



UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF DEVELOPMENT STUDIES

**THE DETERMINANTS OF UNMET NEED FOR CONTRACEPTION IN
MOZAMBIQUE**

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Declaration

I declare that this is my own work except for acknowledged supervision and referenced citation. It has not been submitted previously for a degree at any University. The study was undertaken under the supervision of Prof. Akim Mturi during the years 2004 and 2005.

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Acceptance

This Dissertation has been examined and accepted and meets the requirements for the partial fulfilment of the Masters Degree in Population Studies.

Signed.....
Prof. AKIM MTURI
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Date

DEDICATION

TO THE MEMORIES OF MY PARENTS

MARIO MACHAULE (1919-2002) who bid me farewell on my way to obtain Masters Degree but could not see me back.

MARIA MAVUNDLHA (1920-1999) who always wished me good luck.

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AVELINA, MARCELA, FAUSTINO, CALDINA, VÂNIA, BRENDA and IVAN
Who understood my absence and were facing problems in relation to our daily life by themselves.

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Abstract

This work aimed at achieving two objectives; estimating unmet need for contraception and analysing socio-economic factors that are associated with unmet need for contraception in Mozambique. The 1997 Mozambique DHS data were used for this study. Both bivariate and multivariate analyses were applied. The results show that in Mozambique, despite considerable knowledge about modern methods of contraception, unmet need is 29.4 per cent. The estimate among married women is 31.1 percent while among unmarried women is 25.2 percent. Unmet need for contraception is also found to be higher for spacing rather than for limiting purposes. Variables like desired number of children, number of living children and age of women are significant variables for both unmet need for spacing and for limiting. Variables like number of dead children, place of residence and woman's occupation are significant among women who have unmet need for limiting purposes, while for spacing are more in religion. In order to address the issue of unmet need for contraception, planners and other interested parties should aim at the strategies and policies that reach those women who have unmet need for contraception especially women who are living in rural areas, women aged 20-29 and those who are working. In addition, women and their partners must reduce the negative factors that impede the use of contraception if they want to space or to limit their family size.

GLOSSARY OF TERMS

ANC	African National Congress
CM	Conselho de Ministros
DHS	Demographic and Health Survey
FRELIMO	Liberation Front of Mozambique
GDP	Gross Domestic Product
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
ICPD	International Conference on Population and Development
INE	Instituto Nacional de Estatística
KAP	Knowledge Attitudes and Practices
MPF	Ministry of Planning and Finance
PF	Patriotic Front
RENAMO	National Resistance Movement
SAP	Structural Adjustment Programme
STIs	Sexually transmitted infections
TFR	Total Fertility Rate
UN	United Nations
UNDP	United Nations Population Fund for Development Program
UNFPA	United Nations Population Fund
ZANU	Zimbabwe African National Union

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CHAPTER 1

INTRODUCTION

1.1 Background

Unmet need for contraception is an international, regional and local concern that has hindered the preference of individuals and couples to regulate the number of desired children. The phenomenon of unmet need for contraception is evident when individuals, particularly women, seek contraceptive methods to prevent or to delay pregnancy and are unable to access these contraceptive methods. Casterline and Sinding (2000:3) mentioned that unmet need for family planning “refers to the condition of wanting to avoid or postpone childbearing but not using any method of contraception”. For Westoff and Bankole (2001:5), “unmet need is conceived basically to designate fecund non-users who express desire to postpone the next birth or to have no more children at all”. This results in mistimed (that is, they did not want a child so soon) and unwanted pregnancies (that is, they did not want a child at all). According to Becker (1999:172), “an estimate of the unmet need for contraception in a population is necessary to determine the maximum potential demand for family planning services”. Some developing countries have the highest levels of unmet need for contraception, one of the factors leading to unwanted pregnancies and high fertility. Yet other countries have lower levels of unmet need for contraception due to their high fertility. In the 1994 International Conference on Population and Development (ICPD), UNFPA (2004:40) and Chaudhury (2001:4) stated that “Governments goals for family planning should be defined in terms of unmet needs for information and services” and that “all countries should, over the next several years, assess the extent of national unmet need for good-quality family planning services”. In fact, the ICPD +5 has called for a 50 percent reduction in the unmet need for contraception by 2005 and its total reduction by 2015. To achieve this goal we need to learn more about reproductive behaviour of individuals and couples in their reproductive age (15-49 years). These individuals, and especially couples, must consider open and frank conversations regarding the issue of contraceptive use as the only way to approach the sensitive perceptions attached to reproduction.

While socio-economic, cultural and demographic obstacles remain, unmet need will still affect huge numbers of women. In this context, Ross and Winfrey (2002:1) indicate that, in the developing world, an estimated 105.2 million married women have an unmet need. However, the trends show that through time the unmet need is decreasing. Ashford (2003:3) states that the proportion of married women with an unmet need for contraception declined from 19 percent to

17 percent in the 1990s, but the actual number of women with an unmet need for contraception has remained nearly constant because of population growth.

Mauldin and Ross (1991), quoted in National Research Council report (1993:131), point out that between 1982 and 1989, the sub-Saharan African countries had the greatest improvement in programme effort of all regions. Results from 21 Demographic and Health Survey (DHS) countries (Mueller, 1993:114), showed that 41 percent of married women or women in consensual unions who had a child or pregnancy said that the pregnancy was mistimed or unwanted. The range is from 14 percent in Mali to 67 percent in Bolivia. Studies from DHS in 53 countries (Ashford, 2003:3) revealed that in 16 of 25 countries outside sub-Saharan Africa, unmet need for contraception among married women was 15 percent or lower, while only three of 28 sub-Saharan African countries had lower levels. In addition, in sub-Saharan Africa, where 22 countries had levels of unmet need for contraception of 20 percent or higher, the need is predominantly for spacing (delaying) births, rather than for limiting births.

In this context, it becomes important to analyse the trends of unmet need for contraception and their consequence on households and on population growth. It will allow planners to design programmes and policies, which can contribute to better redistribution of resources and lessen mother and child health problems. Mturi (1995:37) states that “the proportion of women with unmet need, as well as the proportion of women currently using contraception, provide family planning programme managers with information on the magnitude of the potential demand for contraceptives and services”. Chaudhury (2001:4) points out that “designing effective programmes to reduce unmet need will require, among other things, an assessment of the extent of unintended fertility and, correspondingly, of the amount of unsatisfied demand for fertility regulations, and the proper identification of women with unmet need in terms of its causes and their socio-economic and demographic characteristics”. Those effective programmes must consider women in their age groups and consider their other characteristics.

