

Women Empowerment and Reproductive Health Outcomes in Malawi

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DECLARATION

I, Daisy Nyarai Chimanga declare that this research report is my own original work. It is being submitted to the School of Social Sciences, Faculty of Humanities, University of the Witwatersrand, Johannesburg. It is submitted in partial fulfilment of the requirements for the degree of Master of Arts in the field of Demography and Population Studies. I declare that to the best of my knowledge it has not been submitted before in part or in full for any degree or examination at this or any other university.

Daisy Nyarai Chimanga

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31.07.2014

DEDICATION

I would like to dedicate this work to my husband Nicholas and to my son Caleb. You have truly been an inspiration. Love you lots.

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I would like to extend my utmost gratitude and appreciation to my supervisor Professor Clifford Odimegwu for his guidance, inspiration and for kindly extending his efforts to ensuring the accomplishment of this project.

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LIST OF ABBREVIATIONS

MDHS: Malawi Demographic and Health Survey

WHO: World Health Organisation

UNFPA: United Nations Population Fund

MDG: Millennium Development Goals

ICPD: International Conference on Population and Development

SSA: Sub Saharan Africa

CEB: Children Ever Born

TFR: Total Fertility Rate

CI: Confidence interval

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CHAPTER 1 INTRODUCTION

1.1 Introduction

Reproductive health involves the process of making sure that people have satisfying and safer sex. Moreover, both men and women should be in a position to reproduce and have the ability to decide when, if and how to do so (World Health Organization (WHO), 2012). This entails that men and women be informed about appropriate health care services of sexual reproductive health. Reproductive health is basically a concept that involves health and population issues (Wu et al., 2012 and UNFPA, 2009). It can be measured by indicators such as total fertility rate, contraceptive use, maternal mortality and antenatal care. The most suitable reproductive health outcome for this study is fertility. Fertility is one of the most important reproductive health outcomes as high fertility rates have been pinpointed to hinder development and perpetuate poverty (Kabeer, 1999). Integration of population, gender issues and reproductive health is important. In general however, inequalities within some sub Saharan African (SSA) countries influence and deprive women of opportunities and rights that affect population dynamics such as fertility rates, contraceptive use and birth intervals (Wu et al., 2012). Makinwa (2001) identified lower status of women as a major contributor to high levels of fertility in most SSA countries as men tend to have the final say on fertility matters. As such, this study focuses on women empowerment and reproductive health outcome of fertility in Malawi. Malawi fertility levels are high as Total Fertility Rate (TFR) is 5.7 and is characterized by gender inequality and disparities between men and women. Consequently, this influences reproductive health outcomes such as fertility. Fertility is affected as a result of women being disadvantaged, less empowered and their inability to deliberate on reproductive choices such as when to have children and the number of children they want to have. Some women do not have the liberty to use contraceptives (Kabeer, 1999).

One of the agreements that were discussed at the International Conference on Population Development (ICPD) was to fully integrate population dynamics into development strategies. The goals were intertwined. One of them was to promote women empowerment through improving girls' education, increasing women's employment and exposing women to

reproductive health facilities. Such strategies are expected to advance women's status as a whole and improve their reproductive health choices (UNFPA, 2009).

Women empowerment is an important factor when determining reproductive health outcomes such as fertility. Decision making in the household is an important aspect to consider in reproductive health behavior. Most studies use decision making influence as a way of measuring women empowerment (Woldemicael, 2007). This study focuses on women empowerment and reproductive health outcomes in Malawi, with particular attention to fertility. Fertility is singled out in this study because Malawi is characterised by high levels of fertility.

1.2 Background of the study

Fertility refers to the total number of children born to a woman (Cleland, et al., 2006). Cleland et al. (2010) posit that fertility and future projected population growth rates are much higher in sub Saharan Africa (SSA) than in any other regions of the world. In sub Saharan Africa fertility stands at 5.1 births per woman. Nevertheless, some sub Saharan African countries such as Zimbabwe, South Africa and Botswana, have experienced fertility decline. In 1988, fertility in these countries was 5.1, 4.9 and 4.3 respectively. It currently stands at 4.3, 2.4 and 3.2 (Guilkey et al., 1997). With the Total Fertility Rate (TFR) standing at 5.7, Malawi on the other hand, is one of the countries in sub Saharan Africa experiencing high levels of fertility.

High fertility rates in Malawi have threatened available limited resources. Thus, this negative population growth rate has consequently challenged the country's social and economic development (Manda, 2005). This is not a surprising statistic as about 60% of Malawi's population mainly lives in the rural areas where there is high poverty which in turn contributes to high fertility rates (Kinoshita, 2003). Approximately 47% of women in Malawi are in their reproductive years. This statistic will further increase fertility if there are no interventions to reduce the high fertility levels. Noteworthy is that Malawi has succeeded in some of its family planning programmes with a contraceptive prevalence which increased from 33% in 2004 to 46% in 2010 (Malawi National Statistical Office and ICF Macro, 2010). However, total fertility rate (TFR) still remains high at 5.7 children per woman (USAID, Malawi 2012). The government of Malawi has endeavoured to lower fertility levels. To that end, methods to increase use of family planning and to improve health care in

general, have been established. Furthermore, women have been encouraged to get educated, and employment opportunities for women have also improved (Manda, 2005).

Reducing poverty is one of the key objectives of Malawi. The country though, has one of the highest rates of gender inequality, meaning that women are less empowered on reproductive health matters, thus perpetuating high fertility. To curb poor reproductive health outcomes in Malawi, the government has committed itself to the provision of reproductive health programmes and has shown an interest in the reduction of gender inequalities.(Lindgren et al., 2008).As a way of empowering women and reducing fertility rates, the government of Malawi has made deliberate efforts to create jobs for women and has also extensively promoted the use of contraceptives (Heard et al., 2004).

The demographic transition theory explains that all countries will undergo change in which mortality and fertility are high to a stage where they are both low as a result of economic and social change. This involves a change from natural fertility control to deliberate fertility control (Bongaarts and Casterline, 2012). Fertility declines as a result of high levels of urbanization, declining mortality and changes in the economy trigger couples to desire a small family size (Bongaarts and Casterline, 2012). As countries develop, fertility generally decreases and there is a converse relationship among development indicators such as education, women empowerment and fertility (Bongaarts and Casterline,2012). Malawi has low socio-economic development and low literacy levels. This situation has contributed to the challenges of fertility decline.

Women empowerment is a significant factor in development, poverty alleviation and the general improvement of standards of living. With reference to sub Saharan Africa, women empowerment has been identified as one of the main factors that affect fertility. Less empowered women are presumed to be associated with high fertility (Mai do et al.,2012). Thus, a woman's ability to make decisions that affect her personal situation is important for her empowerment and this ultimately affects her decisions about fertility. Malawi's low levels of women's autonomy, education and economic status contribute to high fertility rates. Additionally, it is a predominantly patriarchal society where decision making lies in the hands of men (Maanda,2005).The 2010 Demographic and Health Survey of Malawi indicates that 44% of married women do not have the liberty to decide about their own health care. Of these women,69% reported that in the household, their husbands have final say on the major

household purchases and 56% claimed that husband also have final say on the daily purchases of the home. These statistics indicate that women in Malawi still do not have much say in the household. One of the reasons why women remain powerless in Malawi is that they are generally associated with inferiority and traditionally, the man is perceived as the head of the house. Moreover, marriage counselling and parental guidance in Malawi teaches women to be submissive to men all their lives (Mai do et al.,2012).

The 1994 International Conference on Population and Development (ICPD) held in Cairo indicated its concern with women's empowerment and access to reproductive health services, including family planning (Mai do et al., 2012). One of the main goals of the ICPD was to ensure that the life and health of women is improved and that adequate and necessary information is communicated to them in the best way they understand (Blanc, 2001). Over the past years, the world has been fully participating in achieving the Millennium Development Goals (MDGs). Some of the goals include supporting women empowerment and promoting gender equity (Heard et al., 2004). During the 1994 ICPD, family planning was identified as an important tool of reproductive health that could hasten the achievement of some of the MDGs and also help in reducing poverty. Poor family planning renders women less effective in gaining economic freedom and success, owing to a high number of children in their care (World Health Organisation, 2012).

