FACTORS ASSOCIATED WITH THE PARTICIPATION OF SAFE MOTHERHOOD ACTION GROUPS IN ACCELERATING INSTITUTIONAL DELIVERIES AMONG MATERNAL WOMEN IN SHIBUYUNJI RURAL DISTRICT OF LUSAKA PROVINCE

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Thesis submitted in partial fulfillment of the requirements for the Degree of Master of Public Health in Population Studies

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CERTIFICATE OF COMPLETION OF DISSERTATION

I, Regina, M. Mabenga hereby certify that this dissertation is the product of my own work and, in submitting it for the Degree of Master of Public Health in Population Studies, further confirm that it has not been submitted to another University in part or whole for the award of any programme.

Signature ……

Date…….

I, Dr. Rosemary Ndonyo Likwa having supervised and read this dissertation is satisfied that this is the original work of the author under whose name it is being presented.
I confirm that the work has been completed satisfactorily and is ready for presentation to the examiners.

Signature/Supervisor……..

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CERTIFICATE OF APPROVAL

The University of Zambia approves this dissertation by Regina M Mabenga in partial fulfilment of the requirements of a Degree of Master of Public Health in Population Studies at the University of Zambia.

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ABSTRACT

The low utilization of health facilities for delivery in Sub-Saharan Africa is a major concern despite the availability of global Motherhood initiatives to increase health facility usage. The concept of using Safe Motherhood Action Groups (SMAGs) is emerging to be a useful tool for referral of mothers to health facilities either for care without delay. Despite the availability of SMAGs in Shibuyunji District, statistics have shown that institutional deliveries were below (48%) the MoH's target of 60% in 2016, with increased community-based maternal deaths. We therefore examined the factors associated with the participation of SMAGs in acceleration of institutional deliveries among maternal women in Shibuyunji rural district.

An analytical cross sectional study was conducted involving 239 maternal women. A check list was used to collect data of respondents from the health facility delivery register and postnatal care register. A semi-structured questionnaire was administered. Step-wise, backward regression analysis using Stata Version 14 was used to estimate adjusted odds ratios (AOR) and 95% confidence intervals (CIs) of associated factors with SMAGs accelerating institutional deliveries among maternal women. All independent variables that were significant at univariate level were included in the Multivariable regression analysis until the final model was obtained.

The study revealed that 93% of the women were assisted by SMAG to access the health facility for delivery. The study showed the key predictors for as shown; Women who lived 10 km away from the health facility had a reduced odds of delivering at the health facility by 90% [AOR 0.1; 95% CI 0.03-0.39; P=0.001] [AOR 0.1; 95% CI 0.03-0.39; P=0.001], The pregnant women who did not know the benefits of delivering from the health facility had a reduced odds of delivering from the facility by 93% [AOR 0.07; 95% CI 0.014-0.37; P= 0.002]. Pregnant women who reported not being visited at their home by SMAGs had a reduced odds of delivering from the health facility by 70% [AOR 0.3; 95% CI 0.09-0.86; P= 0.027].

Evidence in this study has demonstrated that district institutional deliveries were low against the MoH target of 60% health facility deliveries. Nonetheless, participation of SMAGs in accelerating institutional deliveries among women in Shibuyunji district had a relative influence in the community, given evidence that women who were home visited by SMAGs, pregnant women who knew the benefits of delivering from the health facility and women who lived within 0 – 5km to the HF were more likely to deliver at the HF, providing a differential imbalance among maternal women who lived in further places of Nakaiba, Chintanga and Masiteki. These findings may be a reflection of inequalities associated with access and limitations in awareness efforts of the SMAG program in Shibuyunji. Thus, a need for effective and sustainable means of transport to improve access by linking communities to the health facility care through SMAGs who should be placed in strategic areas of the district.

Keywords: SMAGs Participation, Health Facility Delivery, Maternal Women, Acceleration of Institutional Deliveries.

DEDICATION

This piece of work is dedicated to my dear Husband Mataa Sikota and my beloved Children: Namakau, Mataa, Mulemi and Sibeso for their moral and spiritual support. Lastly I dedicate this work to my father Dr. Michael, M. Mabenga and My Mother Eileen Libi Mabenga for the resentless love and financial support you rendered to me to enable me reach this far. I wouldn't know what I would have done without you. You are the best parents ever. Always remember the world loves winners and has no time for losers, keep on keeping on until giving up gives up on you for it always seem impossible until it is done. You are the best parents that ever lived.

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ACRONOMYS

C.S.O	Central Statistical Office
D.H.O	District Health Office
DHIS	District Health Information System
H.F	Health Facility
M.o.H	Ministry of Health
P.H.C	Primary Health Care
S.M.A.G	Safe Motherhood Action Group
T.B.A	Traditional Birth Attendant
T.T.B.A	Trained Traditional Birth Attendant
U.N.F.P.A	United Nations Funds For Population Activities
UNICEF	United Nations Independent Children's Emergency Fund
WCBA	Women of Child Bearing Age
W.H.O	World Health Organisation
Z.D.H.S	Zambia Demographic Health Survey

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CHAPTER ONE: INTRODUCTION

1.1 Background

Health facility low utilisation during childbirth remains a major concern worldwide due to the great impact it has on the new born baby and the mother (UNFPA, 2014). This is because Labour and delivery are the shortest yet the most critical period during pregnancy and childbirth as most maternal deaths and pregnancy complications arise during delivery. Even with the best possible antenatal care, it is established that delivery could be complicated and therefore birth in the health facility is essential for safe delivery care (Kapapa, 2012).

Worldwide an approximate of 830 women die on a daily basis from preventable causes related to pregnancy and childbirth and almost all of these deaths occur in developing countries (Saaka, 2017). Thus, there is evidence that shows that low utilization of services, such as health facility deliveries continue to persist even where financial and geographic access is adequate (Kyomuhendo, 2003). This has made it a challenge for most developing countries, including Zambia, to attain significant improvements in maternal and new-born health care.

Literature has shown that developing countries accounted for approximately 99% of the global maternal deaths in 2015, with sub-Saharan Africa alone accounting for roughly 66% (Recidoro, 2011). This notwithstanding, it has also been discovered that many maternal deaths are being reported in most part of Sub Saharan Africa, where more women are reportedly delivering in the community with delayed cases brought in at the health facility after a failed attempt to deliver a pregnant woman by the community members (Kapapa, 2012).

1.1 The role of Safe Motherhood Action Groups on institutional deliveries

1.1.1 Global context

Global initiatives to intensify raising awareness as a policy intervention for health maternal care seeking behaviour began with the Safe Motherhood Initiative in 1987 (Khalifa, 2015). A response to the growing recognition that primary health-care programmes in many developing countries were not adequately focused on access to maternal health services.

Other initiatives emerged as a growing global concern for low utilisation of health facilities during delivery and other maternal services were International Conference on Population and Development in 1994 (Howard, 2015).

In the same study it was mentioned that the conference looked at how involvement of Communities in health education and communication activities within health facility catchment area population as one of the major activities adopted to enhance utilisation of health facility for maternity services (Ensor, 2014). In the another study, it was additionally revealed that community involvement in maternal health care involves the use of Community Health Workers (CHWs) whose role is to influence women to seek all maternity care including delivery at the health facility (Ensor, 2014). The CHWs are known by different names in different countries but with similar roles. For example, Safe Motherhood Action Group (SMAGs) falls under the umbrella of CHWs (ZSSP, 2014).

1.1.2 Regional context

In sub-Saharan Africa, and indeed Africa as a whole the problems of women in the reproductive age group can be summarized by the level of health facility usage for child birth and during pregnancy (Gabrysch, 2009). In eastern Ethiopia a study by Waiswa Peter et al. (2010) revealed that 54% died away from a health facility. The same study further revealed that the contributing factors of new-born deaths were the caretaker's delay in identifying danger signs and delay to provide care at the health facility.

Tanzania also the Maasai and Watemi women 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 (Kristen, 2007). From this background, several governments among the Sub-Saharan countries adopted involvement of community participation in maternal health in influencing women to seek health facility during delivery. For example, in a programme for improving birth preparedness in Kenya, Malawi, and Nigeria that focused only on women, knowledge of obstetric danger signs increased but there was little change in the proportion of deliveries involving a skilled birth attendant (Gabrysch, 2009).

It was suggested that the lack of progress occurred because education was provided only for women and not for the whole community and because other barriers to health care, such as the cost of getting to a facility, persisted.

Therefore, interventions of demand creation arose that involved the whole community (Alemi, 2016). And this experienced a large increase in the number of women delivering in facilities following the implementation of the safe motherhood policy in their communities.

According to the most recent Demographic and Health Surveys (DHS) in Sub-Saharan Africa and Asia, more than 75% of women combined in both regions now deliver in facilities (Montagu, 2014). This change did not occur without impetus, as many countries, often with the support and encouragement of the international community, have persuaded strategies, programs and policies aiming to increase the number of women delivering in facilities, ranging from small scale interventions to national policies and laws. Many different approaches have been used as demand creation initiatives at community level. These approaches can be thought of as targeting different determinants of why women fail to deliver in health facilities, which have been characterized into four major categories (Gabrysch and Campbell, 2009). Some strategies target sociocultural determinants (for example, banning or integrating traditional birth attendants into safe mother hood groups.

1.1.3 Zambian context

In Zambia, as in other low-income countries, maternal health indicators have remained stubbornly resistant to improvement: for example, the presence of skilled birth attendants at deliveries has hardly increased in the past 20 years and the maternal mortality ratio remains over 398 deaths per 100 000 live births (Kapapa, 2012).

Two contributing factors have been consistently identified: (i) lack of knowledge about when to access health-care services, which lead to delays in healthcare seeking; and (ii) difficulties with transportation, which lead to delays in reaching at health-care facilities. The problem of stagnating maternal health indicators has probably been exacerbated by a counter-urbanization trend, with people moving to more remote areas.

The 2007 Demographic and Health Survey (DHS) in the country reported that 57% of women in rural areas regarded distance as a barrier to accessing health care when sick. In the same survey, it was revealed that although most of the rural population of Zambia lives less than 8 km away from a health centre, the average distance to a health-care facility equipped for safe delivery is more than 15km.

In Zambia, Safe Motherhood Action Group was established in 2003 as part of a national safe motherhood program of 1987 (ZSSP, 2014). SMAGs were initially supported by the United Nations Population Fund (UNFPA) in North-Western Province before the Government of Zambia adopted them as a national program in 2008. Since 2003, SMAGs have been established and trained in selected parts of the country, with support from a range of development partners (Mutemwa, 2016).

Each group serves a cluster of villages and is encouraged to meet regularly in a communal area. The aim is to mobilize communities to improve the health of women, men and children and reduce the number of human immunodeficiency virus infections.

By 2010 SMAGs were established in 45 of Zambia's 72 districts then, with provincial level coverage ranging from less than 20% of districts in Copper belt Province to all districts in Luapula, Northern and North-Western Provinces (Jacobs, 2017).

This saw the policy of Traditional Birth Attendants which was created in 1973 to increase skilled deliveries (Traditional Birth Attendants) in the community abolished as they were perceived to have increased maternal deaths, as certain situations which expectant mothers faced required the attention of qualified medical personnel in a health facility with all medical utensils available (Khalifa, 2015).

SMAGs are defined as community-based volunteer groups that aim to reduce critical delays in decision-making at the household level about seeking life-saving maternal care at health facilities (ZSSP, 2014). Since the start of the SMAGs program as an intervention to increase maternal health utilisation in 2010, 3,615 SMAG members (1,616 males and 1,999 females) these were trained in 17 districts, and they included former TBAs (ZSSP, 2014).

1.1.4 Organisation of Safe Motherhood Action Groups in Shibuyunji District

Shibuyunji district the study area, is one of the beneficiaries of SMAGs program which started with 12 members in 2014 and later on 38 more members were trained in 2015 - 2016 comprising of two groups which brings a total of 50 members trained as SMAGs by 2016. These were distributed in four health centres out of 8 health centres then (SDC, 2013).

The role of SMAGs members in their health facility catchment area includes to deliver essential information on safe motherhood to men and women; encourage pregnant women to go for antenatal care, delivery, and postnatal care in a health facility; identify maternal and new-born complications during pregnancy, delivery, and the postnatal period; offer first aid care, and refer cases with maternal and new-born problems for management at health facilities (Howard, 2015). SMAGs are linked to their local rural health centres (RHCs) to foster coordination with and reporting to the government health system. Rural Health Centre (RHC) health workers provide SMAGs with supervision and encouragement for their valued contribution to increased uptake of institutional deliveries (ZSSP, 2014).