Ross and Winfrey (2002:5) explain that young married women in the 15-24 age group account for 33 percent of unmet need among all 34.9 million married women. They added that “the proportion falls well below the average in North Africa and the Middle East (23 percent), as well as in the Central Asian republics (28 percent). For sub-Saharan Africa, the figure is 31 percent; for Latin America, 31 percent; and for Asia, 35 percent”. In this context, it is clear that young

married women represent a surprisingly large group and deserve careful programme attention. Mason and Taj (1987) and Fawett (1983) in Muller (1993:132) show that in some cases women wanted more children than men did; in others, men showed a stronger preference for sons and thus a slight tendency to want additional children more often than women did. This suggests that despite the existing universal reproductive rights, individuals and couples are surrounded by particular socio-economic and cultural factors and by institutional organisation in each country and region, which contribute to unmet need.

This dissertation is divided into six chapters. The first chapter states the objectives and hypothesis of the study and provides a general introduction and overview of the country. Location, physical and climatic phenomenon, socio-economic and historical aspects and significance of study are also mentioned. The second chapter focuses on the literature review. The third chapter focuses on data and methodology. The fourth chapter estimates the level of unmet need for contraception. The fifth chapter focuses on factors associated with unmet need for contraception and the sixth and last chapter provides a discussion, conclusions and recommendations.

1.2 Definitions of unmet need for contraception

The level of unmet need sometimes fluctuates according to the definition being used. In general, the concept of unmet need covers the use of contraceptives to control the timing of births, as well as to terminate fertility after the last wanted birth (Westoff and Pebley, 1981:127). The definition of unmet need for contraception has been changing over time. So, there is no best estimate of unmet need (Westoff and Pleey, 1981:133).

The definition of unmet need for contraception has been changing over time. These changes were based on different point of view among researchers, who tried to include and to exclude some women who are considered to be important and not important in the computations. Bongaarts (1991:293); Casterline and Sinding (2000:3) show that the presence of unmet need was first demonstrated with data collected in the so-called knowledge attitude and practices (KAP) surveys, conducted in numerous countries between 1960 and 1970. The discrepancy between reproductive preference and birth control practices was considered to be the KAP-gap or unmet need for contraception. Govindasamy and Boadi (2000:1) point out that at first unmet need for contraception referred to women who stated that they wanted to stop bearing children but were not using contraception. Later, in 1980, they made some improvements defining KAP-

gap as a proportion of married women who, at the time of the survey, (1) wished to avoid or postpone pregnancy, (2) were not using contraception and, (3) were exposed to the risk of conception.

In 1988 unmet need considered “women who were married or in union, who expressed a desire to space or limit the number of children that they have, but were not using a method of contraception” (Govindasamy and Boadi, 2000:3). In 1988 Demographic and Health Surveys (DHS) identified married women who wanted no more births and were not using contraception and then excluded women who were pregnant, amenorrhoeic, as a result of breastfeeding, infecund, not sexually active in the past month, unsure they wanted to stop childbearing, and not intending to practice contraception. Then, Westoff and Ochoa (1991) (in Govindasamy and Boadi, 2000:3) included in unmet need for contraception pregnant or amenorrhoeic women whose pregnancy was mistimed, and fecund non-users who wanted to postpone their next birth for at least two years. In 1993, after the second Ghanaian DHS, the estimate of unmet need for contraception was further restricted by excluding women who had not menstruated for six months or more from the fecund category. In 1999, the conventional KAP-gap or unmet need was defined as the proportion of currently married women who want no more children and are not practicing birth control (Bongaarts, 1991:295).

Actually, the DHSs defined unmet need for contraception as including “currently married pregnant women whose pregnancy was mistimed or unwanted, amenorrhoeic women whose last birth was mistimed or unwanted, and women who were neither pregnant nor amenorrhoeic and who either wanted to wait two or more years for their next birth or have no more children, but were not using contraception” (Chaudhury, 2001:4). In Mozambique, the 1997 Demographic and Health Survey (DHS) defined unmet need for contraception as including fecund women who either wished to postpone the next birth (spacers) or wished to stop childbearing altogether (limiters) but were not using a contraceptive method. Pregnant women were considered as having an unmet need for spacing or limiting if their pregnancy was mistimed or unwanted respectively. Similarly, women who were amenorrhoeic due to breastfeeding were classified as having an unmet need if their last birth was mistimed or unwanted (Gaspar et al. 1998:108).

Married women not practicing contraception (excluding infertile women and those who are pregnant or amenorrhoeic due to breastfeeding), answered questions on whether they wanted another child and the timing of the next child to determine unmet need for contraception (Becker, 1999:173). Since the early 1990s unmet need for contraception was established in

family planning as a way to achieve demographic targets without neglecting reproductive and women's rights (Casterline and Sinding, 2000:6). As a result of these revised definitions (Ross and Winfrey, 2002:4), during the period between 1985 and 1990 the broader definition, which included the usual DHS categories and women who especially need protection against pregnancy, because their age, high fertility or short birth intervals would increase their risk of poor outcomes, elevated the proportion of women with unmet need in 28 countries.

Westoff and Ochoa (1991) in Khuda et al. (1999:3) indicated that the unmet need group does not include pregnant or amenorrhoeic women whose current pregnancy or recent birth was intended, even if they do not want to become pregnant again right away. Also, women who become pregnant unintentionally because of contraceptive failure are not considered to have an unmet contraceptive need in general, although they may be in need of more reliable contraceptives. Ashford (2003:2) clarifies that the data often exclude unmarried women, whose level of sexual activity (and therefore risk of pregnancy) varies greatly and is not measured in all countries. In addition, the data excludes women who are using contraceptive methods that are ineffective (folkloric and traditional) or personally unsatisfactory. These women may have an unmet need for a different method.

Considering that married women and unmarried women are exposed to an unwanted pregnancy if they are not using modern methods for contraception and that unmet need for contraception is determined by availability of the methods, as well as other reasons, this work consider DHS's definition and includes unmarried women. For example the DHS shows that just 12.2 percent and 28.2 of married and unmarried women respectively were using modern methods. So, unmarried women were great users rather than married women. About 21 percent of unmarried women have a regular partner and 16 percent have occasional partners (Gaspar et al. 1998:56). These figures show unmarried women are also exposed to unwanted pregnancies contrasting Ashford's view (2003:2) that the data exclude unmarried women, whose level of sexual activity (and therefore risk of pregnancy) varies greatly. Thus, in this definition unmarried women are included resulting in the definition "currently married and unmarried pregnant women whose pregnancy was mistimed (that is, they did not want a child so soon) or unwanted (that is, they did not want a child at all), amenorrhoeic women whose last birth was mistimed or unwanted, and women who were neither pregnant nor amenorrhoeic and who either wanted to wait two or more years for their next birth or have no more children, but were not using contraception" (Chaudhury, 2001:4).

