THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF NURSING SCIENCES

ROLE OF SAFEMOTHERHOOD ACTION GROUPS IN THE REFERRAL OF MOTHERS TO HEALTH FACILITIES: A CASE OF CHADIZA DISTRICT, EASTERN PROVINCE OF ZAMBIA.

SUSAN MUTEMWA

BSC Nursing, RM, RN

Thesis submitted in partial fulfillment of the requirements for the Degree of Master of Science in Nursing, Department of Nursing Sciences, School of Medicine, University of Zambia.

August, 2016

DECLARATION

I, **Susan Mutemwa**, declare that I am the sole author of this Dissertation whose title is **"Role of Safe Motherhood Action Groups in the referral of mothers to health facilities: a case study of Chadiza District.**", that during the period of study I have not been registered for other academic award or qualification, nor has any of this material been submitted wholly or partly for an award to any other University. This Dissertation is a result of my origin work, and where other people's research was used, they have been dully acknowledged by complete references.

Signed_____ Date_____

Candidate

Signed _____ Date_____

Supervisor

CERTIFICATE OF APPROVAL

This Dissertation of Susan Mutemwa on **ROLE OF SAFE MOTHERHOOD ACTION GROUPS REFERRAL OF MOTHERS TO HEALTH FACILITIES IN CHADIZA DISTRICT, EASTERN OF ZAMBIA** has been approved in partial fulfillment of the requirement for the award of a Degree of Master of Science in Nursing by the University of Zambia.

Examiners I

_____ _____

Signature Date

Examiner II

_____ _____

Signature Date

Examiner III

_____ _____

Signature Date

CERTIFICATE OF COMPLETION OF DISSERTATION

I, Dr Chanda Dorothy having supervised and read this dissertation is satisfied and certify that this is the original work of the author under whose name it is presented. I confirm that the work has been completed satisfactorily and approve it for final submission.

Signature_____ Date_____

Head of Department

Signature_____ Date_____

Department of Nursing Sciences, School of Medicine, University of Zambia

DEDICATION

I dedicate this study to my children Mediya, Harrison and Niza Salome for their support and prayers during the period of study. May the almighty God continue blessing and protecting them.

ACKNOWLEDGEMENT

Iam indebted to my supervisor Dr Dorothy Chanda and Co- supervisor Ms Caroline Zulu for their guidance and encouragement throughout the training. I wish to thank Dr Catherine Ngoma for her continued support and encouragement during the period of study. My gratitude goes to all members of staff at the Department of Nursing Sciences for their psychological support rendered during the period of study. I wish to post humously thank late Dr Mweemba Prudencia for having encouraged me to do my MSc. in Nursing and for her continued support, MHSRIEP. I wish to thank Dr Nzala the Assistant Dean for his continued guidance and encouragement throughout training. My gratitude goes to Dr Lonia Mwape for her continued support during the period of study.

I also wish to express my gratitude to ERES CONVERGE IRB for the guidance and approval of the research proposal. I further wish to thank Chadiza District Health Office for their support during data collection. My appreciation goes to Health centre staffs, Headmen, SMAG members and entire community where the study took place for their support and cooperation during data collection. I wish to thank Mr. Ndawa Chibesa for assisting in data analysis.

Special thanks go to my mother and all family members for their continued prayers and support rendered during the period of study. I also wish to thank all my classmates for their continued support and encouragement throughout training. To those not mentioned but contributed in one way or the other, I say thank you.

ABSTRACT

The concept of using Safe Motherhood Action Groups (SMAGs) is emerging to be useful in referral of mothers to health facilities for antenatal care, delivery, postnatal care or in case of maternal and neonatal complication without delay (ZISSP, 2012). Chadiza district formed Safe Motherhood Action Groups in 2009. Despite Chadiza having formed SMAGs, maternal morbidity and mortality has persistently remained high. Statistics showed 456 out of 5,941 expected pregnancies developed complications. (Chadiza HMIS, 2012).

The general objective of this study was to determine the role of SMAGs in the referral of mothers to health facilities and establish factors influencing their referral in Chadiza District. A descriptive cross-sectional study using simple random sampling was conducted. The study sample comprised SMAGs from Tafelansoni, Zemba, Chanjowe, Sinalo, and Chadiza Rural Health Centre catchment area (Zingalume and Kapachi) for the purpose of determining whether there was a relationship between variables such as knowledge, distance, resources and follow up of SMAGs in the referral of mothers to health facilities. SMAGs who met the selection criteria were recruited to participate in the study using simple random sampling method for quantitative data and purposive for qualitative data in order to ensure homogeneity of the groups. A total sample of 133 respondents and 20 for focus group discussions participated in the study. A structured interview using a questionnaire was used to collect quantitative data. Two focus group discussions were done and a focus group discussion guide was used to collect qualitative data among selected men and women of child bearing age. Data was analyzed using IBM SPSS version 20.0. Pearson's Chi-square test was used to test associations between variables. A 95% confidence interval and P value of 0.05 were set. Qualitative data from focus group discussions was analyzed using content analysis.

The findings revealed that 69% (n=92) of the SMAGs were trained for one day. The study further discovered that 87.8% (n=101) had low knowledge on danger signs in pregnancy and child birth. The study shows that 88.7% (n=118) of SMAGs are referring mothers to health facilities. On whether training included the referral process, 98% (n=91) of SMAGs answered in affirmative. The study showed that 88.7% of SMAGs are referring mothers to health facilities. The study further revealed that 61% (n=81) of SMAGs were not given written guidelines on referral process after training. However, the study showed that 54.1% (n=72) of SMAGs were followed up by health facility staff after training. The study revealed that 67% (n=89) of SMAGs were provided with referral forms to use when referring mothers to health facilities. The study also revealed that 70.7% (n=94) of SMAGs gave referral forms to mothers referred to health facilities. The study showed that 74.4% (n=99) of SMAGs were escorting mothers referred to health facilities. The study further revealed that 69.9% (n=93) of SMAGs received feedback from health facility staff on the outcome of mothers referred to health facilities. The study revealed that 59% (n=79) of SMAGs did not receive any resources to use from the District Health Office. It was discovered from the study that 51% (n=68) of SMAGs reported being 6 kilometres to 10 kilometres away. The study also revealed that 39% (n=52) of SMAGs said it takes more one to two hours to walk to the nearest health facilities and 61.7% (n=82) of SMAGs

indicated that mothers use bicycles as mode of transport when referred to health facilities. The study revealed 88.7% (n=118) of SMAGs said mothers did not afford to pay for transport costs when referred to health facilities. The study showed that 54.9% (n=73) of SMAGs had put in place measures to help mothers who do not afford to pay for transport when referred to health facilities. The study revealed that 95.5% (n=127) of SMAGs said traditional beliefs were no longer contributing to critical delays in referral of mothers to health facilities.

Findings from focus group discussions revealed that pregnant women were referred to the health facilities by SMAGs when labour had already started as expressed by one participant "*Azimai apakati ambiri kuno kwanthu abalila munjira akalibe kufika kuchipatala chifukwa amatumizidwa mochedwa pamene mimba yauka." (*meaning that most pregnant women in our area deliver on the way before reaching the health facilities because they are referred late to health facilities when labour starts). The study further revealed that mothers were still being delivered by Traditional Birth Attendants as expressed by one participant "*ife kuno kwanthu azimai ambiri akali kupapitsidwa ndi anyamwino mumidzi ngakhale wafika pa chipatala"* (meaning that the mothers were still being delivered by Traditional Birth Attendants even when they have reached the health facilities). The focus group discussion also revealed that the main challenge contributing to delays in referral of mothers to health facilities by SMAGs was none availability of reliable transport as expressed by one of the male participants "*Ine niwona kuti chomwe chichedwetsa azimai kufika musanga kuchipatala ngati atumidwa ndi SIMAGI simutunda chabe ai koma kusowekera kwa ma transport yoti inga wafikise msanga".*
(Meaning that what I see myself delaying women to reach to health facilities early is not the distance but rather none availability and sometimes the type of transport used when referred by SMAGs).

In conclusion, the current study revealed a significant association between the provision of resources and SMAGs referral of mothers to health facilities (p value 0.02). The current study further revealed a significant association between follow up by health facility staff after training and SMAGs referral of mothers to health facilities (p value 0.01). The current study however showed no significant association between distance to health facilities and referral of mothers to health facilities. Chadiza District Health Office through the Ministry of Health should source for funds to reorganize and retrain SMAGs as the initial training had limited time to learn as the duration of one day was too short.

Keywords: Role, Safe Motherhood Action Group, Referral, Mothers, and Health facilities.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

`

LIST OF APPENDICES

ABBREVIATIONS

ANC	-	Antenatal Care
AMDD	-	Averting Maternal Deaths and Disability
CBV	-	Community Based Volunteer
CBD	-	Community Based Distributor of family planning
CHW	-	Community Health Worker
CSO	-	Central Statistical Office
FANC	-	Focused Antenatal Care
FGD	-	Focus Group Discussion
HMIS	-	Health Management Information System
IRH	-	Integrated Reproductive Health
MDG	-	Millennium Development Goals
MCDMCH	-	Ministry of Community Development Mother and Child Health
MOH	-	Ministry of Health
MTEF	-	Medium Term Expenditure Framework
NHC	-	Neighborhood Health Committee
PMTCT	-	Prevention of Mother to Child Transmission of HIV
SMAG	-	Safe motherhood Action Group
SPSS	-	Statistical Package for Social Sciences
TBA	-	Traditional Birth Attendant
UNFPA	-	United Nations Population Fund
WHO	-	World Health Organization
ZISSP	-	Zambia Integrated System Strengthening
ZDHS	-	Zambia Demographic Health Survey

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

This study focused on assessing the role of Safe motherhood Action Groups (SMAGs) in the referral of mothers to health facilities in Chadiza District, Eastern Province of Zambia. The concept of using Safe motherhood Action Groups (SMAGs) is emerging to be useful in early referral of mothers from community to health facilities for antenatal care, delivery, postnatal care or in case of maternal and neonatal complications (ZISSP, 2012). The SMAG program was established in Zambia in 2003 as part of a national Safe motherhood initiative. The SMAGs were initially supported by United Nations Population Fund in North-western Province before Government adopted it as a national program in 2008 (UNFPA, 2005). However, because of inadequate resources and district coordination for SMAGs, communities in Chadiza did not know how to utilize these groups after they were established and many SMAGs remained inactive (Chadiza MTEF, 2013). The study intended to assess the role of SMAGs in the referral of mothers and establish the relationship between variables such as distance, resources, knowledge and follow up.

1.1.1 Overview of provision of maternal and child health services in Chadiza District.

Chadiza district has nine functional rural health centres, four health posts and one district hospital which was opened on 15th February 2013 (Chadiza MTEF, 2013). The health facilities in Chadiza district are serviced by radio communication system. Most areas in the district are accessed through feeder road networks which are in a very bad state during rainy season. Chadiza district has Community Based Volunteers trained to offer basic primary health care services within their communities. The most important cadre of Community Based Volunteers referred to in this study was Safe Motherhood Action Groups (SMAGs).

1.1.2. Formation of safe motherhood action groups in Zambia.

Although maternal mortality in Zambia has reduced from 591 per 100,000 live births to 398 per 100,000 live births, it is still high and is above the Millennium Development Goals (MDGs) target of 165 by 2015. According to MOH (2013), 38 women died on average every month during pregnancy and child birth. This may be attributed to critical shortage of skilled health workers such as obstetricians and midwives to attend to the needs of women during pregnancy and child birth. Current statistics indicates that there were 3,226 midwives in the country

compared to the required 5600 in order to meet the needs of women and their babies (MOH/ UNFPA, 2012). In order to address this critical shortage of skilled health workers, Community Based Volunteers (CBVs) were trained as Traditional Birth Attendants (TBAs) to help attend to the needs of women during pregnancy and child birth (MOH, 2007). This shortage means that many women are at risk of dying from complications during pregnancy and after child birth. (MOH, 2007). Although Traditional Birth Attendants played an important role in providing maternal health care services in many low- resource countries, there still remains a controversy about their impact in the reduction of maternal and neonatal mortality (Chanda, 2013). In 2008, MOH questioned the capability of TBAs to address life-threatening complications and after research, declared that own their own they were unable to address life- threatening complications in women during pregnancy and child birth.

In its effort to achieve the 4^{th} and 5^{th} Millennium Development Goals (MDGs), Ministry of Health scaled up the formation of Safe motherhood Action Groups (SMAGs) in almost all the districts in the country with the view of improving referral of mothers to health facilities. However, Traditional Birth Attendants still play an important role in providing maternal health care especially in remote areas hence their incorporation into Safemotherhood Action Groups (MOH, 2009). Chadiza District had a total of 310 SMAG members. There are forty SMAG members from the health post and two hundred and seventy from the health centres in the district. The study therefore set out to determine the role of SMAG members and establish factors influencing their referral of mothers from community to health facilities.

1.1.2.1 Composition of Safe motherhood Action Groups

Safemotherhood Action Group members typically include men and women who are not health professionals but are already involved in some community level health related activities and are generally respected by their community. The composition may include men, women, Community Health Workers (CHWs), traditional leaders, Traditional Birth Attendants (who are no longer practising after the change of the government policy on home delivery which promotes deliveries at health facility for all women). SMAGs are volunteers who do not receive any monetary support but may receive various materials that assist them to work. SMAGs usually have other work and responsibilities in their households and communities but are on-call for the community members 24 hours a day for emergencies related to maternal and new-born complications. (MOH, 2009).

1.1.2.2 The role of safe motherhood action group members (SMAGs)

The role of Safe Motherhood Action Group Members aim to reduce critical delays in decision-making at household level about seeking life-saving maternal care at health facilities. SMAGs deliver essential information on Safemotherhood to men and women, encourage pregnant women to go for antenatal care, delivery and postnatal period; offer first aid care and refer cases with maternal and new-born problems for management at health facilities. Safemotherhood Action Groups have a role to play in early identification of those at risk of developing maternal complications and refer them without delays. They also educate women on the importance of family planning or any other important health issues such as information on Prevention of Mother to Child Transmission (PMTCT) and facilitate the construction of waiting mothers' shelters in all the health facilities to accommodate pregnant women and their relatives (MOH, 2012).

1.1.3 Organisation of safe motherhood services in Chadiza district.

Chadiza district provides not only curative but also promotive health services such as Integrated Reproductive Health Services (IRH). The services provided include Antenatal Care, Care during Delivery, Postnatal Care, Post Abortion Care, Family and Adolescent Reproductive Health Services. (Chadiza HMIS, 2013).

Table 1: Safe motherhood coverage.

Year	First antenatal booking	Deliveries by TBAs	Deliveries by Skilled Provider	Postnatal 6 days
2010	5,948 (84%)	1,758 (41.8%)	3,384 (41.8%)	2,110 (26.5%)
2011	6,353 (90%)	1,234 (29.1%)	1,318 (16.2%)	2,863 (36%)
2012	6,569 (93%)	1,248 (29.4%)	3,384 (41.8%)	2,988 (37. %)
% increase	611 (4.5%)	510 (16.9%)	0	878 (12%)

Source: Chadiza HMIS, 2013

The table above showed Safe motherhood programme coverage.

Table 2: Referred maternal complications by SMAGs in Chadiza district

Year	Postpartum Haemorrhage (PPH)	Pre-eclampsia	Obstructed labour	Abortions
2010	11 (19.6%)	6 (20.6 %)	19 (26%)	94 (31.5%)
2011	18 (32%)	5 (17%)	18 (24.6)	88 (29.5%)
2012	27 (48.2%)	18 (60 %)	36 (49.3%)	116 (38%)
% increase	16 (28. 6 %)	12 (39.4%)	17 (23.3%)	22 (6.5%)

Source: Chadiza HMIS, 2013

Table 2 showed that 28.6% of women were referred with postpartum haemorrhage, 39.4% of women with pre- eclampsia, 23.3% with obstructed labour and 6.5% with abortions in Chadiza district.

1.2 STATEMENT OF THE PROBLEM

Despite Chadiza having formed 310 SMAGs, maternal morbidity and mortality has persistently remained high (Chadiza MTEF, 2012). According to statistics from Chadiza HMIS (2012) indicate that 456 women out of 5,941 expected pregnancies developed maternal complications. This may be due to critical delays in decision-making at household level about seeking life-saving maternal care at health facilities. These critical delays in decision-making in seeking life-saving maternal care at health facilities may be due to SMAGs not adequately been trained, long distance to health facilities, lack of resources for SMAGs to use, no follow ups by the facility staff leading to demotivated SMAG members and socio-cultural factors. SMAGs are community based volunteer groups that aim to reduce critical delays in decision-making at community level about seeking life-saving maternal care at health facilities.

SMAGs also deliver essential information on safe motherhood to men and women, encourage pregnant women to go for antenatal care, delivery and postnatal period; offer first aid care and refer cases with maternal and new-born problems for management at health facilities. Unfortunately the study did not collect data on the number of delayed referrals due to non-availability of data at community, health facilities and the District Health Office. This created a gap in showing the numbers of mothers referred by SMAGs to health facilities for antenatal, delivery, postnatal or those that developed complications. Since formation of Safemotherhood Action Groups in the district, no study has been done in this area, thus creating a gap that needs filling in hence this study. A study by Zambia Integrated Systems Strengthening Project (ZISSP, 2014) on evaluation of the impact of SMAGs on utilization of maternal health care at health facility did not focus on the referral of mothers from community to health facilities by SMAGs

thus created a gap that needed filling in this area. The study aimed to answer the question "Has the introduction of Safemotherhood Action Groups improved the referral of mothers to health facilities in Chadiza district?" The findings from this study helped to establish whether SMAGs have reduced the critical delays in decision-making at community level by referring mothers early for life-saving maternal care at health facilities in Chadiza district. The information obtained from the study will provide evidence which Chadiza District Health Office will use to strengthen the referral roles of SMAGs.

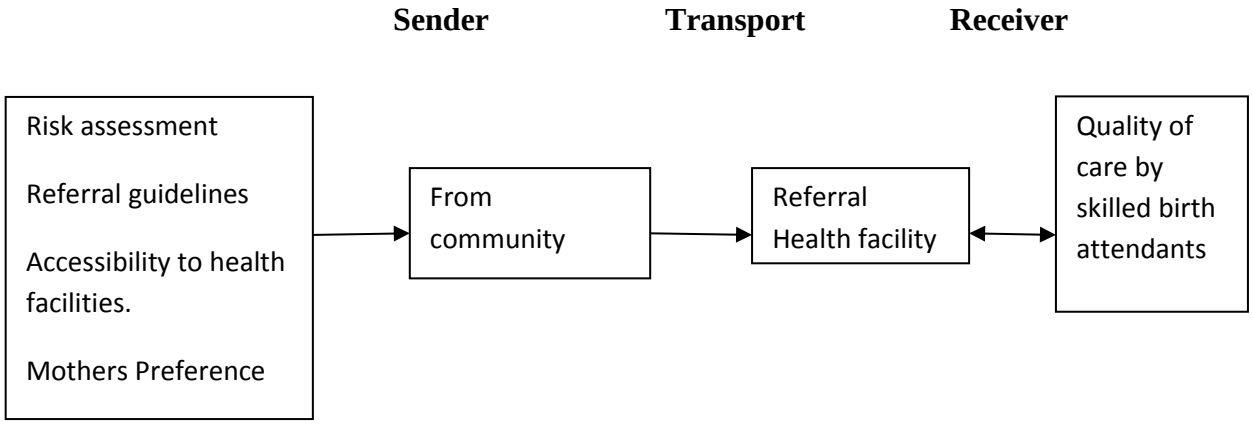
1.3 JUSTIFICATION OF THE STUDY

The concept of using Safe motherhood Action Groups (SMAGs) is emerging to be useful in early referral of mothers from community to health facilities for antenatal care, delivery, postnatal care and in case of maternal and neonatal complications (ZISSP, 2012). One of the interventions implemented by the Government of Zambia to improve maternal and neonatal outcomes is the formation of SMAGs. SMAGs are community based volunteer groups that aim to reduce critical delays in decision-making at household level about seeking life-saving maternal care at health facilities. Since the formation of Safe motherhood Action Group in Chadiza district, no study was conducted in this area thus created a gap that needed filling in this area. The study aimed to answer the question "Has the introduction of SMAGs at community level, reduced critical delays in decision-making at household level about seeking life-saving maternal and new-born care at health facilities in Chadiza district?" The information obtained from the study provided evidence which Chadiza District Health Office will use to strengthen the referral roles of Safe motherhood Action Groups in the district.

1.4 THEORETICAL FRAMEWORK – THE MODEL OF REFERRAL CHAIN

The study chose the model of referral chain adapted from Jahn A and Brouwer V (2001). The term referral is often used to indicate an advice given by a health worker to seek care at a higher level facility whether followed or not. This model conceptualizes referrals as composed of three main components- the sender, transport and receiver. An adaptation of Jahn's model of the referral chain that focuses on the sending, transport and receiver which is a health facility that offers quality of care by skilled birth attendants is summarized in the figure below:

Figure 1: Illustrates Jahn's model of the referral chain



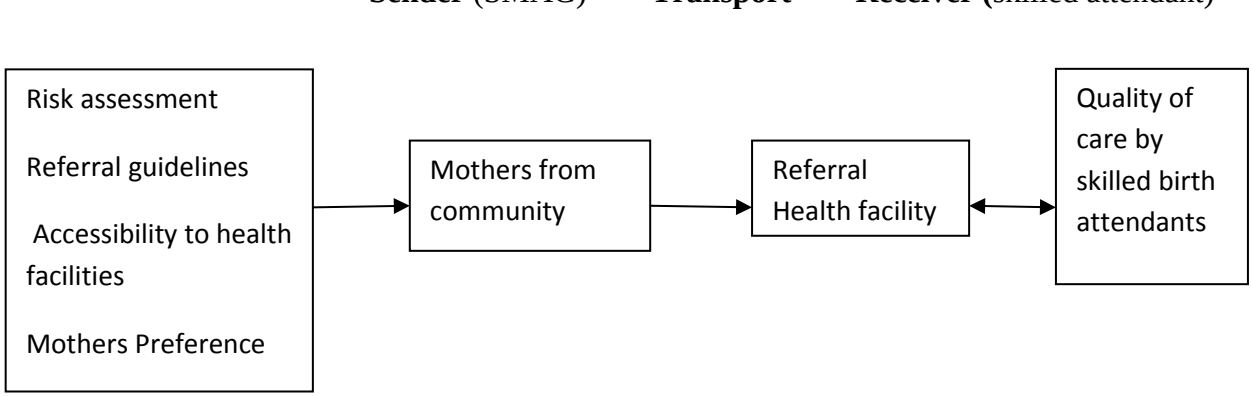
Source: Model of referral chain, adapted from Jahn's A and Brouwer V, (2001)

Once a decision has been made to go to the health facility, the woman may face financial, geographical and logistical barriers to reaching the health facilities. Financial accessibility is based on the mother's or husband's occupation. Distance to health facilities may impose a significant cost on women and their families especially in hard to reach areas and this may reduce demand to seek care in a health facility. Incurred cost may include out of pocket expenses such as transportation costs. In most cases the ambulance services may be limited. Where ambulance services are available, they may be unable to provide emergency supportive care during transfer to a health facility. Geographical barriers to accessing obstetric care may include difficult terrains spread out across long distances coupled with inaccessible roads that may be worsened by flooding during the rainy season. When mothers are received at the health facilities, they may not receive preferred quality of care from the skilled health workers due to unavailability at the health facilities.