1.2 Statement of the Problem.

Zambia has a health system that has an increasing challenge in maternal health care seeking behaviour. With the introduction of SMAGs whose focus is to influence expectant mothers to seek care from the health facility, it was expected that expectant mothers would take advantage of such strategies to use health facility service prior or during delivery. It was expected that this would further result in a corresponding increase in the coverage of institutional deliveries and decrease in maternal complications. However, this was not the case (ZSSP, 2014). At national level institutional deliveries remain at 43% (implying that 57% deliver at home). This coverage was lower than the average for sub-Saharan Africa (UNICEF, 2010), it is even lower when compared to some countries in the sub-region with similar Safe Mother Hood Programs and same economic profiles such as Namibia with 75% institution deliveries (Sakeah, 2013).

The coverage of 43% evidently shows that it has an influence on the estimated maternal deaths of 398 deaths per 100,000 live births (CSO, 2013-2014).

Graham et (2012) States that where access to the health facility's maternity services is low, there's likely hood that the proportion of maternal deaths and maternal disabilities will be high due to difficulties faced during delivery in the community.

The trend of institution delivery among rural districts of Lusaka province in 2016, showed that Shibuyunji district in comparison to other rural districts with SMAGs program and similar economic profiles had the lowest institutional deliveries at 48% while Luangwa at 67 % and Rufunsa at 73% respectively in 2016 (DHIS2, 2016).

The coverage of 48% for institution deliveries in Shibuyunji district was below the national target of 60% and global targets of 85% (Reuben, 2013), it was also an indication that almost 52% of pregnant women delivered at home in 2017.

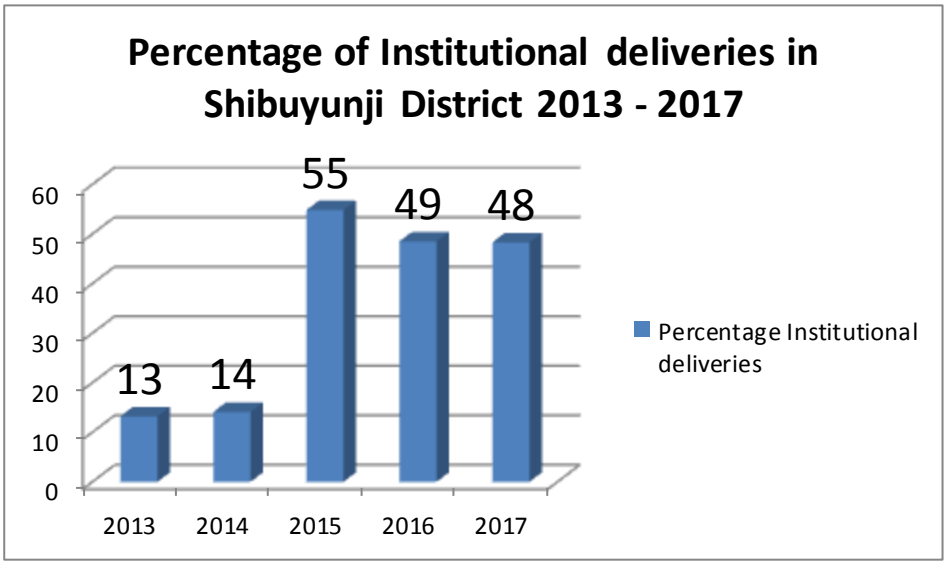

Figure 1: Showing fluctuating Trends of Shibuyunji district institution deliveries from 2013 – 2017.

This was another source of concern. There's need to investigate the influence of SMAGs in the community whose major focus is to influence women to deliver at the health facility, to identify the gap so decisions may be made. If not researched, weaknesses and strengths of will not be known but only speculations and this could result in high chances of HIV/AIDs transmission during delivery from mother to child due to lack of knowledge by the community to implement elimination of mother to child transmission guidelines, however this is for future studies.

Out of the 7,468 total Institution deliveries from 2017 to 2016 there were 4 maternal deaths in Shibuyunji and of which all the four occurred in the community contrary to the Maternal Mortality Rates in Zambia (CSO, 2013-2014).

Therefore, the low institutional deliveries in the district and the four maternal deaths in a period of five years brings back the question 'SMAGs participation is it making a difference in influencing women to go to the health facility to seek maternity services'.

The most common factors as barriers to women accessing health care during delivery in developing countries were distance to the health facility, transport, education level in the household (husband and wife) and age at pregnancy. These were among many barriers hindering women from accessing health facility (Sialubanje, 2015).

1.3 Justification of the Study

The review of literature confirmed that very limited studies have attempted to examine beyond individual and household factors affecting healthcare utilization especially in Zambian context in line with the participation of Safe Mother Hood Action Group policies in Maternal healthcare, these were usually or often measured at higher administrative levels (Khalifa, 2015). Meanwhile, problems of certain interventions like the SMAGs are felt by those on the ground and the beneficiaries (the mothers). In this case the SMAGs program which is a very important program in improving utilisation of health facility maternal services and also needed at the most critical time of a woman and the child life to serve lives has not been fully examined in research especially for a rural set up like Shibuyunji where literate levels are high in order to realize gaps of low institution deliveries.

The potential implications of this omission could underestimate the significance of factors associated with the intervention in the overall country policy and programmatic agenda, which could adversely influence maternity healthcare uptake among eligible women.

Responding to such a research gap in health literature, this study examines the factors associated with SMAGs participation on women's ability to respond to utilization of maternal healthcare services at the health facility.

Knowledge about these factors among Public health policy makes it important for the design of public health interventions at community level focusing on promoting institutional deliveries and ultimately improving maternal and new-born health outcomes in Shibuyunji district and Zambia at large.

The outcome will also equip local policy makers at the district level and stakeholders involved in community health in planning and budgeting to secure the future of the SMAG's effort, as other studies found that SMAGs program is undermined by resource constraints ZISSP (2014).

This was important as it is critical that more was done to balance investments in supply- and demand-side interventions in support of improved institution deliveries.

This study has further provided basis for predicting institutional maternal delivery trends to guide in the planning and appropriate allocation of recourses to improve maternal health in rural communities.

1.4 Research Questions

What are the factors associated with participation of SMAGs towards acceleration of institutional deliveries among maternal women in Shibuyunji Rural District?

1.5 General Objective

To determine the influential factors associated with participation of SMAGs in accelerating institutional deliveries among maternal women in Shibuyunji Rural District of Lusaka.

1.5.1 Specific Research Objectives

1. To establish the association of SMAGs participation towards institutional deliveries uptake and the socio demographic characteristics of maternal women in Shibuyunji rural district.

2. To establish the knowledge level of SMAGs community activities towards accelerating institutional deliveries among mothers in Shibuyunji rural district.

3. To estimate the referrals made by SMAGs in relation to the total institutional deliveries.

1.6 Conceptual Framework

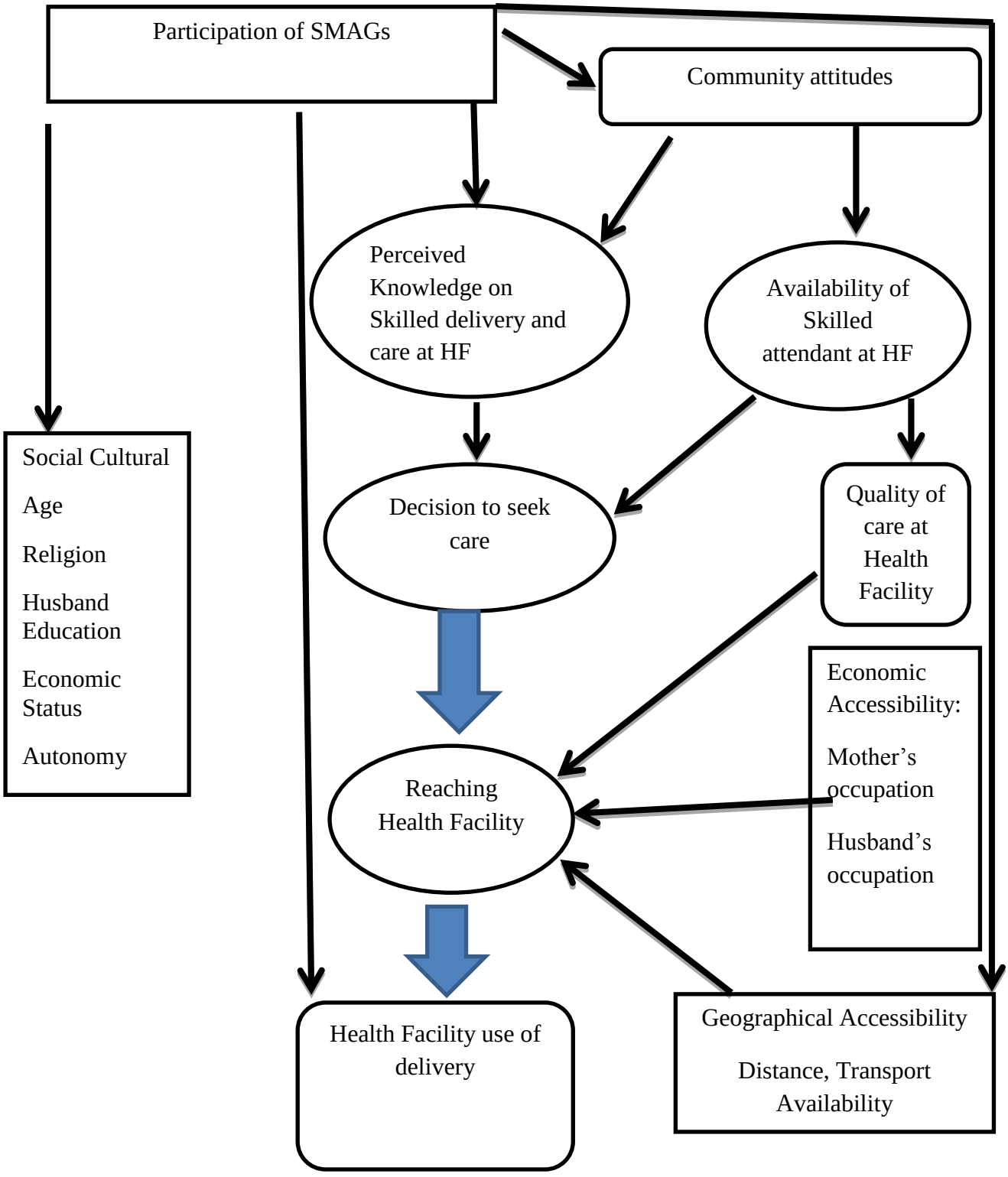

Figure 1: Conceptual Framework SMAGs Participation in Accelerating Health Facility Use of Maternal Delivery (Model of referral chain, adapted from Jahn and Brouwer, 2001)

To help in assessing the possible predictors of usage of health facility for delivery among women in Shibuyunji district, the above conceptual framework was developed after reviewing literature on SMAGs participation in maternal health specifically delivery in health facility.

The framework was illustrating that not delivering in the health facility is linked to SMAGs influence in accelerating institutional delivery and can be predicted by various factors. From the framework, economic factors such as household income were likely to influence accessibility to use of health facility for delivery by women hence affecting SMAGs roles of influencing women to reach the health facility. This framework considers person related factors as well as health facility factors.

The person related factors included the mother‘s socio-demographic characteristics as well as socio - cultural factors and the perceived benefit and need of facility use. It also considers how community attitudes influence has an influence on family decision making leading to a challenge for Mothers to access services from the health facility hence experiencing low deliveries in the health facility. Knowledge on skilled birth attendance at health facility also was an important factor in a rural district like Shibuyunji and all these together had influence on the decision to seek care on use of health facility. The other factors were lack of transportation or means of transport for the SMAGs to reach further places and for women to reach health facility.

Therefore, the frameworks illustrated that participation of SMAGs was affected by both Economic and Geographical accessibility which were mainly influenced of whether the woman actually reaches the facility or whether the SMAGs influence the woman to reach the health facility. The health facility factors are related to the influence of SMAGs in the catchment area as the quality of care rendered in terms of patient waiting time and staff attitude can encourage more women but if it’s the opposite women won’t be encouraged to go back and seek care no matter the influence to seek care by the SMAGs.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

A number of studies around the world have been conducted to try and ascertain the high rates of maternal and neonatal mortality and morbidity. And in the same studies there was positive relationship with giving birth in a health facility with the help of skilled medical personnel and low pregnancy complications and maternal deaths (Stephenson, 2006). Similar case studies on still births causes showed almost half of the deliveries in these settings occurring at home and noted under-reporting of stillbirths as a significant problem, hence reliable data about rates and causes were unavailable in some areas. However, another study showed that 3 million estimated stillbirths which occur yearly, the vast majority are in developing countries, with rates in many developing countries ten-fold higher than elsewhere of the world (Goldenberg, 2014).