1.3 Location and socio-economical situation

1.3.1 Overview

Mozambique is located in southeast Africa, covering a surface area of 799 380 square kilometres with 2 515 kilometres of coastline from north to south. The country's eastern border is provided by the Indian Ocean, west by Malawi, Zambia, Zimbabwe, South Africa and Swaziland, in the north by Tanzania and in the south by South Africa. The country presents three types of landscape; the southern and central coastal plains, which rise to about 200 metres above sea level occupying 44 percent of the country. The plateaux between 200 and 1000 metres above sea level occupying 43 percent of the country in the centre and north, and the great plateaux and mountain ranges, over 1000 metres above sea level, are in the interior and west and cover about 13 percent of the territory (UNDP, 1998:15). In general the climate in Mozambique is tropical and is divided into: humid tropical climate in north, centre and southern coastal areas; a dry tropical climate in the south and Zambezi valley; and a high altitude tropical climate in the interior mountain regions. The existence of a tropical climate, associated with the referred landscape and other factors, renders the country vulnerable to the tropical diseases, like malaria and diarrhoea, which cause high mortality. During summer, heavy rains have caused floods affecting health services or interrupting communication and access to health services. Apart from such situations, people in rural areas have to walk long distances to access health service centres. This renders it difficult for people, especially women, to visit health services.

1.3.2 Historical and political situation

Mozambique received the first Portuguese in 1498 and these were part of the colonial empire. The Portuguese took control of the coastal zone until 1891, when they occupied the territory as a result of an agreement between Portugal and Great Britain. Since that period the Portuguese system divided the country in three regional parts, north, central and south as well as dividing it into provinces. Actually, the country maintains the three regions and it is divided in 11 administrative divisions namely: 10 provinces with urban and rural areas and one national capital considered urban.

Socio-economic development was organised according to the interest of the colonialists constructing social services in towns and cities where they were living and neglecting rural areas. They imposed racial segregation in which blacks were excluded and whites benefited. The whites as an advantaged group occupied the best places in urban and in some "rural" areas where they developed commercial agriculture. This segregation created many riots and revolts (Newitt,

1995) and culminated with the formation of the Liberation Front of Mozambique (FRELIMO) a rebel movement against colonialism. After ten years of liberation struggle (1964-1974) the movement defeated the colonial system and proclaimed the independence of Mozambique in 1975. The new national government took power and their main task was to transform the socio-economic organisation in the country.

The new government opted for a “socialist system” and among other sectors, the government nationalised health, education and other services. The government extended these services to rural areas and reinforced the existing services in urban areas introducing free health services and education. Instituto Nacional de Estatística (INE) in (UNDP, 1998:18) indicated “in the post-independence period, the government expanded primary health services to the rural areas, on the basis of a health programme resting on the communities and on production centres. There were 1 373 health units in the country by 1982, but a third of these units were destroyed or closed by 1987”. In 1976, in Rhodesia (now Zimbabwe) the National Resistance Movement (RENAMO) was created to incapacitate the FRELIMO activities. The Rhodesian and South African governments supported directly and openly the rebel movement (Newitt, 1995). Beyond military and technical support the two governments attacked the country arguing that Mozambique was providing assistance to the African National Congress (ANC) and to the Rhodesian movement ZANU-PF. Cahen (1993:54) commenting on serious attacks from RENAMO asserted “in truth, the level of violence has been extremely high (attacks on buses, massacres of whole villages, mutilations, kidnappings) and the social and economic infrastructures of the country has been largely destroyed. This has been seen as a proof of the intention of the apartheid regime to destroy Mozambique or at least to make it an evident failure”. Later in the 1980s the government was under internal and external pressure, which culminated with the introduction of a structural adjustment programme (SAP) in 1987. With war, SAP, and economic restructuring, some industries were bankrupt and many workers lost their jobs. Despite peace, Mozambique still experiences many problems particularly in health services namely a lack of nurses, infrastructure, and medicines.

The struggle between FRELIMO and RENAMO took 16 years. In 1992 with the Roma agreement between FRELIMO and RENAMO the struggle stopped but much socio-economic infrastructure such as hospitals, schools, railway, roads, farms and industries were destroyed. With peace, the situation improved. In 1995, about 1300 health units were operational (UNDP,

1998:18). Even with this re-establishment of health units the problems increased due to population increases causing negative consequence due to the lack of medicine, and of insufficient nurses and doctors. In 1994 and 1999 the country conducted the first and second general elections respectively, in which FRELIMO was proclaimed to be winner in both.

1.3.3 Socio economic trends

According to INE (2004:5), the total fertility rate was 5.9 in 1997 and 5.5 in 2003. In same period the life expectancy was estimated in 40.6 for men and 44.0 for women and 44.4 and 48.2 for women in 1997 and 2003 respectively and the rate of population growth was estimated in 2.0. Despite unavailability of data concerning to abortion¹, there is an estimate of 160 dead children per 1000 before completing their first birthday (INE, 2000:15).

The Gross Domestic Product (GDP) per capita dropped from \$96 in 1987, to \$87 in 1990, before rising to \$95 in 1994, \$110 in 1997 (UNDP, 1998:49) as a consequence of nationalization, war, SAP introduction, privatisation, peace, and introduction of external investment in the country. Bowen (1993:327) pointed out “beginning in 1980, Mozambique economic difficulties were intensified by escalating South African military destabilization. Under South African sponsorship, RENAMO a surrogate force, become a major instrument of economic sabotage and terror, especially in the country side”. This situation stopped in 1992 with the peace agreement in Roma. Beyond the war the GDP was affected by low production in the agricultural sector due to natural disasters (drought and floods). Other factors have had negative impacts affecting the public sector health, education, and have caused high child mortality. Data from the population policy (MPF, 1999:4) indicated that just 39 percent of people have access to health services; 48 percent of females have not attended any formal school and only two percent of women reached secondary school.

1.4 Relevance of the study

The relevance of the study lies in the need to accommodate the objectives and strategies of population policy (MPF, 1999) with the necessities of reducing the level of fertility and poverty. Reducing the levels of unmet need for contraception through expansion and increasing modern contraceptive use probably could make it possible to harmonise population growth and economic growth, as well as improving others social services related to development. Thus, the study will

¹ There is no statistical data on abortion

be a contribution for planners and policy-makers needing to address those who need to space the children or to limit having more children. In addition, the study will indicate that one of the causes of high fertility can be associated with unmet need for contraception. So far, there are no studies on unmet need for contraception in the country. The 1997 DHS just gave the number of people having an unmet need for contraception (Gaspar et al. 1998). Factors contributing to such levels of unmet need are not mentioned, nor their implications.