The model of referral chain within the context of Safe Motherhood Action Groups, the study used the term referral to mean movement of mothers seeking life-saving maternal and new-born care from community to the health facilities. Although the importance of receiving obstetric care during child birth and after delivery in the Jahn's model cannot be denied, the study limited this model of referral chain to referral of mothers made by SMAGs between communities and health facilities in Chadiza district. In this study, the sender indicated in the model of referral chain refers to SMAGs; transport refers to the transportation of mothers from community to health facilities when referred by SMAGs and receiver refers to skilled birth an attendant who provides

essential maternal and neonatal care when mothers arrive at the health facility. An adaptation of Jahn's model of the referral chain in the context of Safe Motherhood Action Groups has been summarized in the figure below:

Figure 2: An adaptation of Jahn's model of the referral chain in the context of Safemotherhood Action Groups referral of mothers to health facilities



Source: Model of referral chain, adapted from Jahn's A and Brouwer V, (2001)

Once a decision has been made by SMAGs to refer mothers to health facilities to seek life-saving maternal and new-born care, they may face financial, geographical and logistical barriers to reaching the health facilities. Similarly to Jahn's Model of referral chain, financial accessibility may also be based on the mother's or husband's occupation. Distance to health facilities may further impose a significant cost on women and their families especially in hard to reach areas and this may contribute to critical delays in decision-making at household level about seeking care at the health facility. Incurred cost may include out of pocket expenses such as transportation costs. In most cases the ambulance services may be limited. Where ambulance services are available, they may be unable to provide emergency supportive care during transfer to a health facility. Geographical barriers to accessing obstetric care may include difficult terrains spread out across long distances coupled with inaccessible roads that may be worsened by flooding during the rainy season. When mothers are received at the health facilities, they may not receive preferred quality of care from the skilled health workers due to unavailability at the health facilities. The Jahn's model of the referral chain guided the study to assess the role of SMAGs in the referral of mothers to health facilities. The model further guided the study to identify factors influencing referral of mothers to health facilities by SMAGs.

1.5 RESEARCH HYPOTHESIS

There is no association between referral of mothers by SMAGs and the study variables: knowledge, distance, resources, and follow up of SMAGs, socio- cultural factors.

1.6 RESEARCH OBJECTIVES

1.6.1 General objective:

To determine the role of SMAGs in the referral of mothers to health facilities in Chadiza District, Eastern Province of Zambia.

1.6.2 Specific objectives

1. To establish the number of trained SMAGs in Chadiza District
2. To find out how often SMAGs are followed up by facility staff after training.
3. To determine to what extent long distance to health facilities affect the role of SMAGs in the referral of mothers.
4. To investigate how often SMAGs are provided with resources from the District Health Office.
5. To determine to what extent socio-cultural factors affect the role of SMAGs in the referral of mothers.

1. 7 VARIABLES OF INTEREST

1.7.1 Dependent variable

- Role of SMAGs in referrals of mothers

1.7.2 Independent variables

1. Availability of trained SMAGs
2. Distance to health facilities
3. Mode of transport used to transport mothers when referred
4. Resources to SMAG members
5. Follow up of SMAG members after training
6. Socio-economic and cultural issues

1.7.3 Variables and cut-off points

Table 3: Variables indicators and cut-off points

Variable	Indicator	Cut-off points	Question no
	Referring others Not referring mothers	Yes No	8, 11, 12, 13,9
Independent variable			
Availability of trained SMAGs	- Available - Not available		6 , 7, 9, 14,15
Distance to health facility	Kilometer radius	Very far- >than10kms Far – 6-10kms Near – 5kms and less	22
	Time taken to reach health facility	Very far - > than 2 hours Far - 1-2 hours Near - < than 30 minutes	23
Mode of transport used to transport mothers to health facilities	- Number of mothers using correct mode of transport - Number of mothers using incorrect mode of transport	- Correct mode of transport- Vehicle, Zam-ambulance, scotch cart and bicycle. -Incorrect-Wheelbarrow, improvised stretcher.	24
Availability of resources	- Available - Not available	- Provided with resources such as bicycles, etc - Not provided	20
Follow up of SMAGs	- Yes - No	Followed up Not followed up	10
Socio-economic status	High Low	High- Able to hire transport Low- Not able to hire	25, 26, 27
Cultural factors	Yes No	Contributing to delays Not contributing	28, 29, 30

The table above shows the variable indicators, cut-off points and question numbers.

1.8 CONCEPTUAL DEFINITIONS

1.8.1 Role of SMAGs in referral of mothers to health facilities

1. **Role** is defined as the function assumed or part played by a person or thing in a particular situation (oxford dictionary, 2016) OR

2. **Role** is defined as a character assigned or assumed in a socially expected behaviour pattern usually determined by an individual's status in a particular society (Merriam-Webster, 2013).

3. **Referral** describes the processes of how a woman gets in touch with an individual professional or institution about her case and how professionals and institutions communicate and work together to provide her with comprehensive care and support (WHO, 2012).

4. **Mother** is defined as a woman in relation to child / children to whom she has given birth (Free dictionary, 2012)

5. **Health facilities** are places that provide health care and include hospitals, clinics, outpatient care centres, and specialised care centres such as birthing centres and psychiatric care centres (Medicine Plus, 2010)

6. **Safe motherhood** refers to women who received care from a skilled health worker during pregnancy, labour and after delivery without any complications to the mother and the baby.

7. **Safe motherhood Action Groups** are community members both men and women who have volunteered to sensitize mothers and community members on the importance of antenatal, delivering at health facilities to be attended to by skilled birth attendants and refer them to health facilities for antenatal, delivery, postnatal or those with complications.

8. **Effective referral system** is where SMAGs refer mothers early to health facilities either for antenatal, delivery, postnatal care or those with danger signs in pregnancy, labour and after delivery without delay where SMAGs receive feedback on the outcome of the referred client.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Literature review is a critical part of research generally prepared to put a research problem in context, identify the gaps and weakness in prior studies so as to justify a new investigation (Polit and Hungler, 1993). Literature review helped the study to avoid duplication of work already done by other people. The literature review focused on published studies; therefore the study looked at the findings according to global, regional and local perspective.

2.2 BACKGROUND INFORMATION

One of the Millennium Development Goal is to reduce the maternal mortality ratio by three quarters between 1990 and 2015. Pregnancy and child birth claim the lives of an estimated half a million of women globally each year. More than half of these deaths occur in Africa (WHO, 2012). The referral system is an essential component of maternal health care system. It is particularly important in pregnancy and child birth for providing access to essential and emergency obstetric and neonatal care. Referral pattern reported from developing countries show that the actual use of a referral system for obstetric care is inversely related to professional needs assessment. Some earlier studies have shown that distance, transport costs, perceived quality of care, attitudes and respect for women's social needs and sub-cultural preferences were some of the determinants factors in the use of obstetric care in most developing countries (AMDD, 2010).

2.3 GLOBAL PERSPECTIVE

Jahn's model, 2001(cited in the study by Chaturvedi et al. 2014), used the term referral to mean movement of women seeking intra-natal care from one facility to another because of inability to receive the necessary obstetric care at the first facility attended. The objective of the study was to describe the inter facility referrals using a cross-sectional survey of mothers delivering under the JSY program in India. The findings by Chaturvedi et al .(2014) revealed that the high number of maternal deaths inspite of access to a functioning emergency obstetric care centre was due to ineffective referral services at one or more of the levels in the referral chain. The same study further revealed that delay in timely recognition of the condition at the sending facility could be an important reason contributing to ineffective referral services and ultimately morbidity and mortality in the study area. The study further concluded that the ineffectiveness of the referral

services could result from multiple causes such as risk assessment, referral guidelines, means of transport used and quality of care. On the other hand, the term referral in this study adapted from Jahn's model referral chain means movement of mothers seeking maternal care from community to health facilities referred by Safemotherhood Action Groups. In another study done in South Asia by Hussein et al. (2012) revealed that some facilities have no vehicles or means to call for a vehicle and women faced hours of travel over nearly impassable roads and this prevented women and new-borns from accessing emergency care by skilled birth attendants. The same study further revealed that many women in developing countries give birth at home or at local health facilities not staffed or equipped to treat many complications.

The WHO, (2014) suggest that the first priority for a delivery to be safe, atraumatic and clean, is to have a well-coordinated referral system and early identification of complications as well as ensuring immediate first aid and or referral to the health facilities staffed with skilled birth attendants. The WHO, (2014) further recommends as a rule that the further away the referral facility, the earlier you intervene without any delay. A study by Barnes et al. (2006) revealed that pregnancy related mortality in Haiti was due to delays in deciding to seek appropriate medical help for essential obstetric and neonatal care, reaching an appropriate health facility and receiving adequate care when facility is reached. In another study by Ravi Upadhyay et al. (2012) revealed that the contributing factors to 50% neonatal deaths in rural parts of India was due to caretakers delay in problem recognition or in deciding to seek care, transport problem due to none availability of funds. Another study by Mahmoud et al. (2012) reveals that delayed use of essential obstetric care contributes to high maternal mortality in Sistan and Baluchestan provinces in Iran because most women have no money to pay towards transport costs. Mahmoud et al. (2012) has provided evidence that lack of health insurance contributes to delays in referrals of pregnant women as they do not have financial resources to pay for transport costs. The same study by Mahmoud et al. (2012) further revealed that socio-cultural and familial reasons compel some women to choose to give birth at home and hesitate to seeking professional emergency care for delivery complications. Contrary, this study did not focus on the movement of women from community to the next level of care while in this study, the focus was on SMAGs whose role to refer and ensure that women reach the health facilities without any delays. Another study by Raj (2015) conducted in Pradesh in India revealed that 10 ambulances were available out of 19 required and concluded that inter facility transfer appropriateness and timeliness of referral are

major contributing factors to critical delays at community level. The same study by Raj reveals that 23% of all deliveries take place in their homes attended to by unskilled birth attendants and that socio-economic and cultural factors such as low status of women with regards to decision making compel some women to give birth at home. The same study reveals that because of bad socio-cultural practices, most women hesitate to seek essential and emergency obstetric care for maternal complications. The UNICEF, (2011) claims that socio-cultural factors compound families health care seeking behaviours such that many women are taken late to health facilities to deliver or when they develop maternal complications. In addition, women delay to reach health facilities while other decides to deliver at home because they do not have transport money. The UNICEF, (2011) further states that because of low status women have in society, they have no right to decide on their on to go to health facility to deliver and pregnancy is not given a special care. This contribute greatly to the first delay in decision making when need arises.

A study by Brunson's (2010) conducted in South Asia has provided some evidence that despite men not being knowledgeable about maternal and child health, in emergency, men control the situation through their decision making. Lewis et al. (2012) in their study conducted in Nepal revealed that male involvement in maternal health and safe birth was complex and it is related to gradual and evolving changes in attitudes. The study further revealed that traditional beliefs were upheld and influence male involvement in Safe motherhood, including the central role of women in the domain of pregnancy and child birth could not be ignored as expressed by one of the participants in rural Nepal "*males do not have a role to play in maternity care"*. According to Averting Maternal Deaths Disability, (2010) state that husbands are the gate keepers of women's decision about where their wives were to delivery from yet they were rarely involved in issues of Safe motherhood in agreement with the findings from this study.

Age is often presented as a proxy for accumulated experience including in the use of health services. Older men and women are possibly more confident and influential in household decision-making than young men and women in particular the adolescents. Further older men and women may help to reduce critical delays at household level by convincing both young and older women to deliver in a health facility since both young and older age is a biological risk factor to developing maternal complications. On the other hand, older women may belong to more traditional cohorts and thus be less likely to use modern facilities than young people. Age is highly correlated with parity and in the same settings with educational level, marital status,

wantedness of a pregnancy, socio-economic status and decision-making power (Gabrysch et al. 2013).

2.4 REGIONAL PERSPECTIVE

A study by Tayelgn et al. (2012) whose objective was to assess the satisfaction of mothers with referral hospital delivery service and identify some possible factors affecting satisfaction in Amhara region in Ethiopia. The study by Tayelgn et al. (2012) revealed that 61.9% of mothers were satisfied with the delivery services and that satisfaction was associated with status of pregnancy, immediate maternal condition after delivery, waiting time to see to health worker and measures taken to ensure privacy during examination and amount of cost paid. The same study however concluded that the overall satisfaction of hospital delivery services was found not to be client centred. The study suggested that more could be done to assure that services provided were more client centred. The study by Tayelgn et al did not focus on those mothers with low income and unable to pay for services. Instead the study focused on client satisfaction with regards to examinations, care given to the mothers and amount paid. This study however focused on the role SMAGs played to ensure that critical delays at community level were minimized in decision making about seeking obstetric care services at the next level of care.

Another study by Waiswa Peter et al. (2010) using the three delay model to investigate the cause of and contributors to new-born deaths in eastern Uganda revealed that 54% died away from a health facility. The same study further revealed that the contributing factors to new-born deaths were the caretakers delay in identification of danger signs and delay to receive care. In another study by Magoma et al. (2010) revealed that the Maasai and Watemi women in Tanzania preferred home delivery because of the failure of health care providers to consistently communicate to mothers on the importance of skilled delivery and immediate postpartum care during antenatal visits. The same study further revealed that husbands were the gate keepers of women's decision about where they will deliver yet they are rarely encouraged to accompany their wives during antenatal care visits. Averting Maternal Deaths and Disability 2010 study (as cited in Kongnyuy 2016) indicate that most mothers whose labour started at home in Malawi arrived at health facilities very late because of long distances they had to cover.

The study further revealed that most pregnant women did not receive emergency obstetric care due to shortage of skilled birth attendants in most health facilities in Malawi. Further the study by Averting Maternal Deaths and Disability (2010) as cited by Kongnyuy (2016) revealed that

the problem of referral in Malawi is caused by poor transport and referral system. Another study by Pembe et al. (2012) was conducted to evaluate the effectiveness of the maternal referral system through determining proportion of women reaching the hospitals after referral indications, reasons for non-compliance and find out if compliance to referrals made a difference in perinatal in perinatal outcome. The study showed that 70% of women were referred for demographic risks, 12% obstetric historical reasons, 12% for prenatal complications and 5.5% for intranatal and immediate postpartum complications. The study by Pembe further revealed that the compliance rate was 37% of women who did not comply with referral advice were due to demographc risks while 50% of women were due to financial constraints. However the study showed that lack of compliance with referral did not significantly increase the risk for a perinatal death. The study by Pembe et al. (2012) therefore concluded that majority of the mothers referred were due to demographic risks where few women complied. The same study recommended that to improve compliance to maternal referrals, there is need to review the review indications and strengthen counselling on birth preparedness and danger signs.

Socio-cultural variables may affect access to health care services. The educational level of a woman often affects her health care use. Attaining at least a primary education contributes positively to the health of women by providing women with skills training for employment and personal income thus enabling women to afford health care services. Further income provides women with the ability to pay (Obasi, E.Z. 2013). Ngelele, (2015) has provided some evidence that socio-cultural practices impacted negatively on utilization of maternal health services in most developing countries.

2.5 LOCAL PERSPECTIVE

The concept of using Safe motherhood Action Groups is emerging to be useful in early referral of mothers from community to health facilities for antenatal, delivery, postnatal care or in case of maternal and neonatal complications (ZISSP, 2012). Few studies have been done globally, regionally and local in assessing the role and impact of referral of mothers by SMAGs to health facilities. Safe motherhood Action Groups typically include men and women who are not health care professionals but are community based volunteers involved in some community level maternal and child health activities and are generally respected by their community members (MOH, 2010). The SMAGs were first established in Zambia in 2003 as part of a national Safe motherhood program. The SMAGs were initially supported by United Nations Population Fund

(UNFPA) in North-western province before Government adopted it as a national program in 2008 (UNFPA, 2013). According to ZISSP, (2012) the overall goal of SMAGs is to address the critical delays at community level about seeking life-saving maternal and new-born care at health facilities. The Saving Mothers, Giving Life (2014) indicate that travelling long distances on rough terrain to reach health facilities was a major deterrence to early referral of mothers to health facilities by Safemotherhood Action Groups in Lundazi district.

There is some evidence (JPHIEGO, 2011) that most Community Based Health Workers do not understand how to refer mothers to health facilities and are unable to recognise symptoms of severe maternal complications which lead to delays in referral process in Zambia. The WHO, (2014) suggest that in order to reduce critical delays in referral of mothers from community to health facility, there is need for Safemotherhood Action Groups to be trained and have knowledge on how to write birth plan with their spouses for dealing with unexpected adverse events such as complications that may occur during pregnancy, child birth and immediate postpartum period. The WHO, (2014) further observed that birth plans were most of time not reviewed by skilled birth attendants at each antenatal assessment and this contributes to the first and second delay in the referral process.

The ZISSP 2014 (cited by Johns et al.) shows that training SMAGs to deliver essential information to communities on safe motherhood increases utilization of facility – based maternal and neonatal care by mothers and that there has been positive impact and encouraging results on institutional deliveries in most districts supported by Zambia Integrated System Strengthening Project. Ensor (2013) study (cited in WHO Journal 2014) indicate that lack of knowledge about when to access health care services leads to delays in decision making and difficulties with transportation are the contributing factors to maternal mortality in Zambia. The same study further revealed that pregnant women die in villages because of home delivery attended to by unskilled birth attendants. A study by Phiri, N. et al. (2014) revealed that trust and quality of care were important when individuals seek facility delivery in Kapiri District in Zambia. The same study further discovered that poor attitudes of health care providers, long distances and lack of transport to facilities discouraged facility child birth in Kapiri district.

As earlier said in the text, SMAGs are volunteers who do not receive any money from government but are motivated through the provision of resources to use such as bicycles, rain coats, assorted stationary to mention a few and torches among others. Lack of resources to use

affect smooth operations of SMAGs. The Ministry of Health further noted that there were problems with maintenance of Zam- ambulance bicycles despite communities having agreed to maintain them through contributions from Neighbourhood Health Communities (MOH, 2012). In the study ZISSP (2014) as cited by Johns et al. (2014) indicated that SMAGs are more effective when there is strong link with the facility staff after training. The study also revealed that without follow up of SMAGs by facility staff tends to move them towards traditional way of conducting activities and this in turn makes SMAGs inactive and demotivated. After training, most SMAGs see the importance of their role and are motivated to work for their communities. Distribution of uniforms, utility items like bikes, gumboots, rain coats, torches stationary among others help them to conduct meetings in more communities and follow up on pregnant women in their catchment areas for possible identification and referral to health facilities (Chisenga A, 2014). Provision of resources to SMAG members facilitates smooth operations in their role of referring mothers to health facilities.

According to Bossyns, P. and Lerberghe V. (2004) defines facility that initiates the referral process as the initiating facility and they prepare an outward referral to communicate the client's condition and status. Bossyns, P. and Lerberghe V. (2004) further stated that the facility that accepts the referral case is called the receiving facility and at the end of their involvement; they need to prepare a back referral on the lower part of the referral forms to let the initiating facility know what has been done on the client. In this study, the facilities initiating the referral process are Safe motherhood Action Groups at community level. They prepare an outward referral form to communicate the mother's condition and status. The facility that accepts the referral case in this study is called the health centre and at the end of their involvement is expected to prepare a back referral on the lower of the referral forms to let the initiating in this case the SMAGs know what has been done. This completes the referral loop between the two facilities.

2.6 CONCLUSION

The Ministry of Health's stance on the role of SMAGs is to refer all pregnant women to health facilities to deliver so that they are attended to by skilled birth attendants in order to lower maternal and infant morbidity and mortality rates especially that 2015 and beyond is nearby. To the best of my knowledge, this is the first study of referral services in the context of the role of Safe Motherhood Action Groups in referral of mothers from community to health facilities in Chadiza District.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology is a system of study, the strategy, plan and action, the process and design lying behind the choice and use of a particular method. It is used to collect and order the data, using statistical manipulations and arrive at a logical conclusion (Atlas et al. 2002). It also involves identifying research design, tools and sampling techniques to be used in the study. In addition, it incorporates the pilot study to be done and ethical consideration of the study (Atlas et al. 2002).

3.2 RESEARCH DESIGN

A descriptive cross-sectional study design was conducted in Chadiza district. The study sites were Tafelansoni, Zemba, Chanjowe, Sinalo, and Chadiza Rural Health Centre catchment areas (Zingalume and Kapachi) involving 133 respondents of both men and women for quantitative data. Two Focus Group Discussions were conducted in Tafelansoni and Zemba communities involving 10 women of child bearing age and 10 men bringing the total to 20 participants for qualitative data. The study design was used to assess the association between the role of Safe Motherhood Action Groups in the referral of mothers to health facilities and the study variables namely distance to health facilities, provision of resources, level of knowledge, follow up of SMAGs by health facility staff and socio-cultural factors in Chadiza District, Eastern Province of Zambia. The design also provided a picture on the relationship between age, marital status, educational level, sex of SMAGs and the referral of mothers to health facilities. It further aimed at providing a snapshot on critical delays in decision making to seek life-saving maternal and new-born care at health facilities (Thaddeus et al. 2012).