2.1.1 Distance to the Health Facility

The latest Ethiopia DHS shows that 41% of the women who gave birth at home indicated that long distance and/or a lack of transportation were the main reasons for not giving birth at the health facility. In contrast, a study conducted in western Nepal showed that living within 30 minutes walking distance from a health facility was positively associated with increased use of both ANC and delivery services. Another study in Ghana urged against that factors of lack of transportation, distance and financial barriers as reasons for not giving birth that they were misplaced as understanding of maternal knowledge on danger signs of obstetric and new-born complications is fundamental to attaining universal health coverage and encouraging women to visit the health centre (Kyomuhendo, 2003).

In a study conducted in Zambia of Kalabo rural district of western province showed that one-third of the respondents lived more than 25 km from the nearest health facility, and that as the distance to the closest health facility doubled, the odds of facility delivery decreased by 29% (Stekelenburg, 2004). However, another study in disagreement, found that lack of knowledge on the benefits of institutional deliveries even were distance and financial barriers are not present could affect maternal utilization (Saaka, 2017).

A study by Cheelo (2018) in addition stated that some demographic and geographical contexts such as mothers' literacy levels and distance to the health facilities remain critical and could explain failure of the intervention to meet the national targets of 60% rural institutional deliveries.

2.1.2 Skilled Birth Attendant

A study by world vision Ethiopia further reviewed quality of care affects the utilization of maternal healthcare services, including negative staff attitudes towards pregnant women, lack of equipment, a shortage of qualified staff, and a lack of medication (World Vision, 2015). Supplies necessary for emergency obstetric care showed that poorly staffed and ill-equipped health centres with poorly skilled personnel negatively affected utilization of maternal healthcare services in the western province of Zambia (Khalifa, 2015).

Lubbock and Stephenson (2008) in their findings reported that women's past experiences with poor-quality healthcare, poor communication with health professionals, or unclear information in the health facilities influenced women's future likelihood to utilise these services. In addition, psychosocial factors − such as pregnant women's negative attitude towards maternal healthcare services provided at health facilities and a preference for TBAs have been shown to influence pregnant women's decision to use maternal healthcare services (Azmul, 2010).

2.1.3 Socio Demographic and Economic Factors

Other studies further, have reported the influence of socio demographic and economic factors such as the pregnant woman's age, the family's income, woman's with highier education, lower parity and those with a higher economic status were more likely to use maternal health services (Ensor, 2014). In agreement the study conducted in Pakistan revealed that Level of mothers' education was found to be one of the determinants (OR =4.95). This finding is consistent with primary studies done in Pakistan and Uganda and Systematic Review in sub-Saharan Africa (Sohel, 2010).

The study further highlighted that education makes mothers to be more concerned for their health and have more autonomy, their ability and freedom to make decisions about their own health is more favourable, which eventually enhance their health-seeking behaviour. Education also improves the ability of educated women to afford the cost of medical health care service.

The finding was consistent with primary studies done in Uganda, Nigeria, and six selected South Asian and sub-Saharan African countries, which showed that urban/rural differences had significant associations with institutional delivery service utilization. This might be explained in terms of the characteristics of the urban residents, namely more proportion of educated mothers, availability of healthcare services nearby, and better access to information than rural mothers. Education leads to better health awareness, which may sensitize the family to decide and utilize health care provided at various health care facilities. In a study in Tanzania, it was found that husbands' educational status is also favourable for timely healthcare seeking and economic capability required. Residence of the mothers was significantly associated with the utilization of institutional delivery service.

2.1.4 Maternal Age

Maternal age is also associated with institutional delivery service utilization. The younger and the older women differ in their experience of the health-seeking behaviour. The possible explanations might be that younger women are more likely to be literate and more likely to have knowledge on the benefits of health care facility delivery than older women. On the other hand, older women consider that giving birth at home is not risky as they have previously experienced birth at home. The possible explanation for the low utilization of delivery care services among multiparous women could be because they feel more confident and perceive that there is no need for institutional delivery due to the experience and knowledge from previous pregnancies and births.

Women with parity 1 were more motivated to deliver in health care facilities, which might be due to the fact that women who are pregnant for their first child are usually more likely to fear complication during labour and delivery than women of high parity.

Lastly it was observed that most of the times family members including husbands encourage and accompany their wives for maternal health care service for first time than for subsequent delivery.

2.2 Strategies to improve Institution Deliveries

2.2.1 Global Perspective

Most obstetric complications occur unpredictably during the time of delivery, but they can be prevented with proper medical care in the health facilities. Despite the Ethiopian government's efforts to expand health service facilities and promote health institution-based delivery service in the country, an estimated 85% of births still take place at home.

Recent global evidence indicates that availability of Emergency Obstetric Care (EmOC) and skilled attendance at birth are key to the reduction of maternal mortality and important for the improvement of both maternal and child health (Howard, 2015). Maternal Health remains a major global public health concern of more than twenty years after the international Safe Motherhood Initiative was launched in 1987 (Recidoro, 2011).

Literature has shown that a number of countries have implemented this global intervention to increase accessibility of health facility during delivery (ZSSP, 2014).

A study in Tanzania assessing the effectiveness of community based initiatives to improve maternal health reviewed that Tanzania is among Sub-Saharan countries that adopted the Safe Motherhood Initiative (SMI) in 1989 (UNFPA, 2014).

2.2.2. Regional Perspective

A study in Malawi similar to Tanzania adopted the safe mother hood initiative in 2005 the Malawi Ministry of Health, through the Ntcheu District Health Office, initiated a community-based Safe Motherhood project using a women's group model. The first phase of this project was implemented from 2005 to 2008 (Ensor, 2014).

The second phase started in 2010 and was expected to phase out in 2013. The project aims to improve women's access to maternal health care; empower women to implement strategies to improve maternal, neonatal and under-fives' health, and implement key childcare practices (Ensor, 2014).

The project established 134 women's groups in the areas of Mpando, Kwataine, Makwangwala, Champiti, Phambala, and Tsikulamowa.

On Contrary unlike Malawi 's use of only women in the safe mother hood model ZISSP report of 2014 revealed that Zambia is using a model of both women and men as Safe Mother Hood Action Groups members instead.

In a Ghana, a study conducted showed the government realising significant contribution of social and behavioural change communication as an intervention to maternal knowledge in obstetric danger signs after adjusting for confounding factors such as antenatal, birth and post-natal care attendance (Khalifa, 2015). Therefore, provision of information, health education and communication targeting women on danger signs of pregnancy and childbirth and associated factors became an important step towards attaining universal health coverage instead of only targeting interventions to address financial and geographical factors but knowledge gap was identified as well.

A study in Philippines in 2006 recognized that performing maternal health services strengthens the entire health system (Sakeah, 2013). The Philippine Department of Health (DoH) then launched the innovative Women's Health and Safe Motherhood Project 2 (WHSMP2). This project, funded in partly by the World Bank targeted women and men in the reproductive age, shifted the emphasis from identifying and treating high-risk pregnancies to preparing all women for potential obstetric complications through community health education (Sakeah, 2013). The government noted the gap of knowledge on obstetric complication among expectant mothers and men in households in the country.

There's overwhelming evidence also through studies reviewed that improving maternal and child health showed or implied increasing the percentage of women giving birth in health institutions with the assistance of trained staff, which is the central goal globally (Stekelenburg, 2004). Hence, a study by Khalifa 2015 showed that one of the interventions implemented by the Government of Zambia to improve maternal and neonatal outcomes is the involvement of the Safe Motherhood Action Group (SMAGs) and commonly known as Community Health Workers in other countries but focusing on a similar objective that is to influence women to deliver in the health facility (Khalifa, 2015)

2.2.3 Local Perspective

In Zambia, a study conducted by Cheelo (2018) revealed that although national targets for most of MNH indicators, receipt of ANC at least four times and SBA at delivery 80% and 60% respectively, were not met by end line following the intervention, the observed significant increase in the coverage for these core indicators holds promise for these marginalized and remote communities of Zambia.

In another study by Howard (2015) similar findings were revealed where there was an increase of about 12% increase in health facility deliveries, the same studies as well showed that there was Limited evidence for a positive association between the SMAG program and an increased utilization of PNC. In the same study it was inconclusive evidence of an association between the SMAG program and utilization of health Facility. In addition, similar results overwhelming showed that the work of Safe Motherhood Action Groups (SMAGs) in reducing maternal mortality and improving maternal and child health services in most rural areas were being attested by those working in rural health centres (UNFPA, 2014).

On contrary the recent Cochrane review urged in an included 18 cluster trials that investigated the effects of community-based interventions in reducing maternal, neonatal morbidity and mortality that improving neonatal outcomes is not sufficient (Recidoro, 2011). The authors concluded that, although facility-based services for maternal and new-born care are important, the evidence is insufficient to recommend scaling up the community-based care packages (Huntington, 2011).

The pointed out the issue of SMAGs being community based workers who are voluntarily working hence these individuals are challenged financially to reach far distance communities and hence their provision may only benefit few in the catchment area who are nearer (UNFPA, 2014).

A review on rural health centres by the Lundazi District Health Office however, highlighted the work of SMAGs was increasing the number of pregnant women attending antenatal and delivering within health centres (Kapapa, 2012).

A similar finding in eastern province in Zambia revealed that most SMAGs were in an appropriate position to be a link between the community and the health centre because after their training they are reportedly knowing their communities, they see the importance of their role, understand the safe motherhood material and are motivated to work for their communities voluntarily (Kapapa, 2012).

The study in additional showed that this has resulted in health facilities reporting increased early booking of antenatal care (ANC), recognition of danger signs, facility delivery and family planning uptake. Through this integration, there has been an increase in informative and community driven content on maternal and child health (Sialubanje, 2014)

Another study in Lukulu Western Province showed the work of SMAGs has resulted in the number of maternal deaths reducing from 12 in 2013 to 6 in 2014, representing 50 percent reduction and that the district did not record any maternal deaths in the first quarter of 2015 (Sialubanje, 2015). However, other studies show that SMAGs although created for a good cause their major challenge has been transport and finance to reach as many communities within the catchment area of the local health centre (Azmul, 2010).

2.3 Factors that limit the effectiveness of Safe Mother Hood Action Groups (Smags)

2.3.1 Compliance and Refusal to referral System

Despite the objectives of the SMAGs meant to enhance utilisation of health facility during delivery literature reviewed shows a number of factors hindering community involvement programs like the safe mother hood action groups to meet their objective. Involving trained TBAs now known as SMAGs in reproductive health care has several advantages, including ease of access to reproductive care and delivery of care at health facility to women in the community (Sialubanje, 2015).

A study in Kenya however, highlighted the gap in literature on cosidering factors that hinder SMAGs to meet the objective of use of health facility as a contributing factor to low utilisation of SMAGs, the study insisted that factors should be taken into consideration in order to measure limitations in delivering reproductive care (Howard, 2015).

Some barriers of noted in other studies is the role of SMAGs in encouraging women to go to health centre for preventive services that would be the compliance and refusal of the referral by the woman that is affected by attitudes and controlled by tradition beliefs. The study further pointed the reasons might lie within the financial limitation, lack of transportation and patients' fear of painful treatment from health workers at the facility (Sialubanje, 2015).

A three year study done in Zambia by Cephas Sialubanje southern province in Kalomo to obtain the degree of Doctor at Maastricht University highlighted important issues that community's face that could as well be a challenge to community based interventions. It provided evidence of the strengths and weaknesses of different approaches, discussed barriers and facilitators, and identified challenges for the future.

This research contributed to current debates concerning communities and interventions such as the SMAGs. The findings were of relevance to: policy-makers, regulators, educators, community health etc. The report covered the following (Sialubanje, 2015).

The major essential issues to increase demand for maternal health services in resource-limited settings are whether women have access to these demand-side interventions and whether they and their families benefit from them (Sialubanje, 2014). This means that these strategies need to be effective at the community level.

2.3.2 Gendered Decision-Making Norms

Gendered norms (Autonomy) determine sociocultural identity construction and attribution of rights and reflect unequal power relations. These norms affect risk and vulnerability, health-seeking behaviour and health outcomes as well as health sector responses of men and women of different ages and social groups. Gender inequality is a cross-cutting determinant of health that operates in conjunction with other forms of discrimination. Gender norms that allow superior value and power to men increase women's risk of gender-based violence, which can contribute to poor maternal health seeking behaviour. Unequal power in the decision-making process within household restricts women's autonomy, limit her power to negotiate with her partner, increase fertility rates, increase unwanted pregnancy, and negatively affect maternal health.

Women may not have access to household resources for health care, as family priorities may focus on household breadwinners, who are more likely to be male in many settings thus Gendered norms are inadequately considered in the design and implementation of demand side interventions and strategies to improve access to maternal healthcare.

Maternal health is rarely examined through a gender lens resulting in strategies and interventions that do not improve access as the environment in which the decisions are being made remain unchanged (McClure, 2014).

2.3.3 Multigenerational Dialogue

There are multigenerational gaps existing between mothers and their daughters in whom mothers are inhibited by social norms and values to create the opportunities for transferring of knowledge and experiences to their daughters.