Unmet need for contraception causes rapid population growth, which is not accompanied by social services. In addition, it is known that high levels of unmet need are associated with poverty, child and maternal morbidity and mortality, and other harmful socio-economic consequences. In the country, the actual socio-economic improvements probably have been hindered by unmet need for contraception. The International Conference on Population and Development (ICPD, 1994) recommendations stressed that reproductive rights include recognised human rights in some nations laws on international human rights, and other relevant documents of the United Nations (UNFPA, 1995:17). Reproductive rights recognise the basic right of all couples and individuals to decide freely and responsibly on the number of children, interval between children and when they want children.

In Mozambique, the Population Policy (MPF, 1999:15) explains that couples and individuals of reproductive age have a right to decide freely on the number and the time they want to have their children. In fact what they need is assistance to access information, education and appropriate means for contraception. Actually, individuals and couples are faced with the problem of limiting the number of children due to several socio-economic and cultural factors, which result in an unmet need for contraception. Thus, in many countries, including Mozambique, unmet need for contraception should be considered one of the main reasons for having more children than are preferred by individuals or couples. As a result of unmet need for contraception (Ashford, 1993:1), more than 100 million women in less developed countries, or about 17 percent of all married women, would prefer to avoid a pregnancy but are not using any form of family planning due to an unmet need for contraception. The 1997 DHS shows that, in Mozambique, 62 percent of married women responded that they know about modern methods for contraception but only 12.2 percent have used them (Gaspar et al. 1998). In addition, the level of contraceptive use is associated with the level of mother's education; from eight percent

for women with no schooling to 33 percent for women who have attended secondary and high school.

1.5 Implications of unmet need for contraception

The most important thing is that unmet need forces individuals and couples into mistimed and unwanted pregnancies and children. Sometimes it causes mother's illness, which results in people spending time and their few resources to provide medical necessities. In addition, unwanted pregnancies contribute to high abortion rates that have exposed mothers to dangerous health situations. Unwanted pregnancies may culminate in children who become a burden to the family and to the society. Existing studies show that "One particularly harmful consequence of unintended pregnancies is unsafe abortion: An estimated 18 million unsafe abortions take place each year in less developed regions, contributing to high rates of maternal death and injury in these regions. In addition to that, unwanted births pose risks for children's health and well being, and contribute to rapid population growth in resource-strapped countries" (Ashford, 2003:1).

At the international level Mozambique is one of the signatories of the Alma-Ata Declaration in September 1978, the International Conference on Population and Development (ICPD) 1994 and Beijing in 1995. One the objectives of the population policy (MPF, 1999:16) is "Providing information, training and other means to population that allow women, men and adolescents managing their reproductive and sexual life according to their desire, individual capacity and social responsibility". To achieve these aims huge challenges have to be faced in providing education and social services at individual and institutional levels.

Thus, it is imperative to identify the levels of unmet need for contraception in order to provide such services. For example, Mturi, (1995:37) reiterates the importance of family planning programmes utilising the information about unmet need for contraception so as to understand the needs of women of specific reproductive ages. Factors like improving health care and education, should be the basic steps to reduce the gap in unmet need for contraception in the country as well as between rural and urban areas, and between educated women and women with no education or with only primary school education. To achieve this objective the Conselho de Ministros (CM, 1999:37) considered increasing access to improvement in the quality of mother's health during the period 2000-2004. Unfortunately, the success is still in studies. Reducing the gap in

unmet need for contraception would imply reducing fertility and under-five mortality, maternal mortality and consequently could improve economic savings within households.

1.6 Hypothesis and objectives of the Study

Hypothesis

Unmet need for contraception is higher in urban areas than in rural areas.

Unmet need for contraception is higher among educated women than among those with no schooling and with only primary school education.

Unmet need for contraception is higher among young women than among older women.

General objective

To examine the factors contributing to unmet need for contraception in Mozambique.

Specific objectives

To estimate the levels of unmet need for contraception.

To examine the factors associated with unmet need for contraception in Mozambique;

To recommend how to reduce the unmet need for contraception.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Unmet need for contraception is a phenomenon that is related to fertility and other socio-economic factors. Nowadays, some men and women probably they tend to avoid having children that they cannot afford. With development, people adopted modern contraceptive methods thus neglecting the traditional and folkloric methods, which are considered ineffective. Unfortunately, some women continue not using or not taking contraceptives due to various reasons. Some women have an unmet need for contraception due to their extreme dependence on their husbands and relatives regarding decisions on reproductive health and family size. In many developing countries the view is that men marry women and than women should become dependent on their partner. It suggests that socio-economic, demographic, cultural and institutional factors are responsible for the disproportional power between men and women contributing to unmet needs for contraception.

According to Mueller (1993:128), “the principle of equality in marriage has elicited considerable controversy in international debates over women’s rights”. He added that “the Declaration on Elimination of Discrimination Against Women, which preceded the Convention cautioned that women’s rights within marriage were to be exercised without prejudice to ... the unity and harmony of the family... the idea that wives and husbands should have the same rights and responsibilities in marriage, collides head on with the customary rights and privileges of men and elders”. These inequalities exert a huge influence on unmet needs for contraception hindering policies and programmes. Ashford (2003:7) asserted that “from a police perspective, reducing unmet need for family planning is important for both achieving demographic goals and enhancing individual rights. From a demographic standpoint, reducing unmet need can lower fertility in countries struggling to cope with rapid population growth”. Thus, increasing or decreasing trends in unmet need has implications for policies and development programmes.

2.2. Trends on unmet need for contraception

Results from DHS in 115 developing countries between 1990 and 1995 found that 122.7 million women have an unmet need for contraception and there is a decline in the proportion in many countries (Ross and Winfrey, 2002:6). Out of these women, 105.2 million are married women. Out of the married women about 55.4 million have an unmet need to space births and 49.8

million wish to limit further childbearing, considered an unmet need for limiting. The distribution is that the highest unmet need was in Asia with 61 million, sub-Saharan Africa 24 million, Latin America 11 million, North Africa and Middle East about 8 million and Central Asian republics with 1.1 million.

