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DETERMINANTS OF UNMET NEED FOR CONTRACEPTION AMONG MARRIED WOMEN IN UGANDA

BY

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ACCEPTANCE

Accepted by the Faculty of Social Sciences, University of Ghana, Legon in partial fulfillment of the requirements for the degree of Master of Philosophy in Population Studies.

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DECLARATION

I hereby declare that, except for references to other people's work which have been duly acknowledged, this work is the result of my own research and it has neither in part nor in whole been presented elsewhere for another academic award.

Signed……
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DEDICATION

To my family for sharing my frustration during the time I worked on this thesis.

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ACCRONYMNS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Survey
GDP	Gross Domestic Product
ICPD	International Conference on Population and Development
IDCs	Internally Displaced Camps
KAP	Knowledge, Attitude and Practices
LAM	Lactational Amenorrhea
MDGs	Millennium Development Goals
MoH	Ministry of Health
PRB	Population Reference Bureau
TFR	Total Fertility Rate
UDHS	Uganda Demographic and Health Survey
UN	United Nations
UNFPA	United Nations Population Fund
UNGA	United Nations General Assembly
UNPD	United Nations Population Division
USAID	United States Agency for International Development
WHO	World Health Organization

ABSTRACT

The unmet need for family planning is defined as the proportion of married women or those living in consensual union of reproductive age, presumed to be sexually active but are not using any method and would like to postpone the next pregnancy or who do not want any more children. In Uganda, fertility remains high at 6.2 births per woman (UDHS, 2011) and is currently stalling.

Contraceptive use is low and women have an unmet need for family planning. Drawing on a sample of 4,188 married women who had children in the last five years with emphasis on the last child from the 2011 Uganda Demographic and Health Survey data, the study seeks to examine the determinants of unmet need for contraception among currently married women of age 15-49 years old in Uganda.

Age, number of living children, wealth index, educational attainment, region of residence and religion were the strong indicators for the likelihood of unmet need for contraception. Women's age is very significant in determining both unmet need for spacing births (OR=0.694, $p<0.01$) and unmet need for limiting births (OR=1.437; $p<0.01$). Women with 0-2 children were 33% ($p<0.01$) less likely to have unmet need for spacing births compared to women with five or more children. Respondents who reported their last child to be alive were 1.6 times ($p<0.05$) as likely as respondents who reported their last child dead to have unmet need for spacing births. Wealth index was significant ($p<0.01$) in determining unmet need for spacing births particularly for the poorer, middle and the richest wealth categories. On the other hand, the odds of unmet need for limiting births were negatively related to wealth index. Respondents who did not complete secondary education ($p<0.05$) were the only significant category in the model with respect to educational attainment for unmet need for limiting births. Under-five child survival status, women's autonomy, type of place of residence and knowledge of any contraceptive methods did not matter very much in determining unmet need for contraception among married women in Uganda.

It is recommended, based on the findings, that contraceptive services should be packaged to suit all women of different categories giving priority to the most vulnerable. This means that, family planning programmes should target women who need the contraceptives most rather than providing contraceptives to all women irrespective of their level of susceptibility. In this regard, the most vulnerable should have more attention than women who are less vulnerable. There is also need for the government of Uganda to provide an employment fund in a bid to boost income generating activities to especially the unemployed currently married women. This will increase their disposable income which would make them afford, access and utilize modern family planning services. These strategies could aid in increasing contraceptive usage and consequently bringing down the high fertility levels in Uganda. In addition, it is important that the government through the Ministry of Health (MoH) subsidizes the available modern contraceptives to give chance to the economically disadvantaged women to access them. This could also increase coverage with all its associated benefits.

Keywords: *Unmet need, contraception, Married women, Uganda*

CHAPTER ONE

INTRODUCTION

1.1 Background

Since the 1960s, survey data have indicated that substantial proportions of women who have wanted to stop or delay child bearing have not practised contraception (Bongaarts and Bruce, 1995). This discrepancy is referred to as the "unmet need for contraception". Unmet need for contraception has been one of the most widely discussed family planning concepts in recent years.

The unmet need for contraception is defined as the proportion of married women and those living in consensual unions of reproductive age, presumed to be sexually active, not using any method of contraception. These women would either like to postpone the next pregnancy (unmet need for spacing), or do not want any more children (unmet need for limiting) (Westoff 1988).In other words, the concept of unmet need for family planning refers to the discrepancy between individuals' contraceptive use and their stated fertility intentions.

The theory of unmet need for contraception and related concepts such as desired fertility assume that reproductive intentions are relatively consistent (coherent), stable, and articulable and that they are oriented primarily toward numbers of children (Johnson-Hanks, 2005). The definition of unmet need used in this study is restricted to unmet need for modern contraception, a concept closer to that of unmet need for appropriate contraception (Foreit et. al, 1992).

The concept of unmet need has for several years been subjected to considerable revision and refinement and has been the subject of a fair amount of debate. The term "unmet need for contraception" was first coined in the 1970s to describe the seemingly discrepant behaviour of

women who want to avoid pregnancy, but are not using family planning (Robey, Ross and Bhushan, 1996 cited in Shah et al., 2004).

Earlier attempts to measure unmet need used a relatively simple definition. In its simplest form, unmet need was defined as the percentage of currently married women who want no more children but are not using contraception out of all currently married women (Westoff, 1978; Westoff and Pebley, 1981).

However, as time went by, the definition of unmet need became increasingly expanded to include women who wanted no more children, women who wanted to delay a pregnancy, or who were not sure if or when they wanted to become pregnant. These women were considered to have "unmet need for spacing" while women who wanted to end child bearing had "unmet need for limiting" (Nortman, 1982).

It should be noted that Dixon-Mueller and Germain (1992) further broadened the concept, stressing that needs also exist among the unmarried, among users whose method is unsafe, ineffective or unsuitable and among women with mistimed or unwanted pregnancies who lack access to safe abortion. Worthy to note, is the fact that infecund women were excluded from the calculation of unmet need since contraceptive use would have no demographic impact. Here, infecund women refer to women who report that they have reached menopause, or who, when asked if they wanted another child, say they cannot get pregnant (Westoff and Bankole, 1995).

Estimates of unmet need for family planning derived from fertility and family planning surveys have now become standard statistics. The measure has become popular in policy and programme circles for its usefulness as an indicator of the market for services, and for assessing future demand and the potential for fertility reduction (Westoff and Bankole, 1998). Unmet need

focuses on women who are motivated to practise contraception, as a result it offers a relatively realistic indication of the unsatisfied (or "latent") demand for contraception. Satisfying this demand is a readily endorsed policy objective in that it aligns public policy with the expressed reproductive interests of individuals (Casterline et. al, 2003).

The world reached seven billion population on 31st October 2011 and it is expected to increase by 50 percent by 2050. This growth will occur primarily in developing countries but this will largely depend on women's access to family planning services where the unmet need and demand for contraception are most evident. It is estimated that 41% of all pregnancies globally are unintended and 39% occur in Africa. The level of unmet need is particularly high in sub-Saharan Africa (Ross and Winfrey 2001), where the ratio is nearly one in four (UNFPA 2004). In contrast, in the rest of the developing world, less than one in seven of all married women are considered to be potentially at risk of unwanted pregnancy or have an unmet need for contraception (Maki 2007).

The purpose of this study, therefore, is to examine the main factors that determine unmet need for contraception, specifically in reference to Ugandan married women who have had children in the last five years. The paper argues that, identifying these factors may help policy makers put more emphasis on such respondent characteristics so as to increase effective contraceptive use as well as reduce the stalling total fertility rate.

In Uganda, at the moment, the population is about 35.6 million but the country has one of the fastest growing populations anywhere in the world. On average, each woman will give birth to 6.2 children (PRB, 2012). Despite other countries for example, Bangladesh, Colombia, Dominican Republic, Ghana, Kenya, Peru and Turkey, which experienced fertility stalling in the early or mid-1990s and with lower levels of fertility ranging between 4.7 births per woman in

Kenya to 2.5 births per woman in Turkey (Bongaarts, 2005), Uganda is experiencing fertility stalling at a later time and at relatively high levels for example, TFR=>6 births per woman, (UBOS, 2012).

It may take Uganda a longer period of time to experience a significant fertility decline. In contrast, Uganda's current fertility levels were experienced by these countries in the 1950s. This is enough reason to explain a huge difference in the level of development between Uganda and these countries. As a society develops (modernizes), socioeconomic changes such as industrialization, urbanization, rising education, and investments in public health lead to a decline in mortality and to a change in the costs and benefits of children. The rise in child survival together with the rising cost and declining economic value of children is considered to be the fundamental driving force of the fertility transition. The desire for smaller families leads in turn to a demand for birth control and hence to lower actual fertility (Bongaarts, 2005).

According Singh and Darroch (2012), the number of women in developing countries who want to avoid pregnancy but are not using modern contraception declined only slightly between 2008 and 2012, from 226 to 222 million. However, the number of women with an unmet need for modern contraception increased in sub-Saharan Africa, from 31 million in 2008 to 36 million in 2012. In the 69 poorest countries where 73 percent of all women with unmet need for modern contraceptives reside, the number actually increased from 153 to 162 million.

The report further states that the overall proportion of married women who comprise 92 percent of all modern method users, remained virtually unchanged between 2008 and 2012 at 56% - 57%. However, substantial increases occurred in Eastern Africa (from 50% to 56%), while there

was little change in Western Africa and Middle Africa, regions where fewer than 10% of married women use modern contraceptives.

Uganda has the highest unmet need for contraception in East Africa but lacks the financial resources to increase contraception access and usage especially among women. According to the 2011 Uganda Demographic and Health Survey, about 30% of currently married women are using some method of contraception. The public sector remains the major provider of contraceptive methods for nearly half of the users of modern contraceptive methods (47 percent), according to the 2011 UDHS.

Uganda's health sector strategic plan for 2010-2015 addresses its policy on the procurement and distribution of contraception to all males and females but especially focuses on adolescents. Surprisingly, young people face refusal or restrictions when they request contraceptives from providers. Nearly one-third of the providers said that they will not supply contraceptives to individuals who are younger than 18, unmarried, still in school, and those without children, although the policy guidelines of Uganda have no such requirements. Therefore, the unwillingness to provide contraceptives due to cultural or individual biases illustrates the urgency of prioritizing young people's contraceptive needs.

In Uganda, where desired family size has been declining and couples want to space or limit the number of children they have, the unmet need frequently increases yet information on contraceptive methods, or where to obtain them is incomplete, or family planning services do not cover the entire population. However, this is somehow different for countries such as Zimbabwe and Namibia whose declining desired family size is in line with a decline in unmet need. Thus, in such countries, respective governments have been able to improve supply of contraceptives and

improve information on method availability and safety leading to an increase in contraceptive use and a decline in unmet need.

Results from the UDHS, 2011, show that the use of modern methods of family planning has consistently increased over the past decade, growing from 14 percent of currently married women in 2000-01 (excluding Lactational Amenorrhea) to 26 percent in 2011. About one-third (35 percent) of currently married women have an unmet need for family planning services, with 21 percent in need for spacing and 14 percent in need for limiting births. The government's target in the Health Sector Strategic and Investment Plan is to reduce the unmet need for family planning in Uganda to 20 percent by 2015. There has been a slight decline in unmet need for family planning for example, from 38 percent in 2006 (UDHS, 2006) to 34 percent in 2011 (UDHS, 2011). It is important to note that unmet need in Uganda in the year 2000-01, was 35 percent (UDHS, 2001).

Surprisingly, one would expect it to decline further but it rather increased slightly in the year 2006. This trend, therefore, makes it hard to be certain about whether the unmet need will further decline thereafter. In addition, the high unmet need in Uganda may contribute to the high fertility levels in Uganda. It is, therefore, a challenge to the Government of Uganda to come up with measures to improve supply of contraceptives as well as information on contraceptive availability.

While the literature on unmet need in general is extensive, little has been written about the determinants of unmet need for contraception in Uganda. A considerable amount of research has been accumulated that documents the extent to which reproductive preferences are being exceeded (Rafalimanana and Westoff, 2000). Despite this, there is a huge research gap that exists

in the literature. Few studies have examined the determinants of unmet need for contraception in spite of the numerous studies carried out in the field of unmet need for contraception. This study, therefore, intends to fill this gap. There is need to identify the main factors that affect unmet need for contraception. This could help policy makers in policy formulation and revision so as to increase contraceptive use among married women in Uganda.

1.2 Statement of the Problem

Uganda has the highest unmet need for contraception in East Africa but lacks the financial resources to increase contraception access and usage especially among women (Vlassoff M. et al., 2009). There has been a slight decline in unmet need for family planning for example, from 38 percent in 2006 (UDHS, 2006) to 34 percent in 2011 (UDHS, 2011). It is Important to note that the unmet need for Uganda in the year 2000-01, was 35 percent (UDHS, 2001). About 30% of currently married women are using some method of contraception (UDHS, 2011). In Uganda, fertility remains high at 6.2 births per woman (UDHS, 2011) and is currently stalling yet contraceptive use is low.

Uganda is the country with the second highest proportion of young population after Niger with 48.3 percent of its population below the age of 15 years, according to the World Population Data Sheet (PRB, 2011). Unmet need is particularly high in sub-Saharan Africa where little progress has been made. The demographic transition has stalled in Uganda which has dramatic consequences for its population growth.

Review of some studies (Bauer et al., 2006) shows that high fertility is mainly rising from unmet need, due to inadequate contraceptives (Robey, Rutstein and Morris, 1993; Westoff and Bankole, 2000). Other scholars argue that unmet need is due to desired fertility based on people's

preference for big families (Easterlin, 1975; Pritchett, 1994; Becker, 1990). This thought is also shared by Caldwell and Caldwell (1987) who state that community institutions that favour child bearing contribute to high unmet need. Another reason for high unmet need is the unequal position of women (Mason and Taj, 1987). High fertility has negative consequences such as undermining welfare of the people, unproductive human resource, environmental degradation, high disease burden, distorting the benefits that would have come through the Millennium Development Goals (MDGs).

Uganda's TFR of 6.2 children per woman is the 9th highest in the world (PRB, 2012). The population of Uganda is currently growing by about one million people per year, and given the force of demographic momentum, Uganda will see high rates of population growth for decades to come. The government's efforts to increase access to family planning and reproductive health services have so far failed to meet women's and families' needs. Family planning receives very little funding from the government and yet the number of health workers is inadequate to meet demand and many providers are poorly trained (Vlassoff M. et al., 2009).

High fertility rates lead to a more youthful population which puts the country at risk of outbreaks of civil conflict, and high unemployment rates all leading to a demographic burden. As unmet need for contraception increases, population also increases since many women cannot limit nor space their births and this has negative consequences on the available resources.

Uganda's high fertility rate has also been described as a primary cause of poverty (Population Action International, 2010). Poverty sets in when there are a few resources being competed for by a large number of people. These resources may include natural resources. Though the future impacts of climate change are not yet fully known, the poor, women and the children, will be hit

the hardest since they are directly affected by the consequences of rapid population growth and unintended fertility. To this end, helping these women with unmet need for contraception to plan for their births (space and limit) would help to curb rapid population growth with its negative consequences.

Contraception in many developing countries is characterized by high unmet need, irregular access, low utilization and presumed demand for long-acting reversible contraceptives (LARCs) like intrauterine devices which are among the most efficacious and cost effective means of family planning as they are not dependent on user adherence (Blumenthal et al., 2012).

Women who want to avoid pregnancy but are not using an effective method of contraception account for a large majority of unintended pregnancies. Abortion is a major consequence of unintended pregnancy, and in many developing countries that restrict abortion like Uganda, terminations often are performed under unsafe conditions and result in women dying or suffering serious injuries thereafter. Unintended pregnancies can also lead to delay or no antenatal care, which can pose health risks to both mothers and infants.

It is against this backdrop that this study is timely to mainly examine the factors that affect unmet need for contraception in Uganda. Despite the various challenges brought about by low contraceptive use in several studies, less is discussed on the determinants of unmet need for contraception. Further, for decades, Uganda's fertility has been stalling probably due to low contraceptive use. However, solutions to this high and stalling fertility have not been provided fully. The study possibly will identify the strong factors for the likelihood of unmet need for contraception. Secondly, the study will recommend the promotion and improvement of planning

of proper coverage, distribution and effective use of contraceptives across all regions and among different groups of women.

The study therefore seeks to address the following research questions;

- What are the strong factors that are likely to affect unmet need for contraception among married women in Uganda?
- How does the last child survival influence contraceptive use among married women?

1.3 Objectives of the study

The main objective of the study is to examine the factors that affect unmet need for contraception to space and limit births among currently married women aged 15-49 years old in Uganda.

Specifically, the study aims at achieving the following;

i. To describe characteristics of currently married women with unmet need for contraception.
ii. To discuss the relationship between some demographic and socio-economic factors and unmet need for contraception among currently married women.
iii. To identify the main indicators of the likelihood of having unmet need for both spacing and limiting births.
iv. To make recommendations for policy formulation or revision on contraception in Uganda.

1.4 Rationale of the study

Addressing unmet need through family planning programmes has been proposed as a major strategy for fertility reduction in developing countries. In practice, however, some women fail to use contraception and are at risk of having mistimed or unwanted births, induced abortion, or maternal deaths (Sedgh et al. 2007).

Unmet need for contraception is one of several frequently used indicators for monitoring of family planning programmes, and was recently added to the Millennium Development Goal (MDGs) of improving maternal health (Bernstein and Edouard 2007). This MDG calls for the provision of universal access to reproductive health services (WHO, 2009 cited in Amoako et al, 2012). Indicators for achieving this additional goal include contraceptive prevalence and the percentage of women with unmet need for family planning (Amoako et al., 2012).

Some other indicators that are used in combination with unmet need are the contraceptive prevalence rate (CPR), the method mix, sources of contraceptive supplies, and reasons for not using contraception. The international community made a commitment in 1994 to make reproductive health care universally available by 2015. The commitment was affirmed by a special session of the United Nations General Assembly (UNGA) in July 1999. However, this commitment has to be backed by resources which most rural areas of developing countries lack which makes delivery of reproductive health services a little difficult (Baiden et al., 2005).

Information on women reporting unmet need for contraception has become part of the standard information published on contraceptive prevalence by the United Nations (2001, cited in Shah et al. 2004). It has been shown that as contraceptive use goes up, unmet need consistently goes down. This occurs since women are able to avert mistimed and unwanted births by using contraception (Westoff and Bankole, 2000). Thus, the existence of this unmet need has provided

a key rationale for expanding family planning programmes (Freedman, 1987). This study, however, is to identify the main determinants of unmet need for contraception in Uganda so as to put much emphasis on them in a bid to reduce unmet need for contraception in Uganda.

Women who are using contraceptives are said to have a met need for family planning. Thus, the elimination of unmet need would significantly reduce fertility and improve maternal and child health (Sinding et al. 1994; Westoff and Bankole 1995). In addition, meeting women's unmet need offers a host of health and socio-economic benefits. For instance, family planning can assure the wellbeing of mothers and women by preventing unwanted pregnancies (Sedgh et al. 2007). It can reduce maternal mortality by reducing the number of pregnancies, the number of abortions, and the proportion of births at risk (UNFPA, 2008). It seems timely, therefore, to identify the strong indicators for the likelihood of unmet need for contraception.

In sum, reducing unmet need is an effective public health intervention with multiple individual and societal benefits. It lowers fertility rates, thereby paying a demographic dividend. Contraception helps couples achieve their desired family size by timing when and the number of children to have and this helps to lower maternal and child mortality which are critical Millennium Development Goals. The need for contraception is clear because it helps to address the objective of reducing population growth rates (Casterline, Perez and Biddlecom, 1997).

The study will identify the main factors that influence unmet need for contraception in Uganda. Family planning programmes improve couple's communication about fertility goals. In addition, family planning services are preventing three-quarters of the abortions that would otherwise occur in the developing world each year (Sonfield, 2006). Family planning programmes also have far-reaching social, economic and psychological benefits for women, families and nations.

The study is, therefore, timely, and of much importance to Uganda. The study builds on the existing demographic literature and contributes to a better understanding of the main determinants of unmet need for contraception in Uganda. Identifying these factors will help to provide reliable information for the guidance of policy, resource allocation, and the planning and evaluation of family planning programmes. This could create a positive change in contraceptive use among women in Uganda.

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Literature Review

The term "unmet need" first appeared in 1977 when Bruce Stokes used evidence from Knowledge, attitude and practices (KAP) studies in developing countries to identify the number of ill-timed pregnancies and widespread reliance on abortion. This led to the concept of unmet need for contraception. However, long before then, the survey data from contraceptive knowledge, attitude and practices yielded a discrepancy between contraceptive usage and achieved fertility. Thus, the term that came into use to describe this behaviour reflecting the source of data was "KAP-gap". In 1974, Freedman and Lolagene Coombs used survey data to identify women who were not using contraception yet they wanted to have no more children. They coined the term "discrepant behaviour" to describe the status of such women. Since then, several large scale survey programmes have helped develop an operational definition of unmet need (cited in Robey B. et al., 1996).

In developing countries, one in four sexually active women who want to avoid becoming pregnant have an unmet need for modern contraception. These women account for eighty-two percent of unintended pregnancies in the developing world. Unintended pregnancies are those that occur to women who wanted to wait for about two or more years before they can have another child or not to have a child at all. In this case, these pregnancies include women with both a need to limit births and a need to space births (Darroch et al., 2011).

Specifically, Sub-Saharan Africa, South Central Asia and South-East Asia are home to 69 percent of women in the developing world who have an unmet need for a modern family

planning method. For instance, each year in these three regions, 49 million women have unintended pregnancies, leading to 21 million unplanned births (Darroch et al., 2011).

Further, Darroch et al (2011), state that, seven in ten women with unmet need in the three regions cite reasons for non-use that could be solved with appropriate methods. Currently, 56 percent of all women aged 15-49 in developing countries are in need of family planning and only 40 percent of these women alone are found to be in Sub-Saharan Africa primarily because of higher desired family sizes in the region. Three-quarters of women in developing countries who seek to avoid unplanned pregnancy already use a modern contraceptive method and in Sub-Saharan Africa, only 39 percent of women who want to avoid pregnancy use a modern method.