This resulting in lack of sexual education and preparedness for motherhood hence, making it difficult for SMAGs members to convince such women as reproductive health issues are sensitive and usually not spoken of openly in society. Older generation women would rather not share motherhood experiences with their daughters due to cultural sensitivity and the association of the ‘young’ with ‘purity’ in which young unmarried girls should only explore reproductive health issues after marriage. This creates wide gaps in the knowledge across multiple generations. Daughters end up entering marriages at a young age and lack the knowledge, emotional and mental preparedness of motherhood which Age has been noted by many researches as a barrier in seeking health facility care hence this affects generations.

2.3.4 Appropriate Communication

In a study in Ethiopia the lack of communication between pregnant women and health care providers was a challenge (Alemi, 2016). Many communities suffer from lack of utilization of birth time the reason that programs like SMAGs came to focus on, however quality of care at the health facility makes the work of a SMAG very easy.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Study Design

This was an analytical cross-sectional study. The study conducted the research using the study design because the outcome of interest in this study focused on prevalence of mothers who were referred by SMAGs to deliver in the health facility and also the data was collected within a short period and at once (which are among the characteristics of a cross sectional study). In addition, using analytical cross sectional study method the study obtained both the prevalence and exposure as shown: prevalence of participation of SMAGs in accelerating institutional deliveries among women which is a health outcome and the prevalence of mothers attending SMAGs community health education activities which is an exposure.

3.2 Study Setting

This study was conducted in Shibuyunji Rural District which is among the eight districts of Lusaka province. It is located on the South West part of Lusaka province. The district shares its borders with Chilanga, Kafue, Mazabuka, Chibombo and Mumbwa districts. The District population was estimated to be 78,466 in 2016 (CSO 2010), with annual growing rate of 2.8%.The district has 5 divisions, 33 yards and 122 villages. The main economic activities which people are engaged are agriculture (81%), Livestock keeping (92 %), Fishing (89%), office work (39%), and business (10.6%) (SDC, 2013)

The district has four facilities with SMAGs program. In December 2013 the district had 4 males and 8 females trained as SMAGs comprising two groups for Kapyanga and Mukulaikwa Rural Health Centres and in 2016 the district again with support from Lusaka health Provincial office trained another group comprising of 13 males and 17 female from Sichobo Rural health centres and Nampundwe rural health centre. The district henceforth had 4 SMAGs in four Heath Facilities (Kapyanga, Mwembezhi, Nampundwe and Mukulaikwa Health Centres) out of 8 centres of the district.

3.3 Study Population

The study population comprised of women aged between 15 – 45 years who delivered in the health facilities of Nampundwe rural health centre, Shabasonje rural health centre, Sichobo rural health centre, Shacele rural health post, Kayanga rural health post, Mukulaikwa rural health centre, Mwembezhi rural health centre and Kapyanga rural health centre and also women who came for postnatal care within 2 to 6 days but delivered at home in the year of 2016 in the mentioned facilities.

It is assumed that this population selection will give accurate data on information of SMAGs activities with respect to accelerating institution deliveries because these are women that gave birth two years after the SMAGs program was started in 2014.

The district population of women of child bearing age was 14371, expected deliveries were 3397 and expected live births were 3233.

3.3.1 Inclusion Criteria

Women who delivered at home and only came to Nampundwe rural health centre, Shabasonje rural health centre, Mukulaikwa rural health centre and Kapyanga rural health centre in 2016 and 2012 for further care or post natal care in 2016.

Women aged between 15 - 49 years who delivered in the health facility or came as home delivery for post natal care and consented to the study from the catchment area of Nampundwe rural health centre, Shabasonje rural health centre, Sichobo Rural health centre, Shacele rural health post, Kayanga rural health centre, Mukulaikwa rural health centre, Mwembezhi rural health centre and Kapyanga rural health post in the years 2012 to 2016.

3.3.2 Exclusion Criteria

Women who were pregnant at the time of the study were excluded.

Women who delivered in the health facility whose addresses were not clearly indicated at the health facility.

Mothers who did not consent to the study from the catchment area of Nampundwe rural health centre, Shabasonje rural health centre, Mukulaikwa rural health centre, Mwembezhi rural health centre, Kayanga rural health centre, Shacele rural health centre, Sichobo rural health centre and Kapyanga rural health were not involved in the study.

3.4 Sampling and Sample Size

3.4.2 Sampling Size Calculation

The minimum sample size required to determine the level of SMAGs participation in Shibuyunji district was calculated below Using Stata version 14.0 (Statacorp Inc.).

The estimated sample size, taking into account alpha (α) 0.05; power of study (β) = 0.8; proportion (Po) = 0.37; alternative proportion (Pa) = 0.28. Thus the sample size calculated was 217. However, taking into account 10% non – response added up to a total number of 239 participants.

Equation

$$n = \frac{Z^2 x\ P(1-P)}{\varepsilon^2}$$

Where:

Z = is the significance value 1.96

P = Prevalence of SMAGs level participation to be detected 0.37

Ɛ = error of non-response (Precision around the Prevalence 'p') 0.05

Confidence interval 95%

10% non – response added up to the total number of 239 participants for the study.

The sample size distribution among health facilities for the study was calculated using proportion to size calculation as shown below (Wayne, 2014).

3.4.1 Sampling Techniques

Table 1: Facility Proportion to Size Sample Calculation

Period	Health Facility	Health Facility Expected deliveries	Sample Size Calculated
2016	Kapyanga Rural Health Centre	279	19
2016	Kayanga Health Post	141	17
2016	Mukulaikwa Rural Health Centre	387	26
2016	Mwembezhi Rural Health Centre	669	45
2016	Nampundwe Rural Health Centre	775	53
2016	Shabasonje Rural Health Centre	352	24
2016	Shacele Health Post	211	14
2016	Sichobo Rural Health Centre	458	31
	Total deliveries	3522	239

The eight health facilities in the district were stratified into two groups. These included the four health facilities without SMAGs and the four health facilities with the SMAGs program. The mothers who delivered in the health facility in the study were sampled using simple random sampling. The study had to sample a total number of 239 women who delivered in the health facilities in 2016 from the total deliveries in the delivery register, hence simple random sampling was employed to allow the study to capture as women who delivered with clear home addresses as possible to answer the objective and meet the sample size of the study.

3.5 Variables and Measurements

3.6 Table 2: The Study Variables and Indicators of Measurements

	Variable	Indicator	Variable Measurement
Dependant Variable	Participation of SMAGs	1. Number of health facility deliveries Referred by SMAGs. 2. Number of home deliveries referred for Post natal care by SMAGs.	Binary
Independent Variables (Underlying)	Age	1.Age of last birthday in years	Continuous
	Parity	1.Number of Children ever born	
	Marital Status	1. Single 2. Married 3. Divorced 4. Cohabitating 5. Widow	Ordinal
	Level of Education	1. no education 2. Primary 3. Secondary 4. Tertiary	Ordinal
	Occupation	1. Not working 2. Employed 3. Informal employment 4. Housewife	Nominal
	Distance to the health facility	1.Near (0 to 5 km radius) 2. Midway (6-10 km radius) 3. Far (above 10 km radius.) 4. Mode of transport and cost	Interval
	Maternal Cultural Belief System	1. Presence of traditional maternal belief practice 2. Type of beliefs 3. Reasons for maternal beliefs	Nominal

Table 2 Conti……: The Study Variables and Indicators of Measurements

Independent Variables	Variable	Indicator	Variable Measurement
	1. Health Seeking decision making	1. Own/self-decisions 2. Husband's decisions 3. Family member by type of relation 4. Reasons for decision influence	Nominal
	2. Level of Knowledge on maternal risks	Correct responses to questions to: 1. Motivation of Health Facility Maternal referral Performance of SMAGs 2. Home Visits by type of visits/Reasons for Visiting 3. Meeting attended by mother and conducted by SMAGs 4. Commitment of SMAGs	Rating aggregated as : 1. High (8-10 scores) 2. Average(5-7 scores) 3. Poor (0-4 scores)
	3.Perception	1. Attitudes towards SMAGs 2. Reasons for positive and negative Reaction	Nominal

3.6 Data Collection and Management

3.6.1 Data extraction

The study extracted data from the existing delivery registers and at some extent post natal care register in the health facilities to get the study participant sample and show the trend of deliveries before the SMAG program and after. The study also utilised the ministry of health Performance tool for each facility to know how many SMAGs were active under the period reviewed of the research.

Structured questionnaire was used to collect information from the mothers whose records showed that they delivered in the health facility in 2016 as well as the mothers whose records show they were home deliveries in 2016. The questionnaire comprised of both open and ended questions to obtain qualitative information. A Structured Questionnaire was assumed to be convenient since the population under the study was rural the majority are not literate to read for themselves. However, the study experienced non response on the two questions that were open ended. Therefore, the study findings are based on purely closed ended questions responses.

Data Processing and Analysis

The data on the number women who delivered in the health facility was extracted from the Health Facilities registers and then entered into EPI Data version 3.1 where it was cleaned before being saved as backup for the research. Data cleaning was conducted to ensure that all incomplete and inconsistent entries was accounted for and excluded from the analysis.

In addition EPI Data version 3.1 was employed to create a questionnaire data base for double entry and validation, and then data was exported to Stata 14.0 for all statistical analysis.

Multi-variable logistic regression analysis was used to determine significant predictors of use of delivery in a health facility and to quantify relationship between use of health facility for delivery and the independent variables associated with the Influence of SMAGs. The variables that were exhibiting a statistically significant association of SMAGs influence with use of health facility for delivery was fitted into the Multi-variable logistic regression model.

Utilisation in this study was defined as having woman referred by a SMAG to delivering in the health facility with P-value of less than 0.05 will be significant with an associated 95% confidence interval. Furthermore, a stepwise, backward regression model was used. All independent variables that were significant at univariate level were included in the Multivariable regression analysis until the final model was obtained.

3.7 Ethical Consideration

Ethical approval was obtained from the National Health Research Authority (NHRA). Permission to conduct the study was obtained from the District Health Office in Shibuyunji District. Written Informed consent form was obtained to allow voluntary participation. The respondents were availed with information regarding their rights whether to accept participating in the study or not for them to make an informed choice. The benefits and purpose of the study was communicated to respondents before involving them in the study in order to clear out any misconceptions they could have towards the study. Privacy was assured during the data collection process and after the study. And it was mentioned that the researcher will use the data collected only for purpose of the study. In addition, the researcher ensured that participants were interviewed in exclusive or isolated rooms where they could not be heard by others. Anonymity of participants was maintained by not using names on the questionnaire. In addition, participants were treated fairly regardless of who they were in the study. They were informed that they could withdraw any time if they so desired. The researcher also ensured that participants were not exposed to any sign of exposure.

3.8 Project Management

This study was carried out within a period of sixteen months, beginning with proposal development to data collection, analysis, report-writing and dissemination of findings to relevant stakeholders.

In order to successfully complete this study, financial resources were required for procurement of some materials. Some of the things procured included a toner, A4 plain papers, pens, pencils, software for analysis and finances to meet travelling costs.

Financial resources amounting to K11, 340.00 were required in order to successfully carry out this study. This study was self-funded. No research assistants were used for this study.

CHAPTER FOUR: RESULTS

The objective of this study was to determine the factors associated with SMAGs participation and acceleration of institutional deliveries among mothers in Shibuyunji rural district. Data was collected among a study sample of 239 women who delivered and came as home deliveries for post natal care within 48 hours in 2016 of Shibuyunji district eight health facilities using a structured questionnaire.

Table 4.1: Characteristics of respondents (N=239)

Individual characteristic	Frequency	(%)
Age group (years)		
16-24	110	46.0
25-34	99	41.4
35-44	30	12.6
Marital Status		
Single	86	36.0
Married	149	62.3
Divorced/Widowed	4	1.7
Educational Level		
No education/Primary	131	54.8
Secondary	78	32.6
Tertiary	30	12.6
Employment status		
Unemployed	34	14.8
Formal employed	3	1.3
Self-employed/Farmers	193	83.9
Partner Employment status		
Unemployed	16	9.0
Formal employed	13	7.3
Self-employed/Farmers	149	83.7
Know Health Facility delivery Benefits		
Yes	210	87.9
No	29	12.1
Encountered any Cultural beliefs prior to delivery		
Yes	2	0.9
No	220	99.1

Individual Characteristics

4.1.1 Maternal Age

The findings in Table 4.1 show that the mean age of the respondents was 22 years. This is synonymous with a young population. The table further show that out of the total population of mothers sampled of 239 the majority of the respondents were aged between 16 years and 24 years n=110 (46%), with the least proportion of mothers aged 35 – 44 years n=30 1(2.6%). The rest of the mothers were in the age group of 25 - 34 n=99 (41.4%).