Other recent studies showed that about 350 million women worldwide in their reproductive ages are still in need of family planning methods to space their children or limit the size of their families. More than half the women in some countries say they would have preferred to postpone or avoid their most recent birth. And more than 50 million of the 190 million worldwide women who become pregnant each year have abortions, many under unsafe conditions (UNFPA, 2002:7). Thus, the trends on unmet need in many developing countries are related to high fertility, high rates of infant and child mortality, and poor contraception services.

2.3 Factors contributing to unmet need for contraception

In many developing countries, reference is made to socio-economic, demographic, cultural and religious barriers as being responsible for unmet need for contraception. The difficulty is to explore the main reason why women fear using contraceptives and the reasons behind this complexity. Through time, there are changes among factors and the burden of each barrier has also decreased. In this context, it becomes necessary to analyse through time which factor(s) exert compelling influences on unmet need among women.

The most common barriers, which increase the levels of unmet need for contraception are related to husbands' opposition, constraints that undermine a woman's ability to act on her childbearing preferences, some religious norms, ambivalence about whether women want to be pregnant, lack of knowledge, communication and distorted information, myths, inaccessibility and unavailability, long distance to health services, relying on postpartum breastfeeding, costs of contraception and low risk of conceiving (Bankole, et al. 1998), like in Punjab (Casterline et al. 2001), Ghana (Govindasamy and Boadi, 2000) and developing countries (Finger, 1999; Ashford, 2003; and Chaudhury, 2001). Beyond the better known reasons contributing to the existence of huge unmet need there is another, caused by inefficiency of contraceptive methods (Bankole et al. 1998 and Finger, 1999).

Referring to contraceptive methods, the United Nations Population Fund (UNFPA, 1983) in National Research Council (1993:130) pointed out that “in Africa post colonial implementation of programmes in the 1960s was slow due primarily to low government recognition, of the need for services and fluctuating government support, insufficient external assistance, opposition from the Roman Catholic Church in some regions, logistical problems, and a lack of trained manpower”. Makinwa-Adebusoye, (1992:69) analysing 1988 urban data in Nigeria, found that the main reason for some non-users of modern methods of contraceptive was the belief that the first intercourse could not result in pregnancy. Meanwhile, Abdool Karim and Preston-Whyte (1992) in Preston-Whyte (1999:146) stated that in South Africa clinic staff did not attend girls for contraception matters without the consent of their mothers.

Ashford (2003:6) mentions that in some developing countries women experiencing an unmet need for contraception are likely to live in rural areas and are the least educated, the least likely to have been exposed to family planning messages on radio or television. Westoff and Bankole (2001) explain that with increasing prevalence of sexually transmitted infections (STIs), including Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS), there has been an increase in the use of modern methods. This had led to a shift to greater use of limiting methods in sub-Saharan Africa. This trend can influence the levels of unmet need for contraception, given that condom use not only prevents transmission of infectious diseases but also prevents pregnancies.

2.3.1 Desired number of children

The level of unmet need for contraception varies in accordance with the fertility. In general, countries with high levels of unmet need also have high levels of fertility. Ashford (2003:3) asserts “generally speaking, contraceptive use rises and women’s fertility declines as countries develop. But unmet need does not decline steadily with fertility. In some countries with high fertility, women have low unmet need, because their desire for children is high and therefore little gap exists between their childbearing intentions and contraceptive use”. Notwithstanding, unmet need depend of men having one or more wives. In fact, studies shows that a man may have an unmet need with one wife or partner but not with another, for example, if he uses contraceptives to prevent impregnating an extramarital partner but does not use a method with his wife in spite of not wanting to have more children with her (Ngom, 1997:193). So, unmet need for contraception is also related with a woman who is married with other or not. In Chad,

for example, women have high fertility (6.6 births on average), low contraceptive use (4 percent), and low unmet need (10 percent). Ashford (2003:4) points out that in a few countries such as Mali, Senegal, and Uganda, an increase in unmet need for contraception occurred because fertility have changed, as more women want to postpone or limit childbearing.

Results from the 1988 Ghana DHS, (Govindasamy and Boadi, 2000:5) show that the highest unmet need for limiting is among women whose number of children is five or more and lowest among women without children. In contrast, the highest unmet need for spacing is among women with one or two children. In general, unmet need for contraception is significantly lower among young people who expect to reach their desired number of children. Thus, they prefer spacing, rather than limiting, while adult women, who have achieved their desired fertility, have more need to limit births than to space them.

2.3.2 Number of living and dead children

The number of living and dead children contributes to increasing or to reducing the level of unmet need for contraception. In general women with “fewer” living children should be more interested in having more children than others. The probability of children living is associated particularly with the level of women’s education. Studies from World Bank (1994:13) show that the children of women with secondary education are 25 to 50 percent less likely to die before age five than are the children of women with no education. Chaudhury (2001:11) demonstrates that women with fewer living children are more prone to have an unmet need for contraception for spacing than women with high number of children who prefer limiting births. It means that since women have preferred number of children they prefer to stop having more. Normally it happens at advanced reproductive age. In contrast young women need to achieve their preference but not in short period of time, so they have unmet need for spacing births.

Thus, the use of contraception is likely to be heavily influenced by the number of living children in the family. It suggests that families with more living children are prone to limit having children while others with few living children prefer having more children though they may use contraceptive to space them. Unmet need for contraception will vary, not only due to the number of living children, but also due to sex preference. Studies from Karachi demonstrated that women who have an unmet need for family planning are less likely to have at least two living sons and two living daughters than women practising consistent contraception, Pasha et al.

(2001:105). However, results of studies in Pakistan showed that the number of living sons in the family more likely influenced the use of contraception (D'Souza, 2003:8).

Among women of advanced reproductive age, unmet need for contraception can be a result of women's preference for limiting having children without using contraceptive methods being based on a perception of a low risk of conceiving (Pritchett, 1994; Casterline et al. 2001). In addition, it can result from lower frequency of sexual intercourse, breastfeeding and relying on traditional contraceptive methods. Some of these methods are ineffective, rendering these women pregnant unintentionally. In this context, the levels of unmet need for contraception can decrease if women need more children due to the sex preference. Other studies show that unmet need increases with the number of children women have. For example, in Ghana, in 1998, it ranged from 17 percent among women with no children to 38 percent among women with five or more children (Govindasamy and Boadi, 2000:6). John Hopkins (1996) showed that among limiters who do not intend to use contraception, 32 percent said that they were not exposed to the risk of pregnancy, while for spacing are only 15 percent.