1.3 Problem Statement

One of the characteristics of developing and impoverished countries is persistent population growth and Malawi is no exception. The country's population growth rate rose sharply between 1998 and 2008 at an estimated growth rate of 2.8 percent per year. This led to a very high population growth of 32 percent in only one decade. It is clear that this increase in population is due to high birth rates (Edward et al.,2012). In Malawi, fertility rates continue to be one of the highest at 5.7 while neighbouring countries such as Zimbabwe, Botswana and South Africa have experienced fertility decline as their fertility rates stand at 4.3, 3.2 and 2.4 respectively (Kazembe, 2007 and Hindin, 2000). (Hindin 2000) states that although fertility has declined in Malawi the rate at which it has been declining has been very slow. It took almost twenty years for fertility rates to come to a decline of 6.7 in 1992 and 5.7 in 2010.

Poverty in Malawi is very high, with one in five people living in extreme poverty. The country's high fertility levels contribute to poverty given that high fertility is associated with household poverty (Palamuleni, 2011). High fertility also slows the country's development as it inhibits improvement in education and slows progress towards improving health. In most cases, there is overburden of disease and the health resources are not adequate to cater for all the people. High fertility rates also mean that the Malawian government faces a challenge of providing housing for its people (Upadhyay, 2000). As a result, high fertility slows the progress towards achieving MDG 1, which is to alleviate poverty. In addition, high fertility puts pressure on land and natural resources and further challenges environmental sustainability and slows the progress towards human development (Upadhyay 2000).

It is clear that rapid population growth consequently leads to low levels of human development and perpetuates poverty. That being the case, the ability to control fertility leads to broader positive, social and economic outcomes (Kazembe, 2007). In many cases, gender inequality at household level contributes to high fertility levels especially in a patriarchal society such as Malawi where inequality is a huge hindrance to human development. The enforcement of women's rights is weak as they are denied a say in the decisions that have to do with their personal lives. Women are expected to be submissive and their duty is to mainly look after the household. They do not make any financial contribution to the household and this has been one of the major factors why women become more dependent on men. In a way, this has left women with no control over their lives, making them less empowered than men (Mai do et al., 2012). This has led to lack of decision making among women and privileges men to have the final say on reproductive health decisions in the household. Some men have the upper hand in deciding the number of children that they should have and also decide whether their wives should use contraception or not. Thus lack of women empowerment has indirectly contributed to high levels of fertility in Malawi (Mai do et al., 2012).

To try and reduce high fertility rates and poverty, the government of Malawi has introduced programmes such as the National Gender Policy. Such programmes help to empower women and encourage women to take part in some of the major decisions that concern the nation. The country has also actively taken part in some of the women development strategies such as the international conference on women held in Beijing as well as the Southern African Development Community (SADC) declaration on gender and development. Consequently, programmes have been initiated to try and reverse gender inequality and empower women.

Moreover, the government of Malawi has committed itself to Millennium Development Goal 3 of empowering women (promote equality and empower women) and to also improve the educational attainment of the girl child. That being the situation, this study attempts to determine the association between women empowerment and reproductive health outcomes, in this case fertility.

1.4 Research Question

Is there a relationship between women empowerment and reproductive health outcome of fertility in Malawi?

1.5 Objectives

1.5.1 General Objective

- To examine the relationship between women empowerment and reproductive health outcome of fertility in Malawi.

1.5.2 Specific objectives

- To determine the levels of women empowerment and fertility in Malawi.
- To examine the relationship between women empowerment and fertility in Malawi.

1.6 Justification of the study

Kinoshita (2003) contends that high levels of fertility in SSA are usually followed by declining mortality levels. High fertility levels have fuelled the tremendous population growth in most SSA countries. High population subsequently leads to poor quality of life hence high levels of poverty. High fertility levels in Malawi are mostly contributed by the socio-cultural ways which hinder women in reproductive health decision making (Palamuleni, 2011).

With reference to Malawi, a lot of studies that have looked at women empowerment, and reproductive health outcomes have focused mainly on contraceptive use. Much focus has been on the decision making processes and outcome of contraceptive use in rural Malawi. Some of these studies focus on the measure of autonomy indicators such as female labor force participation, education and wealth status to determine fertility levels. Manda (2005) looked at age at first marriage as determining factor of high fertility levels in Malawi but did not focus on women empowerment. There is limited research about women empowerment and fertility in Malawi. This study seeks to fill this gap. Malawi falls within the category of

the least developed countries in SSA. It also has unacceptably high rate of fertility which is contributed by lack of decision making in fertility. Understanding the relationship between reproductive health and women empowerment is imperative (Upadhyay 2010). In order to curb poverty and improve the standard of living, it is pivotal to empower women. As such, this study will contribute to the reproductive health and women empowerment programmes in Malawi. In Malawi, women living in the poorest households have the most children (7.1 births per woman) and the lowest rates of modern contraceptive use. Unmet needs for family planning reflects individual, social, and environmental barriers to accessing family planning, including sheer distance from contraceptive method supplies (WHO, 2012). Of particular interest to this study is to show how decision making on large purchases, final say on making daily purchases, final decision on woman's health care and mobility have an effect on fertility.

1.7 Definition of terms

Women empowerment:

In this study, women empowerment is derived from the decision making variables which are decisions on respondent's health care, daily household purchases, large household purchases and visits to family and friends. Thus in this study women empowerment is the ability to make decisions that concern them (Kinoshita, 2003).

Fertility:

Refers to the total number of children a woman has in her reproductive life time. In this study fertility is derived from the variable children ever born (Manda, 2005).

Contraceptive use:

It is deliberate action taken to avoid conception. Contraceptive use is an effective way to reduce fertility rates and limit the number of children per woman (Garenne, 2008).

Age specific fertility rates:

Is defined as the number of births to women within a given age group (Garenne, 2008).

CHAPTER 2 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Introduction

This chapter reviews literature relevant to this study and also discusses the conceptual framework that was used in the study. It explores how other studies have viewed the concept of women empowerment and fertility and illustrates how women empowerment affects fertility. The conceptual framework shows how other empowerment indicators such as education and wealth status contribute to empowerment.

2.2 Women empowerment

In most sub Saharan Africa, the final say about fertility lies with the husband or partner, thus gender inequality greatly affects decision making power with regard to contraceptive use and fertility (Makinwa, 2001). Men's power over reproductive health decisions has been identified as the contributing factor to high fertility rates in sub Saharan Africa (De Rose et al., 2004). Some of the existing literature attests that the primary cause of the highest fertility rates in sub Saharan Africa is a kinship system built on pronatalist behaviour. Thus, the high fertility levels are triggered by social and cultural behaviours that do not allow women to be involved in reproductive health decision making (De Rose et al., 2004). Although fertility has declined in some countries such as Kenya, Zimbabwe and Botswana, it still remains remarkably high in some parts of sub Saharan Africa region with Malawi being one of them (Manda, et al., 2005).

In some parts of sub Saharan Africa, children are still seen as source of labour to assist in the farming activities and also as an old age security system in which parents anticipate that the children will look after them when they grow old (Bongaarts and Casterline 2012). This leaves a woman with little or no say in terms of the number of children she wants. Even if women want fewer children, they tend to conform to having more as a way of pleasing the husbands and thus avoid losing their marriages (Bukaret al., 2013). In the developing countries, fertility decline is an indicator of women's empowerment. This is centred on the postulation that a woman who takes part in decision making about fertility is more empowered and that her status is better than that of a woman who is not empowered (Wu et al., 2012). Therefore the main concern when studying fertility especially in SSA is that, men have greater influence on the number of children they should have, leaving a woman

with little or no say at all (Blanc, 2001). It becomes a challenge for a woman to determine fertility levels or the number of children as they wish in most African countries because fertility behaviour is primarily influenced by patriarchy. Patriarchy is responsible for low levels of female autonomy, high levels of lower age at marriage and large age spousal differences (Abadian, 1996). It is regrettable to note that there are fewer women with full rights to their reproductive health status evidenced by a study conducted in 36 Demographic health surveys in 1995. The surveys showed that women who discussed family planning with their spouse or partners were less than fifty percent in most of the sub Saharan countries. Noteworthy is that spousal discordance was the underlying factor influencing high fertility outcomes (Manda et al., 2005).

Substantive research which focuses on women empowerment and reproductive health outcomes has tried to illustrate the process of women empowerment by indicating factors such as socio-cultural, economic and interpersonal as the main drivers of empowerment (Varghese, 2011). Each of these represents different ways in which it can affect the empowerment of a woman. The economic and interpersonal indicate different levels of wealth status of a woman and labour force participation.