4.1.2 Marital Status of the mother

Overall, the study found that about n= 149 (62%) of the population were married. A further break down showed that n=86 (36%) of the population had never been married with less than one per cent widowed while n = 4 (1.7%) was divorced. This study further revealed that majority of the respondents, 54.8% had attended primary school with about 23.4% attending secondary school. Twenty three percent attended secondary education. Approximately 9% had never attended school.

4.1.3 Employment Status of the Mother

Describing the study respondent's employment status, table 4.1 indicated that the majority of the respondents were self-employed or doing farming n=193 (83.9%) with the least of the respondents reporting being employed 1.3% (n=3) while the rest of respondents indicated being unemployed n=34 (14.6%).

4.1.4 Mothers Level of Knowledge on Health Facility Delivery Benefits

Accessing the level of knowledge on the importance of delivering in the health facility, the results in Table 4.1 also revealed that the majority of respondents n=210 (87.9%) had knowledge on the importance and benefits of delivering from the health facility while the least comprised of about n=29 (12.1%) population that indicated not knowing the benefits of delivering from the health facility.

Continuation of Table 4.1

Community Characteristics		
Number of Active SMAGs in Area		
0	77	32.7
1	113	58.9
2	22	11.4
Received Health Education on facility delivery		
Yes	198	83.9
No	38	16.1
Who Provided Health Education		
CHWs	85	38.1
SMAGs	68	30.5
Nurses	61	27.4
Others	9	4.0
Ever Attended SMAG meeting in Area		
Yes	79	52.7
No	71	47.3
Distance to Facility (KM)		
0-5	85	35.6
6-10	65	27.2
Above 10	89	37.2
Transport Used by Health Facility		
Oxcart	26	10.9
Cycling	72	30.1
Walking	127	53.1
Buses	14	5.9
Health facility characteristics		
Expenditure During Delivery (ZMK)		
120-500	63	28.9
501-1000	104	47.7
1001-2000	51	23.4
Rating of Skilled Birth Attendants		
Very bad/bad	47	23.9
Fair	33	16.7
Excellent/Good	117	59.4

Note: Numbers on some variables are not adding up to 239 due to non-response.

Community Level Characteristics

4.1.5 SMAGs Presence in the Community

Continuation of Table 4.1 shows community characteristics of participants who revealed that n=198(84%) of the respondents agreed to having attended one meeting on health education compared to the n=38 (16%) that responded as having not received any health education.

The study results also showed that there was presence of SMAGs as n=113 (59%) of the participants revealed that there was at least one SMAG in the area while =57 (30%) of the respondents mentioned no presence of SMAGs and n=22 (11%) of the respondents who reported having at least 2 SMAGs in their catchment area were the least.

Table 4.1 of continuation also too shows that respondents had various sources regarding provision of Health Education: Community Health Workers (CHWs) provided the highest health education among the respondents 38% (n= 85) while SMAGs were second among respondents with 31% (n=68) and the least were nurses with 27% (n=61). In terms of SMAGs participation and participants' decision to deliver in the health facility, There was a minimal difference in both the groups of those who revealed ever attended a SMAG meeting as 49% (n=79) compared to the n=71 (47%) respondents who declined attending any SMAG meeting.

This study results revealed that encountering any cultural beliefs of delivering in the health facility was almost in none existence, the majority of respondents 99% (n=220) indicated not encountering any cultural beliefs prior to their delivery compared to only 0.9% (n=2). See Table 4.1

4.1.6 Mothers Distance to the Nearest Health Facility

Table 4.1 presents' results of the proportion of women who were interviewed, the majority 59% (n=117) reported covering 0 – 5 km to reach the health facility, followed by the midway 29.3% (n=47) who stay 6 to 10 kilometres while a further break down showed that the least 16.7% (n=33) were among the respondents that stay far, more than 10 kilometres from the health facility.

4.1.7 Mothers Means of Transport

Majority 53 % (n=127) of the respondents in Table 4.1 indicated having no means of transport apart of walking, followed by the ones who indicated using bicycles were18% (n=24) , while among the mothers who indicated using scotch carts was the least at 3.8% (n=5) and the rest 5.9% (n=72) were using buses.

Health facility Characteristics

4.1.8 Mothers experience with Skilled Birth Attendant

In this study results summarised in Table 4.1 on health facility characteristics, it was revealed that the majority of women described their experience at their last delivery as excellent 59% (n=117) compared to 24% (n=47) of the respondents who described their experience with SBA as bad and the rest rated the experience as fair 16.7% (n=33).

4.1.9 Mothers Expenditure during delivery

Table 4.1 revealed that deliveries in the health facility goes with expenses, as the majority of women 47% (n=104) who delivered in the health facility indicated spending k501 - k1001 during their delivery in the health facility, while 23% (n=51) mentioned spending k1001 – k2000 and n=63 (29%) responded having spending k120 – k500 during delivery.

4.2 Associations of Health Facility Delivery and other Characteristics of Respondents

This section presents results of the relationship between mother's decision on Place of delivery and other characteristics of respondents. The Chi-square correlation tests were used to establish the relationships between variables as described in Table 4.2.

Table 4.2: Associated Factors of SMAGs Participation

	Place of Delivery				
	Health Facility		Home		
Characteristic	**Frequency**	**(%)**	**Frequency**	**(%)**	**P-Value**
Age group (years)					0.004*
16-24	82	75.9	26	24.1	
25-34	90	90.9	9	9.1	
35-44	28	93.3	2	6.7	
Educational Level					0.026*
No education/Primary	106	80.9	25	19.1	
Secondary	71	93.4	5	6.6	
Tertiary	23	76.7	7	23.3	
Distance to Facility (KM)					**<0.0001 ** **
0-5	79	92.9	6	7.1	
6-10	61	93.9	4	6.1	
Above 10	60	69.0	27	31.0	
Expenditure During Delivery (ZMK)					**<0.0001 ** **
120-500	48	76.2	15	23.8	
501-1000	97	95.1	5	4.9	
1001-2000	50	98.0	1	2.0	

Continuation of Table 4.2

Characteristic	Place of Delivery: Health Facility Frequency	Health Facility (%)	Home Frequency	Home (%)	P-Value
Know Health Facility delivery Benefits					**0.003***
Yes	181	87.0	27	13.0	
No	19	65.5	10	34.5	
Number of Skilled Birth Attendants at Facility					**0.03***
1-2	60	82.2	13	17.8	
3-4	64	94.1	4	5.9	
5-9	38	95.0	2	5.0	
Received Health Education on facility delivery					**0.004***
Yes	171	87.2	25	12.8	
No	26	68.4	12	31.6	
SMAG visited your home					**0.039***
Yes	60	89.6	7	10.4	
No	51	76.1	16	23.9	
SMAG Assisted to reach health facility					**0.003***
Yes	66	93.0	5	7.0	
No	44	80.0	11	20.0	

Note:

**Statistical significance at P<0.0001

*Statistical significance at P<0.05

Where Pearson Chi2 assumptions were not satisfied, Fishers exact P values were obtained.

4.2.1 Association between Health Facility Delivery and Mothers Age

Table 4.2 shows that the majority of women who delivered in the health facility were in the age range of 35- 44 (93.3%) while the age range 25 – 34 was second among the respondents (90.9 %) who responded to having been delivered from the health facility. The age range of 16 – 24 was least among respondents who indicated having been delivered in the health facility at 75.9% and while the highest 24% among home deliveries respondents of age 16-24 years.

Chi-square test was used to ascertain the association between health facility and the age of the mother. The findings showed statistically significant association between mother's decision to place of delivery and their age with a p-value of 0.004.

4.2.2 Association between Health Facility and Mothers Education Level

The table further revealed that the majority of respondents had low education levels among both health facility deliveries and home deliveries respondents: 106% of the respondents among health facility deliveries had attained primary education/no education at all while of Secondary School among health facility deliveries were 93% and those who responded as having attained tertially education were 76.6% among health facility deliveries. Chi-square test was used to the association between health facility delivery and mother's education level. The findings showed no association between mother's decision to place of delivery and the mother's education level (p value of 0.026).

4.2.3 Association between Health Facility Delivery and Distance

Results further indicate that a good number of the mothers n= 79 (92.9%) who delivered in the health facility were within reach of the nearest health facility (0 – 5 km) compared to the mothers n=60 (69%) who were living the furthest from the health facility 10 km and above. Chi-square test was used to the association between health facility delivery and distance to the nearest health facility. This difference was statistically significant, as shown by an extremely strong association ($p < 0.001$).

4.2.4 Association between Health Facility Delivery and Mothers Financial Status

In addition, results revealed that there were more expenses when delivering in the health facility compared to home delivery in Shibuyunji district. **C**hi-square test in table 4.2 was used to ascertain the association between mother's decision on place of delivery and the mother's financial ability during delivery. The findings showed that the majority n=97 (95.1) of the mothers who delivered in the health facility had high expenditure of between k501 – k1000 while 24% (n=15) of mothers among home deliveries had low expenditure of between k120 - k500. Therefore, the findings revealed a strong association of health facility delivery and the ability of expenditure at the health facility (P>**0.001)**.

4.2.5 Association between Health Facility Delivery and Mothers Knowledge on benefits of Health Facility Delivery

The table of 4.2 furthermore revealed that 87 % (n=181) of the mothers who delivered in the health facility had high knowledge on the benefits of heath facility delivery while the respondents who indicated having no knowledge on the benefits of delivering in the health facility were n=19 (65.5%) while the mothers with no knowledge on benefits of delivering in the health facility were 34.5% (n=10). Chi-square test was used to the association between health facility delivery and the mother's knowledge on the benefits of delivery from the health facility. The findings showed a significantly strong association (p-value 0.003).

4.2.6 Association between Health Facility Delivery and Receiving Health Education

Table 4.2 shows that n=171 (87.2%) of mothers interviewed agreed to having attended at least one meeting on health education compared to the n=26 (68.4%) that responded as having not attended any health education, while among home deliveries n=25 (12.8%) indicated having received at least one health education on health facility deliveries while n=12 (31.6%) declined among home deliveries respondents.

Chi-square test was used to the association of mother's decision to place of delivery and having received a health education on benefits of health facility delivery. The findings showed a significant association (P value of 0.004).

4.2.7 Associations of Health Facility Delivery and SMAGs Community Activities among Respondents, Pearson, Chi2 Test

Table 4.2 in addition shows Chi-square correlation variables that were used to establish relationship between SMAGs community activities and mothers' decision on place of delivery; presence of a SMAG in the area, received health education on health facility delivery benefits, visited by a SMAG during pregnancy and assisted by a SMAG to reach the health facility for delivery.

4.2.8 Association between Health Facility delivery and SMAGs Follow Ups

The results in Table 4.2 revealed that the majority among health facility deliveries n=60 (89.6%) were followed up by the SMAGs prior to delivery and 76.1% (n=44) indicated not having been visited at home by a SMAG prior to their delivery.

Among the home deliveries the majority n=16 (23.9%) indicated were not followed up of SMAGs prior to delivery compared to the n=16 (10%) who indicated having been followed during and prior to delivery but delivered at home. Chi-square test was used to the association between place of delivery and SMAGs follow up prior to delivery. There was an association (0.039).

4.2.9 Association between Health Facility Delivery and SMAGs Physical Referral

Table 4.2 results furthermore shows that the majority n=66 (93%) of mothers who indicated having been follow up by SMAGs among health facility deliveries were assisted to reach the health facility for delivery compared to the n=44 (80%) who indicated not having been assisted by a SMAG to reach the health facility for delivery.

Chi-square test was used to the association between SMAG physical participation in referring mothers to the health facility and mother's decision on place of delivery. There was a statistically significant association (p value of 0.003).

4.3 Unadjusted factors (cOR) for the associated factors of the SMAGs participation in accelerating usage of health facility for delivery.

Table 4.3 below shows the results of unadjusted factors (cOR) for the associated factors of the SMAGs participation in accelerating usage of health facility for delivery.

Table 4.3 Unadjusted odds ratios for Associated Factors for SMAGs Participation

Characteristic	cOR	95% CI	P-Value
Age group (years)			
16-24	Ref.		
25-34	3.2	1.4-7.2	**0.006***
35-44	4.4	0.99-19.9	0.05
Educational Level			
No education/Primary	Ref.		
Secondary	3.3	1.2-9.2	**0.019***
Tertiary	0.8	0.2-2.0	0.599
Distance to Facility (KM)			
0-5	Ref.		
6-10	1.2	0.3-4.3	0.826
Above 10	0.2	0.06-0.43	**<0.0001****
Expenditure During Delivery (ZMK)			
120-500	Ref.		
501-1000	6.1	2.1-17.7	**0.001***
1001-2000	15.6	1.9-122.9	**0.009***
Know Health Facility delivery Benefits			
Yes	Ref.		
No	0.3	0.12-0.67	**0.004***
Received Health Education on facility delivery			
Yes	Ref.		
No	0.3	0.14-0.71	**0.005***
SMAG visited your home			
Yes	Ref.		
No	0.4	0.14-0.97	**0.044***
SMAG Assisted to reach health facility			
Yes	Ref.		
No	0.3	0.09-0.93	**0.037***

Table 4.3 shows the results of unadjusted factors (cOR) for the associated factors of the SMAGs participation in accelerating usage of health facility for delivery care as interpreted: mothers who were in the age of 35 – 44 years old were 4 (cOR, 0.99 – 19.9) times more likely to be referred by the SMAG and deliver in the health facility than those aged 16 – 24 years old.