2.3.3 Place of Residence

The place of residence, in terms of rural and urban areas, is one of the variables that offer different services for women to prevent unwanted pregnancy and children. Unmet need for contraception could be high in rural areas due to unavailability of contraceptive services. Meanwhile, in urban areas, the availability of services, infrastructure, supply and less resistance to behaviour change contribute to expose women to unmet need for contraception. In addition, in urban areas the availability of contraceptive services and accessibility encourage contraception. However, if these women need but not find contraceptives they will have an unmet need for contraception. Chaudhury (2001:13) explains that lower levels of unmet need in urban areas of South Asia may be attributed, among other factors, to the high availability of contraceptive services and the preference for smaller families, in the sense that they find and use contraceptive methods. Another point of view is that unmet need can be high if women seek for contraception and it is not available. Westoff (1988) in Mueller (1993:15) shares the same point of view pointing out that "as expected, rural women and those with the least education generally have the highest levels of unmet need". In the rural area with scarcity of radio, television, newspaper verbal communication between dwellers or from township visitors becomes decisive to the expansion of information about contraceptive methods. Women can need to space children or to

limit having more children but because of a lack of knowledge they can have an unmet need for contraception. Schenk (1995) in Bühler (2002), as well as Casterline et al. (2001:98), explain that mass media messages influence individuals only indirectly. Such mass media raise a topic and provide basic information about it. This information is then usually discussed, evaluated, and altered by personal communication networks. Due to their low levels of literacy some women in rural areas perceive the message according to personal intentions of leaders, religious and other community representatives. All these situations can contribute impeding women from using contraceptive methods even though they want to space or limit having more children, resulting in an unmet need for contraception.

The other reason for an unmet need for contraception in rural areas is long distance (inaccessibility and unavailability), long waiting time at bus stops, poor health services, and the lack of a transport system. All these make access to contraceptives difficult resulting in an unmet need for contraception. In 10 countries (four Latin American, five African countries and one Asian) (Bongaarts and Bruce, 1995:61) found that contraceptives prevalence declined with distance in rural areas, increasing a possibility of women having unmet needs for contraception. This situation is characteristic in many developing countries, particularly in Mozambique. Another likely situation but not much explored is the inaccessibility of health services during rainy seasons because of poor roads and infrastructure. In Mozambique, especially in central and southern provinces, this phenomenon is frequent.

2.3.4 Age

Age constitutes one other variable associated with unmet need for contraception. As demonstrated above the analyses of unmet need is basically addressed to women of reproductive age (15-49). Unmet need (for spacing and limiting) will be different at different ages. Over generations the number of desired children among women and couples has decreased. In addition, women have delayed having children. It could mean that those delaying having children, because of taking modern methods for contraception, decrease the level of unmet need for contraception. In general, the number of desired children is higher among adult women than young women. For example, “DHS data from the 1980s show that women in countries in the southern hemisphere aged 20-24 considered an ideal family size to be approximately half to one child smaller on average than do women under 20 years old” (Mueller, 1993:113). In this situation, the unmet need will vary if women want to space or to limit having children but do not

find modern methods for contraception. In general, adult women present high levels of unmet need for limiting and young women tend to have unmet needs for spacing. These trends were found in South Asia, Bangladesh in 1999-2000, India in 1998-9, Nepal in 1996, (Chaudhury, 2001; Govindasamy and Boadi, 2000). Other studies specify that unmet need is greatest among women in their 30s, those who already have several children, those who live in rural areas and those who are illiterate or poorly educated (Westoff and Pebley, 1981:127). The Ghana DHS (1988, 1993 and 1998) (Govindasamy and Boadi, 2000) found that one in five women aged 45-49 have an unmet need for contraception, and this proportion has not changed over the decade.

In discussing unmet need, there has been notable sexual and behavioural change among young women especially in the context of unwanted pregnancies and HIV/AIDS prevention. High levels of unwanted pregnancies or children among young girls reveal lack, insufficient or non-use of contraceptive methods: that is women with an unmet need for contraception. For instance Mueller (1993:129) mentions that engaging in early sexual intercourse often perhaps contributes to limited contraceptive knowledge and practice. This escalates the health risk of pregnancy, maternal death and women powerlessness in preferred number of children due to individual, social, religious and other factors including men's power. In this sense, it is important to involve young people to sensitise them about the dangers of unprotected sexual intercourse. Onifade (1999:63) argued that in developing countries as many as 60 percent of all adolescent pregnancies and births are unintended probably due to unmet need for contraception.

Concerted efforts are required for sexual and behavioural change to control fertility or else unwanted pregnancies and unwanted children will still pose problems due to high levels of unmet need for contraception. In studies Karim, and White, (1992) in Preston-Whyte (1999:142) found that in some family planning clinics in Durban in 1990 staff refused to provide condoms to young girls and nurses were embarrassed to provide condoms. Thus, if girls or their boyfriends visited such clinics and they could not find condoms and the girls became pregnant, they would be considered to be a group with an unmet need for contraception.

2.3.5 Education

Nowadays, it is known that the level of women's education exerts huge influence on their empowerment. Empowerment includes opinion, discussion and decision on the use of modern contraceptive methods. As Bledsoe et al. (1999:10) observe "it has been noted repeatedly, for

example, that education is strongly related to the use of modern contraceptives” and correlated to the levels of unmet need for contraception. It suggests that some women having unmet need for contraception could be due to their low level of education.

LeVine et al. (1991) in Mueller (1993:22), explains that higher education for women can work indirectly by exposing women to knowledge, attitudes, and practices favourable to facilitate women seeking for contraception compared to women who are not educated. If they do not find or use it they will have an unmet need for contraception. Mueller (1993:118) shows that the effects on school enrolment of postponing a first birth should be strong, because a girl will prefer to continue with her education beyond the typical age of first intercourse and marriage, or the birth of a child would effectively inhibit her chances of staying in school. Thus, education can compel women into seeking modern methods for contraception. If they are unable to access them, they will be in unmet need for contraception. For women who have never been to school the possibility of having unwanted children increases due to the lack of appropriate information. In this context, such women are more prone to have unmet need than those attending school who seek and find and use contraception.

It contrasts with no schooling women who are likely to become dependent on local views and interpretations. In fact educated mothers seek for more contraceptive methods than others. The frequency of visits to the hospital and the fulfilment of preventive methods can play decisive role on the levels of unmet need for contraception. Results of studies held last century among American women found that they used modern forms of contraception, shifting from traditional and folkloric methods. The spread of modern contraception was observed among the educated population because they could read and write (Carter, 1999: 71). It means that other regions and countries where modern methods for contraception were not available or women did use them have unmet need for contraception. In addition, in most countries, declines in unmet need in the 1990s occurred among women at all levels of education... Nevertheless, the differences between more educated and less educated women persist. Casterline et al. (2001) and Diamond et al. (1999) explain that through education and appropriate information, women can be aware of the methods available, how to obtain them, the costs, using methods and the advantage or disadvantage of the method, and have better dialogues with their spouses.