A comparison of large regions of the developing world indicates that unmet need among married women is highest in sub-Saharan Africa (24%) and lowest in Central Asia (11.4%) (Ross and Winfrey, 2002). Similarly, unmet need is lower in Latin America and the Caribbean (Klitsch, 1992). However, unmet need has been reported to exist not only in developing countries but has also been documented for European countries (Klijzing, 2000 cited in Shah et al., 2004). The greatest unmet need in most countries of sub-Saharan Africa consists of an unmet need for spacing births, while most unmet need in Latin America is for limiting births. This, therefore, means that in most countries of Sub-Saharan Africa, the bulk of unmet need consists of an unmet need for spacing. Almost everywhere except in Sub-Saharan Africa, at least one half of contraceptive demand is satisfied (Klitsch, 1992).

Many women across the African continent bear more children than they wanted because of poor access to contraception which makes it a little hard for these women to properly plan for their families or prevent unwanted pregnancies. Demographers and policy makers foresaw a

potentially catastrophic global population explosion, and significant financial investments in family planning programmes in Africa, Asia, and Latin America followed. While global investments in family planning generally succeeded in Latin America and Asia, where the average number of births per woman has fallen from six to two since the 1960s, these programmes in sub-Saharan Africa have not yielded similar results (Frost and Dodoo, 2009).

Bhushan (1997), states that, lack of motivation is an especially dominant reason for unmet need in sub-Saharan African countries. Fertility programmes in Africa have not been a big success because they target women as primary beneficiaries neglecting men, yet fertility choices and contraceptive use issues are dyadic in nature. In addition, African men seem to have more power over fertility decisions in their families therefore neglecting them may hinder success of fertility programmes. Thus, efforts to curb population growth on the continent are severely handicapped (Frost and Dodoo, 2009).

There is a positive relationship between the number of living children and the probability of having an unmet need. For instance, Pasha et al., (2001) cited in Woldemicael and Beaujot, (2011) found that women with four or more living children are more likely than women with fewer children to have unmet need. Bhandari et al., (2006) also found out that total number of children was among the most significant predictors of unmet need, where unmet need rises with an increase in the number of children. The desire to stop child bearing rises steadily with increasing parity (Wolff et al., 2000). Discussion about stopping child bearing commonly precedes the actual desire to stop.

Further, Wolff et al. (2000) discovered that at higher parities, however, the proportion of women who want to stop exceeds the proportion who have discussed stopping child bearing with their

partners, suggesting that women are at a disadvantage relative to men either in their ability to discuss their fertility desires or the perceived usefulness of doing so.

2.1.1 Husband's influence on unmet need for contraception

Bhushan (1997) argues that, husbands' opposition is one of the reasons for unmet need, although women themselves do not cite it as their principal reason for not intending to use contraceptives. Husbands may oppose contraception because they are more pro-natalist than their wives, or they may not approve of specific contraceptives, or both. Sometimes women think that their husbands oppose contraceptive use when in fact they approve. Thus, husband-wife communication is also an important factor to note.

Women with unmet need tend to be characterized by low status and weak bargaining power within the household. Women's autonomy is critical in securing better family planning and health care utilization (Matthews et al., 2005; Babar et al., 2008 cited in Woldemicael and Beaujot, 2011). Women's autonomy enables them to decide freely and responsibly the number, spacing, and timing of their children (Obermeyer, 1995 cited in Woldemicael and Beaujot, 2011). Caldwell and Caldwell (1993) argue that women's statuses are key factors in the wider diffusion of contraception and utilization of health care services.

Women's improved autonomy is also likely to result in lower fertility through its negative association with desire for large family size and through effective use of modern contraception (Makinwa and Jensen, 1995). Likewise, women's limited autonomy is associated with low health-seeking behaviors, especially pertaining to contraception and family planning (Jejeebhoy, 1995). As Casterline and Sinding (2000) state, lack of communication between wives and husbands can create a major barrier to contraceptive use.

Unmet need for contraception is expected to be low in instances where the woman takes centre stage in making decisions regarding her reproductive life (Stephenson et al., 2007 cited in Woldemicael and Beaujot, 2011), and also probably where both the wife and husband make joint decisions for using contraception. On the other hand, in situations where the husband and other people make decisions for using contraception for the couple, unmet need is likely to be high because they may not make the appropriate decisions that favour the woman in this case, who bears the biggest burden in child bearing.

African men's attitudes vary but they generally do not have positive attitudes towards contraception. Yet, women who want to space their births may have no other option but to use contraception especially hormonal methods secretly. Men's opposition to family planning programmes remains an insurmountable obstacle to wives and partners who want to use contraception. Analysis from several developing countries showed that unmet need expressed by husbands differed considerably from that expressed by wives. This may be indicative of disagreement or lack of communication about reproductive goals or contraception between spouses (Becker, 1999).

Husbands' opposition was also noted as a major reason for the presence of unmet need in South Asia together with fear of side effects and perceived religious prohibition (Chaudhury, 2001). For example, in Kuwait, women who reported that they perceived their husbands to disapprove of contraceptive use (or they did not know his opinion) were 4.7 times more likely to have an unmet need than those who perceived their husband to approve (Shah et al., 2004).

Some literature on contraceptive use provides evidence that suggest that, husband's opposition to contraceptive use by their partners is due to men's anxieties especially fear of infidelity. Bawah

et al. (1999), highlight the fact that men are anxious that women who practice contraception might be unfaithful. Men fear that women who use contraceptives will refuse to fulfill their reproductive and sexual obligations and they will seek sexual satisfaction outside of marriage and possibly abandon their families. To them, contraceptive use breeds marital discord.

Social demographers, family and gender scholars have also argued that most of Africa operates in a patriarchal culture that upholds the secondary or subordinate status of women in male-female relationships (Ezeh and Gage 2000; Takyi and Dodoo 2005). These scholars argue that, reproductive decisions are not made by women alone, but are dyadic in nature. Men have a major role they play in contraceptive usage with their spouses. They play an important and dominant role in couple's adoption of modern contraception (Dodoo, 1993a; Ezeh, 1993a; Bankole, 1995 cited in Ngom, 1997). Their decisions on this may influence unmet need (see Dodoo, 1998). Therefore, men's unmet need for contraception should be incorporated in the measurement of unmet need if the concept is to continue to be linked to fertility transitions in Sub-Saharan Africa (Ngom, 1997). These scholars argue that if conjugal roles and spousal communication is important in explaining and facilitating reproductive change, then men have to be incorporated in the equation. For example, Nyblade and Menken (1993), show that, irrespective of household structure, spousal communication is associated with greater contraceptive use in Kenya. Also Hardee Cleaveland (1992) cited in Casterline et al., (2001), documents this effect of spousal communication in Ghana.

Other works carried out in Navrongo (Ghana) and Nyanza (Kenya) also confirm that spousal dynamics are a strong determinant of family planning adoption (Phillips et al., 1997; Rutenberg and Watkins, 1996 cited in Ngom, 1997). Also, the millennium declaration clearly acknowledges women's empowerment and gender equality as pillars of social justice in any society (UNDP,

2003 cited in Woldemicael and Beaujot, 2011). Therefore, in order to reduce unmet need, it is important to increase women's participation in all spheres of development including economic, social and political decision making powers (Woldemicael and Beaujot, 2011).

Husband's opinion has been consistently found to be a significant factor in several countries (Caterline and Sinding, 2000). For many married women, objections to family planning from their husbands (or partners) would be a sufficient reason not to practice contraception despite their own desire to do so. Substantial proportions of married women who are not seeking to have children say they face opposition from their spouses coupled with lack of discussion between couples. Men are generally expected to exert more control than women over fertility decisions (Wolff et al., 2000).

However, it should be noted that, the fertility question in Sub-Saharan Africa on decision making is scripted at the aggregate level by society and biology and therefore little room exists for couple' decision making or disagreement. Wolff et al. (2000) contend that, beyond socially or biologically ascribed decision making power, couples' decision making is a function of communication, disagreement, and conflict resolution over fertility issues. It may therefore seem counterintuitive to suggest that women, who bear the primary biological role in child bearing, are not largely in control of decisions surrounding their own fertility (Frost and Dodoo, 2009). In fact, evidence from the Gambia and elsewhere suggests that even in natural fertility societies, individuals actively reinterpret social norms about child bearing and attempt to manipulate events to meet their own fertility goals (Bledsoe et al., 1994 and 1998) in Wolff et al., 2000).

Bongaarts and Bruce (1995) argue that family discussions over sexual matters may not be considered respectable subjects. Thus, they are limited since they may jeopardize women, for

example in societies where women can be divorced without notification or where the husband is free to take a second wife, women feel that they are at risk by raising such questions, so they opt to avoid the subject naturally. The impact of couples' agreement on unmet need depends on the proportion of couples with discordant desires to stop childbearing among all those exposed to the risk of pregnancy, and the difference in contraceptive prevalence between concordant and discordant couples. In settings with low contraceptive prevalence that is primarily attributable to other factors such as poor access, the overall impact of couples' disagreement will probably be small (Wolff et al., 2000). Hence, husbands' disapproval is likely a strong contributory factor to having an unmet need.

2.1.2 Patriarchal concept

In Africa where patriarchal setting is predominant, children derive their legitimacy through their father. In this circumstance, a child is truly unwanted only if declared so by the father and his kin (Bankole and Ezeh, 1999). In other words, the implication of unwantedness is less obvious and limited if the child is unwanted only by the mother (Lloyd, 1956 cited in Bankole and Ezeh, 1999). For example, among the Maasai of Kenya, if a married woman conceives under whatever circumstance for example extra-marital affairs or during breastfeeding, the resulting child derives his wantedness in that family from the reaction of the husband. If the husband decides to accept the child, then the child is wanted (Lema and Njau, 1996 cited in Bankole and Ezeh, 1999).

Based on this, there is increasing evidence suggesting that husbands' preferences are indeed important determinants of the reproductive behaviour of couples. This position has been advanced, mainly in the context of sub-Saharan Africa and Asia (Bankole, 1995; Coombs and Fernandez, 1978; Dodoo, 1993; Ezeh, 1993 cited in Bankole and Ezeh, 1999). Casterline et al (1997) also argue that husbands' factors may be a major source of the disparity between their

reproductive desires and outcome. Eberstadt (1981) cited in Mason and Taj (1987) has stated that most of the information gathered through fertility surveys suggests that women consistently desire smaller families than their husbands while some other demographic literature have suggested that there is a greater demand for children among women than men in settings in which women are relatively powerless (Cain et al., 1979 cited in Mason and Taj, 1987). In sum, this situation is a reflection of women's lack of control over reproductive decisions in many developing countries.

In pre-transitional societies, fertility is high and deliberate use of contraception to limit family size is rare yet in countries where transition fertility is low, the large majority of couples practice some form of contraception (Bongaarts, 2005).There is more action needed in making family planning more accessible in low resource settings especially among the poorest couples who happen to have the highest fertility and highest unmet need for contraception yet contraceptive use is low. Family planning programmes in resource-poor settings are usually fragile, show signs of poor performance and are dependent on international funding and constrained by existing policies.

However, it is exactly in those settings where family planning programmes are most needed if countries aim to reduce unmet need, inequalities in health, maternal and child mortality rates, as well as alleviate poverty and foster economic development (Prata, 2009; Bongaarts, 2005). Contraception plays an important role in the effort to reduce maternal morbidity and mortality in the developing world, not only through the reduction in births, but also in the reduction of pregnancies to at-risk groups, such as teenagers and older women who already have four or more children (Stover and Ross 2008 cited in Amoako et al., 2012).

Family planning is an effective way of controlling fertility by giving couples the ability to have their desired family size (Prata, 2007). Contraceptive use is also the main proximate cause of a decline in fertility (Bongaarts and Potter, 1983 cited in Bongaarts, 2005).The World Bank also considered family planning a highly cost-effective public health intervention (World Bank, 1993).

2.1.3 Poverty

In Uganda, the unmet need for contraception is astounding. Couples who wish to have fewer children are unable to determine the size of their families as funding for family planning continues to become scarce and existing programmes fail to meet all concerns and desires of their users (Prata, 2009). As a result, marriage and reproduction have become increasingly unpredictable in much of sub-Saharan Africa. This uncertainty arises from poverty, job insecurity, wars, diseases such as AIDS (Johnson-Hanks, 2005).

It is important, therefore, that women get enough and accurate information about contraceptives, how to get them, where to get them and how to use them. One major factor contributing to the failure by women to access modern contraceptives is poverty. Poverty is likely to increase markedly in absolute terms in the next few decades in sub-Saharan Africa (United Nations Population Division, 2008). For example, Uganda's population is projected to hit 93 million in 2050 from 34.5 million currently (UNFPA, 2011). Thus, if poverty rates do not decline in 2050, more people will be living in extreme poverty.

Hundreds of millions more people, more than 1.25 billion people overall will be living in poverty in 2050, and sub-Saharan African countries will thus have even greater difficulty elevating their

level of socio-economic development and maintaining their often tenuous political stability (Prata, 2009).

Casterline and Sinding (2000) point out other reasons that could probably explain the high unmet need such as, poor access to family planning services, lack of correct information, and concerns about side effects. Other reasons several studies have found, mentioned by women for not using contraception, include, ambivalence about future child bearing, low risk of contraception, prices of contraceptives and their unavailability.

Ambivalence about future child bearing is especially common among women with unmet need for spacing births. A large proportion of unmet need in sub-Saharan African countries is for spacing births. In these countries, on average 30% of unmet need is due to apparent ambivalence about future child bearing. Thus, a significant portion of unmet need in sub-Saharan Africa may not be amenable to any change in the perceived cost of contraception. A substantial proportion of older women, especially those whose unmet need is for limiting, do not feel the need to use contraception because they think they are infertile or they seldom have sex (Bhushan, 1997).

Darroch et al. (2011) also document several reasons as to why women do not use modern contraceptives and they mainly group these reasons in three main categories, that's reasons related to methods, access and demographic reasons such as breast feeding or post partum amenorrhea.

2.1.4 Method-related reasons for non-use of modern contraceptives.

The main reason for non-use is being concerned about health risks or side effects. Women reporting method-related reasons for not using a modern method account for about two-thirds of unmet need in Sub-Saharan Africa (67%) and South Central Asia (71%) and 79% of unmet need

in South-East Asia (Darroch et al., 2011). Among some side effects reported include; nausea, headaches, breast tenderness, irregular periods or the absence of periods during the first year of use, heavier menstrual periods and increased cramping. Health concerns or fear of the side effects of contraception, and opposition of husbands, other relatives or of women themselves (Khan et al., 2008; Igwegbe et al., 2009).

Other reasons for lack of uptake include misperceptions about the safety and efficacy of long-acting reversible contraceptives, inadequately trained providers and the relative complexity of providing long acting reversible contraceptives compared with short term contraceptive methods. However, several attempts have been made to revitalize the long-acting reversible contraceptives particularly the IUDs which are cost effective but these programs have not yielded much success with utilization rates remaining very low especially in many developing countries (Blumenthal et al., 2012).

In many developing countries from Sub-Saharan Africa, South Central Asia and South-East Asia, twenty-three percent of the women are concerned about health risks or method side effects (Darroch et al., 2011). Therefore in a bid to tackle this problem women need to be provided with the right information and counseling with the possible risks and available methods. Further, new contraceptives should be introduced on the market with risks that are fewer than the old or previous methods.

2.1.5 Lack of access and other reasons for non-use of modern methods

Several studies have indicated that the most important reasons for an unmet need are lack of knowledge about contraception. Lack of knowledge about modern contraceptive methods or sources of supply and opposition to use are important determinants of unmet need (Sita, 2003;

Bongaarts and Bruce, 1995; Casterline et al., 1997; Casterline and Sinding, 2000 cited in Woldemicael and Beaujot 2011).

Lack of access to modern contraceptives as a reason for non-use entails lack of the right information of the modern contraceptives on the market and where to get them, for example, among married African women who are not using contraceptives, only 29 percent of those in Western Africa and 64 percent of those in Eastern Africa are familiar with common methods such as pills and injectables and know where to obtain family planning services, inability to afford them or poverty, opposition from spouse to use contraceptives. Opposition to contraception could probably be due to religious reasons, social or cultural beliefs. Opposition to contraception accounts for 14 percent in Sub-Saharan Africa (Darroch et al., 2011).

2.1.6 Infrequent sex and post partum amenorrhea or breast feeding.

Darroch and colleagues state that some women who do not use modern contraceptives cite reasons such as not having sex frequently, breast feeding yet these women might have an unmet need for contraception especially once their immediate concerns are resolved. An argument made here is that even though these women are having sex infrequently, they should have measures and ways of preventing unwanted pregnancies and so are women breast feeding since such a period is up to only six months.

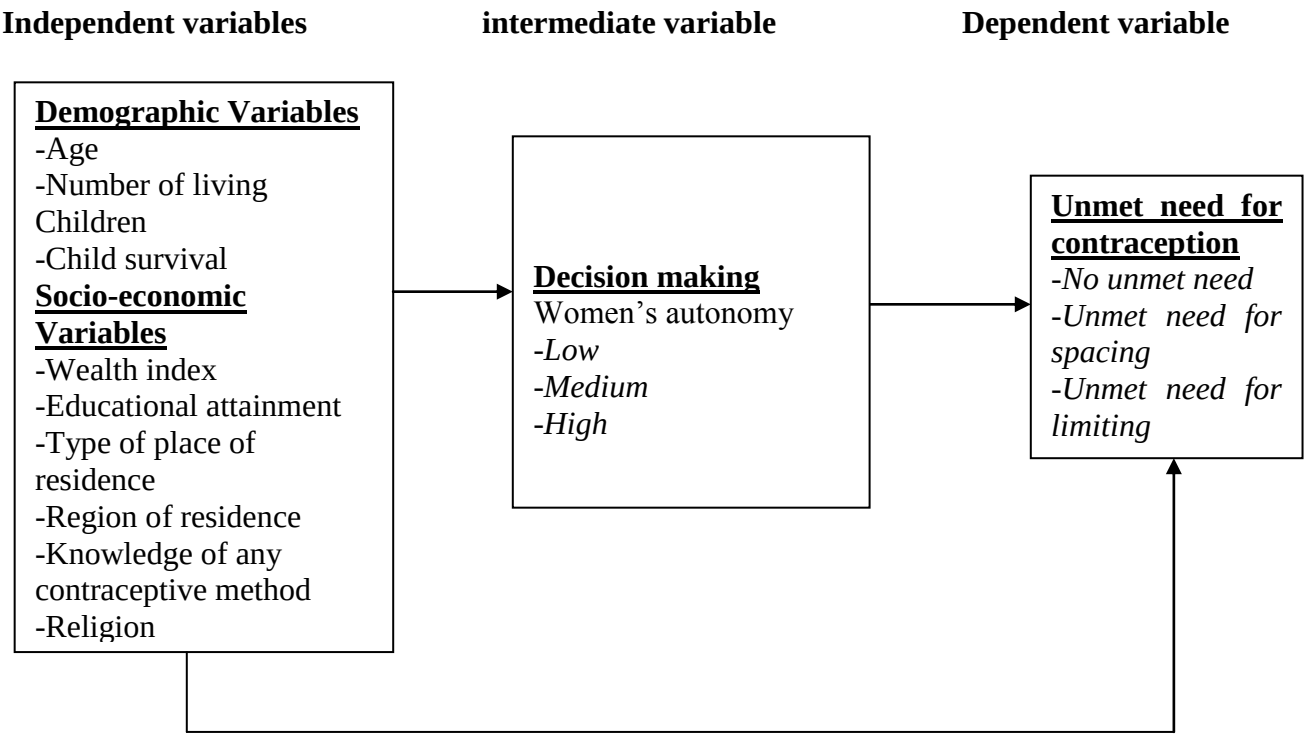
2.2 Conceptual Framework

Figure 2.1 shows the conceptual framework for this study. This conceptual framework was adapted from Antenane Korra (2002). His conceptual framework was adapted because it offers the best theoretical framework guiding this work. The study builds on the categorization of four main groups of variables. These include, the dependent variable, independent variables (demographic and socioeconomic variables), and proximate variables.

The independent variables that influence unmet need for contraception for the study population are subdivided into two groups. The first group includes demographic variables and the second group comprises of socioeconomic variables. The other category of variables in the study is categorized as the intermediate variable. For this particular study, the dependent variable is unmet need for contraception. This variable is categorized in three ways. The first category includes women who do not have an unmet need for contraception, the second entails women with an unmet need for spacing births and the third category consists of women with an unmet need for limiting births.

The conceptual framework shows how predisposing factors (independent and background factors) predict and influence unmet need for contraception. The study, therefore, attempts to demonstrate a relationship between the independent variables, the intermediate variables and unmet need for contraception as Figure 2.1 illustrates.

Figure 2.1: A Conceptual framework showing the interrelationships between the independent, intermediate and dependent variables.



***Source**: Adapted from Antenane Korra (2002).*
***Note**: Arrows indicate hypothesized relationships.*

Unmet need for family planning is typically higher for younger women (Ahmadi and Iranmahboob, 2005, cited in Woldemicael and Beaujot 2011). Other studies, however, argue that the effect of age differs by unmet need for spacing and unmet need for limiting (Ojakaa, 2008), with unmet need for limiting increasing with age, while that for spacing decreases for older women (Sita, 2003 cited in Woldemicael and Beaujot 2011).

The desire to limit births tends to be low among young women and especially women who have just married. The reason for the very low desire to limit births is because, since these women have just married, they tend to have a desired fertility level, which they have not yet achieved but as they grow older and after achieving their desired fertility, they are expected to have a higher

desire to limit births. Women in the younger age group (15-19), are more likely to have a less need for both limiting and spacing births compared to women in the older age group (45-49).

It is implied, therefore, that the number of living children will inform couples on whether and when to limit their births. Depending on the number of living children, couples with a number that is higher or more than they want or those who have achieved what they exactly want, are more likely to have the desire to limit births and it follows right that their need for limiting births will be higher than couples whose desired fertility is not yet achieved. Women whose number of living children is "7+" are more likely to have a higher need for limiting births than women whose number of living children is less than three.