This was statistically significant (P-Value = 0.06). Furthermore, the study also found that those with highier education (tertially) had reduced odds of being referred by the SMAG to deliver in the health facility by 20%. This was not statistical Significant (P-value = 0.599)

In this study as presented in the Table 4.3 it was also found that those who live 10 km away from the health facility had reduced odds of delivering in the health facility even after a SMAG referral by 80%. This was statistically significant (P-value=0.001). In assessing the amount of money spent by women when delivering at the health facility, the study results revealed that those who spent 1001 – 2000 were 15.6 (cOR, 1.99 – 122.9) times more likely to deliver in the health facility when referred by a SMAG than those who indicated spent 100 – 500 during delivery at health facility. Expenditure during delivery was statistical Significant (P-Value=0.009).

The wwomen who had no knowledge on benefits of health facility delivery were 70% less likely to have a facility delivery even after being referred by a SMAG compared to those women who had a highier knowledge on health facility delivery (cOR 0.3, 95% CI: 0.12, 0.67). This was significant (P-Value = 0.004). Women who did not attend health education meeting pertaining to benefits of health facility delivery were 70% less likely to have a facility delivery even after a SMAG referral than women who had attended health education meetings on benefits of health facility delivery (aOR 0.3, 95% CI: 0.14, 0.71). The result shows statistical significant (P-value = 0.005) moreover, those not visited by SMAGs were less likely to deliver in the health facility by 60% compared to those who were visited. This was statistical significant. Not being assisted by a SMAG to deliver at the health facility had a less likelihood of delivering in the health facility by had significantly increased odds of home delivery by 70% (cOR 0.3, 95% CI: 0.09, 0.93).

This was statistical significant (P-value = 0.037). Lastly, although not statistically significant women living around facilities with 1 - 2 skilled birth attendant at the facility were also more likely to deliver at home by 40% (cOR 1.3, 95% CI: 0.88, 19.3).

Table 4.4 Key Predictors for factors associated with Participation of SMAGs:

Characteristic	OR	95% CI	P-Value	AOR	95% CI	P-Value
Age group (years)						
16-24	Ref.					
25-34	3.2	1.4-7.2	**0.006***			
35-44	4.4	0.99-19.9	0.05			
Educational Level						
No education/Primary	Ref.					
Secondary	3.3	1.2-9.2	**0.019***			
Tertiary	0.8	0.2-2.0	0.599			
Distance to Facility (KM)						
0-5	Ref.			Ref.		
6-10	1.2	0.3-4.3	0.826	0.7	0.15-3.72	0.712
Above 10	0.2	0.06-0.43	**<0.0001****	0.1	0.03-0.39	**0.001***
Expenditure During Delivery (ZMK)						
120-500	Ref.					
501-1000	6.1	2.1-17.7	**0.001***			
1001-2000	15.6	1.9-122.9	**0.009***			
Know Health Facility delivery Benefits						
Yes	Ref.			Ref.		
No	0.3	0.12-0.67	**0.004***	0.07	0.014-0.37	**0.002***
Received Health Education on facility delivery						
Yes	Ref.					
No	0.3	0.14-0.71	**0.005***			
SMAG visited your home						
Yes	Ref.			Ref.		
No	0.4	0.14-0.97	**0.044***	0.3	0.09-0.86	**0.027***
SMAG Assisted to reach health facility						
Yes	Ref.					
No	0.3	0.09-0.93	**0.037***			

Note:

****Statistical significance at P<0.0001**

***Statistical significance at P<0.05**

Where Pearson Chi2 assumptions were not satisfied, Fishers exact P values were obtained.

In the final model (Table 4.4 above), after adjusting for confounders the key predictors for SMAGs participation and associated factors towards accelerating institutional deliveries in Shibuyunji district are shown: women who lived 10 km away from the health facility had a reduced odds of delivering at the facility by 90% [AOR 0.1; 95% CI 0.03-0.39; P=0.001].

The pregnant women who did not know the benefits of delivering from the health facility had reduced odds of delivering from the facility by 93% [AOR 0.07; 95% CI 0.014-0.37; P= 0.002], pregnant women who reported not being visited at their home by SMAGs had a reduced odds of delivering from the health facility by 70% [AOR 0.3; 95% CI 0.09-0.86; P= 0.027]. After controlling of confounding variables there was no significant association between participation of SMAGs in accelerating institutional deliveries and Maternal Age, Education level, Financial Status, and a Mother receiving health education prior to delivery

CHAPTER FIVE: DISCUSSION, RECOMMENDATIONS AND CONCLUSION

The study discussion is centred on the general objective of the study, which sought to determine the associated factors with participation of SMAGs towards acceleration of institutional deliveries among women in Shibuyunji Rural. It is discussed according to the specific objectives.

5.1 Social Demographic Characteristics

Findings of the study have revealed that the majority (93.3%, [p <0.004] of mothers who indicated having been referred by SMAG members to deliver from the health facility were falling between the older age of 35 – 44 years. The evidence suggests that older women have more access to health facility compared to younger women. The findings support further evidence from other studies' in Malawi by Mazalale (2015) demonstrating preference of older women accessing health facility delivery care.

The reasons for the failure or delay of young women (16-24years) to access health facility were found to be associated with 'fear of being stigmatized' and 'failure to reveal their pregnancy status to elderly people', including the SMAGS. The findings contradicts evidence from Kogan and Leary (2001) in which younger women of similar ages were found more informed and were accessing health facility delivery care. The findings from this study suggest more need to be done to motivate younger women on the importance of access to maternal health care in health facilities.

The findings in this study revealed that the majority of the respondents were married by 62%. The findings support further evidence from studies in Tanzania by Mangoma and others (2011) in which married women were significantly more likely to access the health facility for delivery.

Findings from this study demonstrates that the strategy promoted by the Zambian Ministry of Health, whereby men are encouraged to escort their partners for antenatal and postnatal services where information on maternal health is provided and pregnant women who come to facilities with their spouses are served 'first and fast is the

reasons that has adversely affected single mothers in Shibuyunji, ultimately discouraging them from returning to a health facility to deliver.

In addition, single mothers are stigmatised and thus not willing to deliver at a health facility as they anticipate a negative interaction with providers.

The reasons for single mothers not coming for delivery care at the health facility is also associated to the absence of financial and moral support, demonstrating the lower utilization rate of health facility deliveries among single respondents in this study. In disagreement to this study findings Ngelele and others (2015) provided evidence that single women were in the majority in seeking health care, the study further gave evidence 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. Therefore, since this was a quantitative study, there is need of a qualitative research to explain how marital status shapes use of health facility during delivery, especially considering that evidence is not clear, with some studies suggesting an effect and others not.

Contrary to other hypothesis, where those with highier education were found to be more likely to go to the health facility for delivery (Mooyo, 2018), Lino and others (2011) in similar provided evidence from a study in Thailand in which women with a high level of education had a positive perceptions about the quality of Delivery because they could judge and appreciate the benefits of Health Facility delivery Care. This study detected that the least educated women were more likely to deliver in a facility. Our findings confirm with findings from prior research conducted in Zambia by Simataa (2014) where in their study majority of women were unemployed and of lower education level who reached the health facility for maternal care.

This is the same scenario in this study for health facility delivery seeking care behaviour. Therefore, findings in this study provided evidence that showed no association between referral of mother by a SMAG member and education level of the mother (p value of 0.026): the mothers that were referred to the health facility and delivered were in the majority and had attained primary education/no education at all. This finding is important because it stresses the importance of health seeking behaviour among the rural community with low education status, and stresses that acquiring and considering the benefits of good health lies in the interventions put in place to increase health facility accessibility during delivery which this statement agrees with the current study findings.

The study findings however are contradicting with other studies conducted in Tanzania and other parts of the world. For example, Tanzania's Demographic and Health Survey indicated that a mother's education is strongly related to place of delivery. The proportion of births delivered at health facilities increased from 29% to 79% among mothers with a secondary or higher education (National Bureau of Statistics & Macro International Inc. 2005). In Nepal, maternal education was among the important independent factors in determining the place of delivery (Bolam et al. 1998). Yanagisawa and others (2006) also documented that woman who had at least 7 years of school attendance being six times more likely to deliver babies at a health facility than those who did not attend.

This study finding therefore, demonstrates that the benefits of SMAGs participation on accelerating institutional deliveries in Shibuyunji district included a mother being able to make appropriate decisions before, during and after pregnancy regardless of the education level and this study therefore, concludes that education level is not a determinant of health facility accessibility in Shibuyunji. Similar to what was described in relation to marital status, the majority of mothers (98%) in this study were found spending more during their delivery at the Health Facility compared to the home deliveries. These findings demonstrate that health facility delivery in Shibuyunji district comes with hidden costs that the majority of a rural district population might not manage.

The study finding are in conformity with the study by Mazalale (2015) their study findings revealed that majority of the SMAGs interviewed reported that mothers did not afford to pay for transport and other necessities required by the health facility when referred due to low socioeconomic status of women. In addition, our findings demonstrate that many women give birth at home because they fail to raise money to buy baby clothes and other requirements.

Those who fail to buy baby clothes give birth at home because they fear being harassed by nurses at the clinic. Similar findings were also reported by Stekelenburg et al. (2004) and Thaddeus and Maine (1994) showed the importance of logistical barriers in limiting access to, and utilization of, maternal healthcare. Together these findings stress the need for public health interventions to focus on mitigating these physical barriers and indirect costs before women are expected to use the services.

This state of affair is the reason contributing greatly to critical delays on the part of SMAGs level of accelerating institutional deliveries.

That is, even if women have the knowledge about the benefits of using a health service through SMAGs, they may not use the service until they feel confident in overcoming perceived barriers. In addition, the study by Pemba and others (2012) showed that among women who did not comply with referral advice, almost half of them mentioned financial constraints as a major factor.

5.2 Distances to the Health Facility

The study findings established that majority of mothers who lived 10 km away from the health facility had less likelihood to deliver from the facility by 90% and that it was among the key predictor factor affecting SMAGs participation on referring women to the health facility and a mother accessing health facility delivery services. The findings in this study are in agreement with the qualitative study conducted in Kapiri district by Phiri and others (2014) in which distance to the nearest facility was shown to be a barrier to seeking health Facility delivery care both in terms of being an obstacle and a disincentive to seeking care.

In agreement with the findings from this study, these results also tally with UNFPA 2012 which found geographical location of a mother may affect SMAGs referrals. In addition, Saving Mothers Giving Life report (2012) also agreed with study 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 which is very true for Shibuyunji district road terrains. In another study the AMDD study results, (2010) revealed that the problem of referral in Malawi was due to poor transport. The results for this study henceforth conclude that that that low institutional deliveries in Shibuyunji District is due to long distances.

Results in this study showed that most of the women walk (53%) to reach the nearest health facility and mostly could have developed labour at night with no means of transport available. Agreeing with this study finding, a study by Pemba (2012) similarly 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 at the health facility and confirming with this study (refer to statement of the problem) community maternal deaths that occurred in Shibuyunji District in 2016. This key finding concurs with what other researchers in developing countries have reported (Gabrysch, 2009).

Most pregnant women are not able to access transport services when they develop labour mostly due to the poor road net-work and infrastructure especially in rural areas hence deliver at home even when a SMAG has referred. This finding is no different from Shibuyunji Rural District as the study found that within rural Shibuyunji district, health facilities are sparsely distributed with very poor road net-work and inadequate infrastructure (Mothers Shelter). The results of this study henceforth suggests that low institutional deliveries in Shibuyunji District is due rough terrains

In this study the women were asked to describe their experience at their last delivery with Skilled Birth Attendant. The respondents in majority described their experience as excellent 59% (n=117).

These findings defeat the findings by Cheelo and others (2018) where it was stated that health workers allowed SMAGs known to have worked as TBAs to conduct deliveries in the health facility even when a referral has been done i.e. when facilities experienced absenteeism, shortages or work pressure, hence this encouraged women to deliver at home instead as they didn't see the difference. This was not the case in this study as respondents indicated having more between 1 - 2 Skilled Birth attendants at their health facilities.