Diamond et al. (1999:25) emphasises that “educated women tend to marry later and are more likely to use modern methods for contraception”. In the event that they do not find modern methods for contraception, they will have an unmet need for contraception. For example, in four countries of South Asia (Bangladesh, India, Nepal and Pakistan) unmet need is lower among women with secondary and higher education than among women with little or no education. In three of the four countries (excluding Pakistan) the unmet need for limiting births is more concentrated among women with little or no education, while unmet need for spacing is more concentrated among women with a primary education (Chaudhury, 2001:13). This situation demonstrates how traditional values can play a positive role in reducing the levels of unmet need. What is different is that these women are likely not to be using any modern methods of contraception, also due to their social, cultural or religious organisation.

Govindasamy and Boadi (2000:6) state that “in general, women with a primary education have twice the unmet need of women with at least a secondary education, with a little difference in unmet need among those with less than secondary education. Meanwhile, Mueller (1993:122) indicates that “women with 7 or more years of schooling are also from two to four times more likely than women with no schooling to be currently using a contraceptive method” that is avoiding to have unmet need for contraception. In Ghana, during the past 10 years (1988-1998), unmet need “increased 18 percent among women with no education and 16 percent among women with a primary education. However, unmet need declined 27 percent among women with at least a secondary education”.

In the same study Roudi (1995) in Bledsoe et al. (1999:5) found that in Jordan in the 1990 DHS, women with at least a secondary education, despite their later age at first marriage and higher level of modern contraception were likely to have closely spaced births than those with less education. It means that those women could have unmet need if they had had modern methods for contraception

2.3.6 Occupation

Employment constitutes another factor which can increase or decrease a preoccupation on the levels of unmet need if working women do not find or use modern methods for contraception. The kind of employment varies considering the level of education and availability of opportunities. In the perspective of guarantying their job (position or salary) women can be

“forced” to take contraceptive methods to avoid being pregnancy. Thus, women who are working outside and are paid could be less in unmet need for contraception than those not working, unpaid or in agriculture sector. A study from Pakistan (D’Souza, 2003:4) demonstrates that unmet need is lower among women who are working and the occupation of husbands did not influence significantly the practice of contraception. It suggests that working women are aware in seeking contraception than other women who are not working. Thus, working women are prone to have unmet need, considering that they need more spacing or limiting having more children due to their diary duty. It means that in societies where many women are formally occupied, there is higher proportion of users, that is, less levels of unmet need for contraception.

2.3.7 Religion

Depending on the type of religion, it is another factor that can contribute to increase or to decrease unmet need among women. In general some religious women are prone to believe in self-control like controlling their fecundity, rather than using contraceptive. Such women are more exposed to have unmet need because they are not using modern methods for contraception. In contrast, women without religious beliefs become prone to use contraceptive methods. These women are less exposed to have unmet need. As a result, unmet need for contraception differs among religious and no religious and among type of religion. Studies from Punjab (Mahmood and Ringheim, 1996) in Casterline et al. (2001) conclude, “the primary determinants of contraceptive use (not conditional on a desire to avoid pregnancy) are knowledge of a supply source, husband-wife communication, and religious attitudes”. If these conditions act negatively impeding women to take contraception women will be in unmet need for contraception. Many of religious are prohibited to talk and to use contraceptive, resulting in unwanted pregnancies and children, that is women in unmet need for contraception. Analysing the 1990-91 DHS data, Mahmood and Ringheim (1996) in Casterline et al. (2001) found that religious conservatism was a strong negative correlate of contraceptive use, that is high probability of these women to have unmet need for contraception.

2.3.8 Other factors

Knowledge

Unmet need for contraception could reduce in areas where people have knowledge, communication, and appropriate information about contraceptive methods. This involves having conversations among people and means of communication like radio, television, and pamphlets.

Bongaarts and Bruce (1995:62), referring to unmet need for contraception, explain that knowledge is differently understood. It extends from never heard, of to not knowing how to use it, or not known where to obtain contraceptives. Foremost, in communication women need appropriate information to know and to choose the best contraceptive methods. Information barriers prevent women from being informed about the methods available, where to find supplies, mechanisms to obtain them and sometimes about the costs (Casterline et al. 2001:98).

Appropriate information on contraception can play an important role for either educated or uneducated women. John Hopkins (1996) explains that women, who are aware of many contraceptive methods, know where they can be obtained, understand their side effects, and know how to use them are less likely to have an unmet need for contraception. Results from 24 surveyed countries in DHS show that 20 percent of married women were in unmet need for contraception for spacing births and 25 percent in unmet need for limiting births due to a lack of information. Meanwhile, in the Dominican Republic among women who know three methods or fewer, unmet need is more than twice as high, at 35 percent, as among women who know six methods or more, at 14 percent (John Hopkins, 1996). It suggests that women who know few methods or do not know of a place to get contraceptives can increase the proportion of women experiencing an unmet need for contraception.

Opposition from partners and other relatives

In some countries, women or men and other relatives contribute to unmet need, since women have no involvement in decision-making in the household. In general, it is known that men's opposition in contraceptive use is a main barrier. But it is also known that women fear to talk about sex with their partners (Pasha et al. 2001:104). For example (Rainwater, 1965 and Hollerbach, 1980) in Mueller (1993:131) show that married couples who share a more equitable division of labour within the home are more likely to communicate with one another about sex, family size desires, and birth planning and about desire for fewer children, and more effective contraceptive use, including spacing. In contrast, Mueller (1993:117) indicates that in societies where the husband has unilateral power in family size, to divorce his wife and take another, or where a man simply abandons a woman to whom he is not married, the fear of repudiation can motivate women to have many children to try to bind their partner to them. Thus, disagreement among couples in terms of family size and fertility intentions affect the levels of unmet need for contraception (Bankole and Sing, 1998:19).

