

SEHEMU YA PILI:

7. Umezaa mara ngapi?

- 1) Chini ya mara 1
- 2) 2
- 3) 3
- 4) 4
- 5) 5 na zaidi

8. Hii ni mimba ya ngapi?

- 1) 1
- 2) 2
- 3) 3
- 4) 4
- 5) 5 na zaidi

9. Je Umehudhuria clinic ya wajawazito mara ngapi:

- 1) 2
- 2) 3
- 3) 4
- 4) >5

10. Kwa mara ya kwanza umeanza clinic ya wajawazito ukiwa na mimba ya umri wa miezi mingapi?

- 1) Chini ya miezi 3
- 2) Zaidi ya miezi 4

SEHEMU YA TATU

CHANZO CHA TAARIFA YA DALILI ZA HATARI WAKATI WA UJAUZITO

11. Je umeshawahi kuambiwa dalili za hatari wakati wa ujauzito wakati ulipohudhuria kliniki ya wajawazito?.

- 1) Ndio
- 2) Hapana

12. Zaidi ya kuambiwa na wahudumu wa afya kuhusu dalili za hatari kwa wajawazito, Je kuna mahali pengine ulipowahi kuambiwa au kuzisikia dalili za hatari wakati wa ujauzito?

1) Ndio

2) Hapana

13. Kama jibu ni ndio taja vyanzo vingine vya taarifa ya dalili za hatari wakati wa ujauzito

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Sehemu ya nne

14. Je unazitambuz dalili za hatari wakati wa ujauzito?

1) Ndio

2) Hapana

15. Kama jibu ni ndio, taja dalili zote za hatari wakati wa ujauzito unazozifahamu.

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Hatua inayochukuliwa baada ya kugundua dalili za hatari.

16. Je ni hatua gani utakazochukua pindi utakapo gundua una dalili za hatari wakati wa ujauzito kama ulivyozitaja hapo juu.

.....

.....

.....

Appendix E: Dissertation dissemination letter

Agnes Lameck Lwiva,
[Tel:076954616/0689546116](tel:076954616/0689546116),
Email:aggieselwiva@gmail.com
04/ August / 2017

Director of Post Graduate Studies,
MUHAS,
P.O. BOX 65001,
DAR-ES- SALAAM

U.F.S Dean, School of Nursing,
 MUHAS,

U.F.S Head Department of Community Health Nursing,
 MUHAS

U.F.S DR. S. Leshabari,
 Research Supervisor,
 School of Nursing
 MUHAS

SUBMISSION OF LOOSE BOUND DISSERTATION

Kindly refer to the above heading. I am a second year post Graduate student with registration

Number: `HD/MUH/ T.326/2015 pursuing MSc. Midwifery and Women's Health.

I submit a loose bound dissertation titled **“KNOWLEDGE OF DANGER SIGNS DURING PREGNANCY AND HEALTH CARE SEEKING ACTIONS AMONG PREGNANT WOMEN AT ILEMBULA RCH CLINIC, NJOMBE”**.

Yours faithfully,

.....

Agnes Lameck Lwiva.

Student ID NO: HD/MUH/T.326/2015.

Appendix F: Approval of ethical clearance