5.3 Mothers Knowledge on SMAGs Community Activities towards Accelerating Institutional Deliveries

The majority 57% of the respondents acknowledged having SMAGs in their area who were sensitizing community members on importance of delivering in the health facility. This is the reason why in this study there had been no contributing factor of myths linking directly to delays in referral of mothers by SMAGs to health facilities. The study in addition indicated that the majority 220 (99%) were not encountering any cultural beliefs while the difference was non- response. However, it is also possible that the messages by SMAGs were sent to women who could have been most likely to deliver in a facility. These findings confirm that mothers in the district are well informed by SMAGs and other health care personnel on the importance of health facility delivery. This is in contradiction with other studies that have been conducted before.

A study in Luanshya, Zambia revealed that 90% of the mothers were practicing cultural beliefs that affected post-natal care and delivery Care coverage attendance (Mwangala, 2014).

Further other studies conducted by Simon and others (2011) in their study it was established that SMAGs implemented much of the intervention as was intended, particularly in the area of women's education and referral to health facilities for skilled MNH services.

The study further revealed that SMAGs went beyond their prescribed roles to assist women with household chores and personal problems and used their own resources to enhance the success of the mother reaching the health facility for delivery.

SMAGs play a very important role in helping mothers deliver from the facility. This study provided evidence that there was no relationship between a SMAG assisting a woman to deliver in the health facility even when a good number of Mothers indicated having SMAGs in their areas who were doing follow ups. This is in agreement with other studies conducted in Africa by Fotso and others (2016) providing evidence that SMAGs were failing to enhance a successful acceleration of health facility deliveries due to the inclusion of males in the group. This study found that areas where male SMAGs were present, health education activities were being done with follow ups on reminders and checkups to mothers being poor.

This study therefore concluded that the fact that it usually easier to disclose pregnancy-related issues to female SMAGs than male SMAGs hence so difficult for male SMAGs to conduct follow up of these women, as healthcare occurs within cultural-bound norms and sensitive socio-cultural factors. In agreement, a study conducted by Cheelo (2018) in rural Zambia SMAGs reported what could be regarded as deficiencies in the intervention itself, due to poor ongoing support, inadequate supplies and lack of effective transportation needed to enable success in their work, leading to attrition of SMAGs from the intervention. This could be the reason in this study there was minimal difference in those that were followed up by SMAGs. Furthermore, a study by Mutemwa (2016) found that SMAGs schedule on visiting of pregnant women households to remind them of their due date was poor.

The findings thus suggest a need for gendered SMAG roles and male-female task sharing functions if MNH services are to be optimized for marginalized women in remote and hard-to-reach areas like Chintanga Villages and Munyati areas of Shibuyunji District.

Feldhaus and others (2015) in contradiction provided evidence that pairing male and female SMAGs potentially address and accommodate gender preferences among SMAGs for pregnancy-related issues.

This study however, evidently revealed and showed that SMAGs who were committed are doing a good job in demand creation for institutional deliveries in Shibuyunji Rural District.

The mothers in this study as respondents were asked if they understood what the 'benefits of delivering in the health facility meant'. The study revealed that there was high knowledge on the benefits of delivering in the health facility and the risks of home delivery (p value of 0.003). Similarly, a nested case-control study was conducted in Kathmandu, Nepal which showed that the low maternal educational level is significant risk factors for home delivery (Montagu, 2014). In agreement with this study, a study conducted in sub-Saharan Africa revealed that in most developing countries, maternal education and literacy status are powerful influences on the health of both mother and newborn (Mpembeni, 2015).

The study further found that Female literacy on maternal care has been found to be a strong predictor of SMAG participation on health facility delivery, which in turn strongly affect birth outcome. In agreement to these findings, this result explains the reason why in this study majority 67.3% among health facility deliveries respondents reported having been provided with heath education on benefits of delivering from the health facility and hence 93% were referred to deliver in the health facility by the SMAGs.

Interestingly, other studies have found contradicting results for example in Kalabo it was found that among mothers who visited the health facilities for care only 15% knew the risks factors (Stekelenburg, 2004). With similar findings in Zambia by Shankwaya (2009) further showed that the knowledge level of women in Kazungula was not a contributing factor to a woman reaching the health facility for delivery and hence to be assisted by a SMAG.

This study therefore, demonstrates that delivering is a natural way course that will need a mother to make a decision even after being educated and visited by a SMAG to deliver in the health facility hence the importance of awareness activities on health facility delivery interventions at community level to accelerate institutional deliveries.

5.4 Participation Level of SMAGs towards Accelerating Institutional Deliveries

This study results revealed that there's ample evidence that SMAGs participation is contributing towards the uptake of institutional deliveries in Shibuyunji District.

This study provided evidence that participation of SMAGs in accelerating institutional deliveries is good as 93% of women that delivered in the health facility indicated having been referred and 86 % indicated having been assisted by SMAGs to deliver in the health facility compared to the proportion (18.0) who indicated having not been referred by SMAGs to reach the health facility for delivery.

These findings are in agreement with other studies done in Africa. Similarly, previous research conducted in Zambia and other developing countries including Ethiopia, Bangladesh and Pakistan has shown a similar picture that community-centered interventions, such as SMAGs, that focus on community members' involvement and participation are likely to be more accepted by local communities than vertical top − down interventions, which are planned by health workers at the national level and "imposed" on the community for adoption and implementation (Gabrysch, 2009).

For example, the experience in Nepal of the use of watch group links provide outreach services in the community with the health facility staff and identify pregnant women, danger signs and keep track of women in their catchment population (Gabrysch, 2009). This finding is not different from this study results.The findings in this study are consistent with the studies in Zambia and elsewhere, which have highlighted the importance of recruiting SMAGs within their communities where they are trusted and preferred. The SMAGs' unique position and moral authority within these communities had the potential to influence outcomes to the intervention positively given their existing social networks and inclination to be natural helpers through personalized care provision Cheelo 2018). For example, Ensor and colleagues reported that a community intervention in Zambia that focused on community participation led to an increased awareness of pregnancy-related complications and improved utilization of Health Facility delivery Care.

Consistent with findings in previous research, the study in Kenya revealed that SMAGs were doing a commendable job in referring women to deliver to the health facilities and hence to be attended to by skilled birth attendants (Gabrysch, 2009) and a study by Cheelo and others (2018) also found that SMAGs were doing a good job on the implemented much of the intervention as was intended, particularly in the area of women's education and referral to health facilities for skilled MNH services as it was found that the SMAGs went beyond their prescribed roles and assisted women with household chores and personal problems and used their own resources to enhance the success of the intervention.

This finding provides feasible evidence that SMAGs who are active are doing they work well as number of referred deliveries was high and number of home deliveries referred to the health facility within 48 hours was high too. However, a study conducted in Malawi, concluded that many women are referred by the SMAGs either don't reach or 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 at the health facility (Mseu, 2014). This is in line with these study findings where there was a reduced odd of being referred by a SMAG and deliver in the health facility by 70%. Therefore, the study is compelled to recommend that efforts should be made to strengthen SMAGs activities at community level in order to influence mother's decision on health facility utilisation during delivery.

However, this study has potential limitations that should be noted. Firstly the results from this study on the participation of the SMAGs activities towards accelerating institutional deliveries among mothers could have been underestimated or overestimated the outcome as the study showed several sources of health education in line with health facility delivery accessibility being conducted in the district that includes Community Health Workers (CHWs)

However, to ensure that the results were accurate this study did a follow up on sampled women that delivered in the health facility and those who came for postnatal care within six days after a home delivery to establish their seeking care to that of the SMAGs follows ups and reminders.

Therefore, the information that was gathered by this study will help the district policy makers to strengthen the SMAGs program which through implementation of problem specific interventions towards increasing the coverage of women delivering in the health facility.

The study experienced data missing from the health facilities and incomplete data sources. However, this study ensured that the data collected was of quality hence the study excluded records of women who had incomplete data to answer the objective of the study.

Because of low literacy levels for SMAG members the study encounter difficulties in accessing documents of how many women were referred and information on their activities in their catchment population, however the study utilised the follow ups interview using semi-structured to find out the influence of SMAGs on women who delivered in the health facility.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

5.6.1 Conclusion

It is evident from the study findings that mothers were referred by SMAGs to health facilities for delivery. Furthermore, this study provided evidence that SMAGs participation towards accelerating institutional deliveries was good. Despite the vital participation of SMAGs in their contribution towards accelerated coverage of institutional deliveries among mothers in Shibuyunji district, Some demographic and geographical contexts (key predictors of SMAGs participation) such as mothers' literacy levels on benefits of safe delivery in the health facility, distance to the health facilities and SMAGs visiting pregnant women for checkups and reminders could explain failure of the intervention to meet the national targets of 60% institutional deliveries annually. Although in the final model the presence of the differential setting specific social and geographical contextual such as mother's financial status to meet the small requirements expected at the health facility, receiving health education on health facility usage, marital Status and maternal age were not significant, they were found to some extent more likely of affecting SMAGs effort in ensuring that women are utilizing the health facility for delivery in this study. The implication of this finding is that even when SMAGs can have a positive influence of institutional deliveries through giving health education and a referral has been done on the mother by a SMAG member, the social and geographical contextual will have an influence on the mother final delivery in the health facility.. Contrary to other studies, findings from this study demonstrate that a Skilled Birth Attendant attitude towards mothers who were delivering in the health facility was generally acceptable and that there were no cultural beliefs in Shibuyunji district found to be associated with women delivering in the health facility.

5.6.2 Recommendations

Based on the above findings, the following are the recommendations.

1. There's need for the district health office through the PHO MCH Unit to do more to motivate and educate younger women on the importance of maternal health care in health facilities as the study findings showed that majority of them were pregnant and delivering home compared to the older ones.

2. There is need for SDHO to look in the issue of a gendered SMAG roles and male-female task sharing functions of follow ups to women if MNH services are to be optimized for marginalized women in remote and hard-to-reach areas like Chintanga Villages, and Munyati areas of Shibuyunji District.

3. Health Services should be put as close as possible (with 0 -5km). Therefore, strategies should be put in place to find a suitable transportation especially for mothers in fishing camps of Mafuwa, Chintanga and Nakaiba who take 3-6 hours to reach the health facility. This is affecting SMAGs participation in having women delivering in the health facility.

4. In order to track activities of the SMAGs the District Health Office through Ndeke house MoH should monitor the referral forms used by SMAGs to ensure that the data is collected at community level is part of District Health Information System. An information flow as shown: from the SMAGs to the health centres that will consolidate and submit to District Health Information Office data base as part of community HMIS.

5. District Health Office Team should engage the: Health Facility in-Charges, and other traditional leaders to introduce a tracking system for SMAGs activities to ensure that SMAG members visit and refer mothers to health facilities on time before the expected date of delivery and that no mother should be delivered by unskilled birth attendants either on the way or in community (Review SMAGs reports Quarterly).

6. SMAGs should have access and refer to Health Facility Integrated Antenatal Care Registers where expected date of delivery is written or SMAGs should have an updated referral register of all pregnant women and their due dates in their catchment area which should be reviewed quarterly by the health facility in charge.

7. Since this was a quantitative study, there is need of a qualitative research to explain how marital status shapes use of health facility during delivery in Shibuyunji

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APPENDICES

Appendix 1: Information Sheet

UNIVERSITY OF ZAMBIA

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF GLOBAL HEALTH

INFORMATION SHEET AND INFORMED CONSENT FORM

This information sheet is for women who delivered or were home deliveries but came for further care in Nampundwe Rural Health Centre, Sichobo Rural Health Centre, Kapyanga Rural Health Centre, Shacele Rural Health Centre, Kayanga Rural Health Centre, Mwembezhi Rural Health Centre and Mukulaikwa Rural Health Centre of Shibuyunji Rural District in Lusaka Province.

Instructions

This form has two parts:

(i) Information Sheet (To share information concerning the study)
(ii) Certificate of Consent (For signatures if you choose to participate)

Part 1: Information sheet Introduction

Dear Participant,

My names are Regina Mabenga M, a student at the University of Zambia undertaking Master's Degree in Public Health (Population Studies). I am conducting a study in your area. The study is focusing on participation of Safe Motherhood Action Groups (SMAGs) in influencing women to seek care when or during Child birth at the health facility. We invite you to take part in this study.

This consent form may contain words that you do not understand. Please feel free to ask any questions as we go through the information and we will take time to explain.

Purpose of Study

In 2010, the government of the Republic of Zambia stopped trained Traditional Birth Attendants from conducting home deliveries as they were perceived to have contributed to high number of maternal complications and maternal deaths. Since then, TBAs became part of the Safe Motherhood Action Group (SMAGs) and their influence have shifted to identifying, encouraging and escorting expectant mothers to deliver from health facilities. This is in an effort to prevent and reduce maternal complications that may lead to maternal deaths or still births outcome. The aim of the study is to get views on the perception of SMAGs accelerating Institutional Deliveries in the facilities and the district of Shibuyunji as a whole. The study believes that you can help us get this information by telling us what influence this program has on you seeking care at the health facility on your last recorded child birth.