A reduction of short birth interval should be expected to result in lower mortality rates especially in the first year of life. These include the harmful effects of the early weaning of a child when another birth follows closely (Rafalimanana and Westoff, 2000). An increase in birth interval calls for an increase in contraception use especially to space births. This ultimately reduces child mortality. It is, therefore, expected, that women who experience high rates of child mortality are more likely to have high unmet need for contraception. These women are also disposed to high rates of fertility.

Jejeebhoy (2002) defines autonomy as decision making power within the home, economic and social self-reliance, confidence in interacting with the outside world. Women's autonomy is likely to have a significant impact on contraceptive use such as the ability to obtain health services for themselves and their children. Having a final say in decision making processes is the highest degree of autonomy. Indeed, as the results in other studies have shown, the decision-

making process, and the type of decisions a partner makes is an important factor which can affect family processes.

It is inferred that if a woman has autonomy in any of these decisions then she has autonomy in the child bearing sphere as well. In this case, Couples who make joint decisions are more likely to use contraception than those who do not make joint decisions. Similarly, women with high autonomy in the family are more likely to decide on their own on when and how to use contraception.Women with high autonomy are more likely to have a better negotiation power on contraceptive use than women with low autonomy.

A woman's economic status is crucial in determining her affordability and purchasing power for contraceptives. It should be noted that one major factor contributing to the failure by women to access modern contraceptives is poverty. Poverty is likely to increase markedly in absolute terms in the next few decades in sub-Saharan Africa (United Nations Population Division, 2008). Thus, if poverty rates do not decline in 2050, more people will be living in extreme poverty.

Hundreds of millions more people, more than 1.25 billion people overall will be living in poverty in 2050, and Sub-Saharan African countries will thus have even greater difficulty elevating their level of socio-economic development and maintaining their often-tenuous political stability (Prata, 2009). The richest women are more likely to have a less need for spacing births than the poorest women since they can afford to have the contraceptives when they need them.

Some studies have documented that the odds of having an unmet need for family planning are negatively and strongly associated with women's educational level (Ndaruhuye et al., 2009, cited in Woldemicael and Beaujot, 2011). According to Ndaruhuye et al., (2009), women with less than three years of education have higher (69 percent) unmet need, compared with those who

have at least ten or more years of education (27 percent). Unmet need varies inversely and sharply with education (Westoff, 1988).

Formal education increases one's awareness, on availability of various contraceptives and usage. Formal education offers a whole range of advantages especially to the woman. Besides making her entry into marriage a little late, education is more likely to make women economically independent as well as increasing their autonomy thereby meeting their family planning needs. It is expected that, women with no education are more likely to have a higher need for spacing births than women with higher educational attainment.

Women who live in urban areas are more likely to be using contraception and have lower unmet need compared with their rural counterparts (Sita, 2003, cited in Woldemicael and Beaujot, 2011). Type of place of residence has much to explain about women's contraceptive use in her reproductive life. Women who reside in urban areas have an advantage of accessing various types of modern contraceptives. Urban areas are blessed with well-equipped health facilities, well trained health personnel and different methods of family planning. The cost of living in urban areas is yet another reason that deserves mention. Urban areas are often characterized by high cost of living due to so much pressure on the available resources and these force women to check on their fertility. It is upon this explanation that urban women find themselves in higher need for spacing and limiting births than their counterparts in rural areas.

On the other side, most women in rural areas use traditional contraceptives which are not as effective as modern contraceptives. Thus, managing their family size is hard and this partly explains the reason why they tend to have large family sizes. It is expected, therefore, that rural women are more likely to have a higher need for spacing births than urban women.

Unmet need for contraception widely varies with region of residence. Some regions of residence are more urban than others, with modern health facilities that have modern contraceptives as well as more health practitioners. It thus, follows that unmet need for spacing is more likely to go down among these women who reside in these areas because of easy access to modern contraceptives than their counterparts in remote regions. For example, Kampala and Central regions are more likely to have lower rates of unmet need for spacing than women in regions such as Karamoja, West Nile, which regions have been disturbed by war for almost two decades.

Unmet need for contraception is likely to be higher among women with no knowledge of any method of contraception than women with knowledge of modern family planning methods. Women who know of only traditional methods are also very likely to experience a high unmet need for contraception. This is because, traditional methods tend to have a high failure rate and not very effective as the modern methods.

Hailemariamand Haddis (2011) argue that, surprisingly, total unmet need for family planning (both spacing and limiting) was found to be higher among women who knew at least one method of family planning compared to those who had no knowledge of any modern contraceptive method. Close to 40% (37.1% in 2000 and 39% in 2005) of the women who had knowledge of at least one method of family planning were found to have unmet need for family planning. Unmet need for spacing as well as limiting was very high among women who knew at least one contraceptive method.

Religion is an important factor in determining unmet need for contraception especially in developing countries like Uganda. However, contemporary analyses point to the end of the religious factor in determining family size in low fertility societies (Mosher et al., 1986; Westoff and Jones, 1979 quoted in Goldscheider and Mosher, 1991). Therefore, since Uganda is still

experiencing high fertility levels, the religion factor may still be an important factor to consider in predicting unmet need for contraception. For this study, unmet need for contraception is likely to be high among the Catholics than other religions. This could partly explain the high fertility levels in Uganda especially where the Catholics form the majority. This hypothesis is based on studies for example Fox and Inazu (1980) who argue that mothers raised as Catholics were less likely to discuss matters related to birth control measures and sexual intercourse.

Unmet need for contraception is the dependent variable. Unmet need for contraception in this case measures the proportion of married women or those living in consensual unions of reproductive age, presumed to be sexually active, but are not using any method of contraception and yet these women would either like to postpone the next pregnancy (unmet need for spacing), or do not want any more children (unmet need for limiting).

2.3 Hypotheses:

1) Women with high degree of autonomy are more likely to have a lower unmet need for spacing births than women with low autonomy.
2) Women whose last child survived are more likely to have a higher unmet need for limiting births than women whose last child died.
3) Women with three or more living children are more likely to have higher unmet need for limiting births than women with less than three children.
4) The Catholics were more likely to have a higher unmet need for limiting births than the Protestants.

CHAPTER THREE
METHODOLOGY OF THE STUDY

3.1 Source of data, sample design and measurement of variables

This study uses data collected in the 2011 Uganda Demographic and Health Survey (UDHS) which is a nationally representative survey of 10,086 households with 9,247 women age 15-49 years and 2,573 men age 15-54 years. The data were filtered to yield 5418 women of age 15-49 years old who are currently married or cohabiting. The data were again filtered to yield 4188 married women who had children in the last five years with emphasis on the last child to be used for this sample. The sample for this study was weighted to accurately represent the population from which the sample was drawn. The weighting variable was computed using the women's individual's sample weight variable by dividing it by a million. Thus, all the analysis to include descriptive statistics, bivariate and multivariate analysis was based on the weighted numbers.

The study presents analysis on only under-five child survival status because it gives more robust estimates since correlation results with unmet need for contraception were stronger than with under one year (< 1 year) and under two years of age (< 2 years).

Age is grouped in 7 categories as follows: (15-19), (20-24), (25-29), (30-34), (35-39), (40-44) and (45-49). The number of living children was categorized because treating it as a continuous variable gave inconsistent and very funny odds ratios in the model. The same inconsistencies were experienced by Woldemicael and Beaujot (2011). We therefore borrow an idea from them to categorize the number of living children as follows: women with no child, categorized as (0), (1-2), (3-4), (5-6) and 7+ children. Child survival was categorized as child dead and child alive.

Decision making is measured using the questions: a) Who usually decides how your spouse's/partner's earnings will be used? b) Who usually decides how the money that you earn will be used? c) Who usually makes decisions about health care for yourself? d) Who usually makes decisions about making major household purchases? e) Who usually makes decisions about visits to your family or relatives? To any of these questions, the responses are respondent, your spouse/partner, respondent and spouse/partner jointly or other person? A composite variable was computed from these five decision making aspects to measure autonomy. Respondents who mentioned that they or their spouse/partner jointly made any of the decisions were coded as 1, those who mentioned spouse or partner only or someone else were coded as "0". Results for the five decisions were summed to obtain the autonomy variable using the principal component analysis. Scores of less than 30 percent attracted low autonomy, 30-70 percent attracted medium autonomy and greater than 70 percent attracted high autonomy. This variable was then categorized as low autonomy, medium autonomy and high autonomy.

Wealth index is measured using five categories; the poorest, poorer, middle, richer and richest. Educational attainment was categorized as follows: no education, incomplete primary, complete primary, incomplete secondary, complete secondary and higher education. The study uses the conventional measure of the type of place of residence which is urban and rural. Region of residence was categorized as follows: Kampala, Central 1, Central 2, East Central, Eastern, North, Karamoja, West Nile, Western and South West. The variable 'Knowledge of any method' used in the study, was categorized in three; knows no method, knows only traditional method and knows only modern methods. Religion was measured using six categories; the Catholic, Protestant, Muslim, Pentecostal, Seventh Day Adventist and other religions. Finally, unmet need

for contraception is measured using two categories; unmet need for limiting and unmet need for spacing.

3.2 Analytical approach:

Data analyses were conducted using the statistical software package SPSS. Analyses were done in three-fold to include Univariate descriptive statistics, bivariate relationships and multivariate analysis.

The first level of analysis is the Univariate level. This level includes the estimation of unmet need and describing the demographic and socio-economic characteristics of the sample in the study. The Univariate level of analysis also includes descriptive statistics such as the use of frequencies, percentages and means. The bivariate level of analysis was conducted using cross tabulations to examine the relationship between the independent variables (physical, economic, demographic background and personal characteristics of respondents) and unmet need for contraception. At the multivariate level of analysis, a multinomial logistic regression model was used to examine the effect of demographic and socio-economic variables on unmet need for contraception. A multinomial logistic regression model was used because the categorical response variable (unmet need for contraception) has more than two categories, for example, no unmet need for contraception, unmet need for limiting births and unmet need for spacing births.

3.3 Measurement of unmet need.

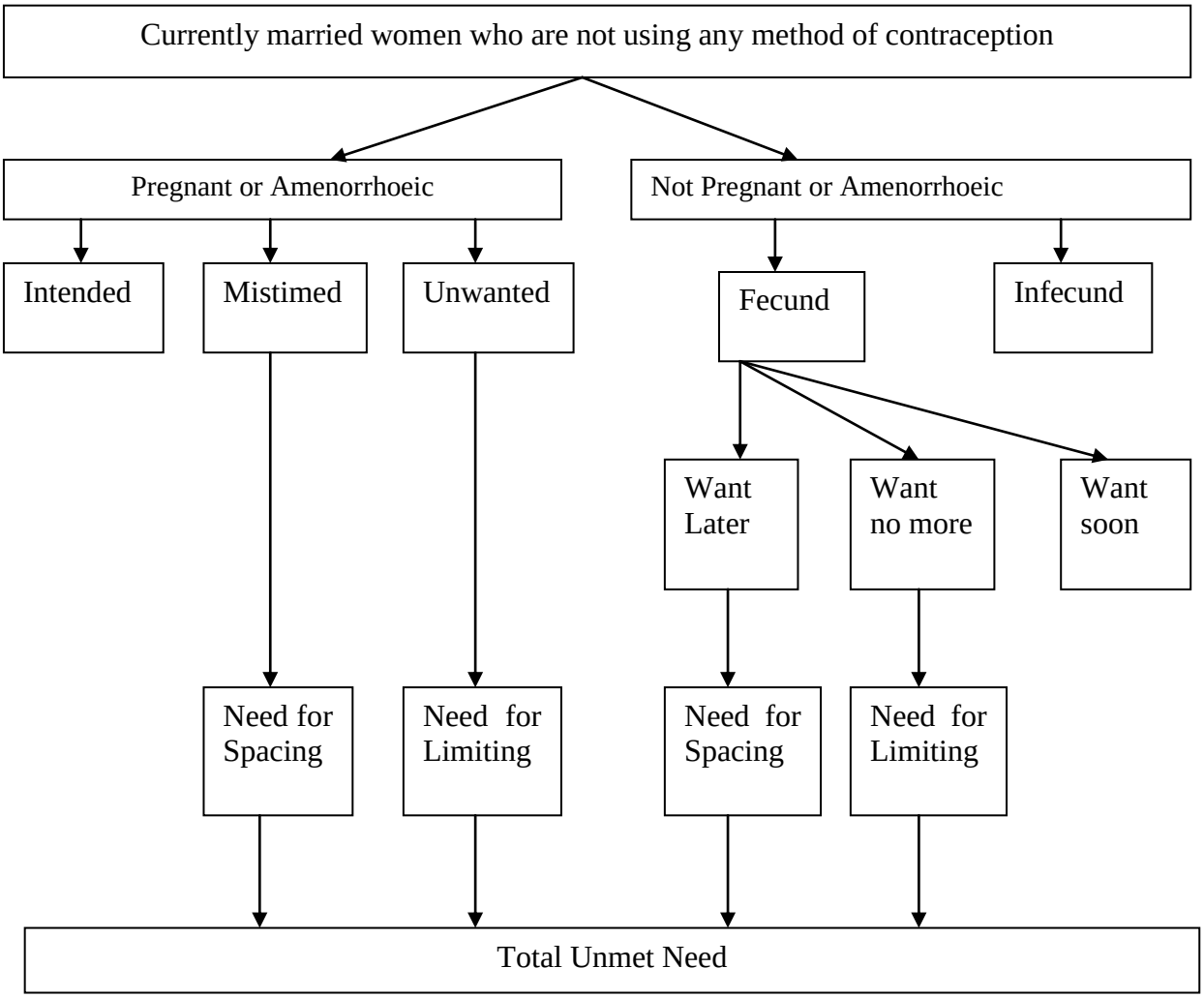
Estimating unmet need is important in order to determine the demand for family planning services. Unmet need for contraception is generally measured using data obtained from married women of reproductive age 15-49 years. The information used to calculate unmet need is from these sexually active married women who are not using any contraception and thus have a need to limit or space their births (Westoff, 2006).

A woman is first asked whether she is using any method of contraception, whether for the purpose of limiting or spacing births. If she is using contraception, including traditional methods, she is considered not to have unmet need for contraception. As Figure 3.1 illustrates, women who are not using any method of contraception form the basis for estimating unmet need for contraception.

Women who are not using contraception are then asked whether they are pregnant or amenorrheic (not menstruating, often due to a recent pregnancy or lactation). As Figure 3.1 shows, the pregnant or amenorrhoeic women are then categorized into three ways; women whose pregnancy was intended, mistimed or unwanted. In the calculation of unmet need, pregnant or amenorrheic women whose pregnancy was mistimed or unwanted are added to the proportion with unmet need, even though they do not at the time of the survey have an immediate need for contraception, given their pregnancy. Women who are not pregnant or amenorrheic and are in-fecund do not have unmet need, nor do women who want to become pregnant soon (Westoff, 2006). Fecund women are then categorized into three groups; women, who want a child later, want no more children or want a child soon. Women who want a child later and those who want no more children are added to the proportion with unmet need. Women whose current pregnancy was mistimed or who want a child later are added to the proportion with unmet need for spacing.

Likewise, women whose current pregnancy were unwanted or want no more children are added to the proportion with unmet need for limiting births. The total proportion of unmet need for spacing and unmet need for limiting constitute the total unmet need for contraception. Note that the measurement of unmet need does not include an assessment of whether women want or intend to use contraception. Figure 3.1 shows an algorithm for estimating unmet need for contraception.

Figure 3.1: Algorithm for estimating unmet need for contraception



Source: Based on Westoff C.F (2006)

3.4 Definition of Key concepts

3.4.1 Unmet need for contraception

The definition of unmet need for contraception is based on Westoff's (1988) definition. The unmet need for contraception is defined as the proportion of married women or those living in consensual unions of reproductive age, presumed to be sexually active, but are not using any method of contraception. These women would either like to postpone the next pregnancy (unmet need for spacing), or do not want any more children (unmet need for limiting).

3.4.2 Fecund

The term fecund is used here, to refer to women who are first of all married and have the physiological capacity to conceive and reproduce.

3.4.3 Infecund

Infecund women do not have the physiological capacity to reproduce. Women who fall in this category, must be in the reproductive lifespan 15-49 years and they have had unprotected sex with their spouses or partners for at least a period of 5 years without conceiving. Such women are classified as infecund women.

3.4.4 Pregnant/ Amennorhoeic

Women who are amennorhoeicare in most cases breastfeeding or pregnant and as a result there is suppression or unusual absence of menstruation.

3.4.5 Not Pregnant or Amenorrhoeic

These women are not pregnant or amennorhoeic and therefore they experience the normal menstruation. They, therefore, have the physiological capacity to conceive and reproduce.

3.4.6 Decision making

For this study, decision making is having a final say in the decision making process of the household and this is seen as the highest degree of autonomy in the household. As explained in the methodology, a composite variable was computed from five decision making questions to measure autonomy.

3.5 Limitations of the study

It is important to acknowledge the weaknesses of the data used in coming up with this study.

The main limitation of such a study lies in the definition used to measure unmet need. Westoff and Pebly (1981), state that there is no "best" estimate of unmet need. Despite substantial progress in refining the concept of unmet need for family planning, we must concur with Westoff (1992) that the measurement of unmet need remains inexact. We simply have to live with many unknowns and tolerate a great deal of imprecision.

As Ross and Winfrey (2001) note in their study, the Uganda Demographic and Health Survey (UDHS) report also classifies women who say they want to have a child in the next two years as not being in need, yet many of these women say they plan to practice contraception within the next year. In addition, some unreliability in the reporting of current pregnancy is inevitable, especially among women in the early months of gestation (Westoff, 1988). Further, the measurement of postpartum amenorrhea is even more subject to both heaping and reporting errors because reporting of the resumption of menses can be unreliable. As Johnson-Hanks (2005) states, there is a lot of uncertainty surrounding the reproductive behaviour of women. This uncertainty makes it hard to come up with very accurate estimates.

Finally, the study could not add more information about men apart from their role in decision making, yet reproductive decisions are not made by women alone, but rather, by both men and women (Johnson-Hanks, 2005). The main reason as to why the study did not add more information about men is because the conventional measures of unmet need ignore men's demand for family planning. This is an unfortunate situation since demand for contraceptives, use and satisfaction involve both husband and wife. Men have a major role they play in

contraceptive usage with their spouses. Their decisions on this may influence unmet need for contraception (Dodoo, 1998).

The results therefore, may not be very accurate. Despite of this, the study tries to offer more robust and reliable final results. Even though women who are not married may contribute a proportion to that with unmet need for contraception, the conventional measurement used to estimate unmet need does not include these women. It should, however, be noted that, most limitations are related to the estimation of unmet need for contraception. This has a less influence on a study like this that is mainly examining the factors that determine unmet need for contraception.

CHAPTER FOUR

PHYSICAL, AND ECONOMIC AND DEMOGRAPHIC BACKGROUND AND PERSONAL CHARACTERISTICS OF RESPONDENTS

4.1 Geography

The Republic of Uganda is located in East Africa and lies astride the equator. Uganda is a land-locked country that borders Kenya to the East, Tanzania to the South, Rwanda to the South-West, Democratic Republic of Congo (DRC) to the West, and South Sudan to the North (Figure 4.1). Uganda is divided into 10 regions. These regions are; Kampala, Central 1, Central 2, East Central, Eastern, Karamoja, North, West Nile, Western and South West regions (see Figure 4.1). Uganda has an area of 241,039 square kilometers with a relatively high altitude. The country is administratively divided into 112 districts.

Figure 4.1: A MAP OF UGANDA SHOWING THE LOCATION OF REGIONS AND THE NEIGBOURING COUNTRIES

Source: UBOS, 2012

4.2 Population

Uganda is the second country with the youngest population after Niger. It has 48.3 percent of its population below the age of 15 (PRB, 2011). In Uganda, fertility remains high at 6.2 births per woman (UDHS, 2011) and is currently stalling.

The population of Uganda has increased over the years but with stalling fertility rate. For example, the population of Uganda was 28.2 million in 2007, with a total fertility rate of 6.7 births per woman at a growth rate of 3.1 percent (PRB, 2007). The population then grew from 30.7 million in 2009 at a growth rate of 3.4 percent (PRB, 2009) to 33.8 million in 2010 (PRB, 2010). The population has increased by about 3.2 percent from 34.5 million (PRB, 2011) to 35.6 million (PRB, 2012), at a growth rate of 3.3 percent. The population of Uganda is expected to reach 52.3 million by the year 2025.

Uganda's first National Population Policy was formulated in 1995. This policy had an overall goal of contributing to the improvement of the quality of life of the people of Uganda. However, just like many other African national population policies, that policy did not achieve most of the targets as planned. Some targets were achieved yet others were not. This necessitated its revision in order to accommodate new and emerging issues to plan for and invest in the increasing population so that the country's human capital develops to its full potential. This would help Uganda as a nation to benefit from an increasing population as a demographic dividend instead of a demographic burden (POPSEC, 2008).

4.3 Economy

Uganda's economy is predominantly agricultural, with the majority of the population dependent on subsistence farming and small scale agro-based industries. Coffee is the main cash crop and the main foreign exchange earner for the country.

Presently, Uganda is drilling oil mainly in the Western Region. Oil and gas exploration activities in the Albertine Graben (region on the Uganda-Democratic Republic of Congo border and includes Lake Albert and River Semliki that lies in the northern section of the Albertine Rift) of Uganda have had a 90 percent drilling success rate. The search for oil in Uganda commenced after oil seeps were reported along the shores of Lake Albert in the 1920s.