3.3 RESEARCH STUDY SETTING

Research setting is the physical location and conditions in which data collection takes place in a study (Polit and Hungler, 2002). The study was conducted in the rural settings in Chadiza district, Eastern Province of Zambia. The study sites were Tafelansoni, Chanjowe, Zemba, Sinalo and Chadiza Rural Health Centre catchment areas (Zingalume and Kapachi).

3.4 STUDY POPULATION

Study population refers to the entire number of units (Polit and Hungler, 2002), and this included 310 SMAGs both men and women from Chadiza district.

3.5 SAMPLING METHOD

Chadiza district has delineated target groups of Safe Motherhood Action Groups. Sample selection was done in such a way as to select SMAGs whose characteristics represented the entire SMAG membership in the district. The study sites for quantitative data were purposively selected because of their uniqueness with an estimated study population of 310 SMAG members both men and women aged 18-65 years of age. At community level, simple random sampling was used to select 133 SMAGs who participated in the study from a sampling frame of 310. Every second SMAG was selected using simple random sampling. One randomly selected man or woman aged 18 years or older was interviewed using a structured questionnaire. Individuals for the focus group discussions were purposively sampled in order to ensure homogeneity of the groups. There were two focus group discussions, one comprised 5 males and 5 females aged 18 years to 40 years and the other 10 involved those men and women aged 41 years and above.

3.5.1 Inclusion criteria

Those active SMAGs who were available at the time of study and those who consented to participate were included in the study.

3.5.2 Exclusive criteria

Those active SMAGs who were not available at the time of study and those who did not consent to participate were excluded from the study.

3.6 SAMPLE SIZE CALCULATION

The sample consisted of the subset of the study population. The respondents were drawn from the SMAGs in the rural parts of Chadiza district. The sample size was calculated by already designed software with the formula shown below and was based on 50% knowledge by SMAGs on referral process.

$$n = \frac{(z\alpha/_2 + z_\beta)^{2\,(\pi_0(1-\pi_0)+\pi_1(1-\pi_1)}}{(\pi_0 - \pi_1)^2}$$

n= minimum sample size

π = expected prevalence rate

Z = Power

$$n = \frac{(0.98/2 + 0.84)^2\,(0.5_0(1- 0.5_0) +0.5_1\,(1- 0.5_1)}{(\,0.5_0 - 0.5_1\,)}$$

n=133

3.7 DATA COLLECTION TOOLS

Data collection refers to gathering specific information aimed at providing or refuting some facts (Polit and Hungler, 2002). These are measuring tools that were used to gather information on the role of SMAGs in referral of mothers to health facilities in Chadiza district. The study used both instruments that were constructed in English and one local language (Chewa). With the help of the head of department for Nyanja section at Chadiza Secondary School, the questionnaire and focus group discussion guide were translated to local language (Chewa). The data collection tools were translated into Chewa because the area where the study was conducted comprised Chewa speaking people. The quantitative data was collected using both open and closed ended questions contained in a questionnaire.

The questionnaire had 6 sections. Section A comprised of questions eliciting information on the respondent's demographic data. Section B comprised of questions eliciting information on the respondent's training of safe motherhood Action Groups, section C contained questions on the respondent's follow up visits by facility staff after training, section D comprised of open ended questions prompting information on knowledge levels while section E comprised of questions eliciting information on the respondent's accessibility data and section F comprised questions on socio-cultural factors. Two focus group discussions were conducted to collect qualitative data among selected 10 men and 10 women. The focus group discussion guide was used to collect qualitative data. The questions were open ended and contained same questions eliciting

information on the respondent's availability of SMAGs, role of SMAGs, accessibility to health facilities, challenges faced by SMAGs and recommendations. The contents addressed all the issues in the objectives and the study variables.

3.7.1 Validity

This is the degree to which an instrument measures what it is intended to measure (Gravetter and Forzano, 2009). Validity was ensured by asking questions that covered all the study variables. The questionnaires had clear instructions. Pilot study was conducted and no amendments were made to the questionnaire. The questions were asked in sequence as appeared in the questionnaire. With the assistance of the head of department for languages from Chadiza Secondary School, the questions were translated into Chewa the local language for clarity and better understanding by the study respondents.

3.7.2 Reliability

This is the degree to which an assessment tool produces stable and consistent results of consistency and accuracy with which an instrument measures what it is designed to measure (Polit and Humpler, 2006). The questions were simple, clear and concise to the study respondents for easy understanding. The respondents were exposed to the questionnaire once. In this study, reliability was ensured by giving the instruments to experts for review. They made corrections that were incorporated Pilot study was done to ensure reliability.

Reliability and Validity may not be applicable to qualitative method of collecting data. However Lincoln and Guba, (2014) emphasise the need for the study to ensure credibility of qualitative research findings by observing true value, consistency, neutrality and applicability. Participants for the focus group discussions were purposively selected in order to ensure homogeneity of the groups. In order to ensure clarity in terms of thought processes during data analysis and subsequent interpretation, participants were invited to comment on the interview schedule guide and whether the final themes and concepts created, adequately reflected the phenomena being investigated.

3.8 DATA COLLECTION TECHNIQUE

Combined data collection techniques were used. Quantitative and qualitative data collection techniques were used in this study. Use of triangulation methods in data collection helped to produce a more comprehensive set of the study findings. A face to face structured interview using a questionnaire was used to collect quantitative data on the role of Safe motherhood Action

Groups in referral of mothers to health facilities in Chadiza district. The interview was conducted in a separate room and this guaranteed confidentiality. The interviewer introduced herself to the individual participants and explained the purpose of the study. The actual names of the respondents were not indicated on the questionnaire but instead used the numbers and confidentiality was guaranteed.

The interview for individual respondent took approximately 5-10 minutes and the interviewer thanked the respondent after the interview. To ensure the true value for the focus group discussions, the interviewer sampled 10 men and 10 women aged 18 to 65 years using purposive sampling technique and were interviewed using focus group discussion guide. Two focus group discussions were conducted, one comprised 5males and 5 females aged 18 to 40 years and the other one involved those aged 41 years and above. These focus group discussions though conducted in different areas were conducted in the shelter provided by community members.

The facilitator introduced herself and explained the purpose of the study to the participants that were sampled. The facilitator further assured the participants of confidentiality during and after the discussions and encouraged them to feel free to share their experiences. All the 20 participants sampled showed willingness to share their experiences in depth on the role of SMAGs in referral of mothers to health facilities. The facilitator used semi-structured audio recorded interviews which allowed for repeated revisiting of the data to check the emerging themes. The facilitator further used verbatim extracts from the participants on the challenges faced by SMAGs in the referral of mothers from community to health facilities and this assisted the facilitator to make Judgements about whether the final themes were true to participant's accounts.

Participants were also invited to comment on the research findings and themes contained in the focus group discussion guide. The facilitator used the research diary in documenting challenges and issues and thus maintained cohesion between the study's aim, design and methods. Each focus group discussion lasted approximately 20 to 30 minutes. Rich detail of context, the role of Safe motherhood Action Group and referral of mothers to health facilities facilitated the evaluation of study conclusions and transferability to other districts in the province

3.9 CULTURAL AND ETHICAL CONSIDERATIONS

Ethical clearance was sought from ERES CONVERGE IRB. Permission was further sought from District Health Office, health centre in charges and traditional leadership to conduct the

pretest and actual study. The individual respondents were made to sign the consent form after explaining the purpose of the study. The one to one interview for quantitative data was conducted in a separate room in order to ensure confidentiality and privacy was maintained during and after data collection. Blaming statements were avoided because they could have put off the study respondents. The numbers were used to number the questionnaires instead of actual names of respondents to guarantee confidentiality. The interviewer made sure that respect for elders during interview was ensured for both one to one interview and focus group discussions. With the help of the head of department for Nyanja section at Chadiza Secondary school, the data collection instruments were translated into local language (Chewa).

Chewa as a local language was chosen because the area where the study was conducted comprises Chewa speaking people. The respondents were not forced to participate in the study and sensitive terms in data collection instruments and during the actual interview were avoided. Pre-test of translated data collection instruments was done in John Farms health facility catchment area before the actual study. There were no modifications made to the data collection instruments. The data collected from the respondents was kept under lock and key and the safe keys were out of reach by anyone apart from the principal investigator.

3.10 PILOT STUDY

A pilot study is a small scale version of the actual study conducted with the purpose of testing and potentially refining the research plan (Dempsey and Dempsey, 2000). A Pilot study is also referred to as a mock study or pre-test done in advance of the main data collection for the purpose of testing the data collection tools and fieldwork arrangement (Nicolas, 1991). The pilot study was done in John Farms area and the sample size was 10% of the actual sample size. The sample size for John Farms was eleven (11). The main reason for pilot study was to get several ideas of the likely responses to ensure both validity and reliability of the study instruments. There were no modifications made to the data collection instruments.

CHAPTER FOUR

4.0 DATA PRESENTATION AND ANALYSIS OF FINDINGS

4.1 INTRODUCTION

This chapter examined the study findings on the role of SMAGs in the referral of mothers to health facilities using the questionnaire and focus group discussions. Data analysis is the systematic organisation and synthesis of research data and testing of research hypothesis using these data (Polit and Hungler, 2002).

4.2 DATA PROCESSING AND ANALYSIS

4.2.1 Quantitative data

The Statistical Package for Social Science (SPSS) version 20.0 and Microsoft Excel 2010 version to analyse the quantitative data. The data was presented in tables and graphs for easy understanding. The frequency distributions were computed to organise the demographic data of respondents. The scores were computed in line referral of mothers indicators set at 25% with P=0.05, 2 tailed and confidence interval of 95%. The scores were used to create frequency distribution charts for opinion across the population under study. With the help of the statistician, analysis of data included descriptive, cross tabulation and chi-square tests. To ensure validity and reliability of the study findings, results were compared with previous studies done elsewhere in similar populations that used this methodology. The data was checked by the statistician for accuracy. A total of 133 questionnaires were administered resulting in a sample of 133 respondents for quantitative data (n=133).

4.2.2 Qualitative data

The content and textual analysis was used for qualitative data. The reflection sheet for each focus group discussion was created and was used to record the information from the respondents. The data was processed and recorded immediately while interactions were still fresh and this assisted to record the information as accurately as possible. The creation of the reflection sheet helped in the standardisation across all data collection points. Analysis began as soon as it was being collected from the respondents. Immediately the first pieces of information were collected by the facilitator, reviewing of the data and mentally processing it for themes that were exhibited was done. It was important to do this because it assisted in the formulation of themes. Since qualitative data generally produce a lot of data, not all data is meaningful. After data was collected, it had to undergo a data reduction process in order to identify and focus in on what was

meaningful to the study. This was the process of reducing and transforming raw data into simplified format that can be understood in the context of the research question "has the introduction of SMAGs reduced the critical delays in decision-making at household level about seeking life-saving maternal and new-born care at health facilities in Chadiza district?" The facilitator had to also rely on her own intuition and the expertise of other individuals with a thorough understanding of the program such as maternal and child health officers. Use of content analysis in line with the research question and the type of data collected helped in coding certain words or content, identified their pattern and interpreted their meanings. This was done by going through all the text and labelled some phrases using words that related to research questions of interest. After coding the data, it was sorted and examined in order to create themes such as availability of trained SMAGs, factors contributing to critical delays in decision-making at household level, accessibility to health facilities, socio-cultural factors, challenges faced and their recommendations. According to Taylor-Powell and Renner, (2003) emphasize on identification of themes or content pattern, assembling, organising and compression of the data into display that facilitates conclusion drawing either by graphic, tab/ matrix or textual display. Textual display that facilitated in drawing the conclusions in line with the themes was used.

4.3 PRESENTATION OF FINDINGS

The findings of this study were presented in summary form of frequency tables, percentages, pie charts, bar charts and cross tabulations. The frequency tables also summarized the results of the study for easy reference and easily understood. The use of graph and pie charts in data presentation was to make work presentable and easily understood. Cross tabulation of the variables helped to show the relationship between dependent and independent variables. Data was presented in two (2) sections, demographic and main variables believed to influence referral of mothers to health facilities by SMAG members.

4.3.1 Presentation of quantitative data

4.3.1.1 Demographic data

According to open dictionary,(2012) defined demographic data as data that is statistically socio-economic in nature such as age, education, gender, employment and income which represent specific geographical locations and are often associated with time.

Table below shows statistics on sex, age, marital status, number of children, and level of education and occupation.

Table 4: Demographic data

S/N	Demographic variables	Indicators	Total %
1	Sex	Female	72.1% (n=97)
		Male	27.1% (n=36)
2	Age	21- 30 years	11.3% (n=15)
		31- 40 years	21.8% (n=29)
		41- 50 years	32.3% (n=43)
		51-60 years	25.6% (n=34)
		Above 60 years	9% (n=12)
3	Marital status	Single	6% (n=8)
		Married	74.4% (n=99)
		Divorced	6% (n=8)
		Widow/ widower	13.5% (n=18)
4	Number of children	0-3	19.5% (n=26)
		4-6	43.6% (n=58)
		7-9	28.6% (n=38)
		10 and above	8.3% (n=11)
5	Level of education	Primary	52.6% (n=70)
		Secondary	31.6% (n=42)
		None	15.8% (n=21)
6	Occupation	Housewife	49.6% (n=66)
		Business/ self employed	22.6% (n=30)
		Unemployed	27.8% (n=37)

Table above revealed that 72.1% of the respondents were females while 27.1% were males and 32.3% of the respondents were between 41-50 years. The table further showed that majority of respondents 74.4% were married and 43.6% had children in the range of 4-6. The table also showed that 52.6% of respondents reported having attained primary education, while 15.8% having attained no formal education. The table indicated that 49.6% of respondents were housewives, 22.6% were self-employed and 27.8% were unemployed.

4.3.1.2 Data on training of Safe Motherhood Action Groups.

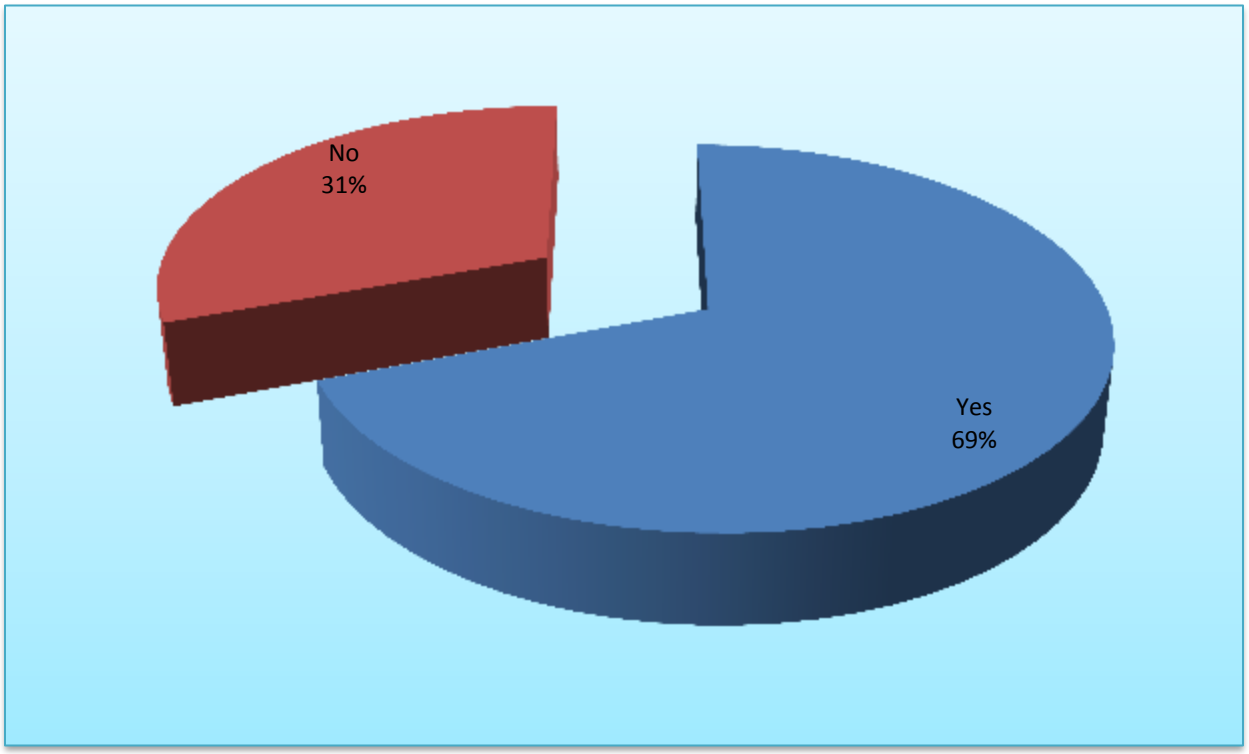


Figure 3: Percentage of respondents trained in Safe motherhood (n=133).

The figure above revealed that 69.2% (n=92) of the SMAGs were trained for one day while 30.8% (n=41) were not.

Table: 5 whether the training included the referral process of mothers to health facilities (n=133)

	Frequency	**Percentage**
Yes	91	98%
No	1	1.1%
Total	**92**	**100%**

The figure above revealed that 98% (91) of the SMAGs answered in the affirmative, while the minority 1.1% (1) said the training did not include the referral process of mother to health facilities.

4.3.1.3 Data on the referral of mothers to health facilities by SMAGs.

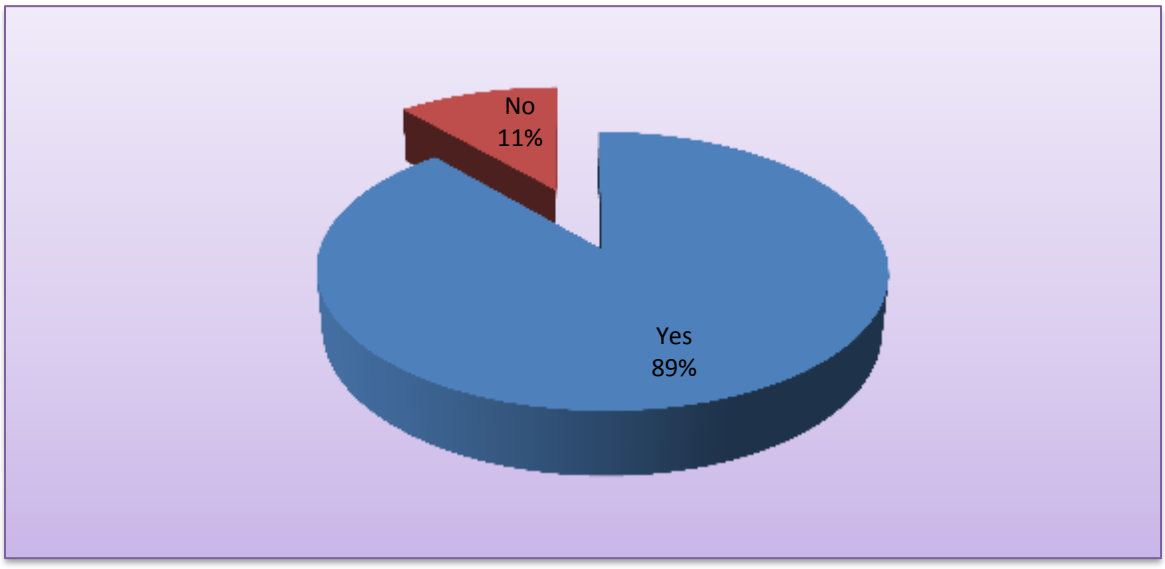


Figure 4: Percentage of the SMAGs who referred mothers to health facilities (n=133).

Figure 3 above revealed that 88.7% (n=118) of the SMAGs were referring mothers to health facilities while 11.3% (n=15) were not.

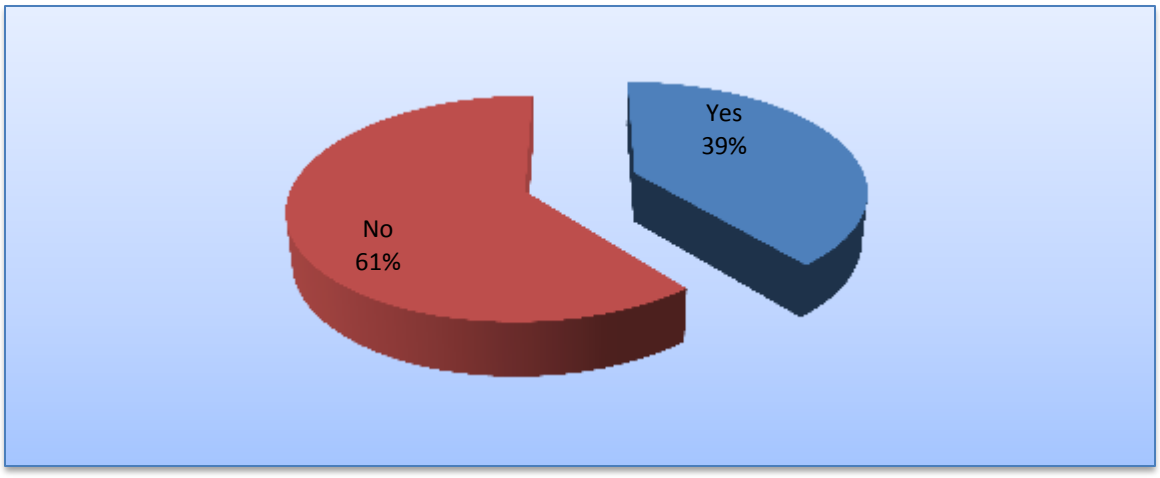


Figure 5: Percentage of the respondents provided with written referral guidelines after training (n=133)

Figure 5 above revealed that 60.9% (n=81) of the SMAGs were not provided with any written guidelines after training while 39.1% (n=52) were given.