Type of research intervention

The study will require your participation in an interview to answer questions in the structured questionnaire. The interview will take 45 minutes to about an hour who delivered in the health facility, home or was referred by a SMAG or not can contribute.

Participation selection

You are being invited for this interview because we feel that your experience as a woman who delivered in the health facility, Home or where referred by a SMAG or not can contribute much to our understanding and knowledge on the delivery services offered.

Voluntary participation

Your participation in this study is entirely voluntary. Therefore, it is your free choice whether to take part or not.

Duration

The discussion will be held once and will take about an hour.

Risks

There is a risk that you may share some personal or confidential information or that you may feel uncomfortable talking about some topics.

You do not have to answer any question if you feel the question(s) are too personal or if talking about them makes you feel uncomfortable. However, your participation in this study will not affect access to any services at your local health facility in any way.

Benefits

The information given in this study may not have immediate benefits for you, but may help Government through Ministry of Health and the District Health Office to plan better strategies to improve delivery services and enhance intervention programs like the SMAGs to meet your needs as a community.

Confidentiality

The information collected will not be shared with or given to anyone except among the research team and University of Zambia. The information will also be shared with you as anonymous, the District Health Office (DHO) and in the community meeting with the chief when the study is complete.

Right to refusal or withdraw

You have the right to refuse to participate or to withdraw from the study at any time.

Clarification and Complaints

If you have any questions, you may ask me now or later. If you wish to ask any questions later, you may contact the principal Supervisor on the following address:

Dr R.N. Likwa

University of Zambia

School of Medicine

Department of Public Health

P.O Box 50110. Lusaka.

Cell No. 0977836764

Or

The Chairperson

UNZABREC

Ridge way Campus

Box 50110,

Lusaka, Zambia.

+260-1-250753

You may contact the researcher on the following address:

Mrs Regina Mabenga Sikota

Shibuyunji District Health Office

District Health Information Officer,

Box 50274,

Lusaka.

Nsala Version: The Information Sheet

Eeli pepa Ndya Mulumbe waba matumbu ibakatumbukila ku maanda. Pele baka sika ku cibbadela kuti ban aba jane kulangwa laungwa ababelesi bauseseba. Ku Nampundwe, Sichobo, Kapyanga, Shacele, Mwembezhi, a Mukulaikwa mucikiliti ca Shibuyunji mu Lusaka Province.

Malailile Ngaya.

Ali mumbazu zyobilo.

1. Lipepa lijisi (Makani akwabana lwiiyo)
2. Lipepa Lyakuzumina (ikusimba kuti wa zumina kutola lubazu)

Cibeela cakusanguna

Ipepa lya bupupanduluzi.

Muyandwa nomutola lubazu mulwiyo oolu mazina angu ndime Regina Mabenga M. Sicikolo cipati ca UNZA ndibueza lwiiyo lupati lwa degree mu zya nseba, lwiyo lujatikizya ibbala eeli litengwa SMAGs - Camba kuti nkabunga kabona kuti batumbu kila kuzi bbadela kuli lugwasho loouse luyandika. Twamutamba kuti mu kutole lubazu mulwiiyo OoLu. Eeli Ngomutakonzi kuteelela. Akaka, mwalombwa kuti Mulyaangulukide kubuzya mibuzyo iliyoonse mbuli Mbotuya bwiya. Alimwi tu yakuba acuundu Cakupaunddulula Kabotu kabotu.

Muzeezo wa Lwiiyo

Mumwaka kwa 2010 Mfulumende yacisi ca Zambia yakalesha abayo batengwa ma TBAs. Ibakazumizidwe kutumbusha mu miuzi. Akaambo kakuti kwavulisha mapenzu kuba matumbu alimwi alufulwa lwa Ntumbukila. Kuzwa lelyo aba tegwa TBAs bakatalika buyo kumumyayumyo aku sindikila bamatumbi kucibbadela kuti kabazyalila Nkuko.

Oyu Mulimo wakukasha akucesha intenda zijanika mukutumbuka. Imbaakani yaziiyo eeci njakujana mizeezo yabantu mbobanga balaanganya kubunga. Katengwa SMAG kalo kakomezya muzeezo wakuti bamatumbu boonse kabazyolila kuzibabadaela Mucikiliti ca Shishibuyunji. Lwi olu, tu oya shoma kuti inga Mwatungwasha kubweza

mulumbe oyu abuyumbukizi, Naibubotu Mbomwajana lwenu Nwebo Kumugama mbuli mbo mwakagwasigwa ku cibbadaela cundi nomwakazyala mwana ulya wa masimpilo.

Kuyaundaula Zyeelede kutobelwa

Lwiiyo oluyanda ikuti, Mukaingule mibizyo kuli basi kubuzya. Mubuzyo ilembedwe, kubuzigwa oku kuya kuto laciindi ma miniti 45 na, iwoola lyomwe – ku mutumbu lwakazyalila ku cibbdaela, kumaanda wakatumwa aba SMAGs.

Ikusala baabo basikatola labazu

Mwa kukubuzwigwabuzwgwa oku, Nkambo tushoma kuti mwebo mbuli batumbu bakazyslila kucibbaela na ku maanda na mwaka sindikilwa a ba SMAGs. Mwebo inga mwatwambila ncotunga twatelela kwendelanya amulimo wakacitwa kukuzyala kwena.

Kulyaaba Mukutola Lubazu

Mulwiilo olu, Mwakalyaaba buya, Aboobu Nkusala kwenu kwiinya na pe.

Iciindi

Mubandi oyu unikucitika cundi comwe buyuo. Chuudi Ndiwoola lyomwe.

Zitayandiki

Taciyandiki kuti, kamuyabwamba twambo twamaseseke abautu kubuleya, na andiza kuli ziiyo zimwi Nzyomutayandi, kuti inga mwayiya na kwingula mibuzyo njomuyeeya kuti inga ilamugumiuizya kabumi bwenu, bobo cakuti kwambaula makani aya inga kamutaangulukide pepe.

Nekubaboobo. Ikutola Lubazu Mwiwiiyo oolu talukoyonyonganya bwende bwa milimo yenu kucibabbadela Kkomujanika abununi pe.

Ibubotu

Inga caboneka mbuli kuti lwiiyo olu talujisi mpindu kuli ndimwe na ibubotu baboola mpona mpona pe. Pele inga mulagwasha mfulumende kwiinda mumutabi manga nseba zyabautu, alimwi a ma opesi acikiliti kuti bayale mizeezo mibotu isumpula bubelesi bwelede kumakani akutumbuka kabotu kwa bamatumbu besu mumasena motukala.

Maseseke

Imakani quose aabwezelelwa tayelende kwambwa kubantu pe, cita buyo kumbunga iyo yabasicikolo cipati ca (UNZA), Alimwi makani aaya muyokwabana pele taali acigaminina natatoukomani kumuntu pe. Eelyo abaku Mwami babulongo baya kuziba ilwiiyo loouse lwakumana.

Inguzu zyakukaka nakucileka

Mulyaangulukinde kukaka na kucileka lwiiyo olu acundi Ncomuyaunda.

Ngomwelede Kubowa

Kuti na mujilisi mubuzyo, inga mwandibuzya lino, olo kwainda cundi.

Dr R.N. Likwa

University of Zambia

School of Medicine

Department of Public Health

P.O Box 50110. Lusaka.

Cell No. 0977836764

Or

The Chairperson

UNZABREC

Ridge way Campus

Box 50110,

Lusaka, Zambia.

+260-1-250753

You may contact the researcher on the following address:

Mrs Regina Mabenga Sikota

Shibuyunji District Health Office

District Health Information Officer,

Box 50274,

Lusaka.

Appendix 2: Consent Form

I have been invited to participate in a research on participation and influence of Safe Motherhood Action Groups (SMAGs) on accelerating Institutional deliveries in Shibuyunji Rural District.

I have read the information above, or it has been read to me and I understand the interview to the best of my knowledge. I therefore, consent voluntary to take part in this study.

Name :……..

Signature/Thumb

Print: ……

Date……
……

Witnesses……
…..

Name……
…

Signature/Thumb
Print……..

Appendix 3: Health Records Checklist

UNIVERSITY OF ZAMBIA

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF GLOBAL HEALTH

POPULATION STUDIES UNIT

RESEARCH TOPIC: PARTICIPATION AND IMPACT OF SAFE MOTHERHOOD ACTION GROUPS ON ACCERELATING INSTITUTIONAL DELIVERIES IN SHIBUYUNJI RURAL DISTRICT, LUSAKA.

RECORD REVIEW CHECK LIST – INSTITUTION DELIVERIES

Name of Health Facility……..

Facility with SMAG ☐

Facility without SMAG ☐

Checklist Number ……

Location ……

Date:…….

DAY…….MONTH…….YEAR…….

S/N	INDICATOR	2012	2013	2014	2015	2016
1	No. of institutional deliveries					
2.	No. of Home deliveries					
3.	No. of Maternal deaths					
	At Health Facility					
	In the community					
4.	No. of Referred by a SMAG					
5.	No. of Active SMAGs reporting at the Health Facility					

Appendix 4: Questionnaire

TITLE OF STUDY:

Questionnaire number……..

Sample size……..

IDENTIFICATION OF RESPONDENTS

Province……

District……

Health Facility……

Village……

Respondent's number…..

IDENTIFICATION OF INTERVIEWS

Name……
Status of Questionnaire……

Completed { }

Partial { }

Follow Up { }

Instructions

1. Name of the respondent should not appear on the questionnaire
2. Enter the code of your response or tick where applicable
3. Attempt to answer all questions

S/N.	Section A: BACK GROUND INFORMATION	Code
1.	How old are you? (Specify last Age at last birth)	
2.	Are you Married, Single or divorced? 1. Single { } 2. Married { } 3. Divorced { } 4. Widowed { } (Tick where applicable)	
3.	How many children do you have? 1. 1 -3 { } 2. 4- 6 { } 3. 7- 10 { } 4. 10 and more { } (Tick where applicable)	
4.	What is the level of education you have attained? *1. None* { } *2. Primary School* { } *3. Secondary School* { } *4. College* { } *5. University* { } (Tick where applicable)	

5	What is your occupation? 1. Unemployed { } 2. Formal employment { } 3. Informal employment { } 4. Farmer { } 5. Any other Specify…….. (Tick where applicable)	

6. What is your husband s occupation?

1. Unemployed { }
2. Formal employment { }
3. Informal employment { }
4. Farmer { }

Any other Specify……..

SECTION B : ACCESSIBILITY AND UTILISATION OF HEALTH FACILITY FOR DELIVERY

7. How far do you live from the rural health facility? (The researcher may help you with estimates) may be in walking hours or KMs if estimates are available.

1. 0- 5 km { }
2. 6- 10km { }
3. 11- 15km { }
4. 15km and above { }

(Tick where applicable)

8. What means of transport do you use to the health facility?

1. Canoe { }
2. OXCART { }
3. Cycling { }
4. Walking { }
5. Bus { }

(Tick where applicable)

Section C: Health Facility Services

9. How much did you spend at your last delivery?
(Write the amount in figures)

10. Do you know the meaning of institutional deliveries?

1. Yes { }
2. No { }

11. Do you know the benefits of institutional delivery?

1. Yes { }

11.	Do you know the benefits of institutional deliveries? 1. Yes 2. No	
12.	Do you know who a skilled Birth attendant? 1. Yes 2. No	
13.	If yes how many skilled attendant do you have at your nearest heath facility? (Indicate the number)	
14.	From your last delivery at the health facility how would you rate the attitude of the Skilled birth assistance you received? 1. Fair 2. Bad 3. Very poor 4. Good	
	Section D: Knowledge of SMAGs Community Activities	
15	Have you ever received health education on use of health facility for delivery in the community? 1. Yes 2. No	
16	If yes who gave the health education? 1. CHWs 2. SMAGs 3. Nurse 4. Other Specify…… (tick where applicable)	
17	Do you know who a SMAG is? 1. Yes	

	2. No (tick where applicable)	
18	If yes. How many SMAG members do you have in your area? (Indicate the number)	
19	How many active SMAG Members in your area? (Indicate the number of SMAGs)	
20	Have you ever attended a SMAG meeting in your area? 3. Yes { } 4. No { } (tick where applicable)	
21	Has a SMAG visited your home? 3. Yes { } 4. No { } (tick where applicable)	
22	On your last delivery did a SMAG member play a role of you reaching the facility? Yes { } No { } (tick where applicable)	
23	If yes, how was your experience with the SMAGs Service? Helpful { } { }	

	Not helpful	
24	Do SMAGs have any means of transport they SMAG in your area? Yes No { } (tick where applicable)	
25	If yes was the referral helpful and on time? 3. Yes { } 4. No { }	
	SECTION E: SOCIAL CULTURAL RELIEFS	
26	Did you have any cultural belief connected to place of deliver or maternal care? Yes No { } (tick where applicable)	
	If yes what are they…… ……. ……	