It has been pointed out that women's empowerment through education influences fertility (Upadhyay, 2010; Hindin, 2005). Muhwava et al. (1996) assert that most theories of fertility decline are noticed firstly among the educated and urbanized women and with time, spread to other sub groups. Moreover, to develop a nation and alleviate poverty, studies have affirmed that educating the girl child is the best investment (Kazembe, 2009). Educated girls have been associated with less risk of death and better health outcomes for both the mother and child compared to their uneducated counterparts. Education is seen as an empowerment factor for women and helps in reducing high fertility rates (Kazembe, 2009). Most studies that focus on women empowerment and fertility have shown that factors such as domestic set up, status in the society, and their domestic decision-making involvement are the main elements that promote women's independence hence promoting contraceptive use and thereby reduce fertility rates (Hindin, 2005). Kinfu et al. (2011), state that the overall wellbeing of women is associated with level of empowerment. As a way of fully understanding the impact and dynamics of women empowerment and fertility, policy makers and researchers have shown interest in this field of study.

Domestic decision making power as stated by Varghese (2011) is a variable that is combined to represent women's power in the household. It also contributes to the decision making about contraceptive use and fertility among the spouses or partners. Equal control over issues of finance, decisions on health care and freedom of mobility are factors that contribute to fertility. If a woman is capable of making decisions concerning such factors, she will know that she has the right to make her own decisions about whether she wants to bear children and at a time appropriate for her (Leon, 2012). Gender equality and women's emancipation are to a large extent seen to have a good impact on issues of health and the development of the economy (Makinwa, 2001).

It has been demonstrated by many studies that tremendous increase in population consequently results in poor standards of living and lower chances of human investment (Leon, 2012). A study done in Colombia found that good access to family planning has a positive impact on economic growth and thus reduces poverty. It also gives women the liberty to time births and in that way increases labour force participation. This is also a way to delay the onset of child bearing (Ashraf, 2007). Studies have indicated that fertility rates would decrease in sub Saharan Africa if women have the number of children they want. This has compelled researchers to ask themselves questions on whether empowerment would help fertility rates decline in SSA (Upadhyay, et al., 2010).

2.3 Women Empowerment and Fertility

Malhotra et al. (2002) portrays women empowerment in three magnitudes – economic decision making power, household decision making power and physical freedom of movement. This is informed by the view that women's reflection and their place in society go hand in hand with how men view them. Girls are seen as useless and the majority of women are familiar with such statements as their partners often express this sentiment (Lindgren et al., 2005). This is a cultural setting that oppresses and dis-empowers women. Such devaluing of girls begins at an early age. On top of this, there is public mockery of women in Malawi. Lindgren et al. (2005) found that women's oppression by men hinders women's participation in leadership activities, hence contributing to disempowerment of women. The oppression of women emanates from the grounded cultural and social norms which are almost impossible to change. These perpetuate gender inequality and delay the process of development (Lindgren et al., 2005).

Wu et al. (2012) indicate that decision making, which is one of the indicators of women empowerment, is closely related to fertility. Thus, women with higher education tend to have more autonomy and the level of decision making increases as well. In Malawi where education levels are still low, women with no education have an average of more than three times as many children compared to those who have at least secondary school education. Only 0.5% of Malawian women between the ages 18-23 are enrolled in tertiary education. This is a very low statistic considering high levels of fertility that need to be reduced (Heard et al., 2004). In addition, Malawi's social environment has put great pressure among women to bear many children, not only to please their partners but to get a sense of belonging from their extended families. As a result, early marriage is still high in which more than half of the age group 20-24 are married by the age of 18 (Kinoshita, 2003). Early marriage encourages high fertility. The earlier a woman gets married the more the number of children they are likely to have. Delaying the age at marriage will encourage younger women to be in a better position to acquire education, empower themselves and stand a better chance of having fewer children (Larsen et al., 2003). Education levels among Malawi women are low and about sixty percent of its population predominantly resides in the rural areas where the levels of education are low and there is generally, poor socio-economic status (Kalipileni 1997). Education and socio economic status is associated with women's empowerment thus fertility behavior. The higher the women's autonomy, the less children they have (Larsen et al., 2003). Therefore this study seeks to find out if women empowerment (using the household decision making indicators) is associated with fertility in Malawi.

2.4 Conceptual Framework

This study adapted a model from Kritz and Makinwa-Adebusoye's (1997) framework of women decision making and fertility. This framework demonstrates how decision making in the household influences fertility. Women empowerment is reflected through socio economic and demographic status. Thus female occupation, education and age at marriage are associated with reproductive health outcomes (Kritz, 2000). This model demonstrates that educated women are able to influence decisions at household level. A woman who is able to make decisions at household level is also able to make decisions about contraceptive use and fertility size (Makinwa, 2001). As such, an empowered and educated woman is assumed to

have source of knowledge which encourages new attitudes towards fertility behavior and is also able to question the cultural practices in the household set up such as male dominance in the home and is also able to stand against gender inequality (Makinwa 2001). Moreover, the model suggests that an empowered woman is more likely to participate in the labour force. Women's occupation enables them to contribute financially to the household and in a way this increases their chances to make household decisions including those of reproductive health (Makinwa, 2001).

Age at marriage impacts on women empowerment. Delayed age at marriage is as a result of years spent at school and employment status. It discourages women's financial dependency on men. Furthermore, understanding between spouses and consensual agreement in marriage is created (Makinwa 2001). As a result, there will be favorable reproductive behavior for women. Independent women have some form of authority and say in a marriage set up. Early marriage has been associated with gender inequality and spousal disagreement on fertility. The adapted framework illustrates that participation of women in decision making is a source of empowerment and that it also encourages good reproductive health outcomes. This framework was adapted for this study because it does not only look at the direct determinants of fertility but also includes the decision making aspect as a contributor to reproductive health behavior. (Woldemicael, 2007) argues that decision making in the house hold such as daily household purchases, health and mobility of the wife, influences fertility decision. Africa's patriarchal dominance and culture influence fertility. In other words, it does not follow that an educated woman is completely free to make decisions about fertility. She may also fail to do so because of the nature of the society which does not really allow women to participate in decision making (Woldemicael, 2007). Including the decision making factor in this study will help to understand the process of women empowerment. The diagram below illustrates the multiple factors that contribute to fertility outcome.

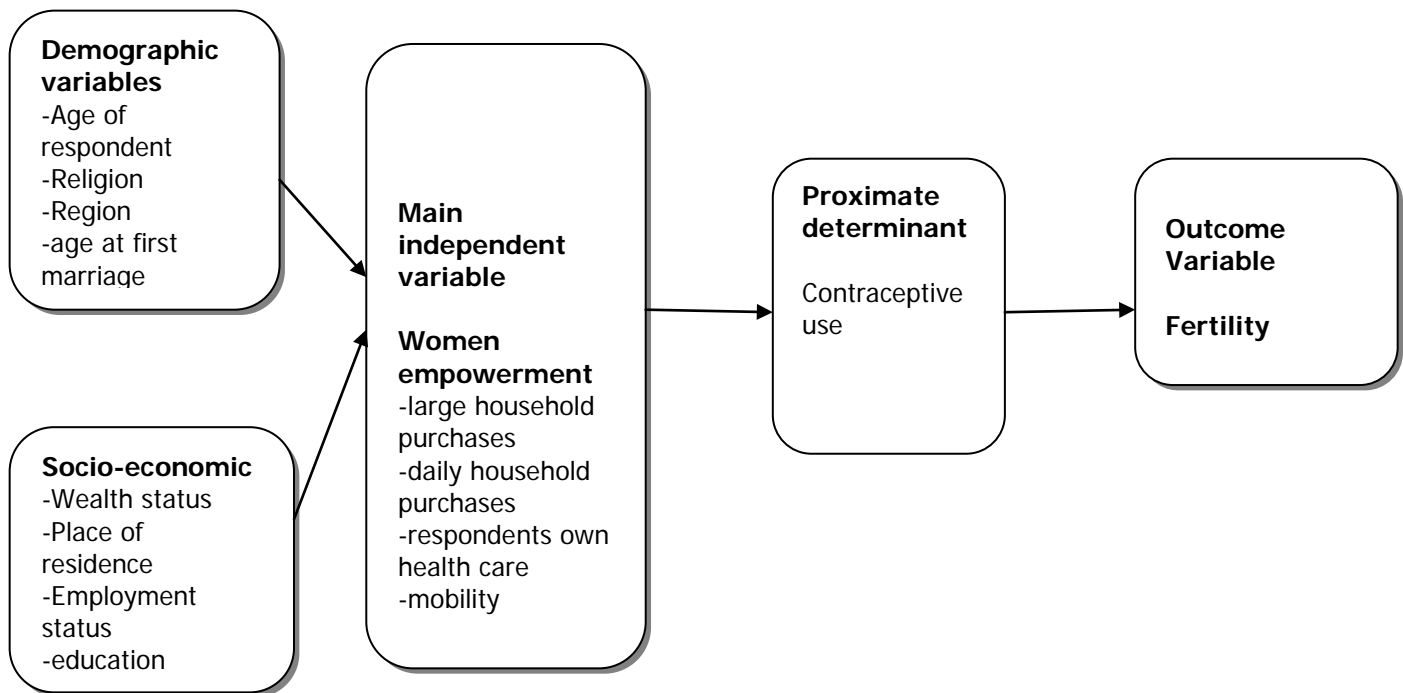


Figure 1: Conceptual framework

Adapted framework illustrates the relationship between women empowerment and fertility in Malawi (*Kritz and Adebuseye 1997*).