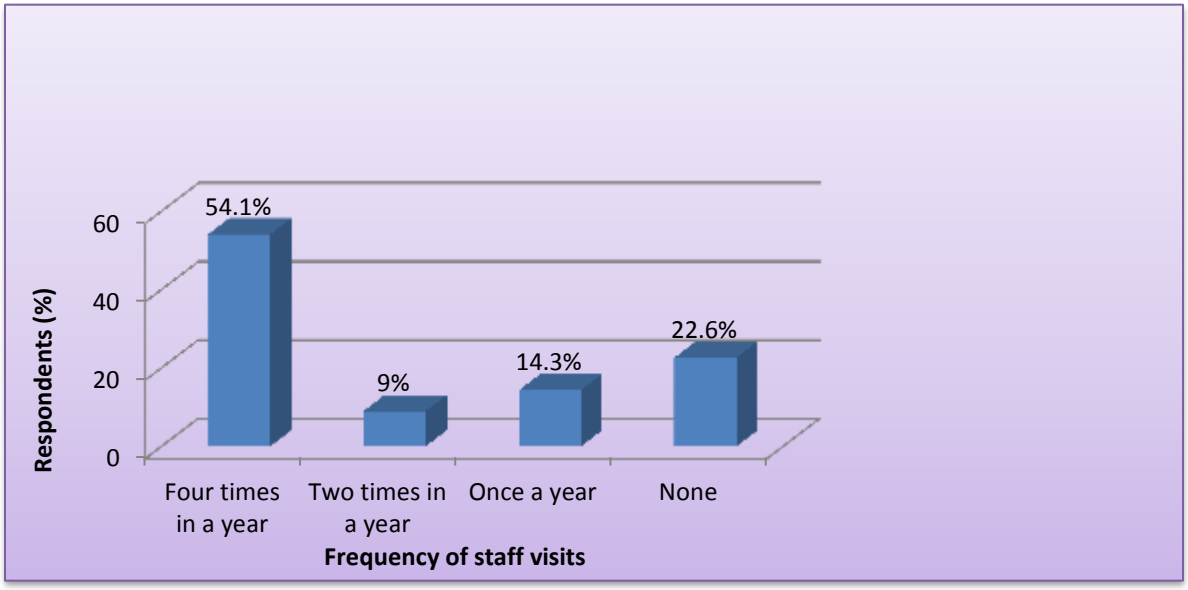


Figure 6: Percentage of the SMAGs followed up by health facility staff after training (n=133)

Figure 6 showed that 54.1% (n=72) of the SMAGs were followed up by health facility staff after training while 22.6% (n=30) were not followed up.

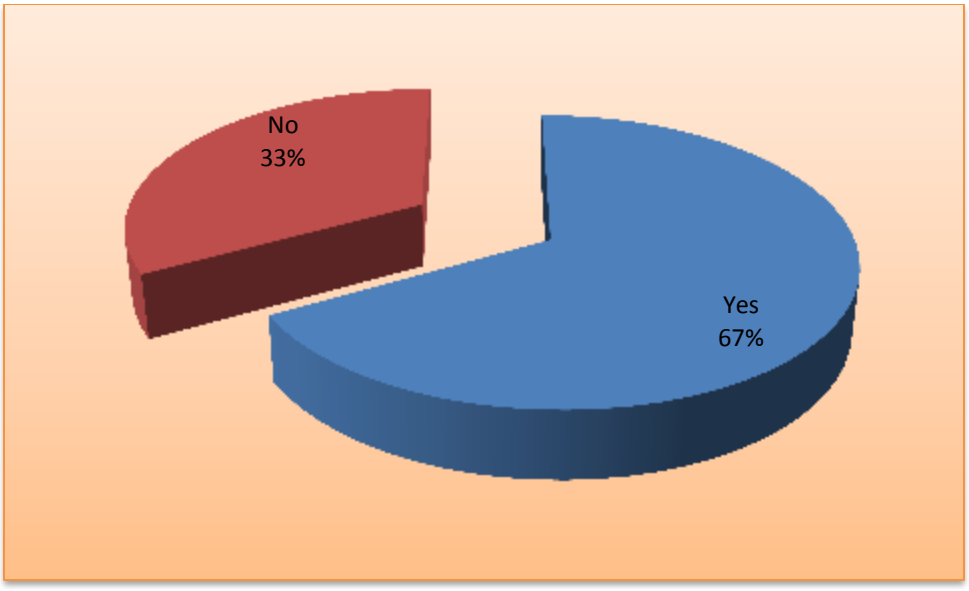


Figure 7: Percentage of the respondents who were provided with referral forms to use when referring mothers to health facilities (n=133)

Figure 7 showed that 67% (n=89) of the SMAGs were provided with referral forms to use while 33.1% (n=44) were not provided with referral forms.

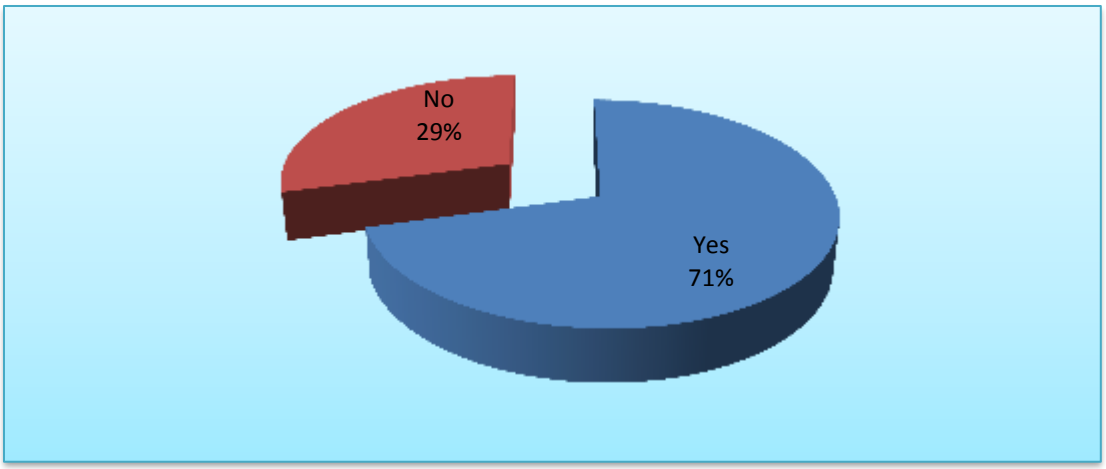


Figure 8: Percentage of the respondents who provided referral letters to mothers after being referred to health facilities (n=133)

Figure 8 above indicated that 70.7% (n=94) of the respondents answered in affirmative that they did provide referral letter to mothers while 29.3(n=39) said they did not.

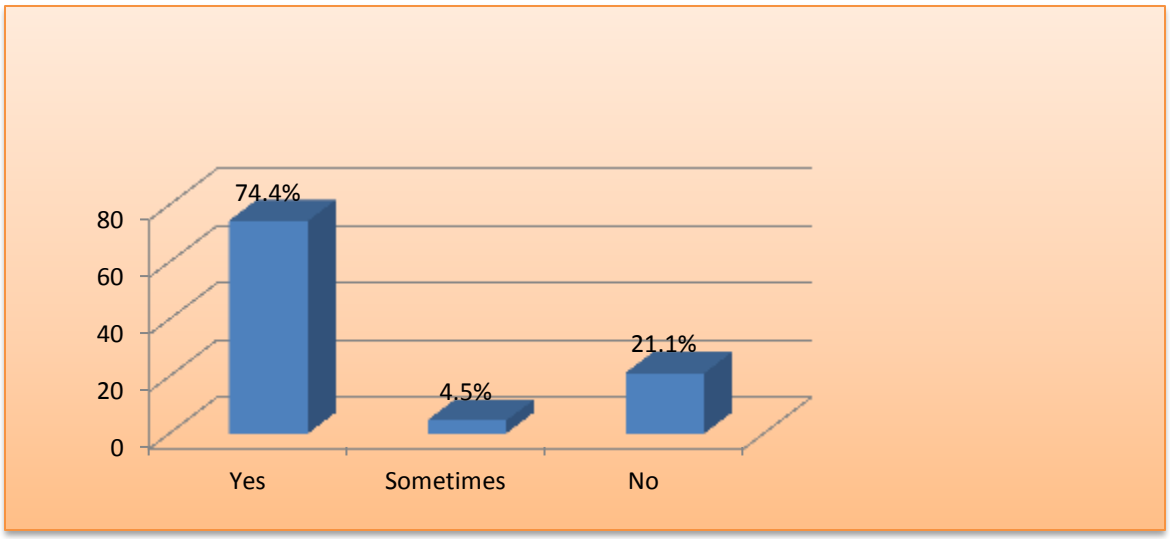


Figure 9: Percentage of the SMAGs who escorted mothers to health facility when referred (n=133)

Figure 9 revealed that 74.4% (n=99) of the SMAGs did escort mothers to health facility while 21.1% (n=28) did not.

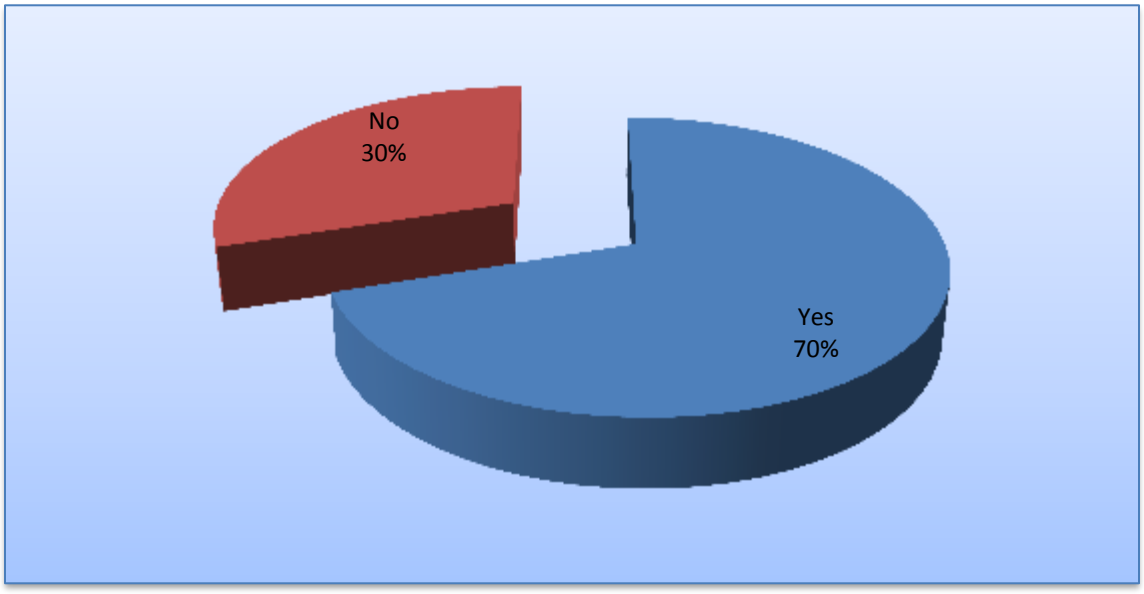


Figure 10: Percentage of the SMAGs who received feedback from health facility staff after training on the outcome of mothers who were referred (n=133)

Figure 10 showed that 69.9% (n=93) of the SMAGs received feedback from health facility staff while 30.1% (n=40) did not.

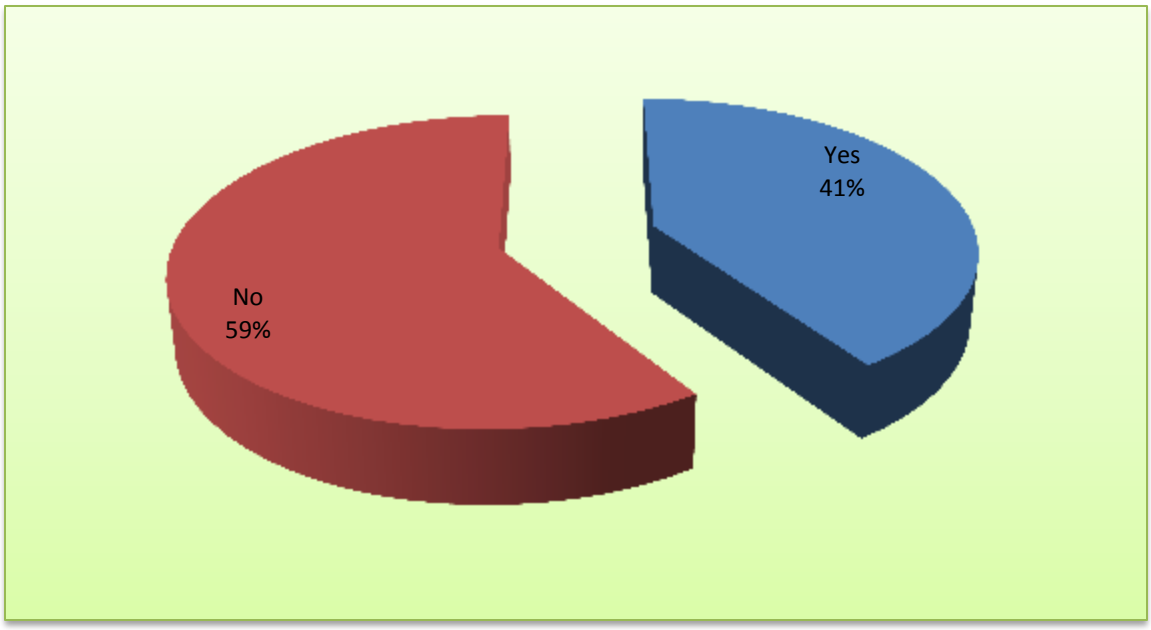


Figure 11: Percentage of the SMAGs who received resources to use from the District Health Office (n=133)

Figure 11 showed that 59.4% (n=79) of the SMAGs did not receive any resources to use while 40.6% did receive some resources.

4.3.1.4 Data on issues of accessibility to the health facilities

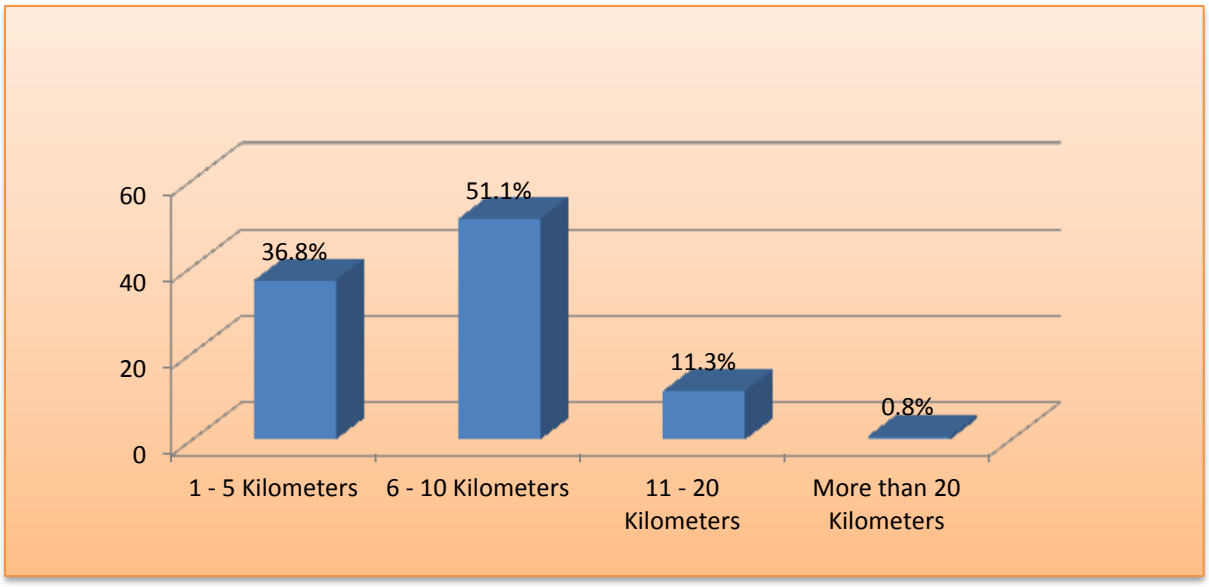


Figure 12: Kilometres from health facilities (n=133)

Figure 12 above revealed that 51.1% of the respondents stay 6 to 10kilometres away, 36.8% stay 1 to 5kilometres while 11.3% stay more than 10kilometres.

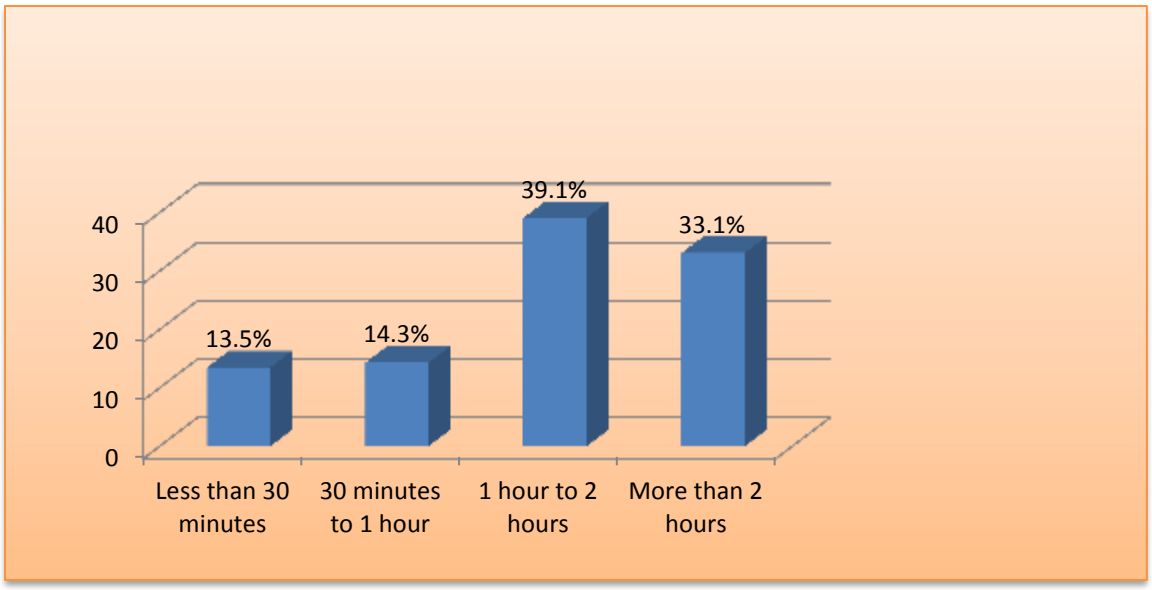


Figure 13: Hours it takes to walk to the nearest health facility (n=133)

Figure 13 indicated that 39.1% (n=52) of the respondents took one to two hours to walk to the nearest health facilities, 33.1% (n=44) took more than 2 hours, 14.3% (n=19) took 30 minutes to one hour and 13.5% (n=18) took less than 30 minutes.

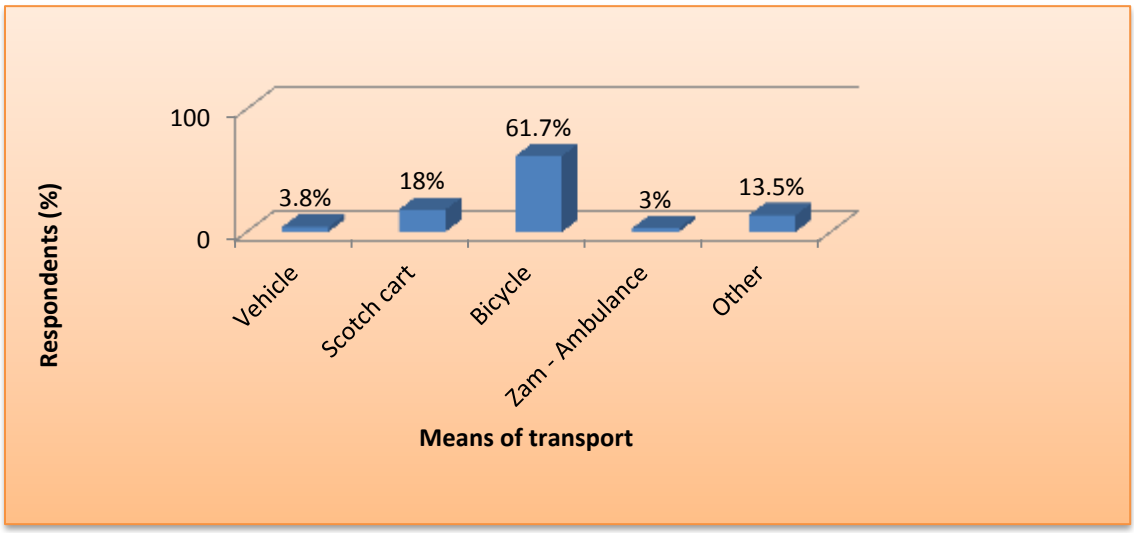


Figure 14: Mode of transport used by mothers when referred to health facilities (n=133)

Figure 14 showed that 61.7% (n=82) of the respondents said mothers use bicycles when referred to health facilities, followed by 18% (n=24) who said mothers use scotch carts, 3.8% (n=5) who said mothers use vehicles,13.5% (n=18) of the respondents said mothers use any other means of transport classified as 'other'.