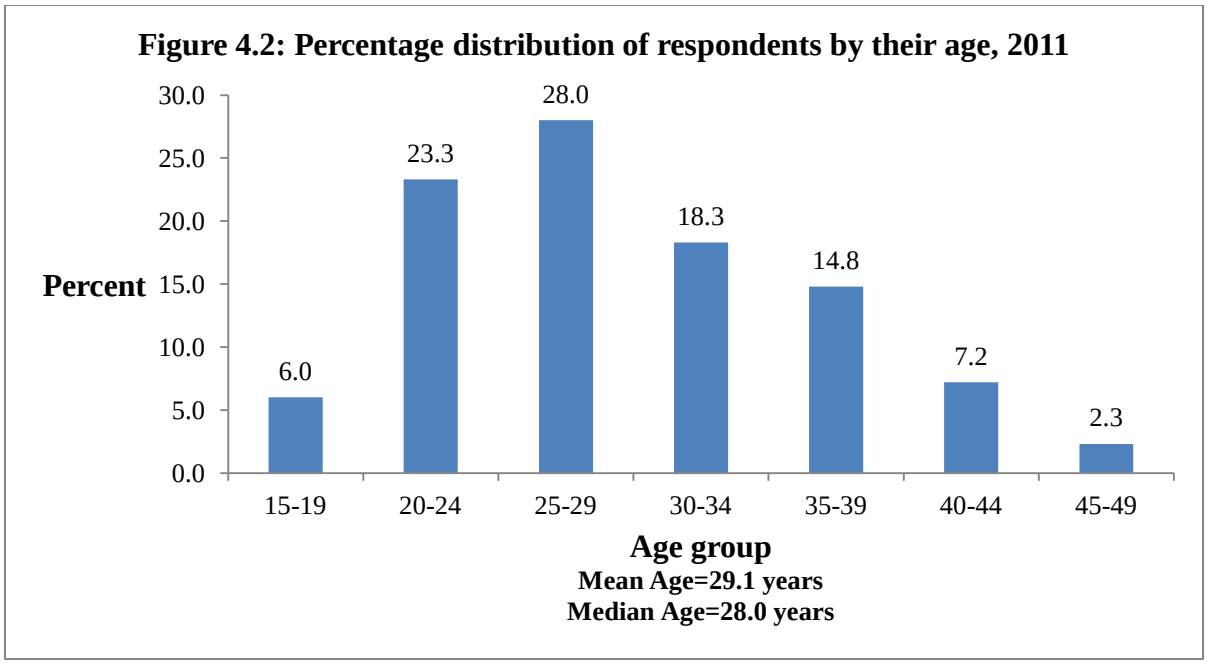
However, the first commercial discovery of oil in Uganda was made in 2006. The Government of Uganda formulated the National Oil and Gas Policy in 2008. The goal of the National Oil and Gas Policy is to use the country's oil and gas resources to contribute to early achievement of poverty eradication and create long-lasting benefits to society. Uganda's growth in Gross Domestic Product (GDP) varied between 5.6 percent and 7.1 percent per year in the period 2006 and 2011 (UBOS, 2011).

4.4 Age of respondents

Figure 4.2 presents the age distribution of respondents in the study. A large proportion of respondents were mainly found in the age group 25-29 years, accounting for 28% of the respondents. Age group 45-49 years had the lowest proportion of respondents (2.3%). The mean and the median ages of the respondents are 29.1 years and 28.0 years respectively. Age defines one's maturity and understanding. Married women at older ages are expected to experience less unmet need for spacing births since most of them would have virtually attained their fertility desires.

On the other hand, the same women are more likely to have a higher unmet need for limiting births since they have completed their child bearing and therefore may want to limit births. Likewise, women at younger ages for example, 15-19 years and 20-24 years are expected to have a higher unmet need for spacing their births.

Generally, the number of married women irrespective of whether they have children or not, were more (5,418) in the year 2011 (UDHS, 2011) compared to 2006 (5,337) (UDHS, 2006). For this reason, one would expect more married women in 2011 than in 2006 of those in the younger age group 15-19 years. Similar to the UDHS, (2006), the majority of married women were in the age groups 20-24 years and 25-29 years and the proportion of married women reduces with an increase in age.



Source: Uganda Demographic and Health Survey (UDHS), 2011.

4.5 Number of living children

Table 4.1 presents the percentage distribution of respondents' number of living children by age. Out of a sample of 4,188 currently married women, who had children in the last five years preceding the survey, respondents with 1-2 children formed the majority in the age groups 15-19 years (94%) and 20-24 years (70.5%).

On the other hand, respondents with seven or more children are in the majority in the older ages (80.4% in age group 45-49 years and 65.1% in age group 40-44 years).

Given Uganda's total fertility rate (TFR) which now stands at 6.2 according to the Uganda Demographic and Health Survey, 2011, it is likely that the women with 1-2 children do not have an unmet need for limiting births. The argument behind this assumption is that their present fertility is far less than the estimated total fertility rate and that these women have also just started their child bearing experience. The variable, number of living children, is very important in determining unmet need for contraception because the current number of living children that a

woman has informs her future fertility experience and expectations. Those with for example, 1-2 children, are expected to have additional children in the future and so have a less or no unmet need for limiting births.

The proportion of married women with no children decreased with an increase in age. This is expected since such woman has just entered her child bearing experience. The same pattern was observed among respondents with 1-2 children. However, as their age increases, the proportion of respondents with seven and more children also increases. It is to be noted that, all respondents in the age group 45-49 years had at least 3 children.

Table 4.1: Percentage distribution of number of living children by age of respondents.

	Number of living children					Total	Total
Age	**0**	**1-2**	**3-4**	**5-6**	**7+**	**(%)**	**(N)**
15-19	3.6	94.0	2.4	0.0	0.0	100	252
20-24	0.9	70.5	27.4	1.0	0.1	100	975
25-29	0.3	27.0	53.0	17.8	2.0	100	1172
30-34	0.0	8.9	29.7	46.0	15.5	100	768
35-39	0.2	2.6	16.0	38.5	42.7	100	620
40-44	0.0	0.7	6.6	27.6	65.1	100	304
45-49	0.0	0.0	10.3	9.3	80.4	100	97
Total (%)	**0.5**	**31.7**	**29.9**	**21.6**	**16.3**	**100**	**4188**

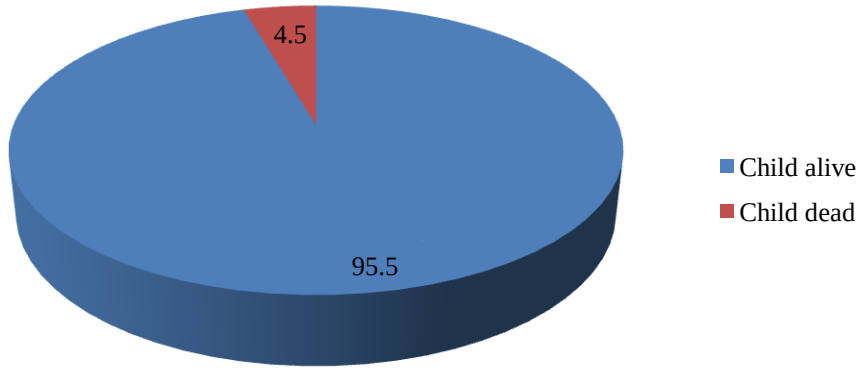
Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=3494.099; df =24

4.6 Child survival

As explained in the methodology, child survival status analysis was based on the last child of a woman. Figure 4.3 shows that, the majority (95.5%) of children survived as opposed to 4.5% of children who died with reference to the last child. Child survival status is among the important factors that mainly influence subsequent contraceptive use. Women whose last child died are more likely not to use contraceptives thereafter. The main reason behind this assumption is that, these women would want to replace their lost child especially if they have not yet attained their intended fertility. In this case, they may not have or they may have very low unmet need for both spacing and limiting births.

On the other hand, women whose last child survived are more likely to have a higher unmet need for limiting births if they have attained their desired fertility intentions. This is because they may not wish to have additional children immediately. Consequently, their unmet need for spacing births is likely to be very low or not at all.

Figure 4.3: Percentage distribution of child survival



Source: Uganda Demographic and Health Survey (UDHS), 2011.

4.7 Women's autonomy

Autonomy is defined as decision making power within the home, economic and social self-reliance, confidence in interacting with the outside world (Jejeebhoy, 2002). As stated in the methodology, autonomy was measured using five decision making questions. A composite variable was computed out of the five questions to measure autonomy. Autonomy was categorized as low, medium and high.

Women's autonomy in decision making has been found to be positively associated with their age (Acharya et al., 2010). Their results invoked us to test the association between age and women's autonomy at bivariate level of analysis in this study. The results generated highly corroborate with theirs ($p<0.05$) (see Table 4.2). For younger age groups, for example, 15-19 years and 20-24 years, the biggest proportions of respondents, 44.7% and 35.7% respectively, had low autonomy. However, for older age groups, 45-49 years and 40-44 years, the highest proportions of respondents, 46.4% and 47.7% had high autonomy. In addition, even for middle age groups, 25-29, 30-34 and 35-39 years, the highest proportions of respondents, 36.6%, 37.8% and 45% respectively, had high autonomy. This pattern reveals the fact that young married women had low autonomy compared to old married women. Generally, the level of autonomy increases as women's age increases.

Women with high autonomy in making decisions on family issues such as visiting relatives, health care, household purchases, expenditure among others, may translate in having a final say in their child bearing experience as well. In addition, having high autonomy in these household matters, also promotes clients' participation in the contraceptive decision-making process. To this end, women are able to make decisions that best suit their need and situation since they are empowered to participate in their health care decision making.

It is, therefore, expected that, married women with high autonomy are less likely to have high levels of unmet need for contraception compared to married women with low autonomy. This is because women with high autonomy are able to freely make choices in their interest as regards contraceptive use. This enables them regulate their fertility as well as achieving their desired fertility intentions.

Table 4.2: Percentage distribution of level of autonomy by age of respondents.

	Autonomy			Total	Total
Age	**Low**	**Medium**	**High**	**(%)**	**(N)**
15-19	44.7	30.8	24.5	100	253
20-24	35.7	34.8	29.5	100	974
25-29	27.8	35.6	36.6	100	1172
30-34	26.2	36.1	37.8	100	768
35-39	19.2	35.8	45.0	100	620
40-44	20.4	31.9	47.7	100	304
45-49	20.6	33.0	46.4	100	97
Total (%)	**28.4**	**34.9**	**36.7**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=121.697; df =12

4.8 Wealth index

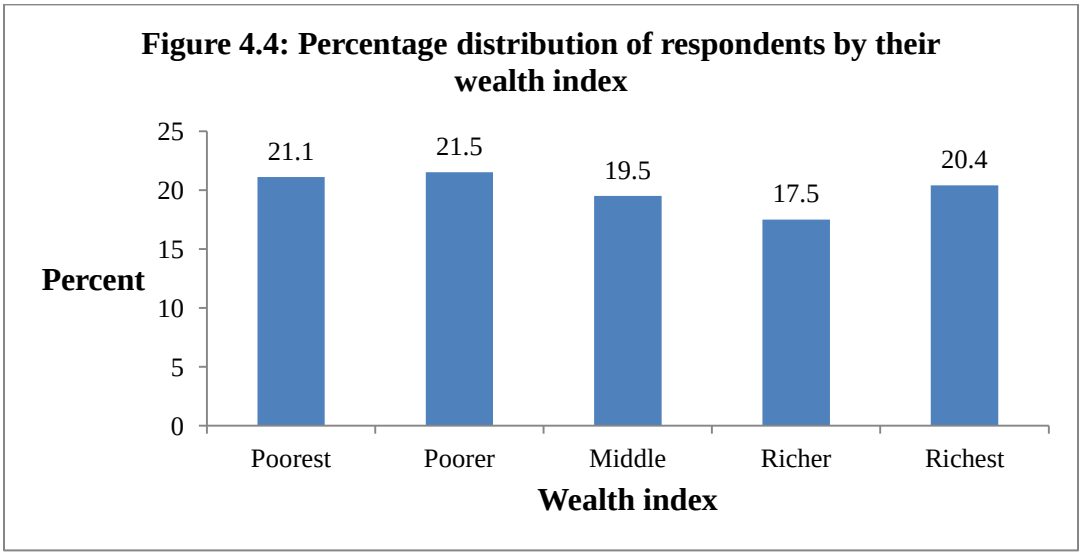
Figure 4.4 shows that, there is no significant difference between the wealth index categories. The results show that respondents were almost evenly distributed across these wealth index categories. However, the poorer wealth index had the highest proportion of respondents (21.5%) followed by the poorest (21.1%). The richer category had the lowest proportion of respondents in the study accounting for only 17.5%.

Wealth has a major influence on the purchase of contraceptives. It is expected that women in the richest and richer wealth index categories, would be more likely to be able to afford contraceptives especially when they need them and the type they need. Therefore, women in these wealth index categories are more likely to have a low unmet need for both spacing and limiting births.

However, such a reason may not hold for all cases since other factors may come into play such as, autonomy in the household and cultural factors in determining contraceptive usage. For example, a woman may be wealthy enough to afford modern contraceptives but if she does not have autonomy and make a final say over decisions as regards her child bearing lifespan, she may still have an unmet need for both spacing and limiting births.

Likewise, cultural factors especially in the developing world where patriarchal norms are still dominant, a woman is less likely to decide on her own about using modern contraceptives. As a result, cultural factors and autonomy may be hindrances to a wealthy woman in practicing family planning and meeting her desired family size.

Figure 4.4: Percentage distribution of respondents by their wealth index



Source: Uganda Demographic and Health Survey (UDHS), 2011.

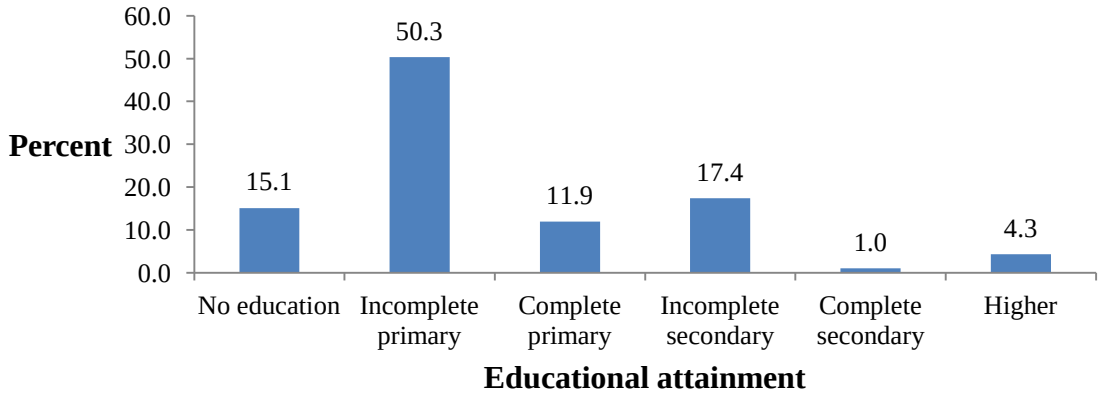
4.9 Educational attainment

Figure 4.5 shows, that about half of the respondents did not complete primary education. A very small proportion of respondents (1%) which is also the least had completed secondary education. Respondents who did not complete secondary education were 17.4%, and respondents with no education at all accounted for 15.1%.

Education offers a lot of benefits to women including empowering and offering them better jobs, which increases their incomes thereby making it easier for them to afford modern contraceptives. Education affects many aspects of life, including individual demographic and health behaviour. Studies have shown that educational level is strongly associated with contraceptive use (UBOS, 2007). It is, therefore expected that, in this study, women with no education at all will have a high unmet need for both spacing and limiting births. On the other hand, women with higher education are more likely to have low unmet need for spacing births.

According to the UDHS, 2011, there was an improvement in educational enrolment compared to the UDHS, 2006. Similar to the UDHS, 2011, the UDHS, 2006 also recorded the highest proportion of married women within the incomplete primary education category. In the same vein, the lowest proportion of married women completed secondary education in both the 2006 and 2011 Uganda Demographic and Health Surveys.

Figure 4.5: Percentage distribution of respondents by their educational attainment

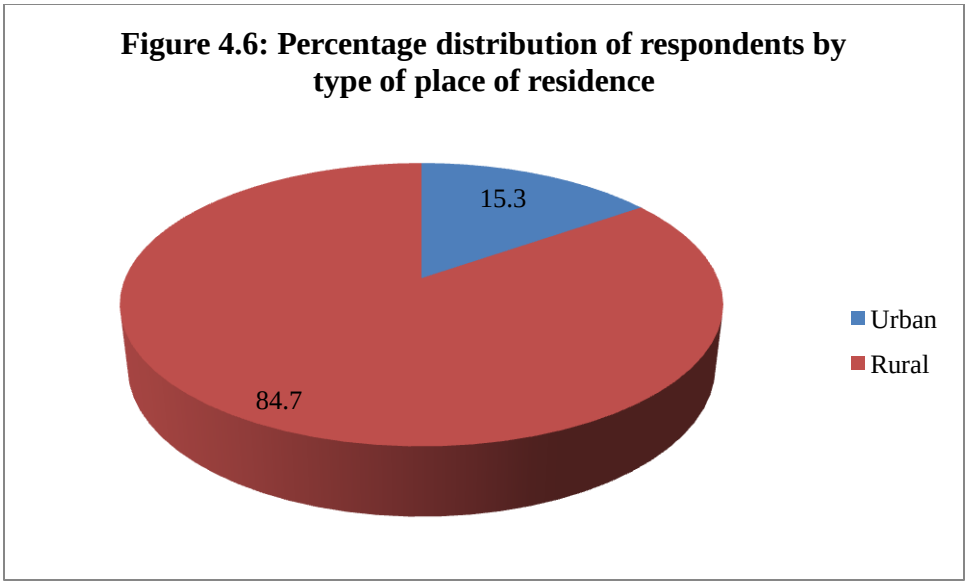


Source: Uganda Demographic and Health Survey (UDHS), 2011

4.10 Type of place of residence

Generally, the results in Figure 4.6 show that the respondents in the study were largely recorded in rural areas, accounting for 84.7% and with about 15% in urban areas. This distribution is a reflection of the national distribution where the majority of the population is in rural areas. For this reason, a vast majority of the population would be found in rural areas to practice farming. In addition, the country is least urbanized and industrialized. Rural and urban areas have different socio-economic characteristics which could offer plausible reasons for the variations in unmet need for contraception particularly in Uganda.

Rural areas are often characterized by lack of modern contraceptives as well as inadequate methods, poor health facilities, unskilled personnel, lack of access to modern contraceptives probably due to poor transport and long distance among others. Such impediments hinder use of modern contraceptives especially by women in need. As a result, these women in rural areas tend to have a higher unmet need for contraceptives compared to their counterparts in urban areas.



Source: Uganda Demographic and Health Survey (UDHS), 2011

4.11 Region of residence

Region of residence was grouped into ten categories. Table 4.3 shows that the Eastern Region had the highest proportion of respondents (16.2%) followed by the Western Region (14.0%). Central 1 and Central 2 regions had almost the same proportion of respondents, each accounting for about 10%. Karamoja Region had the least proportion of respondents in the study (4.1%) while Kampala Region which also hosts the capital of Uganda had 6.5% of respondents in the study.

Kampala, Central 1 and Central 2 regions are the most urbanized and with the highest level of development in the country. Kampala is one of the fastest growing urban centers in the country, with a growth rate of 5.6% (UBOS, 2002 cited in Nyakaana et al., 2007). Such regions have the best health facilities with a big number of qualified health personnel. Therefore, women in these most urbanized areas are more likely to have lower unmet need for contraception since there is easy access to modern contraceptives.

On the other hand, Karamoja Region, the most remote region in the country, with inadequate health personnel, inadequate health facilities, inadequate modern contraceptives, may have a high unmet need for contraception.

However, the 2006 Uganda Demographic and Health Survey did not have Karamoja as one of the major regions in Uganda unlike the 2011 Uganda Demographic and Health Survey. Comparing the 2006 UDHS and 2011 UDHS, the proportion of married women in the most urbanized regions in Uganda for example, Kampala, Central 1 and Central 2 regions, was more in 2011 than in 2006.

Table 4.3: Percentage distribution of respondents by their region of residence

Region of residence	Number	Percentage
Kampala	273	6.5
Central 1	404	9.6
Central 2	437	10.4
East Central	469	11.2
Eastern	679	16.2
North	381	9.1
Karamoja	170	4.1
West-Nile	261	6.2
Western	588	14.0
South West	526	12.6
Total	**4188**	**100.0**

Source: Uganda Demographic and Health Survey (UDHS), 2011

4.12 Knowledge of any contraceptive method

Table 4.4 shows that, generally, all respondents have knowledge of at least a contraceptive method. An overwhelming majority of respondents (98.4%) in the age group 15-19 reported to know at least a modern method. It is to be noted that, for all age groups, the highest proportion of respondents knew of a modern contraceptive method. Age groups, 15-19, 25-29, 30-34, 40-44 and 45-49 years, did not have any respondent who knew of any traditional methods. These results tell us that almost all respondents in the study had knowledge about modern contraceptives.

However, this knowledge may not necessarily translate into access and thereafter usage (Aridime et al, 2010), which seems to be the biggest problem keeping unmet need for contraception at high levels. Under normal circumstances, one would expect that women with knowledge about modern contraceptives may have a low unmet need for both spacing and limiting births. However, this is not always the case because the same women with this knowledge may have other problems hindering them from accessing modern contraceptives. These problems could be financial, cultural problems, problems associated with accessibility among others. Therefore, until all these problems are fixed, registering lower rates of unmet need may remain elusive.

Generally, women in all age groups had a significant proportion of respondents who reported to know only modern methods of contraception. Almost no respondent in all age groups reported to know only traditional methods of contraception. Respondents who reported not to know any method of contraception were generally few. In sum, there is a fair knowledge of modern contraceptive methods among all women in different age groups.

Table 4.4: Percentage distribution of respondent's knowledge of any contraceptive method by age.