CHAPTER 3 METHODOLOGY

3.1 Introduction

This methodology section discusses the data source used in this study. It also presents the study design, questionnaires and the sample size. The analysis plan which was used is also given – that is univariate, bivariate and multivariate analysis. Indirect method/techniques are also discussed.

3.2 Study setting

Malawi is a sub-Saharan African country which lies in the South equator. It is known to be one of the least developed countries in the world and has one of the highest fertility rates in the world. Malawi is mainly divided into three regions –Northern, Central and Southern (Lindgren et al., 2008). The official languages of Malawi are English and Chechewa. The latter is Malawi's Bantu dialect language (Lindgren et al., 2008). A tremendous growth rate has been witnessed in Malawi as its population grew from 8 million in 1987 to a high of 9.9 million in 1998(Malawi National Statistical Office and ICF Macro, 2010). The population and housing census of 2008 announced population to be at 13.1 million, a very high increase of 32 percent. In 1994, Malawi adopted a National Population Policy which aimed at reducing population increase and promoting social and economic goals. The goals which were introduced aimed to improve family planning services, promote health care programmes and also improve Malawi's education system (Malawi National Statistical Office and ICF Macro, 2010).

Important to note is that Malawi's development indicators have been viewed as among the worst in the world. Human Development Report ranked Malawi 166 out of 178 countries (UNDP, 2009). The country has always been distinguished by its high fertility levels, mortality and population growth rates. For example, infant mortality rate is presently predicted to be 76 infant deaths per 1000 births. This is one of the highest in Southern Africa (Palamuleni, 2011). In order to achieve a complete fertility transition there has to be an improvement in education, socio economic development and other means of modernization.

In Malawi, poverty has been a plague to the country. Forty percent of the population is estimated to be below the poverty line. Reducing poverty is a key objective for Malawi, and this is reflected in its commitment to achieving the Millennium Development Goals (Palamuleni, 2011). Thus two major aims in Malawi are to completely slow the population

growth which will create the potential to accelerate the rate of economic growth and also to encourage smaller family size which will help to create a path out of poverty for many families. In brief, lowering the rate of population growth is a strategy towards development and alleviation of household poverty (Palamuleni, 2011).



Figure 2: Map of Malawi

Source: 2010 Malawi Demographic and Health Survey report.

3.3 Study design

This study utilizes cross sectional design. The Malawi Demographic and Health Survey (MDHS) 2010 presents its findings from a huge sample survey which was employed by the (National Statistics office) NSO. Thus this study uses the Malawi survey as it is representative of the country. It provides detailed reports on issues such as fertility, contraceptive use and many more (Malawi National Statistical Office and ICF Macro, 2010). Demographic Health Survey (DHS) already has existing data on fertility and women empowerment indicators. This is advantageous as it is time saving and cost effective to researchers.

3.3.1 Data source

The Demographic and Health Survey of Malawi 2010 provides necessary variables such as decision making and fertility. The study population is women who are in the reproductive ages 15-49, currently married or living with their partner. This study used the 2010 Malawi Demographic and Health Survey which was carried out by the National Statistical Office (NSO) from June through to November 2010. This survey was done with a sample of 27000 households. It targeted women in the age group 15-49 and 15-54 for men. A third of the selected population was interviewed from the 27 000 households (Malawi National Statistical Office and ICF Macro, 2010). The main objective of this survey was to produce recent and relevant results on fertility levels, use of contraceptives, sexual activity, breast feeding practices, early childhood mortality, child health, maternal mortality, sexually transmitted diseases, HIV/AIDS activities, HIV prevalence as well as fertility preferences, (Malawi National Statistical Office and ICF Macro, 2010).

3.3.2 Sample design

The MDHS 2010 sample was mainly intended to produce detailed health and population estimates at regional, national and district level (Malawi National Statistical Office and ICF Macro, 2010). The sampling frame which was used for the 2010 Malawi Demographic and Health Survey was taken from the 2008 Malawi Population and Housing Census (PHC). This sampling frame was provided by the National Statistical Office. With regards to administration structure, Malawi has 28 districts. These were further divided into enumeration areas which were also further divided into rural and urban areas. In total, there were 849 clusters. During May to June, an outline of the clusters was completed. Created was

a list of the selected households which was used for the sampling frame. Also, a minimum sample size of 950 households in each district was considered to give surety of the indicators that were used in the survey. Altogether, 27 345 households were selected to accomplish the goals of the survey (Malawi National Statistical Office and ICF Macro, 2010). In addition, a portion of the sample was taken to carry out HIV tests on women between the ages 15-49 and also men between the ages 15-54. Precisely, one third of the sample was taken. In the same one third of the sample, testing for anemia was done for children between the ages 6-59 months and for women who were between the ages 15-49 (Malawi National Statistical Office and ICF Macro, 2010).

3.3.4 Study population and sample size

In order to correct oversampling, under sampling and to ensure national representativeness of the data, weighting was done. A representative sample of 27 345 households was selected for the 2010 MDHS survey (Malawi National Statistical Office and ICF Macro, 2010). This study focused on women empowerment at household level. Women who participated in the empowerment questionnaires on mobility, household purchases and as well as those who answered the question on respondents' final say about health care, were the ones considered in this study. The study focused on women in the 15-49 age group who were married and/or living with their partners. After managing data, 13 333 women were analysed.

3.3.5 Questionnaire design

The MDHS 2010 used three questionnaires for the survey – the household, men's and the women's questionnaires. Questionnaires were mainly used to come up with population and health related issues that are significant to the Malawi situation. A sequence of meetings with the appropriate individuals from different organisations identified issues that concern Malawi. Apart from the English language, questionnaires were further translated into the local languages, Tambuka and Chichewa. All people that were selected provided essential information which included age, sex and education. Also included was the type of the relationship they had with the head of the household (Malawi National Statistical Office and ICF Macro, 2010).

3.3.6 Data processing

After the field work was done, all the completed questionnaires for the 2010 MDHS were taken back to headquarters. Data processing took place at National Statics Office in Zomba (Malawi National Statistical Office and ICF Macro, 2010). Thirty eight data entry operators

processed the data. In addition, there were 3 data entry supervisors and 6 office editors. CS Pro software was used to editing and process data. Data processing took place between June and December 2010. The households that were selected were 27 307. Out of this number, a total of 25 311 took part in the survey. However from the total of 25 311 twenty four thousand eight hundred and twenty five productively participated in the interview process (Malawi National Statistical Office and ICF Macro, 2010).

3.3.7 Ethical consideration

This is a study that uses already existing data from the DHS. Since data already exists, issues of ethical consideration are not of concern as the responsible individuals at DHS initially dealt with that during the initial stages of the survey. DHS provided the necessary permission to carry out this study. The national statistics office hired different people to manage the logistics, administrative and technicalities of the survey. These were responsible for the ethical considerations of the survey (Malawi National Statistical Office and ICF Macro, 2010). The participation of the respondents was strictly voluntary. Before the interviews, participants were briefed about the survey and were assured of anonymity and confidentiality.

3.4 Dependent and Independent variables

3.4.1 Dependent variables

The dependent variable which was used in this study is children ever born (Fertility) which refers to the number of children ever born to a woman at the time she was interviewed. This is relevant to this study as children ever born are used to come up with fertility rates.