4.3.1.5 Data on socio-economic and cultural factors.

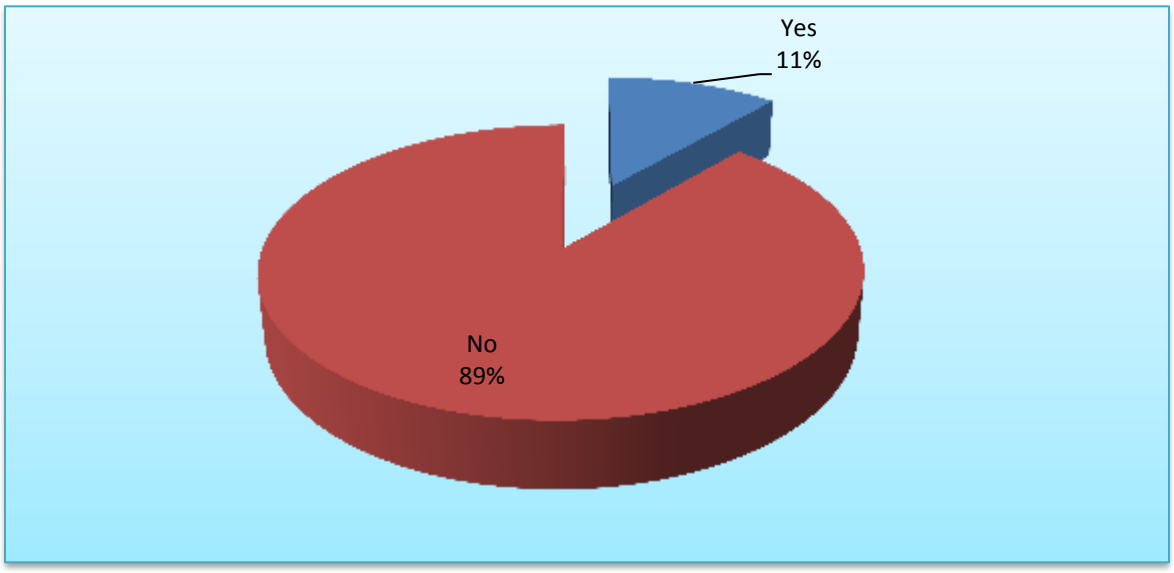


Figure 15: Whether mothers manage to pay for transport when referred (n=133)

Figure 15 indicated that 88.7% (n=118) of the SMAGs said mothers did not afford to pay for transport when referred to health facilities while 11.8% (n=15) said mothers did manage to pay for transport.

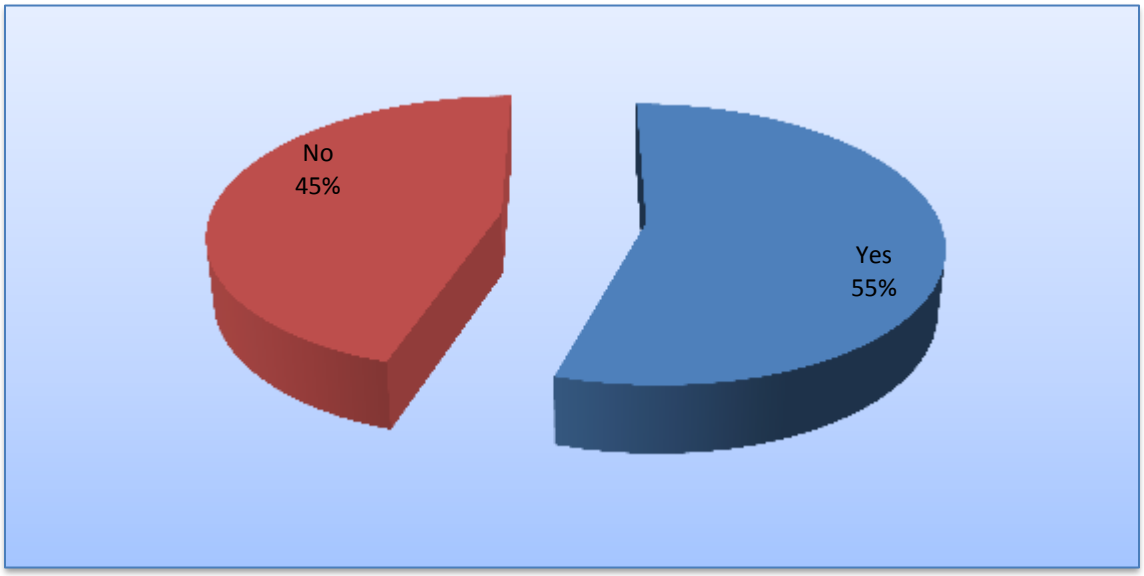


Figure 16: Whether there are measures put in place to assist mothers pay for transport when referred to health facilities (n=133)

Figure 16 showed that 54.9% (n=73) of the respondents said measures were put in place to assist mothers who were not able to pay for transport while 45.1% (n=60) did not put any measures.

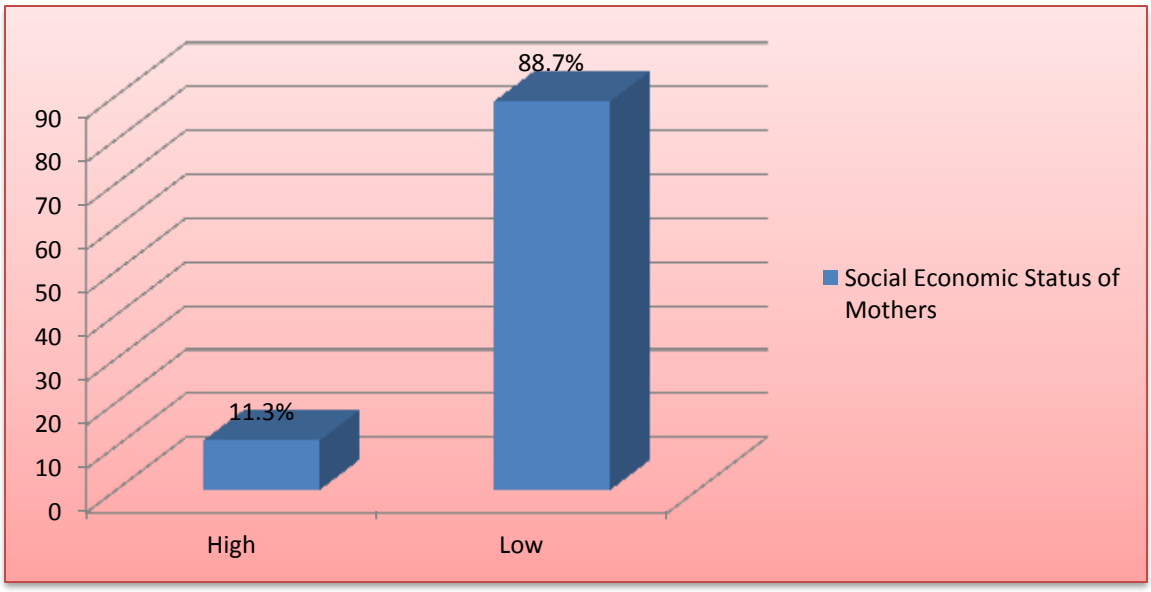


Figure 17: Percentage of the mothers with low and high Socio-economic Status (n=133)

Figure 17 above showed that 88.7% of the mothers have low socio-economic status while 11.3% showed high economic status

Table 6: Whether traditional beliefs contribute to delays in referral of mothers (n=133)

	Frequency	**Percent**
Yes	6	4.5
No	127	95.5
Total	133	100.0

Table 6 above showed that 95.5% (127) of the respondents said traditional beliefs no longer contribute to critical delays in referral of mothers to health facilities while 4.5% (n=6) answered in affirmation.

4.3.1.6 Data showing association between variables using chi-square tests

This section presents results of the relationship between referral of mothers by SMAG members and factors influencing their referral in addressing the three delays. The Chi-square correlation

tests were used to establish the relationships between variables. There are six (6) tables in this section

Table 7: Relationship between referral of mothers and the SMAGs level of knowledge (n=133)

Referring mothers to health facilities	**Level of knowledge**		**Total**	**P- value**
	Low	High		
Yes	87.8% (n=101)	94.4% (n=17)	88.7% (n=118)	
No	12.2% (n=14)	5.6% (n=1)	11.3% (n=15)	
Total	**100% (n=115)**	**100% (n=18)**	**100% (n=133)**	**0.692**

Table 7 revealed that 94.4% (n=17) of the SMAGs that referred mothers to health facilities had high knowledge level on the danger signs in the mother and the new born baby while 12.2% (n=14) of the SMAGs that did not refer mothers to health facilities had low knowledge levels on danger signs. Chi-square test was used to the association between referral of mothers and level of knowledge on danger signs in the mother and the new baby. The findings showed no association (p-value 0.026).

Table 8: Relationship between referral of mothers and distance to nearest health facilities (n=133)

Referring mothers to health facilities	**Distance to nearest health facility**		**Total**	**P- value**
	Within reach	Not within reach		
Yes	86.5% (n=32)	89.6% (n=86)	88.7% (n=118)	
No	13.5 (n=5)	10.4% (n=10)	11.3% (n=15)	
Total	**100% (n=37)**	**100% (n=96)**	**100% (n=133)**	**0.760**

The results in table 8 indicated that most of the SMAGs 89.6% (n=86) who referred mothers to the health facilities were not within reach of the nearest health facility. 13.5% (n=5) who did not refer mothers to health facilities were within reach of the nearest health facility. Chi-square test was used to the association between referral of mothers and distance to the nearest health facility. The findings showed no association (p-value 0.760).

Table 9: Relationship between referral of mothers and availability of resources to SMAGs (n=133)

Referring mothers to health facilities	**Resources to SMAG members**		**Total**	**P- value**
	Provided	Not Provided		
Yes	96.3% (n=52)	83.5% (n=66)	88.7% (n=118)	
No	3.7% (n=2)	16.5% (n=13)	11.3% (n=15)	
Total	**100% (n=54)**	**100% (n=79)**	**100% (n=133)**	**0.026**

The results in table 9 showed that 96.3% (n=52) of the SMAGs that referred mothers to health facilities had received resources to use from the District Health Office. 16.5% (n=13) of SMAGs who did not refer mothers to health facilities had not received resources to use from the District Health Office. Chi-square test was used to the association between referral of mothers and availability of resources to use. The findings revealed statistically significant association between referral of mothers to health facility and availability of resources to use (p-value of 0.026).

Table 10: Relationship between referral of mothers and follow up of SMAGs by facility staff after training (n=133).

Referring mothers to health facilities	**Follow up of SMAGs by facility staff**		**Total**	**P- value**
	Good	Poor		
Yes	94% (n=79)	79.6% (n=39)	88.7% (n=118)	
No	6% (n=5)	20.4% (n=10)	11.3% (n=15)	**0.013**
Total	**100% (n=84)**	**100% (n=49)**	**100% (n=133)**	

The results in table 10 revealed that 94% (n=79) of the SMAGs that referred mothers to health facilities were followed up by the facility staff after training. 20% (n=10) of the SMAGs that did not refer mother to health facilities were not followed up of SMAGs by facility staff after training. Chi-square test was used to the association between referral of mothers to health facility and followed up of SMAGs by facility staff after training (p-value of 0.013).

Table 11: Relationship between referral of mothers and Socio-economic status (n=133)

Referring mothers to health facilities	**Socio-economic status of mothers**		**Total**	**P- value**
	High	Low		
Yes	100% (n=15)	87.3% (n=103)	88.7% (n=118)	
No	0.0% (n=0)	12.7% (n=15)	11.3% (n=15)	
Total	**100% (n=15)**	**100% (n= 118)**	**100% (n=133)**	**0.149**

Table 11 revealed that 100% (n=15) of the SMAGs that referred mothers to health facility had high socio-economic status. 12.7% (n=15) that did not refer mothers to health facility had low socio-economic status. Chi-square test was used to the association between referral of mothers and socio-economic status of mothers. The findings showed no association between referral of mothers and socio-economic status of mothers.

Table 12: Relationship between referral of mothers and Traditional beliefs contributing to delays (n=133)

Referring mothers to health facilities	**Traditional beliefs**		**Total**	**P- value**
	Contributing	Not contributing		
Yes	100% (n=6)	88.2% (n=112)	88.7% (n=118)	
No	0.0% (n=0)	12.7% (n=15)	11.3% (n=15)	
Total	**100% (n=6)**	**100% (n=127)**	**100% (n=133)**	**0.481**

Table 12 revealed that 100% (n=6) of the SMAGs that referred mothers to health facility had said that traditional beliefs were still contributing to delays in referral of mothers to health facilities. 12.7% (n=15) who did not refer mothers to health facilities said traditional beliefs were not contributing to delays in referral of mothers to health facility. Chi-square test was used to the association between referral of mothers to health facility and traditional beliefs contributing to delays in referral of mothers to health facilities. The findings showed no association between referral of mothers to health facility and traditional beliefs.

4.3.2 Presentation of Qualitative data

Qualitative method was included in the study to explore individuals and communities' perception and experiences regarding the role of Safemotherhood Action Groups in the referral of mothers to health facilities in Chadiza district. Participants were purposively sampled to ensure homogeneity of the groups and were invited without prior announcement to avoid issues of bias. A topic guide with focus on role of SMAGs in the referral of mothers to health facilities was used to elicit information from the participants. The focus group discussion guide used was translated into local language of Chewa because the community under study were Chewa speaking. Two focus group discussions were conducted in Tafelansoni and Zemba areas and involved both men and women of child bearing age. A total of 20 participants both men and women were selected using purposive sampling until the required number of 10 in each group was reached. Data analysis was done in step wise by drawing up on qualitative content analysis. The first step of analysis was to read through the scripts holistically and several times in order to get an overview of the findings. The second step was to code individual responses into

meaningful units and third step was to reduce codes into categories based on recurrent patterns and fourth step was identification of themes as outline below.

Theme 1: Availability and responsibilities of the SMAGs

The study revealed the availability of the SMAGs and participants when asked whether they knew the role of SMAGs answered in affirmative and said that the role of SMAGs in the community was to encourage pregnant women to go for antenatal care and give birth at the health facilities as expressed by one of the participants "*Inde tili nawo ma SIMAGI kuno kwathu omwe nchito yawo ndi kutuntha azimai apakati kupita kuchipatala kukapimitsa mimba ndiponso kuka papilla ku chipatala."* (Meaning that yes we have SMAGs in our area who encourage pregnant mothers to go to health facilities for antenatal care and also to deliver at health facilities). The study further revealed that SMAGs refer mothers to health facilities for HIV counselling and testing of blood. It was observed that encouraging mothers to go for postnatal as a role did not come out in the two focus group discussions. It was also discovered that participants were very quick to mention antenatal and blood test for HIV and AIDS as a role of SMAGs.

Theme 2: Male involvement in maternal and child health

Participants were asked to comment on the composition of SMAGs. The study revealed that there were more women than men in the composition of the SMAGs a situation not safe with regards to male involvement in issues of safe motherhood as expressed by participants "*Inse amuna kuno kwanthu siambili omwe ali mugulu la SIMAGI mwee……azimai ndiye ochuluka chifukwa inse azibambo tili ndi nchito zambili zomwe zimati tagwanika mwe kikikiki"* (meaning there are more women than men who are SMAG members ……because us men we have a number of duties that make us very busy kikikikikik).

Theme 3: Delays in referral of mothers to health facilities.

The study revealed that pregnant women were referred by the SMAGs to the health facilities when labour had already started and that some women delivered on the way to the health facilities assisted by unskilled Birth Attendants as expressed by one participant "*Azimai apakati ambiri kuno kwanthu abalila munjira akalibe kufika kuchipatala chifukwa amatumizidwa mochedwa pamene mimba yauka kale." (*meaning that most pregnant women in our area deliver

on the way before reaching the health facilities attended to by unskilled birth attendants because they are referred to health facilities late when labour had already started).

Theme 4: Deliveries being conducted by the SMAGs (TBAs)

On the availability of skilled birth attendants at health facilities, it was learnt from the participants that there was shortage of qualified /skilled birth attendants in most health facilities and that mothers who managed to reach the health facilities early were not attended to by qualified staff but instead were delivered by Traditional Birth Attendants. One participant was quoted saying " *ife anthu kuno kwathu chotibvuta ndi chakusowekela kwa a nyanchito a boma mu zipatala zakuno kumidzi; ninchifukwa chake azimai ambiri apapitsidwa ndi anyamwino a kumidzi ngakhale a kwanitsa kufika msanga kuchipatala"* (meaning that the main issue that is troubling us at our clinics was inadequate qualified health workers which forces many of our pregnant women to be delivered by the Traditional Birth Attendants even if they managed to reach the health facilities early when referred by the SMAGs).

Theme 5: None availability of transport to take mothers when referred to health facilities

On availability of transport, participants said that many women tended to wait until labour progressed hoping to deliver at home due to non-availability of transport and long distances to reach the nearest health facilities. The study also revealed that many women referred by the SMAGs reach the health facility late due to lack of transport and this contribute greatly to delays even when a mother has made a decision to seek medical care as expressed by one of the male participant "*Ine niwona kuti chomwe chichedwesa azimai a mimba kufika musanga kuchipatala ngati atumidwa ndi SIMAGI simutunda chabe ai koma kusowekera kwa transport chifukwa azimai nthawi zambiri amawanyamulila pa njinga olomimbayauka awe mwandi nizobvutamwee……"* (meaning that what I see myself delaying our women when referred to health facilities is not only long distance but rather none availability of transport to use when referred by SMAGs to the clinic because when referred pregnant women use bicycles even when labour has progressed which is not only uncomfortable but delays to reach the clinic awe it's really a problem mwee…….).

The study further revealed that most bicycles given to the SMAGs had developed faults and were off roads. It was also learnt from the participants that some chairpersons of SMAGs were keeping the bicycles meant for the SMAG work in their homes as personal to holder and were

refusing to release them when need arose as expressed by one of the participants *"inse kuno kwanthu tinapatsidwa Njinga zoperekerako azimai kuchipatala, koma tili ndibvuto chifukwa Njinga zimenezi zisungidwa ndi ma chairmen omwe nthawi zina sabvomereza kuzebezesako popita kuchipatala; ndipo nkhani iyi tinaipeleka kale kwa a headman kuti akambe nawo*"(meaning as a community here we have some bicycles that were given by the district to be used by mothers when referred to health facilities by the SMAGs, the only problem is that the bicycles were kept at the Chairmen's houses and they sometimes refuse to release them each time they are requested and the headman was already informed over the matter).

Theme 6: Traditional beliefs and cultural practices.

The study revealed that with the existence of the SMAGs in their areas who were sensitising community members on the dangers of practicing bad traditional beliefs and cultural practices, there had been a reduction in them contributing directly to delays in referral of mothers by SMAGs to health facilities as stated by some participants "*Miyambo kuno kwanthu yomwe inali kulengetsa kuti a zimai azichedwa kubvomera kupita kuchipatala msanga yachita monga yachepekelapo mweeeee……., zomwe zilengetsa kuchedwa kuti azimai abvomere kupita kuchipatala maka maka ndikusowekela kwama yendedwe ndiponso kusowekela ndalama yolipila transport osatinso zamiyambo yayii……"* (Meaning traditional beliefs and cultural practices that contributed to delays in referral of mothers to health facilities had reduced. The factors that contribute to delays in making a decision and reaching the health facility early were lack of transport or no money to pay for transport).

Theme 7: Challenges faced by the SMAGs in their role of referring mothers to health facilities

The study revealed that SMAGs were doing a commendable job in the dissemination of essential information on safe motherhood and importance of delivering at the health facilities to be attended to by skilled birth attendants. However participants said that the SMAGs faced a number of challenges such as long distances to health facilities and inadequate resources to use such as transport. It was also learnt that some mothers especially those married still lack the power to make decisions of seeking life-saving skilled offered at health facilities because they wait for their husbands to do so as expressed by one of the participants " *azimai okwatiliwa amayembekeza a zimuna awo kuti awa vomereze kupita kuchipatala mimba ikauka.*" (Meaning that some women still wait for their husbands for permission to go to the health facilities)

Theme 8: Recommendations from the participants

The recommendations from the Focus Group Discussions were that the SMAG members should make use of registers where they indicate the expected date of delivery for all pregnant women to check when mothers were due for delivery. They further indicated that referring to registers will help the SMAGs to refer mothers to health facilities before labour preferably 1 week before delivery as expressed in the quote "*Ma SIMAGI afunika kuti azisewezetsa ma book omwe amapatsidwa kuchokera kuboma yomwe a lembamo azimai onse amene alindi mimba ndiponso nthawi yomwe ayembekezera kubala, chifukwa inchi chiza chepetsako kutumiza azimai mochedwa kupita kuchipatala ndipo azambotumizidwa pamene mimba ikalibe kuuka"* (meaning The SMAGs need to be referring to the registers given to them by District Health Office where they write the names of all pregnant women and their expected date of delivery, for this will reduce delays in referral of mothers to health facilities and will ensure that mothers were referred before labour started).

4.3.3 Conclusion

This Chapter presented the findings of both quantitative and qualitative data. Evidence has shown from the study findings that one day training of the SMAGs on how to refer mothers to health facilities was too short to understand the referral process. It is also evident from the study findings that mothers were referred by the SMAGs to health facilities for delivery when they were already in established labour and this forced them to deliver on the way assisted by Traditional Birth Attendants. The study revealed that the referral forms used by the SMAGs were designed and distributed by CARE International. There is evidence from the study that majority of the SMAGs were not provided with resources to use. The study provided evidence and showed no association between distance, knowledge and referral of mothers to health facilities. On the other hand, the study has revealed a significant association between resources; follow up of SMAGs and referral of mothers to health facilities.

CHAPTER FIVE

5.0 DISCUSSION OF RESEARCH FINDINGS

Chapter five of this study discusses the research findings from both quantitative and qualitative data in detail giving rationale for the findings and compare with other previous research findings. This chapter will further discuss limitations of the study, implications of the study to nursing, conclusion and recommendations.

5.1 INTRODUCTION

The main purpose of this study was to assess the role of SMAGs in the referral of mothers to health facilities: a case of Chadiza district of Eastern Province, Zambia. The study aimed at assessing and investigating whether the SMAGs have reduced the critical delays in decision-making at household level about seeking life-saving maternal care at health facilities. The data was collected in the month of August 2015 in selected areas of Chanjowe, Tafelansoni, Sinalo, Zemba and Chadiza Rural Health centre catchment area (Kapachi and Zingalume). Quantitative data was collected using a structured questionnaire while focus group discussion guide was used to collect qualitative data. The two data collection instruments (the questionnaire and a topic guide) were translated into local language (Chewa). The discussion of findings was according to the way questions in the questionnaire were arranged in line with objectives and study variables.