Age	Knowledge of any contraceptive method			Total (%)	Total (N)
	Knows only modern method	Knows only traditional method	Knows no method		
15-19	98.4	0.0	1.6	100	253
20-24	98.4	0.1	1.5	100	975
25-29	99.1	0.0	0.9	100	1172
30-34	98.3	0.0	1.7	100	768
35-39	98.1	0.2	1.8	100	620
40-44	99.3	0.0	0.7	100	303
45-49	97.9	0.0	2.1	100	97
Total (%)	**98.6**	**0.0**	**1.4**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.705
Pearson Chi-Square test=8.975; df =12

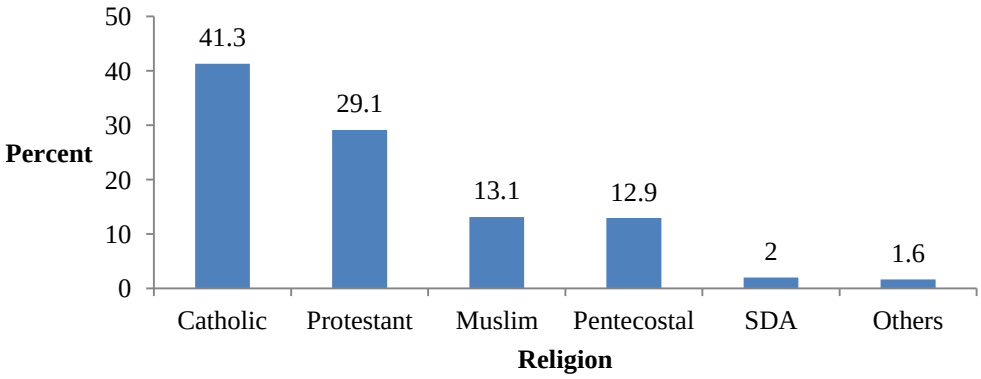
4.13 Religion

Figure 4.7 shows that the Catholics formed the majority of the respondents (41.3%) followed by the Protestants (29.1%). The Muslims and the Pentecostal constituted almost the same proportion of respondents (13%). Other religions, comprising of Buddhism, Baptists, Greek Orthodox, Jehovah's Witnesses, Latter-day Saints (Mormons), and Presbyterians had the lowest proportion of respondents (1.6%).

For this study, it is expected that the Catholics are more likely to have a higher unmet need for contraception than the Protestants. Such a finding may corroborate with what Goldscheider and Mosher (1991) documented. They argue that, in the mid-1960s, differences between the Catholics and Protestant contraceptive use were large. The Protestants (66 percent) were more likely than Catholics (57 percent) to be using some method of contraception or to be sterilized.

Higher levels of fertility have been associated with traditional religious prohibitions on some birth control measures especially those who attach great importance to children and priority to a big family (see Goldscheider and Mosher, 1991).

Figure 4.7: Percentage distribution of respondents by their religion



Source: Uganda Demographic and Health Survey (UDHS), 2011.

CHAPTER FIVE

DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS AND UNMET NEED FOR CONTRACEPTION

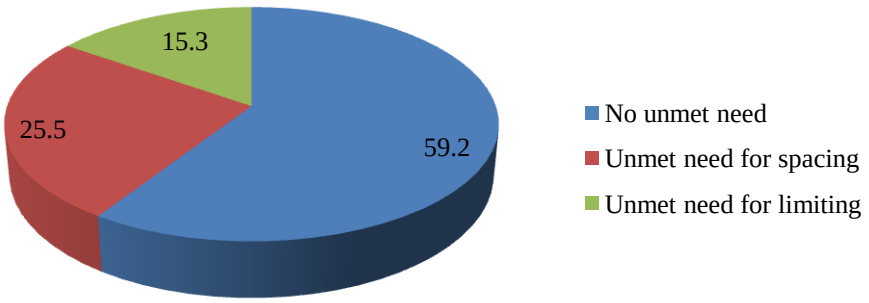
5.1 Introduction

This chapter examines the bivariate relationship between the level of unmet need for contraception (unmet need for spacing and for limiting births) and demographic and socio-economic characteristics of married women with children. The chapter starts with a discussion on the percentage distribution of married women with children by their level of unmet need for contraception and an estimation of unmet need for contraception among married women in Uganda. Lastly, the chapter gives a detailed description and discussion of the bivariate relationship between respondents' characteristics and unmet need for contraception. Generally, unmet need for spacing births was higher than unmet need for limiting births.

5.2 Respondents' unmet need for contraception

Figure 5.1 presents the percentage distribution of respondents by unmet need for contraception. The frequency distribution reveals that majority of the respondents (59.2%), in the study did not have an unmet need for contraception. About a quarter of the respondents had unmet need for spacing births. Respondents with unmet need for limiting births constituted 15.3%. This distribution reveals that the proportion of respondents with unmet need for spacing births were more than the proportion of respondents with unmet need for limiting births. The results seem to suggest that, spacing births is much more of a challenge than limiting births among married Ugandan women.

Figure 5.1: Percentage distribution of respondents' unmet need for contraception



Source: Uganda Demographic and Health Survey (UDHS), 2011

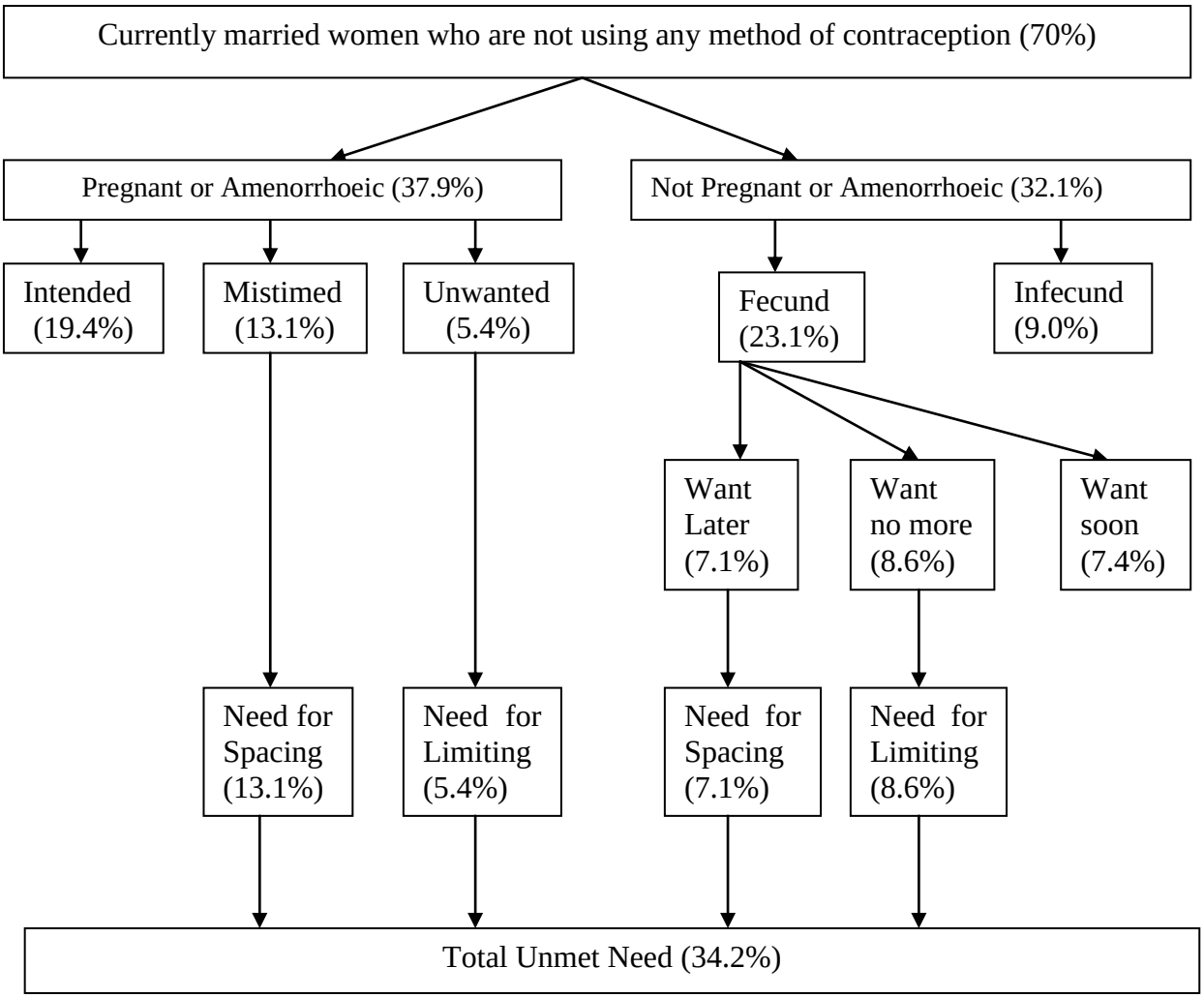
5.3 Estimation of unmet need in Uganda

The total unmet need among currently married women in Uganda (2011) is 34.2%. Out of 5418 currently married women in Uganda, only about 30% were using a method of contraception. As Figure 5.2 shows, 70% of these currently married women were not using any method of contraception, made up of 37.9% who were pregnant or amenorrhoeic[1] and 32.1% who were not. A few of the women were in-fecund[2] (9.0%). Even though 23.1% fecund[3] women were not pregnant[4] or amenorrhoeic at the time of the survey, 15.7% of them had an unmet need (women who wanted to have a child later and women who did not want any more children). It should be noted that even though the proportion of currently married women who were not using any method of contraception is quite high (70%), 35.8% of these women did not have an unmet need.

[1]Women who are amennorhoeic are in most cases breastfeeding or pregnant and as a result there is suppression or unusual absence of menstruation. Such women do not have the physiological capacity to reproduce.
[2] In-fecund women do not have the physiological capacity to reproduce.
[3] Fecund women have the physiological capacity to reproduce.
[4]Women who are not pregnant or amennorhoeic experience the normal menstruation. They therefore have the physiological capacity to conceive and reproduce.

Overall, unmet need for spacing births (20.2%) was higher than unmet need for limiting births (14.0%) as shown in Figure 5.2.

Figure 5.2: Categories of unmet need among currently married women aged 15-49 years of Uganda, 2011



Source: Computed based on Westoff C.F and L. H. Ochoa (1991)

5.4 Age and unmet need for contraception.

On the average, unmet need for spacing births was higher than unmet need for limiting births. Overall, about a quarter of the respondents had unmet need for spacing births compared to 15.3% with unmet need for limiting births (see Table 5.1). About 60% of the respondents did not have unmet need for contraception. Table 5.1 shows that, in the youngest age group 15-19 years, the highest proportion of respondents (37.2%) had unmet need for spacing births while the oldest age group 45-49 years had the lowest proportion of respondents with unmet need for spacing births.

As respondent's age increased, the level of unmet need for spacing births reduced. This kind of pattern could be as a result of mainly two reasons. The first reason is that, these young women have just started their child bearing and so they would wish to space their births accordingly. In this case, there will be a high need for contraceptives, taking the level of unmet need for spacing at high levels. The other reason for this pattern is that, as these women age, they have probably completed or about to end child bearing. They, therefore, may not need contraceptives to space births.

On the other hand, the reverse is true for unmet need for limiting births. Table 5.1 shows that, the proportion of respondents with unmet need for limiting births increases with higher age. At younger ages 15-19 years, the lowest proportion of respondents (0.4%) had unmet need for limiting births and in the older ages 45-49 years, the highest proportion of respondents (61.2%) had unmet need for limiting births.

There are two explanations to this pattern. The first one is that, women at younger ages are just starting child bearing and therefore they do not need to limit their births because they have not yet completed or achieved their fertility preferences. Secondly, women at older age groups for

example 45-49 years have virtually completed or achieved their fertility preferences. It is not surprising, therefore, that these women need contraceptives to limit their births.

On average, the proportion of respondents with no unmet need for contraception was relatively high across all age groups. However, more respondents with no unmet need for contraception were in the youngest age group 15-19 years. Additionally, the relationship between age and unmet need for contraception among the respondents is statistically very significant (p=0.000; p<0.01).

Table 5.1: Percent unmet need for spacing and limiting births by age.

Age	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
15-19	37.2	0.4	62.5	100	252
20-24	35.5	3.2	61.3	100	975
25-29	30.6	7.9	61.4	100	1172
30-34	19.8	19.4	60.8	100	768
35-39	15.8	28.5	55.6	100	620
40-44	5.9	42.2	51.8	100	303
45-49	1.0	61.2	37.8	100	98
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=711.050; df =12

5.5 Number of living children and unmet need for contraception.

As expected, women with no children did not have unmet need for contraception because they are not exposed to child bearing. Just like the relationship with respondents' age, unmet need for spacing births decreased with an increase in the number of living children. Table 5.2 reveals that, for respondents with 1-2 children, the highest proportion of them (31.7%) had unmet need for spacing births. Also for respondents with 3-4 children, the highest proportion of them (29.6%) had unmet need for spacing births.

Conversely, the demand for contraception to limit births increased with an increase in the number of living children. Table 5.2 shows that, the highest proportion of respondents (42.6%) with seven or more children had unmet need for limiting births. Further, women with seven or more children had the lowest proportion of respondents (45.1%) with no unmet need for contraception. Beside fertility being high for women in this category, such women have probably attained their fertility preferences and so there is need to limit giving births. In such cases, their unmet need for limiting births is expected to be relatively higher than women in other categories. Respondents with 1-2 children constituted the lowest proportion of respondents with an unmet need for limiting births (1.8%). The chi-square test showed a significant relationship ($p=0.000$; $p<0.01$) between unmet need for contraception and number of living children.

Table 5.2: Unmet need for spacing births and limiting births by number of living children.

Number of living children	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
0	0.0	0.0	100.0	100	23
1-2	31.7	1.8	66.4	100	1326
3-4	29.6	8.1	62.3	100	1252
5-6	21.2	24.7	54.1	100	904
7+	12.3	42.6	45.1	100	683
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=725.186; df =8

5.6 Under five child survival status and unmet need for contraception.

Child survival has a major influence on the use of contraception. In this scenario, the analysis dwells on the survivorship of the last child as it may have subsequent implications on the use of contraception. Under-five year child survival status was chosen over under-one year and under-two years because of its robustness in providing valid estimates. In addition, women with children under-one year of age may be temporarily in-fecund to resume reproduction.

An improvement in health through primary health care and good nutrition relative to balanced diet, lead to reductions in mortality cases. In this instance, survivorship increases with development and modernization. Couples, therefore, start to have fewer numbers of children and this calls for more use of contraceptives to both limit and space births. This explanation holds for the results in Table 5.3.

Logically, and as the results indicate in Table 5.3, about two-thirds of the respondents who had their last child dead did not have an unmet need for contraception. This is probably because, such women who have lost their last child would very much want to replace the lost child and, therefore, their demand for contraception may be quite low compared to women whose last child survived. In addition, results in Table 5.3 demonstrate a statistically significant ($p=0.017$; $p<0.05$) relationship between under-five child survival status and unmet need for contraception.

Respondents who reported to have their last child alive had a higher proportion (25.9%) with unmet need for spacing births than those whose last child died (16.6%). On the other hand, a greater proportion of the women with their last child dead (17.1%) had unmet need for limiting births as against those who had their last child alive (15.2%).

This is quite surprising because, respondents who reported to have their last child dead would be expected to have a lower unmet need for limiting births than respondents who reported their last child alive since their immediate need is to replace the lost child. This is because women who have lost their last child would want to replace their lost child and therefore would not need contraceptives to limit their births.

However, the unmet need for contraception for a woman whose last child was alive, may largely depend on certain motives. First, if a woman's fertility preference is still higher than the achieved fertility, then this woman is likely to have a higher unmet need for spacing births. This is because she has not yet completed her child bearing experience. In this case, this woman has already in her mind the number of children she would want to have and so the immediate need will be for spacing births. Secondly, if a woman has already achieved her desired fertility preference, she is more likely to have a higher unmet need for limiting births since she does not

want any more children. Therefore, in such a scenario, unmet need for contraception may largely depend on the couple's fertility intentions and not solely on the survivorship of the last child.

Table 5.3: Unmet need for spacing and limiting births by under-five child survival status.

Under five child survival status	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
Child alive	25.9	15.2	58.9	100	4001
Child dead	16.6	17.1	66.3	100	187
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.017
Pearson Chi-Square test=8.205; df =2

5.7 Wealth index and unmet need for contraception.

The richest respondents had both the lowest unmet need for spacing (19.7%) and for limiting births (8.1%) compared to the poorest whose unmet need for spacing and limiting births were 29.4% and 18.2% respectively (see Table 5.4). This pattern is expected because the rich can afford the contraceptives and, therefore, have access to the contraceptives unlike the poorest whose purchasing power is limited.

The results in Table 5.4 seem to suggest that, as one's economic status improves the unmet need for contraception reduces and the reverse is true for no unmet need for contraception. As one's economic status improves, the proportion of respondents with no unmet need for contraception increases as well. The highest proportion of respondents (72.2%) in the richest category did not have an unmet need for contraception.

Generally, unmet need for spacing births was higher than unmet need for liming births. This may be due to the fact that, people already have in their mind the number of children they want to have no matter their wealth status. It is then left with how to achieve that number in their reproductive life span, hence the need to space births. Chi-square analysis shows a highly statistical significant ($p=0.000$; $p<0.01$) relationship between wealth index and unmet need for contraception.

Table 5.4: Unmet need for spacing births and limiting births by wealth index.

Wealth index	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
Poorest	29.4	18.2	52.4	100	884
Poorer	26.7	18.1	55.2	100	902
Middle	25.5	16.2	58.3	100	815
Richer	26.0	15.5	58.4	100	734
Richest	19.7	8.1	72.2	100	853
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=90.103; df =8

5.8 Educational attainment and unmet need for contraception.

It is expected that more educated people will have low unmet need for contraception. However, apart from unmet need for limiting births, the results in Table 5.5 do not show a clear pattern especially for unmet need for spacing births despite the fact that, educational attainment was significant in determining unmet need for spacing births. These results varied from one educational attainment category to another. It is not surprising to note that the lowest proportion of respondents (16.1%) with higher education had unmet need for spacing births. Respondents

who completed primary education had the highest (32.0%) proportion of respondents with unmet need for spacing births.

Even though the relationship between educational attainment and unmet need for contraception was very significant ($p=0.000$; $p<0.01$), this pattern makes us understand that education alone cannot explain or influence contraceptive use to space births especially among Ugandan married women but rather other factors come into play such as culture, economic status, among others.

On the other hand, there was a clear pattern between educational attainment and unmet need for limiting births. More educated respondents were more likely to limit their births than respondents with low educational attainment. The relationship shows that as one's educational attainment increased, unmet need for limiting births decreased. For example, respondents with no education had the highest (27.0%) proportion of respondents with unmet need for limiting births while respondents with higher educational attainment had the lowest (7.8%) proportion for limiting births. This could be due to the fact that, more educated people have more knowledge about the available modern contraceptives on the market and where to access them. Secondly, more educated people stand higher chances than the less educated to get good paying jobs which may provide them with a better chance to have higher incomes. This means that they can easily afford contraceptives than the less educated. In this case, the more educated people are more likely to have a lower unmet need for limiting births than the less educated people.

Overall, the proportion of respondents with no unmet need for contraception rose with an increase in educational attainment. This means that, unmet need for contraception among the more educated respondents was lower than that among the less educated respondents. For example, respondents with higher educational attainment had the highest proportion (76.1%)

with no unmet need for contraception followed by respondents who did not complete secondary (71.2%) level of education (see Table 5.5).

Table 5.5: Unmet need for spacing births and limiting births by educational attainment.

Educational attainment	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
No education	17.5	27.0	55.5	100	634
Incomplete primary	28.2	16.9	54.8	100	2107
Complete primary	32.0	10.1	57.9	100	497
Incomplete secondary	22.4	6.4	71.2	100	729
Complete secondary	26.8	2.4	70.7	100	41
Higher	16.1	7.8	76.1	100	180
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=192.634; df =10

5.9 Type of place of residence and unmet need for contraception.

Respondents who reside in rural areas had the highest unmet need for contraception compared to their counterparts in urban areas. Table 5.6 shows that, the proportion of respondents in rural areas with unmet need for spacing births was 26.4% compared to those in urban areas (20.5%). Further, rural dwellers still had the highest proportion of respondents (16.7%) with unmet need for limiting births compared to 7.4% of respondents in urban areas. Respondents who reside in urban areas had the highest (72.1%) proportion of respondents with no unmet need for contraception while respondents who reside in rural areas had the lowest proportion (56.9%) with no unmet need for contraception.

Some reasons responsible for the high unmet need for contraception are explained here. The main problem is attributed to poor accessibility. Poor accessibility may include two aspects. Firstly, some family planning centers are too far from residential areas and secondly the roads leading to such centers are poor. All these factors are impediments to contraceptive use.

In addition, beside lack of adequate number of trained personnel at the family planning centers most of these centers in rural areas do not have enough modern contraceptives to meet the growing demand. Bearing in mind that the biggest proportion of respondents is in the agricultural sector which has lot of uncertainties, they are left with a few options to generate more incomes. In this instance, these respondents may not be in the best position to afford the modern contraceptives which are at times very expensive for them. Such a scenario pushes them to use the traditional contraceptive methods which have a high failure rate. In sum, the Chi-square results in Table 5.6 show a statistically significant ($p=0.000$; $p<0.01$) relationship between type of place of residence and unmet need for contraception.

Table 5.6: Unmet need for spacing births and limiting births by type of place of residence.

Type of place of residence	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
Urban	20.5	7.4	72.1	100	639
Rural	26.4	16.7	56.9	100	3549
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=59.601; df =2

5.10 Region of residence and unmet need for contraception.

The most urbanized region which also doubles as the capital of Uganda, Kampala, registered low proportions of respondents with unmet need for contraception. In particular, the proportion of respondents with unmet need for spacing births was 16.8% and unmet need for limiting births which is the lowest was 4.4% (see Table 5.7). This is expected because Kampala Region has the best social amenities like good roads, good hospitals, good family planning centres, as well as the biggest number of trained medical personnel. In this region, there is easier access to modern contraceptives unlike other regions far away from the capital.

Surprisingly, Karamoja Region which is also the most remote region in the country had the lowest proportion of respondents (11.8%) with unmet need for spacing births. The same proportion of respondents (11.8%) also had unmet need for limiting births. It is quite interesting for such a region which has suffered war for the past two decades to have low rates of unmet need for contraception. Worthy to note is the fact that it also came second after Kampala Region in terms of unmet need for limiting births. The plausible explanation for this kind of results especially for a region like Karamoja is not easy to contemplate.