3.4.2 Independent variables

Variables in this study are in three categories– demographic, socio-economic and women empowerment. In the original data, the variable age group had seven categories. It was recoded to have three categories: 15-24, 25-34 and 35-49. In the variable age at first marriage, the ages less than 15 were dropped from the study to remain with the ages 15 years plus. Age at first marriage was grouped into 15-19 years and 20 years plus. Region of residence was not recoded. It was analysed in three categories from the original data from Northern, Central and Southern regions. The variable wealth status was recoded to have three categories. Thus poor and poorer were combined to have poor, middle was not recoded; rich and richer were combined to form the rich category. Occupation was recoded into four categories. Not working and occupation were not recoded. They were analysed as they are in the original data set. The skilled category was formed after combining clerical, skilled manual and services.

To create the “unskilled” category, “agriculture” and “unskilled manual” were combined. Place of residence was left unrecoded to have urban and rural area.

3.4.3 Proximate determinant

Contraceptive use was derived from the variable “current contraceptive use.” It was recoded by combining folkloric, traditional and no method to form the variable “not using any method.” “Modern methods” was left as it is to represent the category using modern methods.

3.4.4 Main independent variable

Household decision making is often used as an indicator to show how much women are able to control their environment (Upadhyay et al, 2010). Thus it has been mostly used as a way to measure women’s empowerment. Four elements of women’s empowerment are “decision on respondents health care,” “final say on large household purchases,” “final say on daily purchases” and “final say on respondents’ own mobility.” Each of these indicators had four categories namely i) respondent alone ii) respondent and partner or husband iii) husband or partner alone and iv) someone else. For each indicator, a dichotomous variable was created. Thus, “respondent alone” and “joint decision” (partner and respondent) were coded to form the category “empowered.” Then, “husband” and “someone else” were coded to represent the category “not empowered.”

Table 1 Variables used and their definitions

Variables	Definition and categories
Demographic	
Age	Age of the respondent (1)15-24 (2) 25-34(3) 35+
Region	Region of residence (1)Northern (2) Southern (3) Central
Age at first marriage	(1)15-19 (2) 20+
Socio- economic status	
Residence	Type of place of residence (1)Urban(2)rural
Wealth index	Household wealth index (1)Poor (2)middle (3) rich

Type of profession	Occupation of respondent (1)Not working(2)Professional (3)Skilled (4)Unskilled	
Education	Highest education level (1)No education (2) Primary(3) Secondary+	
Behaviour Contraceptive use	Ever use of contraceptives (1)No method (2)modern contraceptive use	
Main independent variable (women empowerment)		
1.final decision of respondent's health are	1respondent alone 2respondent and partner	empowered
	3partner/husband 4 someone else	not empowered
2.final decision on large household purchases	1respondent alone 2respondent and partner	empowered
	3partner/husband 4 someone else	not empowered
3.final decision on daily household purchases	1.respondent alone 2.respondent and partner	empowered
	3.partner/husband 4..someone else	not empowered
4.final decision on respondents visits to family and friends	1respondent alone 2respondent and partner	empowered
	3partner/husband 4.someone else	not empowered
women empowerment(level)	Low (1) High (2)	

3.5 Hypothesis

Null hypothesis: There is no association between women empowerment and fertility

Research hypothesis: There is an association between women empowerment and fertility

Women who are empowered are able to make decisions about fertility outcomes (Malhotra et al., (2002). Autonomy, which is not divorced from women empowerment is mainly used to represent women who are able to stand on their own, who are empowered and are able to make major decisions which concern them such as health and ability to determine what is best for them. It is clearly demonstrated by (Eswaran,2000) that the higher the autonomy of women, the more the women become independent, hence declining fertility. It is hypothesised that women who are empowered will have fewer children. Less number of children will allow them greater freedom to pursue other life opportunities. It is expected that empowered women will be more likely to have the agency and resources to have lower fertility than other women who are not empowered.

3.6 Data analysis plan

Data analysis was mainly done in three stages – univariate level which is descriptive statistics, simple Poisson regression and multivariate analysis. The univariate analysis was used to describe and summarise the variables in the study. It summarised the demographic, socio-economic and women empowerment variables. In accordance with the objective of the study, the Poisson regression was employed to show the relationship between each of the selected demographic, socio-economic and empowerment variables and the outcome variable, fertility. Analysis of variance test was done to determine the fertility differentials in Malawi. A combined model of all the independent variables was also done. Stata 12 statistical package was used to analyze the data. Poisson regression analysis was done. Poisson distribution considers discrete/ count outcome variables (Coxe et al., 2009). Poisson regression is more suitable as it considers values from zero and onwards. Children ever born (fertility) is count data which does not have negative values. Hence the most appropriate model for analyzing count data is Poisson regression. Some of the common examples of count data include weight, time which is measured in number of years and number of people. When a histogram of a count variable is produced, it gives a distribution called Poisson distribution which rises sharply and descends slowly. The Poisson model assumes that its observations are independent and that the mean and the variance are equal (Coxe et al., 2009).

The Poisson regression model is expressed as follows:

$$\ln(\hat{\mu}) = b_0 + b_1X_1 + b_2X_2 + \dots + b_pX_p$$

Where:

$\hat{\mu}$ represents the predicted count on the outcome variable given the specific values on the predictors $X_1 X_2 \dots$

\ln is the natural logarithm

b_0 is the intercept

b_1 is the regression coefficient for the predictor X_1 (Coxe et al., 2009).

3.7 Indirect and direct methods of estimating fertility

Demographic parameters such as total fertility, birthrates and death rates are estimated using demographic estimation methods. Such parameters are used to speculate population structures, thus, age structure and size of population over a given period of time. When the term direct is discussed in demographic estimates, it mainly refers using information that is not necessarily related to its value, hence indirect estimates. Indirect estimates largely use consistency checks which can also be called conventional data. As such, indirect techniques are employed to attempt to adjust these rates on information provided by surveys, census and vital registration information (United Nations, Manual X, 1983).

The indirect technique rates are calculated using both the observed and adjusted data. Observed data involves the use of raw data from datasets while adjusted data are data that have been corrected for errors. In order to assess and check consistency in the levels of fertility, data on children ever born, births during the last year by age of these women, were used to come up with adjusted estimates of current age specific rates and total fertility rates (United Nations, Manual X, 1983). P/F ratio technique was used to estimate fertility for this study. The P/F ratio technique assumes that if fertility has been constant for a certain period of time, it means that cohort and period measures of fertility will be identical and P/F ratio will be equal to one in every age group. It also assumes that fertility of younger women between the ages 15-24 does not change substantially. The technique also assumes that if fertility has been falling, cumulated life time fertility would be greater than cumulated current fertility (United Nations, Manual X, 1983). P/F ratio was employed in this study to check consistency in the fertility levels in Malawi. Direct estimates from the surveys such as the

MDHS 2010 are bound to underestimate the correct levels of fertility, and so the P/F ratio technique was used to overrule underestimation and overestimation of fertility rates.

3.8 Limitations of the study

Women empowerment is difficult to measure. The wide variation of conceptualising women's empowerment is an issue as it encompasses many directions. Studies have used decision making at household level. However, women empowerment involves different directions such as the socio-cultural, economic and political (Malhotra et al., 2002).

This is a study that looks at women empowerment and reproductive health outcomes with fertility being the outcome of interest. One of the major confinements of this study is that the 2010 MDHS does not exhaust all the questions that could contribute to women empowerment indicators. The MDHS 2010 does not have a specific variable which measures women empowerment. To come up with the empowerment variable, decision making variables were combined to create the women empowerment variable. Thus empowerment variable maybe diluted since there is no particular variable in the MDHS to represent empowerment.

Some of the women may have been sensitive to answer the decision making question as it is a cultural issue that may trigger sensitivity. In most African countries women are expected to remain submissive to their husbands. Even if they are empowered, they tend to comply with cultural expectations that a woman should remain submissive, even if she can make her own decisions. Since decision making is mainly associated with cultural issues, under reporting or over reporting may have occurred for fear of being victimised by the society or by the husband or partner.

CHAPTER 4: RESULTS OF THE STUDY

4.1 Introduction

This chapter presents findings from the univariate, bivariate and Poisson regression.

4.2 Respondents' Characteristics.

Shown in Table 2 are results of the univariate analysis. It presents characteristics of the respondents by their socio-economic and demographic characteristics as well as women empowerment.

Table 2 Percentage distribution of currently married women between the ages 15-49 by socio-economic and demographic characteristics, MDHS 2010.