5.2 DEMOGRAPHIC DATA OF THE RESPONDENTS

Demographics are defined as statistical data about the characteristics of a population such as the age, gender and income of the people within the population (ZDHS, 2013). The ZISSP (2014) as cited by Johns et al. (2014) states that the role of both men and women in safeguarding Safemotherhood has gained increased interest in recent years and that men can affect pregnancy and child birth through responding to complications, assist in reducing critical delays in referral of mothers at household level by seeking life-saving maternal and new-born care at health facilities and paying for transport costs. The study showed that 72% (n=97) of the SMAGs were females and only 27% (n=36) were males (Refer to table 4). However issues of safe motherhood culturally are considered to be for females than males (ZDHS, 2013) and this could be the reason why in this study, more females were sampled than males. The study therefore showed that male involvement in safe motherhood activities in Chadiza district is generally low. This could be due to the fact that the role of men in maternal health is often overlooked and neglected because of some socio-cultural factors. It is also believed that issues of pregnancy and child birth culturally are considered to be for females than males as expressed by one of the participants "*Inse amuna*

kuno kwanthu siambili omwe ali mugulu la SIMAGI mwee……azimai ndiye ochuluka chifukwa ndi nchito yawo, inse azibambo tili ndi nchito zambili zomwe zimati tagwanika mwe kikikiki" (meaning there are more women than men who are SMAG members because that is the work of women, for us men we have a number of duties that make us very busy kikikikikik). This shows that men have little or no knowledge about maternal and child health issues.

These findings are in agreement with the findings by the ZISSP, (2014) as cited by Johns et al. (2014). From this study, there is evidence that low male involvement in safe motherhood activities could be one of the contributing factors to critical delays in referral of mothers from community to health facilities in Chadiza district. An adaptation of Jahn's model of the referral chain used in this study focuses on the sending and transporting mothers to health facilities where men should actively be involved. It is important to come up with specific strategies targeting men in order to increase male involvement in safe motherhood as this may change their mind set. Male involvement in issues of safe motherhood may reduce critical delays in decision-making at household level about seeking life-saving maternal and new-born care at health facilities in the district. Since culturally men are the decision makers at household level, it would be helpful to train them regarding danger signs in pregnancy, birth preparedness to enable them identify danger signs and make decisions to seek maternal and new-born care at health facilities without delay. In South Asian contexts, research found that men possess little knowledge and experience regarding maternal and child health.

A study by Brunson (2010) has provided evidence that despite men not being knowledgeable about maternal and child health, in emergency, men control the situation through their decision making. On the other hand, the same study by Brunson (2010) revealed that lack of knowledge regarding complications and danger signs during pregnancy and delivery has been frustrating for men and has prevented their involvement in South Asia. A study by Lewis et al. (2012) conducted in Nepal whose main objective was to examine the role of men in maternity care and safe child birth, perceptions on the needs of women and children, factors which influence or discourage their participation and how women felt about male involvement around child birth. The study revealed that male involvement in maternity health care and safe child birth was complex and requires gradual and evolving changes in attitudes. These findings are in agreement with the study findings from qualitative data which revealed that men feel that they cannot be members of SMAGs because they were very busy with other duties and cannot manage the do

the work of SMAGs as earlier expressed by one male participant. Male involvement needs to be recognised and addressed in health education due to potential benefits it may bring to both maternal and child health outcomes.

According to study by AMDD, (2010) further revealed that husbands were the gate keepers of women's decision about where their wives were to delivery from yet they were rarely involved in issues of Safe motherhood in agreement with the findings from this study. Age is often presented as a proxy for accumulated experience including in the use of maternal and child health care services. WHO, (2012) state that older men and women are possibly more confident and influential in household decision-making than young men and women in particular the adolescents. Further WHO, (2012) indicate that older men and women may help to reduce critical delays at household level by convincing both young and older women to deliver in a health facility since both the young and older age are a biological risk factor to developing maternal complications during pregnancy and child birth. On the other hand WHO further state that older women may belong to more traditional cohorts and may be less likely to use safe motherhood services at health facilities than young women.

The findings in this study revealed that 32.3% (n=43) of the SMAGs were aged 41 and 50 years while 11.3% (n=15) were aged 21-30years. Further the study showed that 21.8% (n=29) were between 31-40years and 25.6% (n=34%) were between the age group 50-60years (Refer to table 4). The findings in this study indicate that the majority of SMAGs are older people which may have both advantages and disadvantages with regards to their role in the referral of mothers to health facilities. For example older SMAGs may have experience and more confident as well as influential at household decision making to seek live-saving maternal and new-born care delivery services at health facilities than the young SMAGs as expressed in this study by one of the participants "Ma *SIMAGI a zaka zambiri a seweza bwino kupambana aja anzaka zazingono chifukwa alibe mphanvu so gonjetsa azimai akulu kuti a pite ku chipatala"* (meaning older SMAGs work better than young SMAGs in the referral of mothers to health facility because young people have no power to convince older women to go to the health facilities for delivery). The other advantage of having older SMAGs in the age group of 31 and above in the community is that older people may discuss sensitive issues freely than young age below 30 years old. However, the results in this study showed that SMAGs whether old or young referred mothers to health facilities late when labour had already advanced a situation not safe for both the mother

and the baby. This could have been due to low knowledge levels on referral process considering that one day training was too short. A study by Gabrysch et al. (2009) revealed that older women were more likely to use services than young ones.

The study revealed that 74.4% of the SMAGs were married while 6% were divorced (Refer to table 4). The interpretation of such findings on marital status is that single mothers may be more autonomous and courageous to influence other women to utilise maternal health care services than married women. SMAGs who are married especially women may not be available all the time when needed because of other responsibilities within the family. It is also evident that married SMAGs may be denied to work freely especially when needed at night by the clients because of dependence on their husbands for decision-making. On the other hand, SMAGs who are not married may be poorer and stigmatised hence less power to convince their fellow women to seek life-saving maternal and new-born care at health facilities as expressed by one of the participants "*Chimakhala chobvuta kumverera azimai osakwatiwa ngati munthu ali mu SIMAGI…….*" Meaning it is difficult to listen to SMAGs who are not married because they are not respected by elders at community level). With regards to education, the study shows that 52.6% (n=70) of SMAGs had attained primary education while 15.8% had not attained any form of basic education (refer to table 5). SMAGs that have attained basic education may comprehend danger signs and referral process during training than those who have not attained any form of education.

The study further revealed that 86.5% of SMAGs had low knowledge on danger signs in pregnancy and child birth Refer to table 7). This could be due to the fact that 15.8% of SMAGs had not attained any form of basic education. This state of affair is not safe both the mother and the baby for it contribute greatly to critical delays in referral of mothers from community to health facilities in Chadiza district. JPHIEGO, (2005) indicate that Community Based Volunteers who have not attained basic education may not understand how to refer mothers to health facilities or recognise symptoms of severe maternal and new-born complications due to illiteracy.

According to model of referral chain used in the study, adapted from Jahn's model of referral chain states that once a decision has been made to go to the health facility, mothers may face financial and logistical barriers to reaching the health facilities. The model further states that financial accessibility is based on the mother's or husband's occupation. As earlier stated,

SMAGs aim to reduce critical delays at household level by assisting mothers who are unable to pay for transportation costs when referred to health facilities. This therefore depends on the occupation and capacity of SMAGs to organise and facilitate pay for out of pocket expenses such as transportation to health facilities without delays. The study revealed that 49.9% (n=66) of SMAGs were housewives, 27.8% (n=37) were unemployed while 22.6% (n=30) were business or self-employed (refer to table 4).

The findings from the study imply that SMAGs who are women and at the same time are house wives and unemployed may not be able to assist mothers when referred to health facilities because of poor resource base. This state of affair may contribute to critical delay in reaching the health facilities when mothers are referred a situation not safe for the mother and the baby. The findings are in agreement with Jahn's model of referral chain used in this study which emphasizes on the importance of financial accessibility which is based on mother's or husband's occupation. The study indicate that 43.6% (n=58) of SMAGs had four to six children, 28.6% (n=38) had seven to nine children, 19.5% (n=26) had zero to three children and 8.3% (n=11) had above ten children (Refer to table 4). The findings could have both advantages and disadvantages regarding referral of mothers to health facilities. SMAGs with high parity may have experience in safe motherhood and may be the best people to encourage mothers to seek life-saving maternal and new-born care at health facilities based on their past experience.

On the other hand those SMAGs who had negative experience during subsequent births at health facilities may be a barrier to reduce critical delays at community level because of their past experience. Community attitudes and beliefs relating to child birth mould the way in which many women perceive their own health and can help create an encouraging environment for families to make the decision to seek obstetric care. For instance in some communities, a caesarean section is considered a reproductive defect and women fear the stigmatisation associated with. For this reason, some women would rather risk giving birth at home without skilled care. There is however need for SMAGs regardless of the number of children to encourage all pregnant women for early booking of antenatal, deliver at health facilities and postnatal care (ZAMFOHR 2013).

5.3 DISCUSSION ACCORDING TO STUDY VARIABLES

5.3.1 Training of Safe motherhood Action Groups.

Zambia has been making progress in improving maternal health but the maternal mortality ratio remains high, at 398 deaths per 100,000 live births. One of the main reasons could be that over a

third of women are not delivering at a health facility and are not attended to by the skilled birth attendants. One of the interventions implemented by the Government of Zambia to improve maternal and neonatal outcomes is formation of Safe motherhood Action Groups (Johns et al, 2014). One of the critical role of SMAGs is to refer mothers for early booking of antenatal, delivery, postnatal and those with maternal and new born complications for management at health facilities (MOH, 2010). This can be achieved when SMAGs have adequately been trained for a period of 5 to 10 days in saving mothers, giving life skills. SMAGs are also trained in danger signs during pregnancy and child birth (ZISSP, 2014). The findings from this study revealed that 69% (n=92) of SMAGs were trained for one day (refer to figure 3). Training of SMAGs for one day indicates that SMAGs were not adequately trained because the duration was too short to grasp important concepts of Safemotherhood and the referral process. This may contribute to critical delays in referral of mothers to health facilities due to inadequate knowledge on identification of danger signs in pregnancy and child birth a situation not safe for the mother and the baby. Contrary to the findings from a study by Waiswa et al. (2010), using the Three Delay Model provided evidence that the contributing factors to new born deaths in Eastern Uganda is care takers delay in problem recognition and deciding to seek care at health facility; where as in this study the findings from focus group discussion revealed that pregnant women are referred to health facilities by SMAGs when in labour and mothers delivered on the way or at home a situation not safe for the mother and the baby. This could be attributed to inadequate knowledge on the referral process which led to failure by the SMAGs to encourage and refer mothers to health facilities at least one week before expected date of delivery. While the evidence provided by Waiswa et al. (2010) focused on care takers delay in problem recognition and deciding to seek care at health facilities, this study on the other hand focused on SMAGs whose critical role is to encourage pregnant mothers for early booking of antenatal, deliver at health facilities and refer those mothers with maternal and neonatal complications. The focus of SMAGs in this study is in line with the model of chain adapted from Jahn .A. and Brouwer .V. (2001), who conceptualized referrals as composed of the sender, transport and receiver and the sender in this study refers to SMAGs who is based at community level. A study by Waiswa et al. (2010) focused on the Three Delay theoretical model which is not matching to the care takers as they are not in the health care system to decide on who should be referred to the next level of care due to lack of knowledge on Safemotherhood.

Despite 98% of SMAGs having indicated that the training included the referral process (refer to table 5), it was discovered from focus group discussion that mothers are still delivering on their way to health facilities assisted by Traditional Birth Attendants because mothers were referred late by the SMAGs. This could have been due to the fact that SMAGs were inadequately trained as the duration of one day was too short to understand the referral process a situation not favourable for both the mother and the baby. Delays in referral of mothers by SMAGs may be attributed to the fact that 61% (n=81) of SMAGs were not given any written guidelines on referral process after training (refer to figure 5) and this may also be contributing to critical delays in decision making about seeking quality life-saving maternal health care at health facilities in Chadiza district. It is also questionable whether the District trainers used the standardised SMAGs training manual which includes referral guidelines as the duration of one day was too short to cover the required content or syllabus.

Although 88.7% (n=118) of SMAGs are referring mothers to health facilities (refer to figure 4), it was discovered from the study that pregnant women are referred late when labour has progressed as expressed by one of the participants "*Timatumizidwa kuchipatala mochedwa pamene mimba yauka kale, ndipo ena azimai apapitsidwa ndi anyamwino panjila akalibe kufika …….".* (Meaning that mothers are referred to the health facilities late when labour has already progressed and some mothers deliver on the way assisted by unskilled birth attendants……). This state of affair forces mothers to deliver on the way to the health facilities assisted by unskilled birth attendants or deliver on their own, a situation not safe for both the mother and the baby. Safe Motherhood Action Groups were formed by the Government of the Republic of Zambia with the aim to reduce critical delays in decision-making at household level about seeking life-saving maternal and new born care to be attended to by skilled birth attendants at health facilities. However, the reason for such delays could be attributed to low knowledge levels by SMAGs because one day training was too short to fully grasp the concepts of Safemotherhood and referral process considering that the majority have low literacy levels (refer to table 4). According to Jahn's model of referral chain used in this study (refer to figure 1), there are several factors that contribute to critical delays at household level such as risk assessment / clinical judgment, referral guidelines, means of transport and quality of care offered at health facilities. The findings from this study indicates that apart from challenges experienced at community level (refer to figure 12, 13, 14 and 15), there it is evident that SMAGs have limited knowledge to enable them make risk assessment or clinical Judgements on when or and

how to refer mothers to health facilities without delays. This is may still be due to low knowledge levels among the SMAGs attributed to short duration of training. A study by Pembe et al.,(2012) whose aim was to evaluate the effectiveness of the maternal referral system in general through determining proportion of women reaching the health facilities after referral advice, appropriateness of the referral, indications, reasons for non-compliance and if compliance to referrals makes a difference in the perinatal outcomes in rural district in Tanzania. The findings from the study by Pembe et al, (2012) revealed that out of 1538 women referred, 70% were referred for demographic risks and the compliance rate was 37% for women referred due to demographic risks. Contrary, this study did not focus on calculating the compliance rate of mothers referred by SMAGs to health facilities as it was not part of the study. The study by Pembe et al (2012) recommends that to improve compliance to maternal referrals, there is need to review the referral indications and strengthened counseling on birth preparedness and complications. WHO, (2012) further states that the functional referral system is important in backing-up antenatal, delivery and postnatal services in the primary level of care facilities. The study therefore recommends including issues of compliance by mothers when referred to health facilities by SMAGs in future research in this area.

Bossyns and Van Lerberghe, (2004) state that the facility initiating the referral process is called the initiating facility and they prepare an outward referral to communicate the client's condition and status to the next level of care. In this study, the facility that initiates the referral process is SMAG member at community level. According to Bossyns and Van Lerberghe, (2004) further states that the facility that accepts the referral case is called the receiving facility and at the end of their involvement, they prepare a back referral on the lower part of the referral forms to let the initiating facility know what has been done on the client. The receiving facility in this context refers to the health centre that in turn is expected to prepare a back referral on the lower part of the referral form stating the outcome of the mother referred to them by the SMAGs. Although 66.9% (n=89) of SMAGs had referral forms to use while 70.7% (n=94) of SMAGs gave referral forms to mothers when referred to health facilities, it was revealed from the study that mothers delivered on the way to health facilities and this could have affected the feedback by facility staff to SMAGs on the outcome of mothers referred because they were referred late after labour had progressed forcing them to deliver on the way to the health facilities assisted by Traditional Birth Attendants. (Refer to figure 7 and 8). The findings from the study also revealed that the referral forms used by SMAGs when referring mothers to health facilities were designed and

provided by CARE International and the filled in referral forms are kept at the health facilities and CARE data and not part of Health Management Information System (HMIS) data base at the District Health Office. The study concluded that there is no transparency in terms of information sharing between the District Health Office and its cooperating partners. This situation creates a gap in terms of information on the number of mothers referred by SMAGs and reasons for referral to health facilities. There is need for the District Health Office to standardize the referral forms designed by Ministry of Health and those designed by cooperating partners so that the information captured by SMAGs on referrals could be submitted to the District Health Office and other cooperating partners through the health facilities and stored as part of Health Information Management System. The information captured by SMAGs should also be kept at all levels of care that is community, health facilities and District Health Office for this will help to evaluate the impact of referrals by SMAGs in the future research.

The study indicated that 74.4% (n=99) of SMAGs escort mothers to health facilities when referred. (refer to figure 9). Despite SMAGs having indicated that they are escorting mothers to health facilities, the findings from focus group discussion revealed that pregnant women were escorted by Traditional Birth Attendants. The findings from the study further indicated that it was ideal for mothers to be escorted by Traditional Birth Attendants than ordinary SMAGs in case a mother delivered on the way to health facilities contrary to the current policy which emphasize on referring mothers to health facilities one week before expected date of delivery to be attended to by skilled birth attendants. The other reason given by those SMAGs who are not escorting mothers to health facilities was basically due to lack of transport as expressed by one SMAG member "*Ine sindikwanisa kuperekeza azimai kuchipatala chifukwa ndilibe transport ili yonse……"* (Meaning that the reason why I do not escort mothers when referred is that I do not have any means of transport……). This is in line with the model used in this study adapted from Jahn's model of referral chain conceptualizes referrals as composed of three main components, sender, transport and receiver. In this study, within the context of SMAGs program, the study used the term sender to mean SMAG member and transport to mean mode of transport used by SMAGs/ mothers to reach the health facilities. Although the importance of District Health Office level in the referral chain in Jahn's model cannot be denied in ensuring provision of the ambulance where referral is needed, we limited this study to referrals between community and health centre level as this is relevant in the context of the SMAGs program and community initiative and sustainability of programmes at community level. This is also in line with

decentralization policy in the delivery of health care services as close to the family as possible. An effective transport system is the link between the homes of pregnant women and a health facility providing basic or comprehensive obstetric and neonatal care (WHO, 2012). The study by Raj S.S, (2015) attempted to explore the role of effective transport associated with maternal referrals in Unnao district, Uttar Pradesh in India. The study revealed that 10 ambulances were available out of 19 required and concluded that inter facility transfer appropriateness and timeliness of referral are a major contributing factors to critical delays in referral system. Similarly, SMAGs require efficient transport system to enable them escort mothers to health facilities when referred for antenatal, delivery, postnatal or in case of maternal complications.

5.3.2 Follow up visits to SMAGs by health facility staff after training

The study revealed that 63% of respondents were followed up more than twice in a year (refer to figure 6). Despite follow up of SMAGs by facility staff, mothers are referred to health facilities when in labour a situation not safe for both the mother and the baby. However, the study showed a significant association between follow up of SMAGs and referral of mothers to health facilities with the p-value of 0.011% agreeing with a study by Chisenga, A. (2014) who has provided evidence that SMAGs are more effective, motivated and consistent in reporting in Lundazi district because there is a strong link with the facility and facility staff. The study by Chisenga, A. (2014) further indicated that SMAGs who were followed up by facility staff after training met regularly for meetings than those not followed up. Even though the study agrees with the findings by Chisenga, A. (2014), follow up as a variable was not tested statistically because the study used qualitative method only while this study used both qualitative and quantitative. This is the reason why chi-square test was used to find out whether there was any significant association between follow up and referral of mothers to health facility and hence revealed an association. This study also focused on referral of mothers to health facilities while the study by Chisenga, A. (2014) did not focus on follow up in relation to referral of mothers by SMAGs. Chisenga, A. (2014), further claimed that without follow up, SMAGs tend to be demotivated and move towards traditional way of doing things. A study by ZISSP, (2014) as cited by Johns et al. (2014) also discovered that SMAGs are effective when they were followed up by health facility staff after training.

5.3.3 Knowledge levels of SMAGs

Although the chi-square test (refer to table 7) showed no association between knowledge and referral of mothers to health facilities, it was revealed from focus group discussion that mothers

were referred by SMAGs when labour had already progressed and this forced them to deliver on the way attended to by un skilled birth attendants. The reason for late referral could still be due to low knowledge levels among the SMAGs since they had limited time to learn as the duration of one day training was too short to grasp all the concepts of Safemotherhood and the referral process of mother in agreement with the study by ZISSP (2024) as cited by Johns et al. (2014) who claimed that training of SMAGs is cardinal and that low knowledge levels affects the delivery of essential information on safe motherhood and may contribute to critical delays in decision making at community level. The findings are also in agreement with the study by Thaddeus (2012) who provided evidence that poor understanding of danger signs in pregnancy and child birth by community volunteers contribute to critical delays at household level. Similarly, WHO (2006) state that lack of knowledge by SMAGs on how to write a plan of birth and dealing with unexpected adverse events such as maternal complications that may occur during pregnancy, child birth and immediate postpartum period contribute greatly to delays in referral of mothers to health facilities. JPHIEGO in its report of 2005 indicate that most Community Based Health Workers may not understand when and how to refer mothers to health facilities or may not recognize symptoms of severe maternal complications due to inadequate training.

5.3.4 Provision of resources to Safemotherhood Action Groups

After training, most SMAGs see the importance of their role and are motivated to work for their communities. Distribution of uniforms, utility items like bikes, gumboots, rain coats, torches stationary among others help them to conduct meetings in more communities and follow up on pregnant women in their catchment areas for possible identification and referral to health facilities (Chisenga A, 2014). Provision of resources to SMAG members facilitates smooth operations in their role of delivering essential information to community members on the importance of early antenatal booking, delivery and postnatal care.

SMAGs are volunteers who do not receive any monetary support but may receive various resources such as bicycles that assist them work efficiently (Johns, et al 2014). The study revealed that 59.2% (n=79) of SMAGs reported of not having received any resources to use. (refer to figure 11). The study further revealed a significant association (p-value of 0.026) between provision of resources and referral of mothers to health facilities by SMAGs,(refer to table 9) in Agreement with Johns et al, (2014) who discovered in their study that provision of resources to SMAGs facilitate smooth operations in their role of referring mothers to health

facilities. The study further revealed that delays in referral of mothers by SMAGs were due to none provision of resources such as ideal transport like Zam-ambulance. There is need for Chadiza District Health Office with support from Ministry of health to ensure that SMAGs are provided with adequate resources that will enable them work effectively when it comes to early referral of mothers to health facilities.