Nonetheless, it is important to note that after the war that ravaged this part of the country, the central government has taken steps to improve service delivery in the region. This has come with resettlement programmes where people are gathered in Internally Displaced Camps (IDCs) and provided with goods and services. Therefore, the scenario in Karamoja Region may not be real because of the interventions. Secondly, conditions in IDCs are not very favorable to aid child bearing. The unfavorable conditions may include limited space which often leads to congestion and easy spread of diseases, lack of privacy among others. Couples therefore, may not have the privilege to enjoy uninterrupted sexual intercourse. Therefore, women in IDCs may have a

chance to space births not because they are using contraceptives but because they do not have chance to have sexual intercourse with their husbands.

Table 5.7: Unmet need for spacing births and limiting births by region of residence.

Region of residence	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
Kampala	16.8	4.4	78.8	100	274
Central 1	21.3	10.4	68.3	100	404
Central 2	27.5	14.2	58.3	100	436
East Central	29.0	19.8	51.2	100	469
Eastern	26.8	18.3	54.9	100	679
North	32.8	16.8	50.4	100	381
Karamoja	11.8	11.8	76.5	100	170
West Nile	33.0	18.0	49.0	100	261
Western	21.3	13.4	65.3	100	588
South-West	27.0	18.3	54.8	100	526
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=144.882; df =18

Further, several development partners through the Office of the Prime Minister have donated generously to these people in kind. The central government under President Museveni's leadership appointed a minister for Karamoja Region to foresee restoration of peace and improve service delivery in the region. These conditions or plausible explanations may have an association with low levels of unmet need for contraception in Karamoja Region.

The Results in Table 5.7 indicate that, West Nile Region had the highest proportion of respondents (33.0%) who had unmet need for spacing births and the East Central Region had the highest proportion (19.8%) with unmet need for limiting births. Overall, Kampala Region had

the highest proportion (78.8%) with no unmet need for contraception followed by Karamoja Region (76.5%) while West Nile Region had the lowest proportion (49.0%) with no unmet need for contraception. Further, the Chi-square results in Table 5.7 illustrate a statistically significant relationship ($p=0.000$; $p<0.01$) between region of residence and unmet need for contraception.

5.11 Contraceptive knowledge and unmet need for contraception.

Knowledge of any method of contraception was not significant ($p=0.196$) with unmet need for contraception. Knowledge of contraception is virtually universal. Most respondents are expected to have some knowledge about contraceptives especially modern contraceptives. Respondents with knowledge of only traditional methods did not have any unmet need for contraception. It is not amazing that respondents with no knowledge of any method of contraception had the lowest proportion of respondents with unmet need for contraception for both spacing (14.0%) and limiting (12.3%) births as shown in Table 5.8. This is because the modern contraceptive methods are unknown to them.

Table 5.8: Unmet need for spacing births and limiting births by contraceptive knowledge.

Contraceptive knowledge	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
Knows only modern method	25.6	15.3	59.0	100	4130
Knows no method	14.0	12.3	73.7	100	57
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.196
Pearson Chi-Square test=6.040; df =4
NB: Respondents with knowledge of traditional contraceptive methods did not have unmet need for contraception.

The results in Table 5.8 show that, respondents who knew only modern methods of contraception had the highest proportion (25.6%) for both unmet need for spacing and unmet need for limiting births (15.3%). The reason for this high level of unmet need for contraception among these respondents with knowledge of modern contraceptives is that, knowledge may not necessarily translate into usage. Other factors come into play, for example, monetary resources to purchase the contraceptives, proximity to health facilities among others. For the purpose of this study, wealth index and type of residence were used as proxy measures for monetary resources and proximity to health facilities respectively. My basis for using type of residence as a proxy measure of proximity to health facilities is because we expect better health facilities to be in urban areas than in rural areas. Wealth has been found to be an important factor for utilization of family planning services (Khan et al, 2008; Ojakaa, 2008; Woldemicael and Beaujot, 2011) and this translates into lower levels of unmet need. Urban residence was found to be positively related with having unmet need for family planning (Woldemicael and Beaujot, 2011). This meant that unmet need was higher in urban areas than in rural areas. These results invoked the study to test the association between first, wealth index and contraceptive knowledge and second, type of place of residence and contraceptive knowledge. However, though significant ($p<0.05$), the relationships from the analyses (Tables 5.9 and 5.10) did not yield the same results.

Table 5.9 shows that, the highest proportion of respondents with knowledge of modern contraceptive methods were the poorer (21.7%). This confirms the notion that, knowledge of modern contraceptives may not necessarily translate into usage because people may not have the monetary resources to purchase the contraceptives. This ultimately keeps unmet need for contraception at higher levels (see Table 5.9).

Table 5.9: Wealth index by contraceptive knowledge.

Contraceptive knowledge	Wealth index					Total (%)	Total (N)
	Richest	Richer	Middle	Poorer	Poorest		
Knows only modern method	20.7	17.8	19.7	21.7	20.2	100	4130
Knows no method	0.0	0.0	1.7	12.1	86.2	100	58
Total (%)	**20.4**	**17.5**	**19.5**	**21.5**	**21.1**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.000
Pearson Chi-Square test=152.326; df =4

In addition, modern contraceptives may not be available continuously and may be usable only with the partner's agreement (Johnson-Hanks, 2005). Therefore, married women may have the knowledge about modern contraceptives but they may not have a chance to use them which keeps their unmet need for contraception high. Additionally, the need for contraception may compel them to learn the traditional methods available, which have a high failure rate in the quest to plan for their families. This still keeps unmet need for contraception at high levels.

Secondly, proximity to health facilities and access to contraceptives are also important factors to consider as regards contraceptive usage. Respondents who reside in rural areas where proximity to health facilities is not very easy may have challenges to access the modern contraceptives. Rural areas are faced with problems such as inadequate staff, insufficient modern contraceptives, and poor transportation among others.

Table 5.10 shows that, the highest proportion of respondents with knowledge of modern contraceptives were in rural areas (84.6%) compared to those in urban areas (15.4%). Based on the problems faced with people in rural areas, unmet need for contraception is likely to be high among rural residents despite the high knowledge of modern contraceptives they have.

Therefore, the analysis in Tables 5.9 and 5.10 suggest that, knowledge of modern contraceptives alone is not enough to lower unmet need for contraception but rather other factors such as monetary resources, proximity to health facilities also play a role.

Table 5.10: Type of place of residence by contraceptive knowledge.

Contraceptive knowledge	Type of place of residence		Total (%)	Total (N)
	Urban	Rural		
Knows only modern method	15.4	84.6	100	4130
Knows no method	0.0	100.0	100	58
Total (%)	**15.2**	**84.8**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.001
Pearson Chi-Square test=10.570; df =1

5.12 Women's level of autonomy and unmet need for contraception.

Autonomy is an important aspect that influences contraceptive use among couples. Married women with low autonomy are expected to have a high unmet need for contraception compared to married women with high autonomy. This is because married women with high autonomy can negotiate contraceptive use with their spouses freely.

Results in Table 5.11 seem to confirm this hypothesis as respondents with low autonomy recorded the highest proportion (28.3%) with unmet need for spacing births compared with respondents with high autonomy who had the lowest proportion (23.7%) with unmet need for spacing births. Also, the results in Table 5.11 illustrate a statistically significant ($p=0.044$; $p<0.05$) relationship between women's autonomy and unmet need for contraception.

Table 5.11 shows that as the level of autonomy increases, the level of unmet need for spacing births decreases. However, it is interesting that respondents with high autonomy reported the highest proportion (16.7%) with unmet need for limiting births. This means that, in spite of their high autonomy and likely ability to keep unmet need for spacing births at lower levels, they have not been in position to negotiate to limit their births. Married couples cannot decide by themselves alone (Johnson-Hanks, 2005).

Table 5.11: Unmet need for spacing births and limiting births by women's level of autonomy.

	Unmet need for contraception			Total	Total
Autonomy	**Unmet need for spacing**	**Unmet need for limiting**	**No unmet need**	**(%)**	**(N)**
Low	28.3	14.1	57.7	100	1188
Medium	25.1	14.8	60.1	100	1462
High	23.7	16.7	59.6	100	1539
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.044
Pearson Chi-Square test=9.779; df =4

5.13 Religion and unmet need for contraception.

Results in Table 5.12 show that "other" religions constituted the highest proportion of respondents (about a third) with unmet need for spacing births. The Pentecostal religion followed closely (30.1%). The Muslims had the lowest proportion of respondents (23.9%) with unmet need for spacing births. This finding is somehow contrally to findings done in India by Iyer (2002). According to Iyer, if a woman was Muslim, she was less likely to use contraception and therefore thought that their religion disapproves of contraception. In India, Islam has traditionally been portrayed as not permitting birth control or abortion in any situation (Subamma, 1988

quoted in Iyer, 2002). However, birth control is permissible under certain situations for example, if there is concern about the wife's health (Iyer, 2002).

On the other hand, "other" religions had the lowest unmet need for limiting births (7.6%). The Muslims still registered a lower proportion of respondents with unmet need for limiting births (13%). The Catholics had the highest proportion of respondents (16.3%) with unmet need for limiting births. This finding resonates with studies for example Fox and Inazu (1980) who note that, mothers raised as Catholics were less likely to have discussed birth control and sexual intercourse (Regnerus, 2005). The analysis in table 5.12 shows that the chi-square test showed a statistically significant relationship ($p=0.064$; $p<0.1$) between religion and unmet need for contraception.

Table 5.12: Religion and unmet need for spacing births and limiting births.

Religion	Unmet need for contraception			Total (%)	Total (N)
	Unmet need for spacing	Unmet need for limiting	No unmet need		
Catholic	25.4	16.3	58.3	100	1730
Protestant	24.1	15.6	60.3	100	1220
Muslim	23.9	13.0	63.1	100	547
Pentecostal	30.1	14.8	55.1	100	541
SDA	22.4	14.1	63.5	100	84
Other	33.3	7.6	59.1	100	66
Total (%)	**25.5**	**15.3**	**59.2**	**100**	**4188**

Source: Uganda Demographic and Health Survey (UDHS), 2011.
Sample Size (N) =4188; p-value=0.064
Pearson Chi-Square test=17.488; df =10
Note: Other religions include, Buddhism, Baptists, Greek Orthodox, Jehovah's Witnesses, Latter-day Saints (Mormons), and Presbyterians.

In sum, the relationship established at this level of analysis in this chapter, gives an idea about the main variables that are likely to determine unmet need for contraception in Uganda among married women. The results in the analysis in this chapter have shown that, most variables demonstrated likelihood in determining unmet need for contraception among Ugandan married women with children. The variables are; age, number of living children, child survival status, wealth index, educational attainment, type of place of residence, region of residence and women's autonomy. However, though knowledge of modern contraceptives is virtually universal, it was not significant in determining unmet need for contraception. Further, respondents with knowledge of traditional contraceptive methods only did not have unmet need for contraception.

CHAPTER SIX

FACTORS DETERMINING UNMET NEED FOR CONTRACEPTION IN UGANDA

6.1 Introduction

This chapter presents the results of the multinomial logistic regression analysis of selected socio-economic and demographic characteristics in relation to unmet need for contraception. The model was run for nine independent variables and one intermediate variable some of which were re-categorized to reduce the effect of very large odds ratios. The variables included in the model are; age, number of living children, under-five child survival status, women's autonomy, wealth index, educational attainment, type of place of residence, region of residence, knowledge of any contraceptive method and religion.

Specifically, age of respondents in the model was run as a continuous variable to reduce the effect of very large odds ratios in the categories. The variable, number of living children was re-grouped for the same reason. Furthermore, there were a few women who did not have any living children and this produced large estimates of odds ratios as well. Therefore, in order to have a true picture of the standardized effects of these characteristics on unmet need for contraception, the categories of the variable were re-grouped. The model provides results of the likelihood of respondents reporting unmet need for contraception by their background characteristics. In addition, the analysis in the model is done at two different levels of significance, for example at 95% and 99%.

6.2 Standardized effects of socio-economic and demographic characteristics on unmet need for spacing and limiting births.

Table 6.1 presents results from a multinomial logistic regression analysis. The results suggest that women's age is very significant in determining both unmet need for spacing births (OR=0.694, p<0.01) and unmet need for limiting births (OR=1.437; p<0.01).

However, results in the model show that respondents with older ages had low unmet need for spacing births. This is different from unmet need for limiting births. The results in Table 6.1 show that unmet need for limiting births rises as women's age also increases. This is probably because as women age, they realize the need to limit their births especially if they have completed their desired fertility. Thus, unmet need for limiting births was positively associated with women's age. Therefore, in this situation, unmet need for spacing births is likely to be very low since the same women are no longer bearing children.

The results in Table 6.1 show that the odds of having unmet need for both spacing and limiting births increased with an increase in the number of living children. The number of living children as earlier explained in the methodology was grouped after giving very funny odds ratios in the model when it was run as a continuous variable. This made the analysis and interpretation of results rather complicated. To smooth the results, an idea was borrowed from Woldemicael and Beaujot, (2011) to categorize the number of living children. Women with 0-2 children were 33% (p<0.01) less likely to have unmet need for spacing births compared to women with five or more children. This is because, women with 0-2 children have just started child bearing. Therefore, their need for contraception to space births is likely to be lower than women who have five or more children. Even though the odds for women with 3-4 children were not statistically

significant, these women were 9% less likely to have unmet need for spacing births compared to women with five or more children.

However, on the other hand, respondents with 0-2 children were 88% ($p<0.01$) less likely to have unmet need for limiting births compared to respondents with five or more children. This is because, since women with 0-2 children have just started their child bearing, they have not yet fully achieved their desired fertility. Therefore, they may not wish to limit births as compared to women with five or more children. Women with 3-4 children were 63% ($p<0.01$) less likely to have unmet need for limiting births compared to respondents with five or more children. This statistical analysis reveals that, the desire to limit births increases with an increase in the number of living children.

Respondents who reported that their last child was alive were 1.6 times ($p<0.05$) as likely as respondents who reported their last child dead to have unmet need for spacing births (see Table 6.1). This means that, respondents who had their last child alive were associated with a higher unmet need to space births compared to respondents whose last child died. This may probably be due to the fact that, women who have lost their last child would want to replace their lost child. In this case, they may not want to use contraceptives immediately. Thus, unmet need for contraception among women who lost their last child is likely to be higher than women whose last child survived.

On the other hand, Table 6.1 shows that, under-five child survival status was not statistically significant in determining unmet need for limiting births. Respondents who reported their last child alive were about 1.2 times as likely as respondents who reported their last child dead to have unmet need for limiting births

Table 6.1: Standardized effects of selected variables on unmet need for spacing and limiting births among married women, Uganda 2011.

Variables	Unmet need for spacing		Unmet need for limiting	
	β	Exp(β)	β	Exp(β)
Age***	-0.366	0.694***	0.363	1.437***
Number of living children***				
0-2	-0.404	0.668***	-2.142	0.117***
3-4	-0.095	0.910	-0.996	0.369***
5+ (RC)	0.000	1.000	0.000	1.000
Under-five survival status				
Child alive	0.500	1.649**	0.172	1.188
Child dead (RC)	0.000	1.000	0.000	1.000
Women's autonomy				
Low (RC)	0.000	1.000	0.000	1.000
Medium	-0.077	0.926	-0.132	0.876
High	-0.013	0.987	-0.113	0.893
Wealth Index***				
Poorest (RC)	0.000	1.000	0.000	1.000
Poorer	-0.352	0.703***	-0.098	0.906
Middle	-0.334	0.716***	-0.400	0.670**
Richer	-0.168	0.846	-0.399	0.671**
Richest	-0.430	0.651**	-0.591	0.554**
Educational attainment*				
No education (RC)	0.000	1.000	0.000	1.000
Incomplete primary	0.200	1.222	-0.079	0.924
Complete primary	0.294	1.342	-0.271	0.763
Incomplete secondary	-0.128	0.880	-0.452	0.636**
Complete secondary	0.448	1.566	-0.615	0.540
Higher	-0.171	0.843	-0.058	0.944
Type of place of residence				
Urban	-0.038	0.962	0.082	1.086
Rural (RC)	0.000	1.000	0.000	1.000
Region***				
Kampala	-0.604	0.547**	-0.603	0.547
Central 1	-0.468	0.626***	-0.634	0.530***
Central 2	-0.095	0.909	-0.058	0.944
East Central	0.063	1.065	0.254	1.289
Eastern	-0.261	0.771	-0.060	0.942
North	0.077	1.080	-0.201	0.818
Karamoja	-1.405	0.245***	-0.924	0.397***
West Nile	0.252	1.286	-0.083	0.920
Western	-0.432	0.649***	-0.469	0.626**
South West (RC)	0.000	1.000	0.000	1.000
Knowledge of any method				
Knows no method (RC)	0.000	1.000	0.000	1.000
Knows only modern method	0.066	1.068	0.482	1.619

Continuation of Table 6.1

	Unmet need for spacing		Unmet need for limiting	
Variables	**β**	**Exp(β)**	**β**	**Exp(β)**
Religion***				
Catholic	-0.484	0.616	1.080	2.944**
Protestant	-0.585	0.557**	0.937	2.551
Muslim	-0.665	0.514**	0.858	2.359
Pentecostal	-0.205	0.814	0.951	2.587
SDA	-0.510	0.600	0.836	2.308
Other (RC)	0.000	1.000	0.000	1.000

Source: Computed from Uganda Demographic and Health Survey (UDHS), 2011
Nagelkerke R-Square=0.263; Chi-square ($\chi 2$)=1059.020***; df (degrees of freedom) =62; N=4188
RC=Reference Category; **p<0.05; ***p<0.01
Note: The reference category is "No unmet need"

Women's autonomy was not significant in determining both unmet need for spacing and limiting births. However, the odds of having both unmet need for spacing and limiting births increased with an increase in women's autonomy. Surprisingly, there was no significant difference between women with high autonomy and low autonomy in determining unmet need for contraception.

Wealth index was significant (p<0.01) in determining unmet need for spacing births particularly for the poorer, middle and the richest wealth categories. The poorer respondents were about 30% (p<0.01) less likely to have unmet need for spacing births compared to the poorest respondents. The richest respondents were on the other hand, 36% (p<0.01) less likely to have unmet need for spacing births.

On the other hand, the odds of unmet need for limiting births were negatively related to wealth index. Respondents in the middle wealth category were 33% (p<0.05) less likely to have unmet need for limiting births compared to respondents in the poorest wealth category. Respondents in the richest wealth index were about 45% (p<0.05) less likely to have unmet need for limiting births compared to respondents in the poorest wealth category. The results show that, the respondents' likelihood to have unmet need for limiting births reduced with an increase in the

respondents' wealth index. This is because their ability to afford contraceptives improves with an increase in wealth index. This consequently lowers unmet need for limiting births.

Educational attainment was not significant in determining unmet need for spacing births among married women. However, educational attainment was statistically significant ($p<0.05$) in determining unmet need for limiting births particularly for respondents who did not complete secondary education. Respondents who did not complete secondary educational schooling were 36% ($p<0.05$) less likely to have unmet need for limiting births compared to respondents with no education.

The results in Table 6.1 further indicate that, respondents in Kampala Region were 45% ($p<0.05$) less likely to have unmet need for spacing births compared to respondents in the South West Region. This is not surprising since Kampala Region is the most urbanized region with virtually the best health facilities, medical personnel as well as a good supply of modern contraceptives. Respondents in Central 1 Region were 37% ($p<0.01$) less likely to have unmet need for spacing births compared to respondents in South West Region.

Respondents in Karamoja Region which is also the most remote region in Uganda, were about 76% ($p<0.01$) less likely to have unmet need for spacing births compared to respondents in South West Region and respondents in the Western Region were 35% ($p<0.01$) less likely to have unmet need for spacing births compared to respondents in the South West Region. The analysis from Karamoja Region portrays the various interventions that have and are still going on in the region. As a result, unmet need for contraception is likely to be lower in this region. However, the ongoing interventions may not exactly give a true picture of contraceptive practices among the natives.

On the other hand, respondents in Central 1 Region were 47% ($p<0.01$) less likely to have unmet need for limiting births compared to respondents in the South West Region. Respondents in Karamoja Region were 60% ($p<0.01$) less likely to have unmet need for limiting births compared to respondents in the South West Region. In addition, respondents in the Western Region were 37% ($p<0.01$) less likely to have unmet need for limiting births compared to respondents in the South West Region. The analysis shows that Central 1, Karamoja and Western regions were the only statistically significant ($p<0.01$) for predicting both unmet need for spacing and limiting births. In addition, Kampala Region ($p<0.05$) was significant for predicting unmet need for spacing births.

Religion of respondents was also statistically significant ($p<0.01$) for determining both unmet need for spacing and limiting births. The Protestants were 44% ($p<0.05$) less likely to have unmet need for spacing births compared to other religions. The Muslims were also about 49% ($p<0.05$) less likely to have unmet need for spacing births compared to other religions. On the other hand, the Catholics were the only significant religion in determining unmet need for limiting births. The results in Table 6.1 show that, the Catholics were about 3 times as likely as other religions to have unmet need for limiting births. This finding is similar to other studies for example Fox and Inazu (1980), who note that Catholic mothers were less likely to have used contraception compared to other religions (Regnerus, 2005).

In conclusion, variables such as age, number of living children, wealth index, educational attainment, region of residence and religion were strong determinants for unmet need for contraception. Under-five child survival status was significant ($p<0.05$) in predicting unmet need for spacing births rather than unmet need for limiting births. Respondents

who did not complete secondary education ($p<0.05$) were the only significant category in the model with respect to educational attainment for unmet need for limiting births.

On the other hand, the results in the model indicate that, women's autonomy, type of place of residence and knowledge of any contraceptive methods did not matter in determining unmet need for contraception among married women in Uganda. This means that, these factors did not have an influence at all on their unmet need for contraception. In addition, educational attainment did not matter in determining unmet need for spacing births among these married women. In the same vein, under-five child survival status was not significant in determining unmet need for limiting births. The results in the model therefore point to the fact that, these factors did not have any likelihood of having unmet need for contraception on the respondents in the study.