Characteristics	Frequency	Percentages
Main independent variable		
Empowerment		
Level of empowerment		
Low	7869	59.12
High	5441	40.88
Total	13 311	100
Demographic Variables		
Age of the respondent		
15-24	4 035	30.17
25-34	5 556	41.68
35+	3 742	28.15
Total	13 333	100
Region of residence		
Northern	1 677	12.58
Central	5 960	44.70
Southern	5 696	42.72
Total	13 333	100
Age at first marriage		
15-19	10 293	77.20
20+	3 040	22.80

Total	13 333	100
Socio-economic		
Occupation		
Not working	3 139	23.54
Professional	304	2.28
Skilled	3 246	24.35
Unskilled	6 644	49.83
Total	13 333	100
Highest education level		
No education	2 132	16
Primary	8 795	65.96
Secondary+	2 406	18.05
Total	13 333	100
Place of residence		
Urban	2391	17.93
Rural	10942	82.07
Total	13 333	100
Wealth status		
Poor	4 822	36.17
Middle	2 811	21.08
Rich	5 700	42.72
Total	13 333	100
Current contraceptive use		
Not using any method	7 702	57.76
Morden method	5 631	42.24
Total	13 333	100

The table above shows characteristics of respondents by demographic, socio economic and women empowerment variables. With regards to education, only 18.05 percent of women had secondary education and women who only attained primary education make up the highest frequency of 8 795, making it the highest at 65.96 percent. Women with no education at all make up 16 percent. Noteworthy is that in the wealth status, the highest percentage is the rich category at 42.72 percent followed by the poor at of 36.17 percent and the middle class is

the lowest at 21.08 percent. With regards to profession, 2.28 percent of women are professional workers. The “unskilled” category has the highest percentage at 49.83. Skilled workers constitute 24.35 percent. The figure for women who are not working is 3 139, which translates to 23.54 percent. The majority of the Malawi’s women (82.07 percent) reside in rural areas and only 17.93 percent live in urban areas. In the variable age at first marriage, the percentage of people who are married between the ages 15-19 is 77.2 and for the age 20 years plus is 22.80. Current contraceptive use shows that 57.76 percent are not using any method. Women who are using modern methods of contraception comprise 42.24 percent. With regards to age, the 15-24 group has the highest percentage of 41.68, followed 25-34 standing at 30.17 percent and lastly 35+ at 28.15 percent.

4.3 Indirect Estimation Techniques

This section presents Age Specific Fertility Rate (ASFR) and Total fertility Rate (TFR) of women in Malawi using the 2010 Malawi Demographic and Health Survey. The 2010 MDHS data was adjusted because it is important to evaluate and adjust data as it may have errors that need to be corrected. This is because errors in data become delicate when important decisions need to be taken for example, when planning and formulating policies.

Table 3 Malawi Original P/F ratio calculations using MDHS 2010 Data

CEB	Number of women	P_i	Births in the last year	f_i	Φ_i	F_i	weight	F_i^+	P/F	$F^*i=Kf+I$	Adjusted Births
1195	5040	0.237	556	0.110	0.552	0.238	0.080	0.134	0.995	0.145	173
7194	4392	1.638	1284	0.292	2.013	1.421	0.108	0.297	1.153	0.323	2423.5
13171	4313	3.054	1119	0.259	3.311	2.813	0.113	0.255	1.086	0.278	3659.7
14213	3290	4.320	694	0.211	4.365	3.957	0.116	0.207	1.092	0.225	3202.0
14108	2575	5.479	440	0.171	5.220	4.896	0.153	0.166	1.119	0.180	2546.1
11242	1777	6.326	172	0.097	5.704	5.523	0.224	0.088	1.145	0.096	1079.6
11178	1633	6.845	46	0.028	5.844	5.812		0.022	1.178	0.024	266
					<u>TFR=5.8</u>						<u>TFR=6.4</u>

Table 4 Population analysis spread (PAS) sheet results for Malawi 2010

Age group	Reported ASFR F_i	Average CEB (parity)	Cumulated fertility (Φ)	F_i	P/F Ratio
15-19	0.110	0.237	0.550	0.238	0.998
20-24	0.292	1.638	2.010	1.418	1.155
25-29	0.259	3.054	3.305	2.808	1.088
30-34	0.211	4.320	4.360	3.952	1.093
35-39	0.171	5.476	5.215	4.891	1.120
40-44	0.097	6.326	5.700	5.520	1.146
45-49	0.028	6.845	5.840	5.808	1.179
	<u>TFR=5.84</u>				<u>TFR=6.36</u>

In the original brass P/F method, the unadjusted values for fertility rates are 5.8 and adjusted fertility rate is 6.4 while in the Population Analysis Spreadsheet(PAS) P/FRATIO the unadjusted values are 5.84 and adjusted values is 6.36. There is little difference in the adjusted and unadjusted fertility rates for both original brass and PAS P/F ratio techniques. Also for the adjusted TFR there is no significant difference as well. This shows that fertility has been consistently high in Malawi as the estimates show high fertility rates for both adjusted and unadjusted fertility rates.

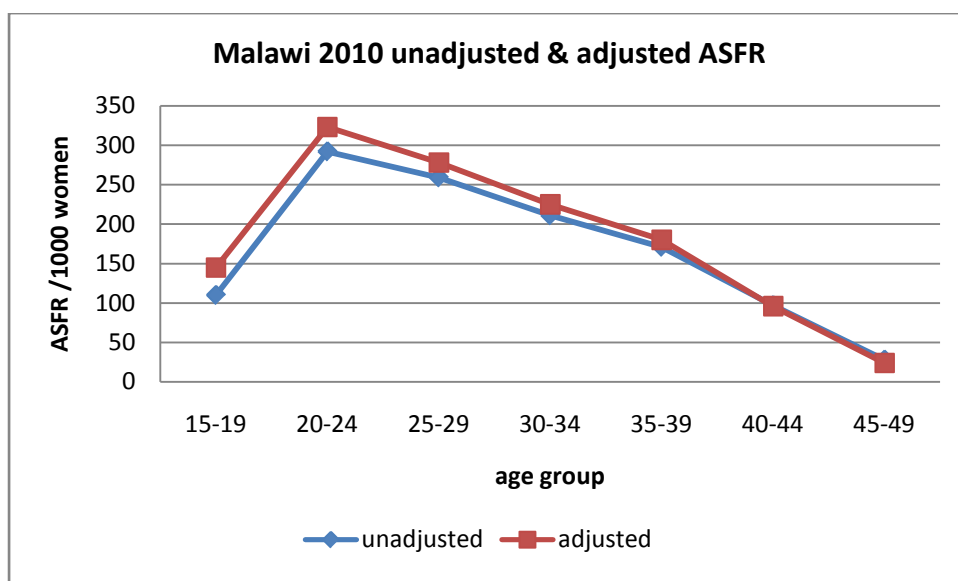


Figure 3 Malawi 2010 adjusted and unadjusted age specific fertility rates

Figure 3 shows age specific fertility rates for Malawi 2010. For both adjusted and unadjusted fertility levels, there is high fertility among the age group 20-24, followed by the age group 25-29. The age group 45-49 has the lowest fertility levels.

4.4 Fertility differentials by socio-economic, demographic variables and empowerment.

The table shows fertility differentials by socio economic and demographic variables as well as the main independent variable. This is in accordance with the objective of determining the levels and patterns of fertility in Malawi. The mean was used to determine the fertility differentials of Malawi. To come up with the mean differentials, ANOVA (analysis of variance) and t-tests were done. Table 4 shows results of Anova test and t-test results.