5.3.5 Distance to health facilities

Globally, approximately 3 million babies die annually within their first month. Access to adequate care at birth is needed to reduce new born as well as maternal deaths (Gabrysch et al, 2012). Like many women in Chadiza district, lives miles away from the nearest health centre. The long distances coupled with a tradition of delivering at home often prevent women from giving birth at health facilities with skilled birth attendants. This in turn has increased the risk of maternal deaths (UNFPA, 2012). This study explored the influence of distance to delivery care and referral of mothers to health facilities in rural parts of Chadiza district. The study went further to find out whether there was an association between distance and referral of mothers to health facilities. As earlier indicated in chapter four, 51.1% (n=68) reported being 6 to 10 kilometers away from the health facilities (refer to figure 12) and majority of SMAGs said it takes one to two to walk to the nearest health facilities in Chadiza district (refer to figure 13). Distance to the nearest health facility was determined as follows: Within reach – if it took within one hour to get to the facility, Not within reach – if it took more than one hour to get to the facility. However, chi-square test showed no association between distance and referral of mothers to health facilities (refer to table 8). This in a way confirms that delay in referral of mothers to health facilities may not be due to long distances to health facilities but rather low knowledge levels among SMAGs on the referral process and delay in identification of danger signs during pregnancy and child birth.

The findings obtained from focus group discussion revealed that delays in referral of mothers by SMAGs was not necessarily due to long distances to health facilities but rather due to delay in seeking medical care and mode of transport used when mothers are referred as expressed by one of the participants. *"Ine niwona kuti chomwe chichedwesa inse azimai amimba olo ngati uli ndibvuto kufika musanga ngati wauzindwa kupita kuchipatala ndi membala wa SIMAGI, simutunda chabe ai koma tikusowekera transport yoti inga tifikise musanga. Inse azimai nthawi zambiri amatinyamulila pa Njinga olo mimba yauka awe mwandi ndizobvuta*

mwee……..”(Meaning that what I see myself delaying us women when referred to health facilities is not the distance but rather the type of transport used when SMAGs refer us to the clinic because when we are referred are carried on a bicycle even when labour has progressed which is not only uncomfortable but delays to reach the clinic awe it's really a problem mwee…….). Hussein et al (2012) in their study revealed that some facilities have no vehicles or means to call for a vehicle and mothers spend more hours of travel over impassable roads and this prevents them from accessing emergency care by skilled birth attendants in South Asia in agreement with the findings in this study.

Similarly, results from ZDHS, (2013) shows that 57% of women in rural areas regarded distance as a barrier to accessing health care when referred for live-saving maternal and new born care at health facilities. The study indicated that referring to registers where expected date of delivery is written will help SMAGs to refer mothers to health facilities one week before the due date as expressed by one of the participants "*Ma SIMAGI afunika kuti azisewezetsa ma book omwe amapatsidwa kuchokera kuboma yomwe a lembamo azimai onse amene ali ndi mimba ndiponso nthawi yomwe ayembekezera kupapa, chifukwa inchi chiza chepetsako kutumiza azimai mochedwa kupita kuchipatala ndipo azambotumizidwa pamene mimba ikalibe kuuka”* (Meaning SMAGs need to be referring to the registers given to them by the District Health Office where they write the names of all pregnant women and their expected date of delivery, for this will reduce delays in referral of mothers to health facilities and will ensure that mothers are referred before labour starts.

Saving Mothers Giving Life report, (2012) indicate that travelling long distances on rough terrain to reach health facilities was often a major deterrence in early referral of pregnant mothers by SMAGs to health facilities. A study by Averting Maternal Deaths and Disability (AMDD) 2010, indicates that most mothers in Malawi whose labour started at home arrived at health facilities very late because of long distance they had to cover. AMDD study results, (2010) also revealed that the problem of referral in Malawi was due to poor transport in agreement with the findings from this study. The findings in this study (focus group discussion) are in agreement with the focus group discussion conducted in Kapiri district in a study by Phiri et al (2014) that distance to the nearest facility has been shown to be an important barrier to seeking health care both in terms of being an obstacle to reaching a health facility and as a disincentive to seeking care and distance was a concern for many individuals. Unfortunately the study by Phiri et al did not test

the relationship between distance and seeking of health care at the health care services by mothers because the study was purely qualitative in nature. Chi-square test was done in this done and showed no statistical association between distance and referral of mothers to health facilities.

5.3.6 Socio-economic status of mothers

The study revealed that 88.7% (n=118) of the SMAGs said mothers did not afford to pay for transport when referred to health facilities (refer to figure 15). This could be due to low socio-economic status of women. The majority of women are house wives and depend on their husbands for survival and decision making also lies in the hands of their spouses. This state of affair may contribute greatly to critical delays at community level in accessing the health facilities for medical care a situation not safe for both the mothers and babies in Chadiza district. The study by Pembe et al. (2012) showed that among women who did not comply with referral advice, almost half of them mentioned financial constraints as a major factor in agreement with the findings. A study by Ravi Upadhyay et.al, (2012) revealed that one of the contributing factors to 50% of neonatal deaths in rural Haryana, India is due to transport problem because mothers are unable to pay for transport costs when referred to health facilities for delivery or in case of maternal complications. Similarly, a study by Mahmoud et al, (2013) revealed that delayed use of emergency obstetric care contributes to high maternal mortality because most women have no money to pay towards transport costs in Iran. The study by Mahmoud et al, (2013) further revealed that 23% of deliveries took place in their homes attended to by unskilled birth attendants because of inability to pay towards transport. Despite the findings by Ravi Upadhyay et.al, (2012) and Mahmoud et al, (2013), this study found a p-value of 0.149 indicating no association between low socio-economic status of women and referral of mothers to health facilities (refer to table 11). Since chi-square test showed no association between socio-economic status and referral of mothers to health facilities by SMAGs, there could be other factors that influence referral of mothers to health facilities by SMAGs such as low follow up and provision of resources.

5.3.7 Traditional beliefs and cultural practices

Traditional beliefs and cultural practices may affect access to maternal health care services. They may also contribute to critical delays in decision-making at community level about seeking life-saving maternal and new born care at health facilities when referred by SMAGs (Johns et al,

2014). While earlier studies have shown that traditional beliefs and cultural practices affect access and contribute to delays, this study however has revealed traditional beliefs and cultural practices were no longer contributing to delays in referral of mothers to health facilities as indicated in table 12. Similarly, the findings from the focus group discussion also revealed that traditional beliefs are no longer contributing to delays in the referral of mothers to health facilities because of the availability of SMAG members at community level as expressed by one of the participanat*s"Masiku ano miyambo kuno kwanthu yachepekelapo chifukwa cha ma SIMAGI ali mumidzi mwanthu, omwe amatiphunzitsa zaubwino wopapila kuchipatala. Chotibvuta chabe kuno kwanthu ndimitunda Komanso kusowekera kwa ma transport yopeleka azimai kuchipatala."* (Meaning that with the availability of SMAGs in our area who have been sensitising us on various issues on safe motherhood including on bad traditional beliefs that contribute to the first delay, traditional beliefs were no longer a major contributing factors to delays in referral of mothers. The only problem the mothers faced was long distances and lack of transport which greatly contributed to delays when referred to health facilities). However, chi-square test results show no association between traditional beliefs and cultural practices and the referral of mothers to health facilities.

In conclusion, it is evident that Traditional Birth Attendants are still conducting deliveries both at community and health centres in Chadiza district. This is against the new policy which has banned the Traditional Birth Attendants from conducting deliveries because they are unable to manage maternal complication such as bleeding after delivery. It is evident from the study findings that mothers were referred by SMAGs to health facilities for delivery when they were already in established labour and this forced them to deliver on the way assisted by unskilled birth attendants. The study further revealed that one day training which SMAGs underwent was too short to understand the referral process. It is also evident that the referral forms used by SMAGs were designed by CARE International and information collected by SMAGs is not part of HMIS at the District Health office thus creating a gap. The study further revealed that the information captured by SMAGs on referrals is sent to CARE office without sharing it with the District Health Office. There is evidence that the majority of SMAGs are not provided with resources to use and the study has shown an association between provision of resources and referral of mothers to health facilities. The study has also revealed an association between follow up of SMAGs by facilities staff and referral of mothers to health facilities. However the

study showed no association between distance, knowledge and referral of mothers to health facilities.

6.0 IMPLICATIONS TO NURSING IN ZAMBIA

6.1 NURSING PRACTICE

Safemotherhood Action Group members with low knowledge levels (87.8%) on danger signs in pregnancy and childbirth as determined in this study contribute to critical delays at household level about seeking life-saving maternal and new-born health care at health facilities. This in turn force pregnant women to deliver on the way to health facilities attended to by unskilled birth attendants. The study further revealed that 69% of SMAGs were trained for one day while 41% were not trained. Training SMAGs for one day was too short for them to understand the referral process and other topics under Safemotherhood. The study revealed 29% of SMAGs said they do not give mothers referral letters when referred to health facilities. This affects feedback on the outcome of the referred mothers and it affects the continuum of care. Ideally, SMAGs are expected to escort mothers to health facilities one week before expected date delivery to avoid home deliveries or delivering on the way to health facilities. For instance, there evidence from the research findings that 74.4% of SMAGs do not escort mothers to health facilities when referred a situation not safe for the mother and the baby.

6.2 NURSING ADMINISTRATION

The study has provided evidence that critical delays at household level in referral of mothers to health facilities was not due to long distances to the nearest health centre but rather due to low knowledge levels in identification of danger signs since Safemotherhood Action Groups had limited time to learn. Chi-square test results with the *p* value of 0.760 shows that there was no association between distance and referral of mothers to health facilities indicating that critical delays in referral was due to low knowledge of SMAGs. Lack of Zam-ambulance to transport mothers to health facilities as determined in this study also contributes to critical at house hold level as indicated that 89% of mothers did not manage to pay for transport when referred. It was discovered that SMAGs use ordinary bicycles to transport women in labour a situation not only uncomfortable but contributes to delays in reaching the health facilities in Chadiza district. This state of affair forces the majority of mothers to deliver at home or on their way to the health facilities. The scenario stated above puts mothers and babies at risk of dying in case of maternal and neonatal complications in Chadiza district. There is urgent need for Chadiza District Health in conjunction with the Ministry of Health to source for funds to procure Zam-ambulances. The referral forms designed by CARE International used by most SMAGs in the district are not standardised as determined in this study because some SMAGs use referral forms designed by

the Ministry of Health while the majority use forms designed by CARE International creating a gap in the area of Health Management Information System.

6.3 NURSING RESEARCH

The Ministry of health stance on SMAGs is to reduce critical delays in decision making at household level and encourage pregnant women to go for antenatal care, delivery and postnatal; offer first aid care and refer cases with maternal and new-born problems for management at health facilities. SMAGs were formed to help in achieving the vision of Ministry of Health in reducing maternal and neonatal mortality in Zambia by reducing critical delays at community level. However, the findings revealed that despite the Ministry of Health having issued a policy direction of stopping the Traditional Birth Attendants from conducting deliveries at community level, most deliveries are still being conducted by the Traditional Birth Attendants. However, the study strongly recommends that future research on a broader perspective should be done to address issues influencing the role of SMAGs in the referral of mothers to health facilities using various Models other than the Jahns Model of Referral Chain focusing on area of postnatal care. A retrospective study should be conducted in future to determine the number of referral made by SMAGs and reasons for referral. A similar study to be undertaken targeting on SMAGs in the referral of mothers to health facilities in other parts of rural and urban districts in Zambia and the results compared. The instruments used in this study require to be further developed to improve issues of validity and confirm reliability and accuracy.

6.4 NURSING EDUCATION

Chadiza DHO with support from Ministry of Health and other cooperating partners should mobilise resources and retrain the SMAGs for a period of 5 to10 days because the initial training was too short to learn. The DHO should organise a meeting with all partners implementing Safe motherhood activities in the district for the purpose of standardising the referral forms to be used by all the SMAGs and put in place the reporting system that will address issues decentralisation, accountability, responsiveness and transparency in Community Health Management Information System. Guide lines and protocols pertaining to referral process should be provided to all the SMAGs after training because there is evidence that most SMAGs were not provided with referral guidelines after the one day training.

6.5 STRENGTH OF THE STUDY

The study used triangulation (Quantitative and Qualitative) method in data collection and this assisted to establish factors influencing the role of SMAGs in referral of mothers to health facilities in Chadiza district. Qualitative data assisted to have an insight on community perception about the role of SMAGs in referral of mothers to health facilities. Translating of data collection tools in to local language (Chewa) made it easier to administer the questionnaires and topic guide to local selected SMAGs and women of child bearing age. This study has formed acting the base line data for future research in this area in Zambia. The study will also guide Policy makers to come up with strategies to improve and strengthen the referral roles of Safe motherhood Action Groups in Chadiza District and other parts of the country.

7.0 LIMITATION OF THE STUDY

Despite having successfully completed the study, the researcher had some limitations such as financial constraints because the study was not funded Ministry of Health or other partners. This made data collection difficulty. Time for data collection was inadequate because the Principal investigator was not on study and the approved leave days ended before finalisation of the project. There was some transport challenges during data collection because the vehicle used was not suitable for bad terrain. The data on referrals made by SMAGs contained in MTEF was scanty and this to some extent made it difficult to include data on the number of mothers referred to health facilities by SMAGs. Despite the limitations mentioned above, the project was completed because the Principal investigator managed to mobilise finances which assisted in hiring of transport and payment of allowances to the statistician who helped in data analysis. The Principal Investigator also managed to procure assorted stationary used during and after data collection. On the data that was scanty on referrals made by SMAGs, the Principal Investigator gave feedback to the District Health Office and a recommendation has since been documented for future reference.

8.0 CONCLUSION AND RECOMMENDATIONS

8.1 CONCLUSION

In conclusion, it is evident that Traditional Birth Attendants are still conducting deliveries both at community and health centres in Chadiza district. This is against the new policy which has banned the Traditional Birth Attendants from conducting deliveries because they are unable to manage maternal complication such as bleeding after delivery. It is evident from the study findings that mothers were referred by SMAGs to health facilities for delivery when they were already in established labour and this forced them to deliver on the way assisted by unskilled birth attendants. The study further revealed that one day training which SMAGs underwent was too short to understand the referral process. It is also evident that the referral forms used by SMAGs were designed by CARE International and information collected by SMAGs is not part of HMIS at the District Health office thus creating a gap. The study further revealed that the information captured by SMAGs on referrals is sent to CARE office without sharing it with the District Health Office. There is evidence from the study that transport still remains a challenge in ensuring effective referral system and majority of mothers were not able to pay for transport costs. There is evidence that the majority of SMAGs are not provided with resources to use and the study has shown an association between provision of resources and referral of mothers to health facilities. The study has also revealed an association between follow up of SMAGs by facilities staff and referral of mothers to health facilities. However the study showed no association between distance, knowledge and referral of mothers to health facilities.

8.2 RECOMMENDATIONS

Arising from the study, the following are some of the recommendations

- The District Health Office (DHO) should ensure that SMAGs are monitored more frequently and should be discouraged from delivering mothers because the MOH policy on SMAGs is to encourage and refer mothers to health facilities for delivery to be attended to by skilled birth attendants.
- District Health Office should standardise the referral forms to be used by SMAGs to incorporate the one designed by Care International and ensure that the data collected at community level is not only kept by our cooperating partners but be part of District Health Information Sytem.to health centres that in turn will consolidate and submit to District Health Information Office data base as part of community HMIS.

- Chadiza District Health Office in collaboration with the Ministry of Health should procure Zam ambulances to be used in transporting mothers when referred to health facilities because the study discovered that the mode of transport used by mothers when referred was important regardless of distance would overcome the first and second delays in referral of mothers.
- Chiefs and other traditional leaders should ensure that SMAG members refer mothers to health facilities early preferably one to two weeks before the expected date of delivery and that no mother should be delivered by unskilled birth attendants either on the way or at community level. In view of the above, traditional leadership should facilitate construction of mothers' shelters in all the health facilities in Chadiza district to accommodate mothers and their relatives when referred by SMAG members.

9.0 DISSEMINATION AND UTILISATION OF FINDINGS

The findings of the study were presented to the faculty of Nursing Sciences. They were also presented to Stakeholders during seminar week at University of Zambia. The research findings will also be disseminated to Ministry of Health and its Cooperating partners, University of Zambia, Chadiza District Health Management team, Community members including Traditional Leadership. Copies of the report will be deposited in the Medical Library, Department of Nursing Sciences, Ministry of Health and Chadiza District Health Office. The findings will be published in the Zambian Journal for Agriculture and Biomedical Sciences (JABS).

REFERENCES

Barnes, J., D. Augustine, A. (2007). "The Three Delays" as a Frame for examining Maternal Mortality in Haiti. *RMJ*, 32(2):163-167.

Barnes, J., D., Augustine, A., et al. (2006). Maternal Mortality in Haiti: a Scottish Midwife's Perspective.

Banda, L. (2011). Traditional Birth Attendants' Big Task, Times of Zambia, 9th March 2011.

Bulletin of the WHO (2007): THE Safe motherhood Initiative and beyond, Volume 85, number 10, October 2007, 733-382.

http://www.who.int/bulletin/volumes/85/10/07-045963/en. Retrieved 12/ 9/ 2013.

Bulletin of the WHO, (2014). 92:51-59.doi http://dx.doi.org/10.2471/ BLT.13.122721. Retrieved on 18/ 5/ 2015.

Bossyns, P. and Van Lerberghe, W. (2014). The weakest link: Competence and Prestige as constraints to referral by isolated nurses in rural Niger, in Human Resources for Health available at http://www.human-resource-health.com/content/pdf/1478-4491-2-1. Retrieved on 18/ 5/ 2015.

Brunson's, J. (2010). Confronting maternal mortality, controlling birth in Nepal: The gendered policies of receiving biomedical care at birth. Social Science and Medicine 71(10):1719- 1727.

Carrie, V. (2012). Peace Corps Response: Saving Mothers, Giving Life, Zambia.

Chanda, D. (2013). Social role of Traditional Birth Attendants, Africa Journal of Midwives, and Volume 7 number 3.

Chisenga, A. (2014). Mobilizing Safe motherhood Action Groups: Saving Mothers Giving Life, Zambia.

Chaturvedi, et al. (2014). Quality of Obstetric Referral Services in India's JSY Cash Transfer Programme for Institutional Birth: A study from Madhya Pradesh Province. PLos one 9(5): e 96773.

Central Statistical Office, (2013). Ministry of Health, Zambia, Tropical Diseases Research Centre, University of Zambia and Macro International Inc. *Zambia Demographic and Health Survey*. Lusaka & Calverton: Central Statistical Office of Zambia & Macro International Inc. 2015.

Ebere, Z. O. (2013). A Review of the Barriers and Socio-cultural factors influencing the access to maternal health care services in Nigeria, Helsinki Metropolia University of Applied Sciences.

Ensor, T. et al. (2013). Mobilizing communities to explore maternal health: results of an intervention in rural Zambia, University of Leeds, Nuffield centre for international Health and Development.

Gabrysch, S., Cousens, S., Jonathan (2011). The influence of distance and level of care on delivery place in rural Zambia: A study of Linked National Data in a Geographical Information System.

Gabrysch, S., et al. (2011). Tracking progress towards Safemotherhood: meeting the benchmark yet missing the goal? An appeal for better use of health-system output indicators with evidence from Zambia and Srilanka. Tropical medicine and international health 16:617-627.doi:10.1111/j.1365-3156.2011.02741.

Gravetter, F., J., and Forzano, L., A., B., (2009): Research Methods for Behavioural Sciences. 18th edition, Belmont, CA: Wadsworth Cenage Learning. http://books.google.nl/books? Isbn=0495509833. Retrieved on 16 / 9 / 2013.

Hussein, J., Kanguru, L., Austin, M., Munjanja, S. (2012). The effectiveness of Emergency Obstetric referral Interventions in Developing Country settings: A systemic Review PLos Med 9 (7) e 1001264.doi:10.1371/ journal. PMed.10011264.

IWHP (2009). Maternal Mortality in Low Resource Countries; the Society of Obstetrician and Gynaecologists of Canada.

International Journal of Health Policy and Management, (2015). 4 (2); 99-109, published on line .doi 10.151/IHPM. http:www // ijhp.com: Emergency referral transport for maternal complications.

JHPIEGO (2012). Improving Safe Motherhood through shared responsibility and collective action, Maternal Worldwide.

http://www.mnh.jhpiego.org/resource. Retrieved 16/ 9/ 2013.

Johns, Ben, Nikita, R., Alison C., Slavea, C. (2014). Impact of Safe motherhood Action Groups on use of Maternal Health Care in Zambia. Batheda, MD: Zambia Integrated System Strengthening Project, Abt Associates Inc.

Kristine et al. (2011). Gender Development Research in sex roles: Historical Trends and Future Directions, US National Library of Medicine National Institute of Health. 64 (11-12).

Kitui, J. et al. (2013). Factors influencing place of delivery in Kenya: an analysis of the Kenya Demographic Health Survey, Bio Med Central, The open Access publisher.

Kongnyuy, E.J.(2016). Averting Maternal Deaths and Disability; The difficulties of conducting maternal death reviews in Malawi. Licensee Bio Med Central Limited 2016.

Lohela et al. (2012). Distance to care facility delivery and early neonatal mortality in Malawi and Zambia. PLos one 7 (12):e52110. doi: 10.1371/ Journal. Pone.0052110

Lewis, S. et al. (2012). The role of husbands in maternal health and safe child birth in rural Nepal: a qualitative study, Pub Med, 62(11) 796-809.

Lincoln and Guba, (2014). Issues of validity and reliability in qualitative research. BMJ Publishing Group Ltd & The RCN Publishing Company Ltd

Majoko et al. (2011). Effectiveness of referral system for antenatal and intra-partum problem in Gutu district, Zimbabwe, 25: 656-61

Magoma, et al. (2010). High coverage of antenatal and low skilled attendances in rural Tanzania; licensee BioMed Centre Ltd.

Mahmoud et al. (2012). Home birth and barriers to referring women with obstetric complications to hospitals: a mixed methods study in Zahedan, South eastern Iran. National Centre for Biotechnology Information, U.S.National Library of Medicine 8600, Rockville Pike, Bethesda MD, 20894, USA.

MOH, (2007). Annual Health Statistics Bulletin, Eastern Province

MOH, (2013). Chadiza District Health Medium Term Expenditure Framework for 2013- 2015.

Ngelele, R. (2015) An impact of socio-cultural practices on maternal mortality in Masasi District Tanzania, Malays Journal volume 2 number 3/ 2015.

Nathan, R.D., Mwanyangala, M. (2011). Survival of neonates in rural Southern Tanzania: does place of delivery or continuum of care matter? BMC pregnancy child birth 12: 18.doi:10.1186/1471-2393-12-18.