The results also show that unmet need for contraception was more prevalent among respondents with a higher number of living children than those with a few children. Respondents who had a higher number of living children 3-4 had a higher unmet need for contraception than respondents with 0-2 children. These results clearly indicate that the likelihood of having unmet need for contraception significantly increases with an increase in the number of living children. The richest respondents were also related to lower unmet need for both spacing and limiting births compared to the poorer respondents. The results in the model also show that, the Catholics were more likely to have unmet need for contraception compared to any other religion under study.

Finally, the multinomial logistic regression model produced an overall Nagelkerke R-square value of 0.263. This implies that 26% of the variation in unmet need for

contraception is explained by the demographic and socio-economic characteristics included in the model. The Chi-Square value also shows that the model was statistically significant ($p<0.01$) in explaining the relationship between the respondent characteristics in the model and unmet need for contraception.

CHAPTER SEVEN

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

7.1 Summary of findings

Over the past decade, rising rates of contraceptive use have reduced unmet need for contraception in most developing countries (Woldemicael and Beaujot, 2011). Despite this achievement, the level of unmet need for contraception in Uganda is still high (34 percent) with a slight decline from 38 percent in 2006 (UBOS, 2012). In addition, fertility remains high at 6.2 births per woman and is currently stalling. This may probably be due to low contraceptive use where only three in ten currently married women are using a method of contraception (UBOS, 2012). It is against this backdrop that this study aims to examine the determinants of unmet need for contraception in Uganda in a bid to offer guidance to policy formulation and revision so as to further increase contraceptive use as well as reduce unmet need for contraception.

The findings from the descriptive analysis of this study indicate that, most respondents were in the age group 25-29 years who still had the highest number of living children. Most respondents had their last child alive (95.5 percent) compared to 4.5 percent whose last child died. Most respondents had high autonomy in the household (36.7 percent) whilst the lowest proportion (28.4 percent) had low autonomy.

The poorer respondents had the highest proportion of respondents (21.5 percent) in the study and the richer had the lowest proportion (17.5 percent). About half of the respondents did not complete primary education. In addition, majority (84.7 percent) were living in rural areas. Further results from descriptive analysis show that, knowledge about modern contraceptives is nearly universal with about 99 percent of the respondents knowing at least a method of modern

contraceptives. The Catholics formed the majority (41.3 percent) of the respondents while the least (1.6 percent) proportion constituted "Other" religions.

Further, findings show that the total unmet need among all married women was 34.2 percent. Unmet need for spacing births was 20.2 percent which was higher than unmet need for limiting births (14 percent). However, analyzing only married women with children, the results indicate that about 26 percent of the respondents had unmet need for spacing whilst 15.3 percent had unmet need for limiting births. This shows that overall, unmet need for spacing was higher than unmet need for limiting births. Secondly, the preference for spacing births is higher among younger women especially of ages 15-19 years and women with 1-2 children.

Unmet need for limiting births is higher among older women of ages 45-49 years and women with seven or more children than younger women of ages 15-19 years. The reason for this pattern as earlier explained may be due to the fact that, younger women are still experiencing child bearing and so there is need for them to space their births. On the other hand, older women have virtually attained their desired fertility and therefore wish to stop child bearing.

Respondents who had their last child alive experienced higher unmet need for spacing while those whose last child died had higher unmet need for limiting births. The poorest and respondents who live in rural areas had a higher need for both spacing and limiting births. Women's autonomy did not matter in determining unmet need for contraception. However, women with low autonomy had a higher need to space births. Interestingly, women with high autonomy had a higher need to limit births. Such a finding points to the fact that in most African societies, men tend to have a higher final say than women especially over reproductive decisions despite the women's level of autonomy.

Results from multivariate analysis show that age was a strong indicator for the likelihood of unmet need for contraception for both spacing and limiting births. Such a finding concurs with other studies such as Woldemicael and Beaujot, (2011) which show that the odds for having unmet need for spacing births decrease with an increase in age but for unmet need for limiting births, the odds increase with an increase in age.

Unmet need for contraception was higher among women with 3-4 children than women with 0-2 children for both spacing and limiting births. Women with 0-2 children were less likely to space births than women with 3-4 children probably because they have just started child bearing. Also, respondents who had their last child alive were more likely to have unmet need for both spacing and limiting births compared to their counterparts who lost their last child.

Wealth index was also a strong indicator to determine unmet need for contraception. As expected, the poorer respondents had a higher unmet need for spacing and limiting births than the richest respondents. This may be as a result of the richest respondents being able to afford the modern contraceptives available on market than the poorer respondents.

Women's autonomy was not really a major indicator in determining unmet need for contraception. Interestingly, the results show that, unmet need for contraception increased with women's autonomy. Additionally, educational attainment was not a strong factor to determine unmet need for spacing births. However, respondents who did not complete secondary education were significant ($p<0.05$) in determining unmet need for limiting births.

Type of place of residence was also not significant in determining unmet need for contraception among married women. However, urban residents were less likely to have unmet need for spacing births compared to the rural residents and the reverse is true for unmet need for limiting

births. Urban residents were more likely than rural residents to have unmet need for limiting births. Respondents in the most urbanized regions mainly Kampala and Central 1 were less likely to have unmet need for contraception than respondents in the South West Region.

Further, knowledge of any contraceptive method was not a strong indicator in determining unmet need for contraception among married women in Uganda. However, interestingly, respondents who knew of any modern contraceptive method were more likely to have unmet need for both spacing and limiting births compared to respondents who did not know of any contraceptive method. This finding confirms the notion that, knowledge about modern contraceptives does not necessarily translate into usage. Therefore, this may be one of the reasons why women who had a higher knowledge of modern contraceptives had a higher unmet need for contraception as well.

Religion was statistically significant in determining unmet need for contraception. The Catholics in particular were more likely than any other religion under study to have higher unmet need for contraception particularly for limiting births. Other significant religions in the model were the Protestants and the Muslims. These religions were less likely than “Other” religions to have unmet need for spacing births.

7.2 Conclusions

- Age, number of living children, wealth index, educational attainment, region of residence and religion were the strong indicators for the likelihood of unmet need for contraception. The findings in this study in relation to wealth index corroborate other studies (Khan et al., 2008; Ojakaa, 2008), which foundthat household wealth is important for utilization of family planning services. As in this study, women who are poorer tend to have higher unmet need for contraception.

- Under-five child survival status was only important in determining unmet need for spacing births. The study also alludes to the fact that, educational attainment was not very important in influencing unmet need for spacing births except for limiting births. The "incomplete secondary" education category was important in determining unmet need for limiting births.

- The results from the study did not conform to the stated hypothesis of high autonomy leading to lower unmet need for spacing births. Women's autonomy did not matter in determining unmet need for contraception among married women in Uganda. The results show that there was no significant difference between the levels of autonomy. This means that irrespective of the level of women's autonomy, their decisions on reproductive issues and contraceptive use do not count since men continue to have a final say on them.

- Women with high autonomy would be expected to initiate negotiations or spousal communication about family planning so as to reduce unmet need for contraception. However, this may not be the case always especially in most African societies where talking about sex is a taboo (Jejeebhoy, 1995; DeRose et al., 2004; Khan et al., 2008).

Secondly, in most African societies where patriarchal norms still exist, coupled with husband's opposition to contraceptive use, unmet need is likely to remain elusive.

- The study also points to the fact that, women whose last child survived were more likely to have a higher unmet need for limiting births than women whose last child died. This finding conforms to the stated hypothesis in the study. However, under-five child survival status was not an important factor in determining unmet need for limiting births.

- The results in the model also reveal that women with 0-2 number of living children were less likely than women with 5+ children to have unmet need for limiting births. Though this finding confirms the stated hypothesis, however, such a finding has serious negative implications to Uganda. Since the demand for contraceptives is much higher among women with high fertility than women with low fertility, it means that high fertility is still treasured. The high demand for contraceptives among women with 0-2 children would signify a path towards fertility transition. Yet, this is not the case.

- Type of residence was not a strong factor in determining unmet need for spacing and limiting births. This finding differs from findings in other studies (for example, see Westoff and Ochoa, 1991; Khan et al., 2008), who found that urban residence is an important factor in the utilization of family planning services and hence reduce unmet need for contraception.

- For this study, urban residents were more likely to have unmet need particularly for limiting births compared to their counterparts in rural areas. As Woldemicael and Beaujot, (2011) argue, this high unmet need for limiting births in urban areas is as a result

of probably not because of their inability in terms of accessibility, affordability to have contraceptives but rather as a result of high demand for contraceptives in urban centres which creates this discrepancy. Another reason for this high unmet need in urban areas could be as a result of stigma against the use of contraceptives. This means that women may not feel free to buy contraceptives from anywhere, anytime despite their availability. This may keep unmet need at higher levels.

- Religion was also significant in determining unmet need for contraception. The results in the study confirm with the stated hypothesis of the Catholics having a higher unmet need for limiting births than the Protestants. Additionally, the Catholics were more likely than any other religion in the study to have unmet need for limiting births. This finding corroborates as earlier explained with other studies for example Fox and Inazu (1980) who argue that Catholic mothers were less likely to use contraception (Regnerus, 2005). For this study, since Muslims were less likely than Catholics to have unmet need for contraception, the finding somehow differs from studies for example Iyer (2002) who argues that if a woman was Muslim, she was less likely to use contraception and therefore have high unmet need for contraception.

7.3 Recommendations

It is recommended, based on the findings, that contraceptive services should be packaged to suit all women of different categories giving priority to the most vulnerable. This means that, family planning programmes should target women who need the contraceptives most rather than providing contraceptives to all women irrespective of their level of susceptibility. In this regard, the most vulnerable should have more attention than women who are less vulnerable.

There is also need for the government of Uganda to provide an employment fund in a bid to boost income generating activities to especially the unemployed currently married women. This will increase their disposable income which would make them afford, access and utilize modern family planning services. These strategies could aid in increasing contraceptive usage and consequently bringing down the high fertility levels in Uganda. In addition, it is important that the government through the Ministry of Health (MoH) subsidizes the available modern contraceptives to give chance to the economically disadvantaged women to access them. This could also increase coverage with all its associated benefits.

There is also need to carry out mass education about the use and benefits of contraception. Much emphasis should be given to categories of people who have a higher likelihood of having unmet need for contraception. People ought to know the advantages of spacing and limiting births and having a smaller family as well. This will help them plan for their families the desired number of children and when to have them. In the long run, this may reduce poverty levels in Uganda.

Finally, further work should be done to especially fine tune the autonomy variable. It is important that further work explores the appropriate questions, which are directly linked to child bearing and contraception that can be used to measure women's autonomy and how best it can predict unmet need for contraception.

References

Acharya, D. et al., (2010). Women's autonomy in household decision-making: a demographic study in Nepal. *Reproductive Health*, 7:15.

Adair, T., (2007). Desire for Children and Unmet Need for Contraception among HIV-Positive Women in Lesotho. DHS working Papers, Demographic and Health Research, Macro International Inc., A Paper produced for review by the United States Agency for International Development.

Ahmadi, A., and Iranmahboob. J., (2005). Unmet need for family planning in Iran. Paper presented at the XXV IUSSP International Population Conference. Tours, France (July 18–23).

Amoako, J. F., Padmadas, S. S., Chandra, H., Matthews, Z., and Madise, N. J., (2012). Estimating unmet need for contraception by district within Ghana: An application of small-area estimation techniques, *Population Studies: A Journal of Demography*, 66:2, 105-122.

Aridime, et al., (2010). Fertility Intentions, Contraceptive Awareness and contraceptive Use among Women in Three Communities in Northern Nigeria. *African Journal of Reproductive Health*, Vol. 14, No. 3, Pg. 65-70.

Aryal, R. H., Pathak, R. S., Dottel, B. R., and Pant, P. D., (2008). A Comparative Analysis of Unmet Need in Nepal: Further Analysis of the 2006 Nepal Demographic and Health Survey. Calverton, Maryland, USA: Macro International Inc.

Ash, C., and Jasny, B., (2002). Unmet Needs in Public Health. *Science, New Series*, Vol. 295, No. 5562 (Mar. 15, 2002), p. 2035.

Ashford, L., (2003). Unmet Need for Family Planning: Recent Trends and Their Implications for Programs. *Policy Brief.* © 2003 Population Reference Bureau.

Assef, H., and Fikrewold, H., (2011). Factors Affecting Unmet need for Family Planning in Southern Nations, Nationalities and Peoples Region, Ethiopia. *Ethiop J Health Sci*. Vol. 21, No.2. Pg. 77-89.

Baiden et al., (2005). Unmet need for essential obstetric services in a rural district in northern Ghana: Complications of unsafe abortions remain a major cause of mortality. *Journal of the Royal Institute of Public Health.* Published by Elsevier Ltd. All rights reserved. doi:10.1016/j.puhe.2005.12.004. Pg. 421-426.

Bankole, A., and Ezeh, A. C., (1999). Unmet Need for Couples: An Analytical Framework and Evaluation with DHS Data. *Population Research and Policy Review*, Vol. 18, No. 6 (Dec., 1999), Pg. 579-605.

Bankole, A., (1995). Desired Fertility and Fertility Behaviour among the Yoruba of Nigeria: A study of couple preferences and subsequent fertility. *Population Studies*, Vol. 95, No. 2, pp. 317-328.

Bauer et al., (2006). Effects of Education on Determinants of High Desired Fertility: Evidence from Ugandan Villages. IES Working Paper 239/2006, IES FSV. Charles University.

Bawah et al., (1999). Women's Fears and Men's Anxieties: The Impact of Family Planning on Gender Relations in Northern Ghana. *Studies in Family Planning*, Volume 30, Number 1, Pg. 54-66.

Becker, S., (1999). Measuring Unmet Need: Wives, Husbands or Couples? *International Family Planning Perspectives*, Vol. 25, No. 4 (Dec., 1999), Pg. 172-180.

Becker, G., (1990). Healing the infertile family: Strengthening your relationship in the search for parenthood. *University of California Press.*

Bernstein, S., and Edouard, L., (2007). Targeting access to Reproductive Health: giving contraception more prominence and using indicators to monitor progress. *Reproductive Health Matters*, Vol. 15, No. 29, Pg. 186-191.

Bhandari et al., (2006). Prevalence and determinants of unmet need for family planning in a district of eastern region of Nepal. *Kathmandu University Medical Journal*, Vol. 4, No. 2, Pg. 203-210.

Bhushan, I., (1997). Understanding Unmet Need. Working Paper Number 4. Baltimore, Johns Hopkins University School of Public Health, Center for Communication Programs, November 1997.

Blacker, J., Opiyo, C., Jasseh, M., Sloggett, A., and Ssekamatte-Ssebuliba, J., (2005). Fertility in Kenya and Uganda: A Comparative Study of Trends and Determinants. *Population Studies*, Vol. 59, No. 3 (Nov., 2005), Pg. 355-373.

Blanc, A. K., and Wolff, B., (2001). Gender and Decision-Making over Condom Use in Two Districts in Uganda. *African Journal of Reproductive Health / La Revue Africaine de la Santé Reproductive,* Vol. 5, No. 3 (Dec., 2001), Pg. 15-28.

Bledsoe, C. H., and Pison, G., (1994). Nuptiality in Sub-Saharan Africa: Contemporary anthropological and demographic perspectives. Oxford: *Clarendon Press*.

Bledsoe, C. H., Casterline, J. B., Johnson-Kuhn, J. A., Haaga, J. G., (eds.), (1998). Critical Perspectives on Schooling and Fertility in the Developing World. Washington, D.C.: National Academy Press.

Blumenthal, P. D., Shah, N. M., Jain, K., Saunders, A., Clemente, C., Lucas, B., Jafa, K., and Eber, M., (2012). Revitalizing long-acting reversible contraceptives in settings with high unmet need: A multi-country experience matching demand creation and service delivery. *Contraception* 87 (2013) © 2013 Elsevier Inc. All rights reserved. http://dx.doi.org/10.1016/j.contraception.2012.10.002, Pg. 170-175.

Bongaarts, J., (2006). The Causes of Stalling Fertility Transitions. *Studies in Family Planning*, Vol. 37, No. 1 (Mar., 2006), Pg. 1-16.

Bongaarts, J., (2005). The Causes of Stalling Fertility Transitions. *Working Paper*, No. 204. A Paper presented at the session Fertility Decline: Onset and Stagnation, at the IUSSP XXV International Population Conference in Tours, July 2005. The Population Council, Inc.

Bongaarts, J., and Bruce, J., (1995). The Causes of Unmet Need for Contraception and the Social Content of Services. *Studies in Family Planning*, Vol. 26, No. 2 (Mar. - Apr., 1995), Pg. 57-75.

Bongaarts, J., and Potter, G. R., (1983). Fertility, Biology and Behavior: An Analysis of the Proximate determinants, Academic press, New York.

Bradley, S. E. K., Croft, T. N., and Fishel, J.D., (2011). Revising the Definition of Unmet Need for Family Planning. A Paper prepared for presentation at the Population Association of America Annual Conference, Session 74, April 1, 2011, Pg. 1-31.

Caldwell, J. C., and Caldwell, P., (1993). The Nature and Limits of the sub-Saharan African AIDS Epidemic: Evidence from Geographic and Other Patterns. *Population and Development Review*, Vol. 19, No. 4, Pg. 817-848.

Caldwell, J. C., and Caldwell, P., (1987). The Cultural Context of High Fertility in sub-Saharan Africa. *Population and Development Review*, Vol. 13, No. 3. Pg. 409-437.

Campbell et al., (2006). Barriers to Fertility Regulation: A Review of the Literature. *Studies in Family Planning*, Vol. 37, No. 2. Pg. 87-98.

Casterline, J. B., El-Zanaty, F., and El-Zeini, L. O., (2003). Unmet Need and Unintended Fertility: Longitudinal Evidence from Upper Egypt. *International Family Planning perspectives*, Vol. 29, No. 4. pp. 158-166.

Casterline, J. B., Sathar, Z. A., and ul Haque, M., (2001). Obstacles to contraceptive use in Pakistan: A study in Punjab. *Studies in family planning, Vol.* 32, No. 2, Pg. 95-110.

Casterline, J. B., and Sinding, S. W., (2000). Unmet Need for Family Planning in Developing Countries and Implications for Population Policy. *Population and Development Review* 26(4):691–723.

Casterline, J. B., Perez, A., and Biddlecom, A., (1997). Factors underlying unmet need for family planning in the Philippines. *Studies in Family Planning*, 28(3), 173-191.

Chaudhury, R. H., (2001). Unmet need for contraception in South Asia: Levels, trends and determinants. *Asia Pacific Population Journal*, Vol. 16, No. 3, Pg. 3-22.

Chiezah, M. A., and AdamaChak, D. J., (1995). Unmet need for Family Planning in Jamaica. *Journal of Biosoc. Sci*., 27, Pp. 319-324.

Cleland J. et al., (2006). Family planning: the unfinished agenda. *The Lancet Sexual and Reproductive Health Series*, October 2006.

Coombs, L. C., and Fernandez, D., (1978). Husband-wife agreement about reproductive goals. *Demography* Vol. 15, No. 1, Pg. 57-73.

Creanga A. A. et al., (2011). Low use of contraception among poor women in Africa: an equity issue. *Bull World Health Organ* 2011; 89:258-266.

Darroch, J. E., Sedgh, G. and Ball, H., (2011). Contraceptive Technologies: Responding to Women's Needs, New York: Guttmacher Institute, 2011.

Darroch, J. E., Singh, S. and Nadeau, J., (2008). Contraception: an investment in lives, health and development, *In Brief*, New York: Guttmacher Institute and United Nations Population Fund (UNFPA), 2008, No. 5.

DeRose L. F. el at., (2004). Does Discussion of Family Planning Improve Knowledge of Partner's Attitude toward Contraceptives? *International Family Planning Perspectives*, Vol. 30, No.2, Pg 87-93.

Devi, D. R., Rastogi, S. R., and Retherford, R. D., (1996). Unmet need for family planning in Uttar Pradesh. *National Family Health Survey Subject Reports No. 1.*

Dixon-Mueller, R., and Germain, A., (2007). Fertility Regulation and Reproductive Health in the Millennium Development Goals: The search for a Perfect Indicator. *American Journal of Public Health*. Vol. 97, No. 1, Pg. 45-51.

Dixon-Mueller, R., and Germain, A., (1992). Stalking the Elusive "Unmet Need" for Family Planning. *Studies in Family Planning*, Vol. 23, No. 5. Pp. 330-335.

Dodoo, F. N. A., and Frost, A. E., (2008). Gender in African Population Research: The Fertility/ Reproductive Health Example. *The Annual Review of Sociology*, 2008. 34:431–52.

Dodoo, F. N. A., Zulu, E. M., and Ezeh, A. C., (2006). Urban–rural differences in the socioeconomic deprivation–Sexual behavior link in Kenya. *Social Science and Medicine* 64 (2007), 1019–1031.

Dodoo, F. N. A., (1998). Men matter: additive and interactive gendered preferences and reproductive behavior in Kenya. *Demography* Vol. 35, No. 2, Pg. 229-242.

Dodoo, F. N. A., (1993a). Insights into Spousal Differences in Reproductive Dis/Agreement. *Sociological Focus* 26(3): 257-270.

Dodoo, F. N. A., (1993). A couple analysis of micro-level supply/demand factors in fertility regulation. *Population Research and Policy Review* Vol. 12, No. 2 Pg. 93-101.

Dreze, J., and Murthi, M., (2000). Fertility Education and Development. *Discussion Paper* No. DEDPS 20, 2000. London School of Economics and Political Science.

Easterlin, R. A., (1975). An Economic Framework for Fertility Analysis. *Studies in Family Planning*, Vol. 6, No. 3. Pg. 54-63.

Ergöçmen, B. A., and Bozbeyoğlu, A. Ç., (2005). An Alternative Approach to Measure Unmet need for Family Planning in Turkey. *Nüfusbilim Dergisi\Turkish Journal of Population Studies*, 2005, 27, pg.3-16.