Table 5: fertility differentials by demographic, socio-economic, and empowerment MDHS 2010

Characteristics	Frequency	Mean	Standard Deviation
Demographic Variables			
Age of the respondent			
15-24	4 035	1.44	0.96
25-34	5 556	3.56	1.52
35+	3 742	6.91	2.36
F value	7615.46		
Degrees of freedom	2		

P value 0.000			
Region of residence			
Northern	1 677	3.68	2.42
Central	5 960	3.90	2.62
Southern	5 696	3.56	3.62
F value 24.06 Degrees of freedom 2 P < 0.000			
Age at first marriage			
15-19	10 293	3.81	2.50
20+	3 040	3.45	2.52
t=8.64 degrees of freedom=13333 p<0.000			
Socio-economic			
Occupation			
Not working	3 139	3.29	2.42
Professional	304	2.63	1.67
Skilled	3 246	3.70	2.32
Unskilled	6 644	3.94	2.56
F value 64.74 Degrees of freedom 4 P < 0.000			
Highest education level			
No education	2 132	5.29	2.69
Primary	8 795	3.69	2.41
Secondary+	2 406	2.29	1.45
F value 876 Degrees of freedom 2 P<0.000			
Place of residence			
Urban	2391	2.90	2.07
Rural	10942	3.81	2.52
t=8.64 degrees of freedom=13333 p<0.000			
Wealth status			
Poor	4 822	3.86	2.57
Middle	2 811	3.69	2.48
Rich	5 700	3.58	2.39
F=16.46 Degrees of freedom=2 P<0.000			
Current contraceptive use			
Not using any method	7 702	4.09	2.53
Modern method	5 631	3.43	2.53
t=8.64 degrees of freedom=13333			

p<0.000			
Main independent variable			
Empowerment(Level) Low High T=-2.28 Degrees of freedom P<0.02	2437 2342	3.67 3.77	2.50 2.46

Table 5 shows fertility differentials by mean children ever born. The table shows that the mean number of children ever born of the respondents by place of residence indicates that fertility is higher in rural areas. Mean children ever born for rural areas is 3.8 and 2.9 for the urban. The t-test was significant at 0.05 level of significance. Age at first marriage indicates a difference in the mean children ever born. For the category 15-19 the mean is 3.8 and for the 20 plus age group is slightly lower at 3.4. In terms of contraceptive use, those that are not using any contraceptives have a higher mean of 4.0 and those that are using modern methods have a mean of 3.4. The t-test was also significant at 0.05 significant level. The means for the empowerment variable show no significant difference. The mean fertility for the category “low” is 3.6 and for “high” is 3.7.

The ANOVA test shows that the variable “occupation” has different means. The professional have the lowest mean at 2.6, not working, skilled and unskilled means are not that different at 3.29, 3.7 and 3.94 respectively. The test was significant at 0.05 level of significance. Wealth status means show no difference in the means as they are 3.86, 3.69 and 3.58 for poor, middle and rich respectively but the p value is significant at 0.05. In terms of age group, the lowest mean is shown in the age group 15-25 at 1.44, followed by the age group 25-34 at 3.56 and 35+ with the highest mean at 6.19. Thus, the higher the age, the greater the number of children. With regards to education, “no education” has the highest mean at 5.29, followed by “primary” at 3.69 and lastly “secondary” with the lowest mean at 2.29. The ANOVA test

was significant at 0.05. Region shows no significant difference among the means as they stand at 3.68 for Northern, 3.90 for Central and 3.56 for Southern. Also the ANOVA test was significant at 0.05 significant level.

4.5 Multivariate analysis

This section looks at the relationship between fertility, women empowerment, socio-economic and demographic variables. Bivariate analysis was done to test the association between each independent variable and fertility. Three multivariate models were done in this section. The first test was to test the relationship between fertility, empowerment and demographic variables. The second focused on fertility, empowerment and socio-economic variables. The third looked at all these variables namely the relationship between the demographic, socio economic, empowerment and fertility.

Table 6: Results of the Poisson regression, bivariate results and model 1-3 multiple Poisson regression

Variables	Bivariate results (poisson regression)		Multiple Poisson (Demographic) Model 1		Multiple Poisson (Socio economic) Model 2		Multiple Poisson (all variables) Model 3	
	Coefficients	CI	Coefficients	CI	Coefficients	CI	coefficients	CI
Group Empowerment								
Low	RC		RC	RC	RC		RC	
high	0.03*	0.027- 0.04	-0.03*	-0.05 -0.01	0.081*	0.05 0.11	0.001	-0.02 0.02
Age of the respondent								
15-24	RC		RC				RC	
25-34	0.88*		0.94*	0.90 0.96			0.93*	0.89 0.96
35-49	1.47*		1.50*	1.47 1.55			1.43*	1.40 1.46
Age at first marriage								
15-19	RC-		RC				RC	
20+	0.13*	-0.16-0.115	-0.29*	-0.31 0.269			-0.22*	-0.24 -0.19
Region								
Northern	RC		RC				RC	
Central	0.04*	0.01 0.67	0.04*				-0.00	-0.260.25

Southern	-0.07*	-0.97-0.41	-0.02	-0.04 0.006			-0.04	-0.75 -0.24
Place of residence								
Urban	RC				RC		RC	
Rural	0.21*	0.19 0.24			0.13*	0.09 0.16	0.08*	0.05 0.12
Education								
No education	RC				RC		RC	
primary	-0.37*	-0.39-0.36			-0.38*	-0.39-0.35	-0.08*	-0.11-0.06
secondary+	-0.85*	-0.88 -0.82			-0.88*	-0.91-0.85	-0.31*	-0.36 -0.28
Wealth status								
Poor	RC				RC		RC	
Middle	0.14*	-0.05-0.003			0.001	-0.01 0.03	-0.02	-0.440.003
Rich	0.67*	-0.12-0.84			0.111*	0.89 0.13	-0.04*	-0.72-0.26
Occupation								
Not working	RC				RC		RC	RC
Professional*	-0.17	-0.24-0.99			0.16*	0.07 0.24	-0.17*	-0.25 -0.91
skilled*	0.14	0.11 0.17			0.15*	0.12 0.17	0.001*	-0.02 0.29
Unskilled*	0.22	0.19 0.24			0.13*	0.10 0.15	0.02*	0.001 0.005
Contraceptive use								
not using	RC				RC		RC	RC
modern methods	0.19*	0.17 0.21			0.19*	0.18 0.22	0.12*	0.10 0.13

RC: reference category

*** Significant at 0.05**

The bivariate results show that there is a significant relationship between empowerment and fertility. Although the p-value is significant, the coefficient among the women who are empowered does not decrease (coefficient 0.003 $p < 0.05$ CI 0.009-0.045). With regards to age, there is a significant relationship with children ever born. Thus, children ever born significantly increase with age, for example, for the age group 25-34 (coefficient 0.89, $p < 0.05$ CI 0.87-0.934) and 35-49 (coefficient 1.47, 0.05 CI 1.438). With regard to regions, children ever born significantly increase by 0.04 in the Northern, and in the Southern region children ever born decrease by 0.07. This demonstrates a relationship between region of residence and children ever born. Moreover, age at first marriage shows that children ever born decrease among the women who get married above 20 years. This is shown by a (coefficient 0.13

$p < 0.000$ CI -0.160 -0.115). Fertility also varies among the socio-economic variables. Table 6 shows that children ever born increases significantly among the rural women (coefficient 0.121 $p < 0.05$ CI 0.187 0.238). With respect to education, the results show that there is a significant relationship with children ever born. Thus, children ever born decrease with high levels of education, hence primary education (coefficient 0.37 $p < 0.05$ CI 0.395-0.351) and secondary+ (0.85 $p < 0.05$ CI-0.884-0.819). In terms of occupation, the category “profession” is the only one which shows a significant relationship with a decrease in children ever born shown by the (coefficient 0.17 $p < 0.05$ CI 0.242-0.989). However, children ever born increase in the categories “unskilled” and “skilled” with coefficients of 0.14 and 0.21 respectively. In the variable “current use of contraception”, although the results show a positive relationship, children ever born do not decrease among the modern contraceptive users.

Model 1 is a test of analysis between empowerment and the demographic variables. In model 1 the results show that there is a significant relationship between empowerment and children ever born. There is a slight decrease of children ever born among the empowered women (coefficient 0.03 $p < 0.05$ CI -0.050 -0.013). The results of model 1 also show that there is a significant relationship between age and children ever born as children ever born also increase with age. Age at first marriage also shows similar results which indicate that children ever born decrease among the ages 20 years plus. Model 2 shows results of the socio economic variables with fertility and empowerment variables included. In model 2, the results show that although there is a significant relationship between empowerment and fertility, children ever born do not increase among the empowered women. Education and place of residence also show similar results with those of the bivariate analysis as children ever born decrease with the high level of education and increase among the rural category.

Model 3 includes demographic socio-economic and the main independent variable, empowerment. In this model, the results show that there is no significant relationship between empowerment and fertility (coefficient 0.001 $p > 0.05$ CI-0.017 0.019). Place of residence, education and wealth status are consistent with results of model 2 and bivariate analysis shows a significant relationship with fertility. In model 3, occupation shows that only the professional women have significant decrease in fertility, with a coefficient of 0.17. In model 3, age shows a significant relationship with fertility. Contraceptive use is significant but does not show a decrease of CEB among women who use modern contraceptives.