Nagel, J. et al. (2013). Saving Mothers: A new initiative to address maternal mortality. Savingmothersgivinglife.org/dos/SMGL. www.smartglobalhealth.org>blog. Retrieved on 27/ 4/ 2016.

Obasi, E.Z. (2013). A review of the Barrier and Socio-cultural factors influencing the access to Maternal Health Care services in Nigeria, Helsinki Metropolia University of Applied Sciences.

Population Council, MOH, (2004). SMDP Western Province; Approaches to providing quality maternal care in Kenya

PubMed, (2004). US National Library of Medicine National Institutes of Health

Phyllis et al (2013). The influence of socio-cultural interpretation of pregnancy threats on health-seeking behaviour among pregnant women in urban Accra Ghana.

Pembe, A.B. et al (2012). Qualitative study of maternal referrals in rural Tanzania: Decision making and acceptance of referral advice. Africa Journal of Reproductive Health, 12120-31.

Pembe, A.B. et al. (2012). Effectiveness of maternal referral system in a rural setting: a case study from Rufiji district, Tanzania.

Phiri, N. et al. (2014). Born before arrival: user and provider perspectives on health facility child birth in Kapiri District, Zambia. BioMed Central Ltd.

Polit, D., F., and Hungler, B., P., (2002): Essentials of Nursing Research: Methods, Appraisal, and Utilization. 5th edition, Lippincott Williams &Wilkins. Accessed from http://www.abebooks.co.uk. Retrieved on 12/ 3/ 2013.

Raj, S.S. et al. (2015). Emergency referral transport for maternal complication: Lessons from the community-based maternal death audits in Unnao district, Uttar Pradesh, India. 4(2); 99-106.

Srivastava et al. (2014). Maternal Health Care Utilization in Rohilkhand Region, India. Ann Med Health Science Research, 417- 425.

Thaddeus, S., Maine, D. (2012). Maternal Worldwide; The Three Models, 38: 1091- 1110.

Thaddeus, S., Maine, D. (2015). Too far to walk: Maternity World Wide, maternal mortality in context. Soc Sci Med. 38:1091-110

Tayelgn et al. (2011). Mothers' satisfaction with referral hospital delivery service in Amhara Region, Ethiopia, BMC Pregnancy and child birth 201111: 78, licence BioMed Central.

UNICEF, (2011). Programme Report on Maternal, New-born and Child Health in Zambia.

UNFPA, (2013). Promoting Safe motherhood in Zambia

http://www.unfpa.org/emergencies/manual/3.htm. Retrieved 12/ 9/ 2013.

UNFPA, (2014). Connecting mothers to be with health clinics in rural Zambia

http://www.unfpa.org/news/connectingmothers-be-health-clinics-ruralzambia#sthash.R1KiKRSj.dpuf. Retrieved 21/ 8/ 2016

Upadhyay, R. et al. (2012). Using Three Delay Model to understand social factors responsible for neonatal deaths in rural Haryana in India. Journal of Tropical Paediatrics Advance access, Centre for Community Medicine, All India Institute of Medical Sciences, New Delhi 110029, India.

Vogel Sang, C. (2012). Peace Corps Response; Success Stories from Saving Mothers, Giving Life Zambia.

http://www.savingmothersgivinglife.org/blog/201212. Retrieved 14/ 3/ 2014.

Vundamina, N.K. et al. (2011). Reducing deaths due to postpartum haemorrhage in home births (SURE policy brief) Lusaka, Zambia: Zambia Forum for Health Research. www.evipnet.org/sure. Retrieved on 14/ 3/ 2014.

Waiswa, P. (2012). Using Three Delay Model to understand why babies die in eastern Uganda. Department of Health Policy, Planning and Management Makerere University School of Public

Health, Kampala Uganda. www.pubpdf.com/search/..../waiswa+Peter... Retrieved on 14/ 3/ 2014.

WHO, (2010). Making Pregnancy Safer; A Joint statement by WHO, ICM AND FIGO.

WHO Bulletin, (2012). Department of making pregnancy safe, 20 Avenue Appla 1211, Geneva 27, Switzerland.

W H O, (2014). Maternal mortality in developing countries: estimates developed by WHO, UNICEF and UNFPA. Geneva: World Health Organization; 2014. p. 36.

WHO, (2014). Department of Reproductive Health and Research, care of mother and baby at the health centre: A practical guide available at http://www.who.int/reproductive-health/publications/msn-942/care-mother-baby-health-centre-pdf. Retrieved on 19/ 6/ 2015.

APPENDIX I

Budget

Category	Quantity	Unit cost (ZMK)	Total cost (ZMK)
Stationary			
Reams of paper	4	30	120
Pencils	6	1	5
Rubbers	6	2	12
Note books	6	5	30
HP cartilages	5	150	750
Spirals	5	25	125
Transparent paper	5	10	50
Manila paper	5	10	50
Binding research report	5	150	750
Sub total			**1,892**
Fuel	200 litres	10	2,000
Personnel			
Training of research assistants	6	100 x 2 days	500
Pre-test	6	100 x 2 days	1,200
Allowances			
Research assistants	6	200 x 60 days	3,000
Driver	1	100 x 60 days	1,000
Statistician	1	4,000	4,000
Grand total			**K13,592**

Budget justification

Stationary/ Binding- The study required a total of K1, 892 for stationary and binding of the report

Fuel - The study required 200 litres amounted to K2, 000

Personnel - The research assistants were 2 in total and were trained for a day at a cost of K500. The pre-test was done at a cost of K1, 200. The research allowances during data collection and amounted to K3000; the driver's allowance was K1, 000. A statistician was consulted at for statistical calculations and statistical data analysis at a cost of K4, 000 giving a total of K9, 700.

Total budget

The total budget for the study was **K13, 592**

APPENDIX II

Ghannt Chart

Activities	Resp person	Jan	Feb	March	April	May	June	July	Aug
Presentation of research proposal to DNS/ PGF	Mutemwa Susan								
Clearance from research and ethics committee	UNZABREC								
Data collection	Mutemwa Susan								
Data analysis/ report writing	Mutemwa Susan								
Submission of draft report to supervisor	Mutemwa Susan								
Finalising research report and making corrections	Mutemwa Susan								
Presentation of research findings to PGF and final submission of copies	Mutemwa Susan								

APPENDIX III:

Participant Information Sheet

1. **Self-Introduction**

   My name is Susan Mutemwa. I am a nurse by profession and I am currently pursuing a Master of Science in Nursing at the University of Zambia.

2. **Study Title**

   Assessment of Safe motherhood Action Groups' (SMAGs) referral of pregnant women: a case of Chadiza district.

3. **Purpose of the Study**

   To assess referral programme of pregnant women by SMAGs from rural communities to health facilities in Chadiza districts.

4. **Procedure**

   Face - to -face interviews will be conducted with each sampled SMAG member using simple random sampling from Rural Health Centres' catchment areas. You will be interviewed one at a time in a private room. You are expected to answer questions concerning the referral of pregnant women from communities to health facilities. The interview will take about 5 minutes. You have been selected to participate in this study because you are one of the SMAG members in this catchment area hence you will be in a better position to inform this researcher on the referral process and what challenges you face in referral of pregnant women from communities to health facilities.

5. **Voluntariness**

   Participation in this study is entirely voluntary and you are free to decline or withdraw from taking part in this study without giving any reason. There will be no penalty for that. You also have the right not to answer any questions that you may deem personal or otherwise.

6. **Guarantee of Confidentiality**

   Be assured that the information you will provide during this interview will be confidential and all the forms will be kept under lock and key to prevent unauthorized people from accessing the information.

7. **Risk/Benefits/Discomforts:**

   There are no risks involved in this study. There will be no direct benefits to the participants. However, participants with any questions regarding care and referral process of pregnant women will be given appropriate information during data collection.

8. **Compensation/Reimbursement.**

   No compensation will be given to the participants in this study

9. **Consequences of Injury**

   No injuries are anticipated in this study as no invasive procedures will be involved.

If you have any questions about the study please contact the principal investigator or the chairperson for ERES IRB at the following addresses and contact numbers;

10. **Contact Details of Principal Investigator**

    Susan Mutemwa
    The University of Zambia
    Department of Nursing Sciences
    P.O. Box 50110
    Lusaka
    Cell No: +260977893272
    Email: s_mutemwa@yahoo.com

11. **Contact Details of Ethics Committee**

    The Chairperson
    ERES Converge IRB
    33 Joseph Mwilwa Road
    Rhodes Park
    Lusaka
    E-mail: eresconverge@yahoo.co.uk
    Phone Number: +260 955 155633, +260 955 155634

If you choose to participate in this research study, may you please sign the informed consent form.

APPENDIX IV:

Informed Voluntary Consent Form

The information about this study as contained in the participant information sheet has been explained to me. I was given the opportunity to ask questions about the study which have been adequately answered.

I now consent voluntarily to participate in this study and understand that I have the right to withdraw from the study at any time without giving reasons and without any penalties.

I understand also that I have the freedom not to answer particular questions that I may deem personal or otherwise during the interview.

My signature below signifies that I am willing to participate in this study:

I_____ understand the conditions and purpose of this study and I agree to be a participant in this study.

Participant' Signature ___ Date_____

Participant's right thumb print (if unable to write): _____

Interviewer' Signature _____ Date_____

Name of witness: _____

Signature of witness:_____ Date: _____

Name of researcher: _____

Signature of researcher:_____ Date: _____

Parental or Guardian Permission Form for Minors (mothers below the age of 18years)

Title of Project: Assessment of Safe motherhood Action Groups (SMAGs) Referral of women to health facilities: a case of Chadiza Districts.

Researcher: Susan Mutemwa

Your permission is being sought to have your child participate in this study. I will read to you the following information carefully before you decide whether or not to give your permission.

Purpose of the research: Assessment of SMAGs referral of pregnant women from rural settings to health facilities in Chadiza district.

Procedure to be followed: Face to face interviews will be conducted with each of your child. She will be asked questions about the referral process of pregnant women from communities to health facilities.

Discomforts/risks: There are no risks or discomforts involved in this study.

Incentives/benefits for participation: There are no direct benefits to your child. The results of this study, however, will help us know whether this programme can be promoted as evidence based practice of referring pregnant women by SMAG members and also put in measures to correct any short comings during the SMAGs referral of pregnant women.

Duration of participation: Participation in the study will take about 5minutes.

Confidentiality: All records are kept confidential and will be available only to professional researchers and staff. If the results of this study are published, the data will be presented in group form and individual mothers will not be identified.

Voluntary participation: Your child's participation is voluntary. At the time of the study, your child will once again be reminded of this by the researcher.

Termination of participation: If at any point during the study you or your child wishes to terminate the session, we will do so.

Questions or concerns regarding participation in this research should be directed to:

Contact Details of Principal Investigator

Susan Mutemwa
The University of Zambia
Department of Nursing Sciences
P.O. Box 50110
Lusaka
Cell No: +260976 726588
Email: s_mutemwa@yahoo.com

This research has been reviewed and approved by ERES Converge IRB. If at any time before, during or after the study your child experiences any physical or emotional discomfort that is a result of her participation or if you have any questions about the study or its outcomes, please feel free to contact us.

Contact Details of Ethics Committee

The Chairperson

ERES Converge IRB
33 Joseph Mwilwa Road
Rhodes Park
Lusaka
E-mail: eresconverge@yahoo.co.uk
Phone Number: +260 955 155633, +260 955 155634

Signing The Form Below Will Allow Your Child To Participate In The Study. If You Do Not Wish To Allow Your Child To Participate Please Do Not Sign Below.

Parent'/ Guardian' Details

I, the parent or guardian of _____, a minor _____ year of age, permits her participation in a program of research named above and being conducted by Susan Mutemwa.

Signature of Parent or Guardian _____ Date _____

Participant's right thumb print (if unable to write): _____

Participants' Details

I, _____, agree to participate in the program of research named above and understand that my participation is voluntary.

Signature of Participant_____ Date _____

Participant's right thumb print (if unable to write): _____

Name of Investigator _____ Date _____

Signature of Investigator _____ Date_____

Consent Form for Minors (Participants below the age of 18years)

Study Title: Assessment of Safe motherhood Action Groups (SMAGs) Referral of pregnant women: a case of Chadiza Districts.

Investigator: Susan Mutemwa

We are doing a study about SMAGs referral of pregnant women from communities to health facilities in your area. All SMAG members from this catchment area will be asked some questions if they are willing to participate. If you agree to take part in this study, we are going to

ask you some questions about Referral process of pregnant women by SMAGs in your area. We want to know if pregnant women are referred to health facilities early or not. For example, we will ask if you have any written guidelines of how to refer pregnant women.

Your (parent/ guardian) says it is okay for you to be in this study. You are free to ask questions about this study any time. You should feel free and answer all questions as truthfully as possible. You do not have to be in this study if you do not want to and you do not have to answer questions you feel you do not want to. If you decide to stop after we begin, that's okay too. Your name will not appear on your answers and no one will question you about the manner you are going to answer to these questions. When results of this study are published, we will not use any information that identifies you.

If you sign this paper, it means that you have understood what has been explained to you and you want to be part of the study. If you don't want to be part of the study, do not sign this paper.

Your Signature: _____ Date _____

Your Name: _____ Date _____

Your Thumb Print_____ Date: _____

Signature of person obtaining Consent_____ Date _____

Name of person obtaining Consent_____ Date_____

33 Joseph Mwilwa Road
Rhodes Park, Lusaka
Tel: +260 955 155 633
+260 955 155 634
Cell: +260 966 765 503
Email: eresconverge@yahoo.co.uk

I.R.B. No. 00005948
F.W.A. No. 00011697

15th July, 2015

Ref. No. 2015-May-001

The Principal Investigator
Ms. Susan Mutemwa
University of Zambia
School of Medicine
Dept of Nursing Sciences
P.O. Box 50110,
LUSAKA.

Dear Ms. Mutemwa,

RE: ASSESSMENT OF SAFE MOTHERHOOD ACTION GROUPS (SMAGs) AND THEIR ROLE IN THE REFERRAL OF MOTHERS TO HEALTH FACILITIES: A CASE STUDY OF CHADIZA DISTRICT, EASTERN PROVINCE OF ZAMBIA.

Reference is made to your corrections dated 2nd July, 2015. The IRB resolved to approve this study and your participation as principal investigator for a period of one year.

Review Type	Ordinary	Approval No. **2015-May-001**
Approval and Expiry Date	Approval Date: 15th July, 2015	Expiry Date: 14th July, 2016
Protocol Version and Date	Version-Nil	14th July, 2016
Information Sheet, Consent Forms and Dates	• English.	14th July, 2016
Consent form ID and Date	Version-Nil	14th July, 2016
Recruitment Materials	Nil	14th July, 2016
Other Study Documents	Questionnaire.	14th July, 2016
Number of participants approved for study	133	14th July, 2016

Specific conditions will apply to this approval. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to. If these are not adhered to, the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities will be informed.

Conditions of Approval

- No participant may be involved in any study procedure prior to the study approval or after the expiration date.
- All unanticipated or Serious Adverse Events (SAEs) must be reported to the IRB within 5 days.
- All protocol modifications must be IRB approved prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address.
- All protocol deviations must be reported to the IRB within 5 working days.
- All recruitment materials must be approved by the IRB prior to being used.
- Principal investigators are responsible for initiating Continuing Review proceedings. Documents must be received by the IRB at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Any documents received less than 30 days before expiry will be labelled "late submissions" and will incur a penalty.
- Every 6 (six) months a progress report form supplied by ERES IRB must be filled in and submitted to us.
- ERES Converge IRB does not "stamp" approval letters, consent forms or study documents unless requested for in writing. This is because the approval letter clearly indicates the documents approved by the IRB as well as other elements and conditions of approval.

Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of ERES Converge IRB, we would like to wish you all the success as you carry out your study.

Yours faithfully,
ERES CONVERGE IRB

Dr. E. Munalula-Nkandu
BSc (Hons), MSc, MA Bioethics, PgD R/Ethics, PhD
CHAIRPERSON

C/O Department Of Nursing Sciences
School of Medicine
P.O Box 50110
UNZA
Lusaka

30th July, 2015

The District Community Medical Officer
Chadiza District Community Medical Office
P.O. Box 520031
Chadiza

UFS: The Head of Department
Department of Nursing Sciences
School of Medicine
UNZA
Lusaka

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MED
DEPARTMENT OF NURSING SCIENCES
P.O. BOX 50110, LUSAKA

Dear Sir,

RE: Research Study: Request to collect data from RHC Catchment areas with SMAGs.

Reference is made to the above subject matter.

Iam currently studying at University of Zambia, School of Medicine pursuing a Master's Degree in Nursing. As partial fulfillment for an award of Master's degree in Nursing, Iam required to conduct a research and from research results make recommendations to Chadiza DCMO who will in turn come up with strategies to improve the situation.

The research title is "***Assessment of Safe motherhood Action Groups and their role in the referral of mothers: a case of Chadiza District***". I intend to collect data starting on 15th August to 21st August 2015. The purpose of this letter is to request for permission from your office to enable me collect data from RHC catchment areas with SMAGs.

Find attached herewith approval letter from ERES Converge, Lusaka.

Your positive response will be appreciated.

Yours faithfully.

Susan Mutemwa
MSc. Student -UNZA

APPENDIX V:

QUESTIONAIRE FOR SAFEMOTHERHOOD ACTION GROUP MEMBERS (SMAGs) ON EVALUATING REFERRAL OF PREGNANT WOMEN FROM COMMUNITY TO HEALTH FACILITIES BY SMAGs: A CASE OF CHADIZA DISTRICTS

Instructions to the interviewer

Introduce yourself to the respondents

Explain purpose of the study

Get consent from the respondent

Ensure confidentiality

Tick in spaces provided according to respondent's answer

Thank the respondent after interview

Questionnaire number_____

Identification

Name of SMAG member_____

(Do not indicate the actual name)

Health centre catchment area_____

Sex

a. Female ( ) b. Male ( )

Demographic Characteristics

Iam now going to ask you question about yourself

1. How old are you? ( )

(State the age in years)

2. What is your marital status?

a. Single ( )
b. Married ( )
c. Divorced ( )

d. Widow/ widower ( )

3. How many children do you have? ( )

(State the number)

4. What is your level of education?

a. Primary ( )
b. Secondary ( )
c. College ( )
d. None ( )

5. What is your occupation?

a. Housewife ( )
b. Professional ( )
c. Business/ self employed ( )
d. Unemployed ( )

Section B: Information on the referral process and knowledge by SMAGs

6. As a SMAG member, do you refer pregnant women to health facilities?

a. Yes ( ) b. No ( )

7. Have you been trained in the referral process using the guidelines?

a. Yes ( ) b. No ( )

8. Were you given the referral process guidelines after training?

a. Yes ( ) b. No ( )

9. Do you refer to guidelines when referring a pregnant woman to health facility?

a. Yes ( ) b Sometimes ( ) c. No ( )

10. If yes in question 6, when do you refer them to health facility?

_____
_____
_____
_____
_____
_____
_____

11. Do you escort pregnant women to health facilities when referred?

a. Yes ( ) b. Sometimes ( ) c. No ( )

12. If sometimes or no in question 11, what are the reasons?

_____
_____
_____
_____
_____
_____
_____

13. Do you have a referral book to use when referring pregnant women?

a. Yes ( ) b. No ( )

14. Do all referred women go with a referral letters?

a. Yes ( ) b. No ( )

15. If no in question 14, what are the reasons?

_____
_____
_____
_____
_____

16. Do you receive feedback from health facilities on the outcome of the referred women?

a. Yes ( ) b. No ( )

17. If no in question 16, what could be the reasons?

_____
_____
_____
_____
_____

Section c: Accessibility to health facilities

18. How many kilometres is it to the nearest facility?

a. 1-5 kilometres ( )
b. 6-10 kilometres ( )

c. 10- 20 kilometres ( )
d. More than 20 kilometres ( )

19. How long does it take to walk to the nearest health facility?

a. Less than 30 minutes ( )
b. 30 minutes to 1 hour ( )
c. 1 hour to 2 hours ( )
d. More than 2 hours ( )

20. What mode of transport do referred mother use?

a. Vehicle ( )
b. Scotch cart ( )
c. Zam – ambulance ( )
d. Other, specify_____

Section D: Socio-economic cultural practice

21. Do you know of any traditional beliefs that contribute to delayed referrals of pregnant women?

a. Yes ( ) b. No ( )

22. If yes in question 21, can you mention some of them?

_____
_____
_____
_____
_____

23. Do you think the above mentioned traditional beliefs contribute to delays in referring pregnant women to health facilities in your catchment areas?

a. Yes ( ) b. No ( )

24. As a SMAG member, what measures have you put in place to deal with the above mentioned traditional beliefs?

_____
_____
_____
_____
_____
_____

Any comment

_____
_____
_____
_____
_____

End of questionnaire and thank you for participating

APPENDIX VI:

FOCUS GROUP DISCUSSION GUIDE FOR BOTH MEN AND WOMEN OF CHILD BEARING AGE ON THE ROLE OF SMAGS IN REFERRAL OF MOTHERS TO HEALTH FACILITIES: A CASE OF CHADIZA DISTRICT,EASTERN PROVINCE OF ZAMBIA.

1. Do you have Safemotherhood Action Groups in your catchment area?

2. If yes, what works do their do in your area?

3. Can you tell us when and how SMAGs refer mothers to health facilities and for what reasons?

4. Do SMAG members escort mothers to health facilities when referred to health facilities?

5. If the answer is no, what are some of the reasons why SMAGs do not escort mothers when referred to health facilities?

6. What mode of transport is used by mothers when referred to health facilities?

7. What is your comment on the care given by mothers when they reach the health facilities in your area?

8. If your answer is no, kindly explain what could be the reasons?

9. Kindly explain what you feel are the challenges faced by SMAGs when referring mothers to health facilities?

10. With the challenges you have mentioned, what do you think can be done to minimize such challenges faced by SMAGs

11. Do you have any comment on what we have discussed concerning the role of SMAGs in referral of mothers to health facilities?

THANK YOU FOR SPARING YOUR TIME TO SHARE WITH US YOUR EXPERIENCES ON SMAGS IN YOUR AREA.