Ezeh A. C. et al., (2009). Stall in fertility decline in Eastern African countries: regional analysis of patterns, determinants and implications. *Philosophical Transactions of The Royal Society B.*, 364, 2991-3007.

Ezeh, A. C., and Gage, B. J. A., (2000). Domestic violence in Uganda: Evidence from qualitative and quantitative data. No. 18. African Population & Health Research Center.

Ezeh, A. C., (1993a). Patterns of reproductive control in sub-Saharan Africa: a couple approach. *Ann Arbor, Michigan, University Microfilms International*, 1993, xiii, 280p.

Ezeh, A. C., (1993). The influence of spouses over each other's contraceptive attitudes in Ghana. *Studies in family planning*, Vol. 24, No. 3, Pg. 163-174.

Foreit et al., (1992). A Comparison of the Performance of Male and Female CBD Distributors in Peru. *Studies in Family Planning*, Vol. 23, No. 1, Pg. 58-62.

Freedman, R., (1987). The Contribution of Social Science Research to Population Policy and Family Planning Programme Effectiveness. *Studies in Family Planning*, Vol. 18, No. 2. Pg. 57-82.

Frost, A. E., and Dodoo, F. N. A., (2009). Men are Missing from African Family Planning. *Sage publications*, Pg. 1-7.

Genene, B., Shiferaw, S., and Melkam, Y., (2008). Unmet Need and Evaluation of Programme Options to Meet Unmet Need for Contraception in Ethiopia, 2000-2005: Further Analysis of the 2000 and 2005 Ethiopia Demographic and Health Surveys. Calverton, Maryland, USA: Macro International Inc.

Ghuman, S. J., (2003). Women's Autonomy and Child Survival: A Comparison of Muslims and Non-Muslims in Four Asian Countries. *Demography*, Vol. 40, No. 3, Pg. 419-436.

Gizaw, A., and Regassa, N., (2011). Family planning service utilization in Mojo town, Ethiopia: A population based study. *Journal of Geography and Regional Planning* Vol. 4(6), pp. 355-363.

Goldscheider, C., and Mosher, W. D., (1991). Patterns of Contraceptive use in the United States: The Importance of Religious Factors. *Studies in Family Planning*, Vol. 22, No. 2, Pg. 102-115.

Gomez, A. M., (2011). Sexual Violence as a Predictor of Unintended Pregnancy, Contraceptive use and Unmet Need among Female Youth in Colombia. *Journal of Women's Health* 20(9), 1349-1356.

Govindasamy, P., and Emmanuel, B., (2000). A decade of unmet need for contraception in Ghana: Programmatic and policy implications. Calverton, Maryland: Macro International Inc. and National Population Council Secretariat [Ghana].

Hailemariam, A., and Haddis, F., (2011). Factors Affecting Unmet Need for Family Planning in Southern Nations, Nationalities and Peoples Region, Ethiopia. *Ethiopian Journal of Health Science*, 21(2): 77–89.

Hardee-cleaveland, K., (1992). Communication key for family planning. Netw Res Triangle Park N C., 13(1):13.

Igwegbe et al., (2009). Prevalence and determinants of unmet need for family planning in Nnewi, South-East Nigeria. *International Journal of Medicine and Medical Sciences*. Vol. 1(8), Pg. 325-329.

Iyer, S., (2002). Religion and the Decision to use Contraception in India. *Journal for the Scientific Study of Religion*, Vol. 41, No. 4, Pg. 711-722.

Jacobstein R. et al., (2009). Fragile, Threatened, and Still Urgently Needed: Family Planning Programs in Sub-Saharan Africa. *Studies in Family Planning*, Vol. 40, No. 2, Pg 147-154.

Jejeebhoy, S. J., (2002). Convergence and Divergence in Spouses' Perspectives on Women's Autonomy in Rural India. *Studies in Family Planning*, Vol. 33 No. 4. Pg. 299-308.

Jejeebhoy, S. J., (1995). Women's education, autonomy, and reproductive behaviour: Experience from developing countries. *Clarendon Press* (Oxford and New York), Pg. 275-295.

Johnson-Hanks, J., (2005). When the Future Decides: Uncertainty and International Action in Contemporary Cameroon. *Current Anthropology*, Vol. 46, No. 3, Pg. 363-385.

Khan, S., Sarah, E. K., Bradley, J. F., and Vinod, M., (2008).Unmet Need and the Demand for Family Planning in Uganda: Further Analysis of the Uganda Demographic and Health Surveys, 1995-2006. Calverton, Maryland, USA: Macro International Inc.

Khan et al., (2008). Unmet need for contraception among sex workers in Madagascar. *Contraception* 79 (2009)© 2009 Elsevier Inc. All rights reserved. doi:10.1016/j.contraception.2008.09.011, Pg. 221-227.

Khan, R. E. A., and Khan, T., (2007). How a Married Woman's Characteristics Affect her Contraceptive Behaviour? *Journal of Applied Sciences* 7 (19): 2782-2787, 2007. ISSN 1812-5654.© 2007 Asian Network for Scientific Information.

Klijzing, E., (2000). Are There Unmet Family Planning Needs in Europe? *Family Planning Perspectives*, Volume 32, Number 2, Pg. 74-81.

Klitsch, M., (1992). Greatest Unmet Need for Contraceptives Seen in Sub-Saharan Africa. *International Family Planning Perspectives*, Vol. 18, No. 1 (Mar., 1992), Pg. 32-33.

Korra, A., (2002). Attitudes toward Family Planning, and Reasons for Nonuse among Women with Unmet Need for Family Planning in Ethiopia. Calverton, Maryland USA: ORC Macro.

Maki, S., (2007). Unmet Need for Family Planning Persists in Developing Countries. Population Reference Bureau. http://www.prb.org/publications.

Makinwa, P., and Jensen, A. M., (1995). Women's position and demographic change in sub-Saharan Africa. *International union for the scientific study of population* (IUSSP).

Malwenna, L. I., Jayawardana, P.L., and Balasuriya, A., (2012). Effectiveness of a community based health educational intervention in reducing unmet need for modern methods of family planning among ever married reproductive age women in the Kalutara district, Sri Lanka. *International Journal of Collaborative Research on Internal Medicine & Public Health*. Vol. 4 No. 6.

Mason, K. O., and Taj, A. M., (1987). Differences between women's and men's reproductive goals in developing countries. *Population and Development Review*, Vol. 13, No. 4, Pg. 611-638.

Matthews et al., (2005). Autonomy and maternal health seeking among slum populations of Mumbai. *Focus on Gender: Collected Papers on Gender Using DHS Data*, edited by S. Kishor. Calverton, MD: Macro International, Inc.

Mehra, D., Agardh, A., Petterson, K. O., and Per-Olof, S., (2012). Non-use of contraception: determinants among Ugandan university students. *Glob Health Action*2012, 5:18599 - http://dx.doi.org/10.3402/gha.v5i0.18599.

Mills, S., Bos, E., and Suzuki, E., (2010). Unmet need for contraception at a glance.Human Development Network at the World Bank.

Momtaz, Y. A., Hamid, T. A., and Ibrahim, R., (2012). Unmet needs among disabled elderly Malaysians. *Social Science & Medicine* 75 (2012). Elsevier Ltd. All rights reserved. doi:10.1016/j.socscimed.2012.03.047. Pg. 859-863.

Nalwadda G. et al., (2011). Constraints and prospects for contraceptive service provision to young people in Uganda: providers' perspectives. *BMC Health Services Research* 2011, 11:220.

Nalwadda G. et al., (2010). Persistent high fertility in Uganda: young people recount obstacles and enabling factors to use of contraceptives. *BMC Public Health* 2010, 10:530.

Ndaruhuye, D. M., Broekhuis, A., and Hooimeijer, P., (2009). Demand and Unmet Need for Means of Family Limitation in Rwanda. *International Perspectives on Sexual and Reproductive Health*, Vol. 35, No. 3, Pg. 122-130.

Neema, S., Musisi, N., and Kibombo, R., (2004). Adolescent Sexual and Reproductive Health in Uganda: A Synthesis of Research Evidence, Occasional Report, New York: The Alan Guttmacher Institute, 2004, No. 14.

Ngom, P., (1997). Men's Unmet Ned for Family Planning: Implications for African Fertility Transitions. *Studies in Family Planning*, Vol. 28, No. 3. Pp. 192-202.

Nortman, D. L., (1982). Measuring the Unmet need for Contraception to Space and Limit Births. *International Family Planning Perspectives* Vol. 8, No. 4, pp. 125-134.

Ntozi, J. P. M., and Kabera, J. B., (1991). Family Planning in Rural Uganda: Knowledge and use of Modern and Traditional methods in Ankole. *Studies in Family Planning* Vol. 22, No. 2, pp. 116-123.

Nyakaana, J. B., Sengendo, H., and Lwasa. S., (2007). "Population, urban development and the environment in Uganda: the case of Kampala city and its environs." *Faculty of Arts, Makerere University, Kampala, Uganda*.

Nyblade, L., and Menken, J., (1993). Husband-wife communication: Mediating the relationship of household structure and polygyny to contraceptive knowledge, attitudes and use: A social network analysis of the 1989 Kenya Demographic and Health Survey. *International Population Conference, Montreal Aug. 24*. Vol. 1.

Ojakaa, D., (2008). Trends and Determinants of Unmet Need for Family Planning in Kenya. DHS Working Papers, Demographic and Health Research.

Orbeta, A. C. Jr., (2005). Poverty, Fertility Preferences and Family Planning Practice in the Philippines. *Discussion Paper Series* No. 2005-22. A Paper presented at the 25th IUSSP International Population Conference, Tours, France, 18-23 July, 2005.

Padmaja, R. W., (2012). Determinants of contraceptive us among married women residing in rural areas of Belgaum. *Journal of Medical and Allied Sciences. J Med Allied Sci*, 2(1):07-11.

Page, J. H., and Lesthaeghe, R., (1981). Child Spacing in Tropical Africa: traditions and change. A subsidiary of Harcourt Brace Jovanovich, Publishers. Copyright © 1981 by Academic Press INC. (London) LTD.

Palamuleni, M., Kalule-Sabiti, I., and Makiwane, M., (2007). Fertility and child bearing in South Africa. *Families and Households in Post-Apartheid South Africa*. Pg. 113-133.

Pasha, O., Fikree, F., and Vermund, S., (2001). Determinants of unmet need for family planning in squatter settlements in Karachi, Pakistan. *Asia-Pacific Population Journal* 16(2):93–108.

Pav, G., and Boadi, E., (2000). A decade of unmet need for contraception in Ghana: Programmatic and policy implications. Calverton, Maryland: Macro International Inc. and National Population Council Secretariat [Ghana].

Population Action International, (2010). Executive summary report on the effects of a very young age structure in Uganda. Available on PAI's website www.populationaction.org.

Population Reference Bureau, (2012). Women's need for family planning in Arab countries. www.prb.org.

Population Reference Bureau, (2012). World Population Data Sheet.www.prb.org.

Population Reference Bureau, (2011). World Population Data Sheet.www.prb.org.

Population Reference Bureau, (2010). World Population Data Sheet.www.prb.org.

Population Reference Bureau, (2009). World Population Data Sheet.www.prb.org.

Population Reference Bureau, (2008). Annual Report.www.prb.org.

Population Reference Bureau, (2007). World Population Data Sheet. www.prb.org.

Potts, M., (2000). The Unmet need for family planning. *Scientific American* 2000, Population Services International. Copyright 1999, Scientific American, Inc.

Prata, N., (2009). Making Family Planning Accessible in Resource-Poor Settings. *Philosophical Transactions: Biological Sciences*, Vol. 364, No. 1532, The Impact of Population Growth on Tomorrow's World (Oct. 27, 2009), Pg. 3093-3099.

Prata, N., (2007). The Need for Family Planning. *Population and Environment*, Vol. 28, No. 4/5 (May, 2007), Pg. 212-222.

Pritchett, L. H., (1994). Desired Fertility and the Impact of Population Policies. *Population and Development Review*, Volume 20, Issue 1, Pg. 1-55.

Rafalimanana, H., and Westoff, C. F., (2000). Potential Effects of Fertility and Child Health and Survival of Birth-Spacing Preferences in Sub-Saharan Africa. *Studies in Family Planning*, Vol. 31, No. 2, Pg. 99-110.

Regnerus, M. D., (2005). Talking about sex: Religion and Patterns of Parent-Child Communication about Sex and Contraception. *The Sociological Quarterly*, Vol. 46, No. 1, Pg. 79-105.

Robey, B., Ross, J., and Bhushan, I., (1996). Meeting unmet need: New strategies. *Population Reports*, Series J, No. 43.Baltimore, Johns Hopkins School Public Health, Population lnformation Program.

Robey, B., Rutstein, S. O., and Morris, L., (1993). The Fertility Decline in Developing Countries. *Scientific American*, Vol. 269, No. 6: Pg. 60-67.

Ross, J. A., and Winfrey, W. L., (2002). Unmet Need for Contraception in the Developing World and the Former Soviet Union: An Updated Estimate. *International Family Planning Perspectives*, Vol. 28, No. 3, Pg. 138-143.

Ross, J. A., and Winfrey, W. L., (2001). Contraceptive Use, Intention to Use and Unmet Need during the Extended Postpartum Period. *International Family Planning Perspectives*, Vol. 27, No. 1. Pp. 20-27.

Ross, J., and Heaton, L., (1997). Intended Contraceptive Use Among Women Without an Unmet Need. *International Family Planning Perspectives*, Vol. 23, No. 4. Pp. 148-154.

Roudi, F., and Monem, A. A., (2009). Unintended Pregnancies in the Middle East and North Africa. *A Paper prepared for a presentation at the IUSSP International Population Conference in Marrakech, Morocco, in October 2009.*

Rutenberg, N., and Watkins, S.C., (1997).The Buzz Outside the Clinics: Conversations and Contraception in Nyanza Province, Kenya. *Studies in Family Planning*, 28(4): 290-307.

Sahoo, H., (2007). Determinants of Contraceptive use in Orissa: An Analysis from National Family Health Survey III. *Health and Population Perspectives and Issues* 30(3): 208-221, 2007.

Sai Sujatha, D., and Brahmananda, G. R., (2009). Women's education, Autonomy and Fertility Behaviour. *Asia-Pacific Journal of social Sciences* Vol. I (1), Pg 35-50.

Sedgh, G., Hussain, R., Bankole, A., and Singh, S., (2007). Women with an unmet need for contraception in developing countries and their reasons for not using a method. Guttmacher Institute, New York.

Shah, M. A., Shah, N. M., Chowdhury, R. I., and Menon, I., (2004). Unmet need for contraception in Kuwait: issues for health care providers. *Social Science & Medicine* 59 (2004). Elsevier Ltd. All rights reserved. doi:10.1016/j.socscimed.2004.01.033. Pg. 1573-1580.

Sinding, S. W., Ross, J. A., and Rosenfield, A. G., (1994). Seeking Common Ground: Unmet Need and Demographic Goals. *International Family Planning Perspectives*, Vol. 20, No. 1 (Mar., 1994), Pg. 23-27+32.

Singh, S., and Darroch, J. E., (2012). Adding It Up: Costs and Benefits of Contraceptive Services Estimates for 2012, New York: *Guttmacher Institute and United Nations Population Fund*(UNFPA), 2012, <http://www.guttmacher.org/pubs/AIU-2012-estimates.pdf>.

Singh, S., Prada, E., Mirembe, F., and Kiggundu, C., (2005). The Incidence of Induced Abortion in Uganda. *International Family Planning Perspectives*, Vol. 31, No. 4, Pg.183-191.

Sita, S., (2003). Assessment of the Magnitude and Determinants of Unmet Need for Family Planning Among Currently Married Women in Urban and Peri-urban Community in Awasa, Southern Ethiopia. Master's Thesis. Department of Public Health, Addis Ababa University.

Skirbekk, V., (2008). Fertility trends by social status. *Demographic Research*. Vol. 18/5/DOI:10.4054/Dem Res. 18.5. Pg. 145-180.

Sonfield, A., (2006). Working to Eliminate the World's Unmet Need for Contraception. *Guttmacher Policy Review* Winter, Volume 9, Number 1.

Sonfield, A., (2004). Meeting the Sexual and Reproductive Health Needs of Men Worldwide. The Guttmacher Report on Public Policy.

Stash, S., (1999). Explanations of Unmet Need for Contraception in Chitwan, Nepal. *Studies in Family Planning*, Vol. 30, No. 4. Pp. 267-287.

Stephenson et al., (2007). Contextual influences on modern contraceptive use in sub-Saharan Africa. *American Journal of Public Health* 97(7):1–7.

Stover, J., and Ross, J., (2008). How Contraceptive Use Affects Maternal Mortality. Washington, DC: US Agency for International Development, Health Policy Initiative, Task Order 1.

Takyi, B., and Dodoo, F. N. A., (2005). Gender, lineage, and fertility-related outcomes in Ghana. *Journal of Marriage and Family,* Vol. 67, No. 1, Pg. 251-257.

Tsui, A. O., McDonald-Mosley, R., and Burke, A. E., (2010). Family Planning and the Burden of Unintended Pregnancies. *Epidemiol Rev.*, Vol. 32, Pg. 152-174.

Uganda Bureau of Statistics (UBOS) and ICF International Inc., (2012). *Uganda Demographic and Health Survey* 2011.Kampala, Uganda: UBOS and Calverton, Maryland: ICF International Inc.

Uganda Bureau of Statistics (UBOS) and ORC Macro International Inc., (2007).*Uganda Demographic and Health Survey*, 2006, Calverton Maryland, USA: UBOS and Macro International Inc.

United Nations (UN), (2001). World Population Monitoring: Population, Environment and Development.

United Nations Development Programme (UNDP), (2003). Human Development Report 2003. Oxford: *Oxford University Press.*

United Nations Population Fund (UNFPA), (2011). State of the World Population 2011: people and possibilities in a world of 7 billion.

United Nations Population Fund (UNFPA), (2008). Annual Report 2008. www.unfpa.org.

United Nations Population Fund (UNFPA), (2004). Investing in People: National Progress in Implementing the ICPD Programme of Action 1994-2004.

United Nations Population Fund (UNFPA), (2003). Population and Poverty: Achieving Equity, Equality and Sustainability. *Population and Development Strategies series.*

United Nations Population Division (UNPD), (2008). An overview of Urbanization, Internal Migration, Population Distribution and Development in the World.

United States Agency for International Development (USAID), (2005). Perspectives on Unmet Need for Family Planning in West Africa: Benin. *Policy Project Briefing Paper. Conference on Repositioning Family Planning in West Africa.*

Vidal-Zeballos, D., (1994). Social strata and its Influence on the Determinants of Reproductive Behaviour in Bolivia. DHS working papers. Macro International Inc.

Vlassoff M. et al., (2009). Benefits of meeting the contraceptive needs of Ugandan women. *In Brief,* New York: Guttmacher Institute, 2009, No. 4. ©2009 Guttmacher Institute.

Westoff, C. F., (2006). New Estimates of Unmet Need and the Demand for Family Planning. DHS Comparative Reports No. 14. Calverton, Maryland, USA. Macro International Inc.

Westoff, C. F., and Bankole, A., (2000) .Trends in the Demand for Family Limitation in Developing Countries. *International Family Planning Perspectives*, Vol. 26, No. 2 (Jun., 2000), Pg.56-62+97.

Westoff, C. F., and Bankole, A., (1998). The Time Dynamics of Unmet Need. An Example from Morocco. *International Family Planning perspectives*, Vol. 24, No. 1. Pp. 12-24.

Westoff, C. F., and Bankole, A., (1996). The Potential Demographic Significance of Unmet Need. *International Family Planning Perspectives*, Vol. 22, No. 1. Pp. 16-20.

Westoff, C. F., and Bankole, A., (1995). Unmet need: 1990-1994, Demographic and Health Surveys Comparative Studies. No. 16, Calverton, Maryland, Macro International.

Westoff, C. F., (1992). Measuring the unmet need for contraception: comment on Bongaarts. *Population and Development Review*, Vol. 18, No. 1 Pg. 123-125.

Westoff, C.F. and Jones, E., (1979). The End of "Catholic" Fertility. *Demography*, 16, 209-217.

Westoff, C. F., and Ochoa, L. H., (1991). Unmet Need and the Demand for Family Planning, Comparative Studies No. 5. Demographic and Health Surveys, Institute for Resource Development, Macro International.

Westoff, F. C., (1988). The Potential Demand for Family Planning: A New Measure of Unmet Need and Estimates for Five Latin American Countries. *International Family planning perspectives*, Vol. 14, No. 2. Pp. 45-53.

Westoff, C. F., (1988). Is the KAP-gap real? *Population and Development Review*, 14 (2), pp. 225-232.

Westoff, C. F., and Pebly, A. R., (1981). Alternative measures of unmet need for family planning in developing countries. *International Family Planning Perspectives*, Vol. 7, No. 4, pp. 126-136.

Westoff, C. F., (1978). The Unmet Need for Birth Control in Five Asian Countries. *Family Planning Perspectives*, Vol. 10, No. 3. Pp. 173-181.

Woldemicael, G., and Beaujot, R., (2011). Currently married women with an unmet need for contraception in Eritrea: Profile and determinants. *Canadian Studies in Population*38, No. 1–2, 61–81.

Wolff, B., Ann, K., Blanc, A. K., and Ssekamatte-Ssebuliba, J., (2000). The Role of Couple Negotiation in Unmet Need for Contraception and the Decision to Stop Childbearing in Uganda. *Studies in Family Planning*, Vol. 31, No. 2, Pg. 124-137.

World Bank, (2004). World Development Report 2004: Making Services Work for Poor People. Oxford: *Oxford University Press.*

World Bank, (1993). World Development Report. Oxford: *Oxford University Press.*

World Health Organization (WHO), (2006). Decision-Making Tool for Family Planning Clients and Providers: Technical adaptation guide.

Yadav, K., Singh, B., and Goswami, K., (2009). Unmet family planning need: Differences and levels of agreement between husband-wife, Haryana, India. *Indian J Community Med*., 34, 188-91. DOI: 10.4103/0970-0218.55281.