CHAPTER 5 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses results with a view to answer the key research objective – to examine the relationship between women empowerment and reproductive health outcomes (fertility) in 2010 Malawi. Other relevant sources are used to enable the discussion. A conclusion and recommendation are offered.

5.2 Discussion

The research question of this study is: Is there any relationship between women empowerment and reproductive health outcomes of fertility? The main independent variable is empowerment. Other back ground and socio-economic variables were used as controls. Findings from the univariate analysis show that about 59 percent of women in the 2010 MDHS survey are in the low empowerment group. Only 41 percent of women are highly empowered. Results of the univariate analysis show that education levels are still low as evidenced by the 66 percent of women ending at primary level and only a few reaching secondary education. Results of descriptive statistics also demonstrate that women who are less or not educated have a high number of children ever born. Lower education levels contribute to lower levels of empowerment as Upadyay et al.(2010) argue, that education can enhance empowerment and reduce fertility. Most studies use education to explain fertility levels. (Kabir, 2000) asserts that education is used to enhance women's knowledge about reproductive health issues. The higher the women are educated, the higher their household income as well as their standard of living. This in turn increases their status and empowers them to have a say in reproductive health issues in the household. A woman who is educated stands a high chance to implement her desires in the household. This view is to a larger extent confirmed by the findings in this study. In all the multiple regression results, the coefficients showed that fertility increases in the rural areas. Rural areas are characterised by low levels of education, poor wealth status and thereby contribute to the lower levels of empowerment (Khan et al 1997, Kirk et al., 1998).

This study shows a positive association between the age at first marriage and children ever born. The overall multiple regression results show that fertility is lower among women who get married above the age of 20 (coefficient -0.22). Most studies use age at first marriage as a way to measure women empowerment. Women who get married at an early age are generally

associated with low levels of empowerment. This is also as a result of interspousal age difference. When a younger woman gets married to an older man, the woman is left with little or no say regarding reproductive health issues and as a result the husband or partner tends to decide on the number of children that they should have (Kazembe, 2009). In Malawi, age at first marriage is low as many young girls get married below the age of 18 (Kinoshita, 2003). Elsewhere, a study in Bangladesh indicated that age at first marriage was significantly associated with fertility –the higher age at marriage, the fewer the children (Kabir et al., 2000).

Khan et al. (2000) underscore that most studies have shown a significant relationship between improved women status and lower fertility. However, the multivariate results for all the variables (model 3) show that there is no significant relationship between fertility and empowerment. For model 1 and 2, there is a significant relationship with the demographic variables (coefficient -0.03). Although the results are significant, the decline in fertility is not so high. In this study, multivariate results show that the relationship between women empowerment and fertility is weak. This is similar to a study that was done by Cao (2011) in Tanzania. The study found that empowerment (derived from the decision making variable) had no relationship with fertility. Also Upadyay et al. (2010) carried out a study in four African countries (Namibia, Mali, Zambia and Guinea). In two of the countries, there was no relationship between fertility and women empowerment. Variables such as education, occupation and wealth status affect fertility. These variables also have a direct effect on fertility hence affecting the relationship between fertility and empowerment.

5.3 Conclusion

This study aimed at examining the relationship between women empowerment and reproductive health outcome of fertility. To meet the objectives, the study utilised the Malawi Demographic and Health Survey of 2010. Four decision making variables were used to come up with the main independent variable, women empowerment. Demographic and socio economic variables were also used as control variables.

The research question of this study was to find out if there is any relationship between women empowerment and reproductive health outcomes or fertility. The findings of the study are contrary to the hypothesis as it was found that there is no significant relationship with

fertility in the overall model. Although in model 1 (demographic variable empowerment and fertility) and model 2 (socio economic variables, empowerment and fertility) empowerment had a significant relationship with fertility, the relationship is weak as there is no significant decrease in fertility. Other variables such as education and place of residence had a significant relationship with fertility. Even though there was no significant relationship between empowerment and fertility, the univariate and descriptive bivariate results show that the percentage of women who are not empowered is high and there is high fertility among the less empowered women. It is important to ensure that women are involved in decision making at household level in order to achieve better reproductive health outcomes, in other words, to lower fertility levels in Malawi. This will help reduce poverty levels in the country and will help to achieve the MDGs of alleviating poverty and emancipating women.

5.4 Recommendations

This study focused on determining the relationship between women empowerment and fertility. The results showed that there is no relationship between women empowerment and fertility. Although there was no significant relationship found, other variables such as education and occupation showed a significant relationship with fertility. However, the results of the univariate indicated that empowerment levels are low in Malawi and that there is high fertility among women that are not empowered.

As part of promoting gender equality and women empowerment among Malawian women, factors like education and labour force participation should be improved as they have a greater influence on decision making at household level. Decision making affects fertility. Most studies show that women who take part in the household decision making are considered to have higher chance of having a say in fertility issues. Women's position in the household can be improved by increasing knowledge about the rights of women through encouraging education and also changing social attitudes and customs which oppress women in order to foster an understanding within the household set up. In view of the fact that education levels are low in Malawi, the government is encouraged to introduce, intensify and complement free education.

Furthermore, family planning programs which will address women's empowerment as part of their mission to help women and couples have only the number of children they want, can be introduced as well. Such programmes will generate interest in family planning services,

create demand for smaller families, and thereby reduce fertility. Couples should be made to understand the benefits of smaller families. Additionally, policies that will encourage couples to make joint decisions are important in promoting the use of modern contraceptives. This should include involving men in reproductive health programmes and making them understand the consequences of high fertility rates.

Males should be encouraged to adopt responsible sexual behavior. Men's behavior can be used as a tool for the empowerment of women. The changes for men should not only support women's right to make their own reproductive choices but also the right to have information and means to do so. They should be encouraged to communicate better with their wives, and take the responsibility to empower them. An approach to increase legal age for marriage may also be introduced. This will require the government to be involved and also create incentives to do so. Such an intervention will further decrease fertility rates as women who marry at a later age have less number of children ever born.

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APPENDIX 1: QUESTIONNAIRES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
814	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER 1 FOR SOMEONE ELSE 2 SELF-EMPLOYED 3	
816	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR 1 SEASONALLY/PART OF THE YEAR 2 ONCE IN A WHILE 3	
817	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY 1 CASH AND KIND 2 IN KIND ONLY 3 NOT PAID 4	
818	CHECK 801: CURRENTLY MARRIED/LIVING WITH A MAN <input type="checkbox"/> NOT IN UNION <input type="checkbox"/>		→ 827
819	CHECK 817: CODE 1 OR 2 CIRCLED <input type="checkbox"/> OTHER <input type="checkbox"/>		→ 822
820	Who usually decides how the money you earn will be used: mainly you, mainly your husband/partner, or you and your husband/partner jointly?	RESPONDENT 1 HUSBAND/PARTNER 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY 3 OTHER 6 (SPECIFY)	
821	Would you say that the money that you earn is more than what your husband/partner earns, less than what he earns, or about the same?	MORE THAN HIM 1 LESS THAN HIM 2 ABOUT THE SAME 3 HUSBAND/PARTNER DOESN'T BRING IN ANY MONEY 4 DONT KNOW 8	→ 823
822	Who usually decides how your husband's/partner's earnings will be used: you, your husband/partner, or you and your husband/partner jointly?	RESPONDENT 1 HUSBAND/PARTNER 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY 3 HUSBAND/PARTNER HAS NO EARNINGS 4 OTHER 6 (SPECIFY)	
823	Who usually makes decisions about health care for yourself: you, your husband/partner, you and your husband/partner jointly, or someone else?	RESPONDENT 1 HUSBAND/PARTNER 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY 3 SOMEONE ELSE 4 OTHER 6	
824	Who usually makes decisions about making major household purchases?	RESPONDENT 1 HUSBAND/PARTNER 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY 3 SOMEONE ELSE 4 OTHER 6	
825	Who usually makes decisions about making purchases for daily household needs?	RESPONDENT 1 HUSBAND/PARTNER 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY 3 SOMEONE ELSE 4 OTHER 6	
826	Who usually makes decisions about visits to your family or relatives?	RESPONDENT 1 HUSBAND/PARTNER 2 RESPONDENT AND HUSBAND/PARTNER JOINTLY 3 SOMEONE ELSE 4 OTHER 6	