Some women either educated or not schooled who are aware of contraceptives face problems with their husbands or partners, who reject the use of contraceptive methods. Mason and Taj (n.d.) in Bruce (1989:981) identify four aspects in which men and women in traditional societies contrast in their fertility preference namely: (1) the risk of morbidity and mortality; (2) the social and economic costs of childrearing; (3) the likelihood of gaining the benefits of children; and (4) the way in which children may enhance either partner's position socially and in the family. Objections of husbands are another reason that increases the proportion of women in unmet need for contraception (Bongaarts and Bruce, 1995:64; Casterline et al. 2001:97). They indicated that the proportion vary from six percent in Burundi to 44 percent in Sudan. Unfortunately, in sub-Saharan Africa the majority of women have never discussed it with their husbands. Thus, objections are still unclear but it could correspond to what women know about husbands' attitudes. Probably, those women are in a familiar, community or social context where having more children brings pride to the family. So, they avoid discussing this issue with their husband.

Shah and Shah (1984) and Hashmi et al. (1993) in Casterline et al. (2001:98), comparing the cause of non-use, found that husband's opposition was more a reason than are religious concerns and fear of contraceptives' side effects on health. Studies from Guatemala (Finger, 1999:3) show that women with an unmet need for contraception were likely to be in families where they do not discuss family planning or women do not participate in decisions related to family size. Families in some societies do not allow women an opinion on reproduction.

In contrast, in some regions of India, Bangladesh women prefer more children than do men, to protect them in case they become widows without protection, or binding them to a marriage to protect them from being divorced (Bruce, 1989:982). Under these conditions of risk and uncertainty, women with no children or with only one or two children may expose themselves to a higher risk of unwanted dissolution of the marriage than women with many children. In this situation we find women in unmet need for contraception due to fear about their future in the family or society. Another factor that is less analysed is the position of mother-in-laws, who have different influences in the use of contraceptive methods in different situations (Pasha et al. 2001:103). For example, they mentioned that in their studies in Karachi, Pakistan they found that 22 percent of mothers-in-law of non-users wanted their daughters-in-law to have no more children, compared with 46 percent of the mothers-in-law of users. Similarly, the non-users' husbands were less likely to want no more children (27 percent) than users' husbands 56 percent.

Economic costs

In some regions it is known that knowledge, communication, information and partners' opposition do not constitute huge problem for contraception. Unfortunately, women have an unmet need for contraception due to the costs of contraceptives or because they do not know the advantages of not having many children. According to Folbre (n.d.) in Bruce (1989:982) "the economic rationality of the household unit further extends to decisions about family size which are influenced by changes in the price of children due to increases in production costs such as education and opportunity time devoted to child care". Bhushan (1997:4) assumes that couples have perfect, or complete and accurate information about the benefits from and the costs of both children and contraception. Thus, couple decide to have an additional child only when the net benefits from having the child or the difference between the future streams of benefits and costs are positive and greater than those of alternative investments.

Side effects

In terms of side effects of contraceptive methods, Bühler (2002) and Ashford (2003) mentioned that there are women whose wish is to reduce their fertility but they are not able to use contraceptives because there are uncertainties about the consequences of using them, especially about possible side effects; rumours circulate about disabled babies and mothers that have fallen seriously ill because they practice family planning. The World Health Organization (1987) refers to some side effects including complications like allergy, skin irritation in women or partner, vaginal discharge, and others. Some women fear further use of contraceptives as a result of having already tried the methods. Others fear due to hearsay of friend's broad interpretations and other women's fears are based on rumours and false information (Finger, 1999).

For example, in 1990 in South Africa when a girl was interviewed about using condoms, she responded "we don't know about them...they are for boys to use and I hear they are dangerous, too...they can come off and get caught inside you...No, I won't agree to use a thing like that" (Preston-Whyte, 1999:146). Results of interviews among women in Punjab in 1996 found that there was a fear of the side effects of contraceptives, not only due to physical discomfort, but also because of the expected time and financial costs of managing the side effects, the potential loss of work time and interference the partner (Casterline et al. 2001).

In the analysis of the 1991 Kenya DHS and other countries (John Hopkins, 1996) found that most women dropped out of using contraception due to side effects and they could not find an alternative method to use because of lack of knowledge, communication and information. Meanwhile, in Ghana the side effects were the worst and it caused discontinuity of usage among women who had used oral contraceptives but had stopped coming to family planning clinics. In Nepal, from 23 percent women in unmet need for contraception in 1991 one-quarter had discontinued contraceptive use because of side effects. In Kenya, women in focus-group discussions spoke of pills accumulating into life-threatening masses in the stomach and other bizarre effects thought to accompany contraceptive use. In Nepal some women said that they would not consider sterilisation because it was said to cause weakness and so require additional nutritious foods that they could not afford (John Hopkins, 1996:1).

However, despite many women having concerns about contraceptive side effects and health risks, they prefer using them, rather than having unwanted children. In Bangladesh, women in focus-group discussions often spoke of the perceived dangers of contraceptive use but, as one woman told interviewers, "We opt for family planning along with the problems. It is better using it than to have a child" (John Hopkins, 1996:2).

CHAPTER 3

DATA AND METHODOLOGY

3.1 Data sources

The study uses data from the 1997 Mozambican Demographic and Health Survey (DHS) conducted by the National Institute of Statistics (INE) and the Ministry of Health. Both are nationally recognised institutions that have a reputation for gathering surveys related to these issues. The sample was nationally representative, including urban and rural areas. The 1997 DHS interviewed 8 779 women, 2 514 of whom were in urban areas and 6 265 in rural areas. The DHS selected 2 889 men, 958 of whom in urban areas and 1 931 in rural areas (Gaspar et al. 1998:13). The interviewers were trained to be able to estimate the age of interviewees, considering that some people do not know their age and do not have any confirmatory documents. Interviewers consisted of men and women, to interview men and women, respectively, on sexual and reproductive matters.

In the DHS, it is explained that the data quality was affected by two types of errors namely, sampling's errors related with data gathering such as, question's formulation, answer's registration, women's incapacity due to illiteracy and from data processing. Other errors were produced because the survey did not cover all selected women. However, the survey got 91.5 percent of the total selected women (Gaspar et. al 1998: 193). Thus, it can strongly be said that the results are reliable.

3.2 Estimation procedure of unmet need for contraception

Modern contraception is a worldwide known method to delay or limit birth of additional children. There are several methods of contraception, which include modern, folkloric and traditional² methods. The last two are considered less effective and therefore not considered as contraceptive methods in the present study. To estimate unmet need for contraception it is necessary to consider women of reproductive age (15-49). Figure 1.0 indicates the group of women excluded in the unmet need for contraception. From the total of women, two groups were created; women not using modern contraceptive methods and those using modern contraceptive methods. Pregnant and women who are amenorrhoeic as a result of breastfeeding were separated

² Traditional and folkloric methods are typically considered less effective than "modern" ones and are thus seldom included in contraceptive analyses... (Bledsoe, et al. 1999:10)

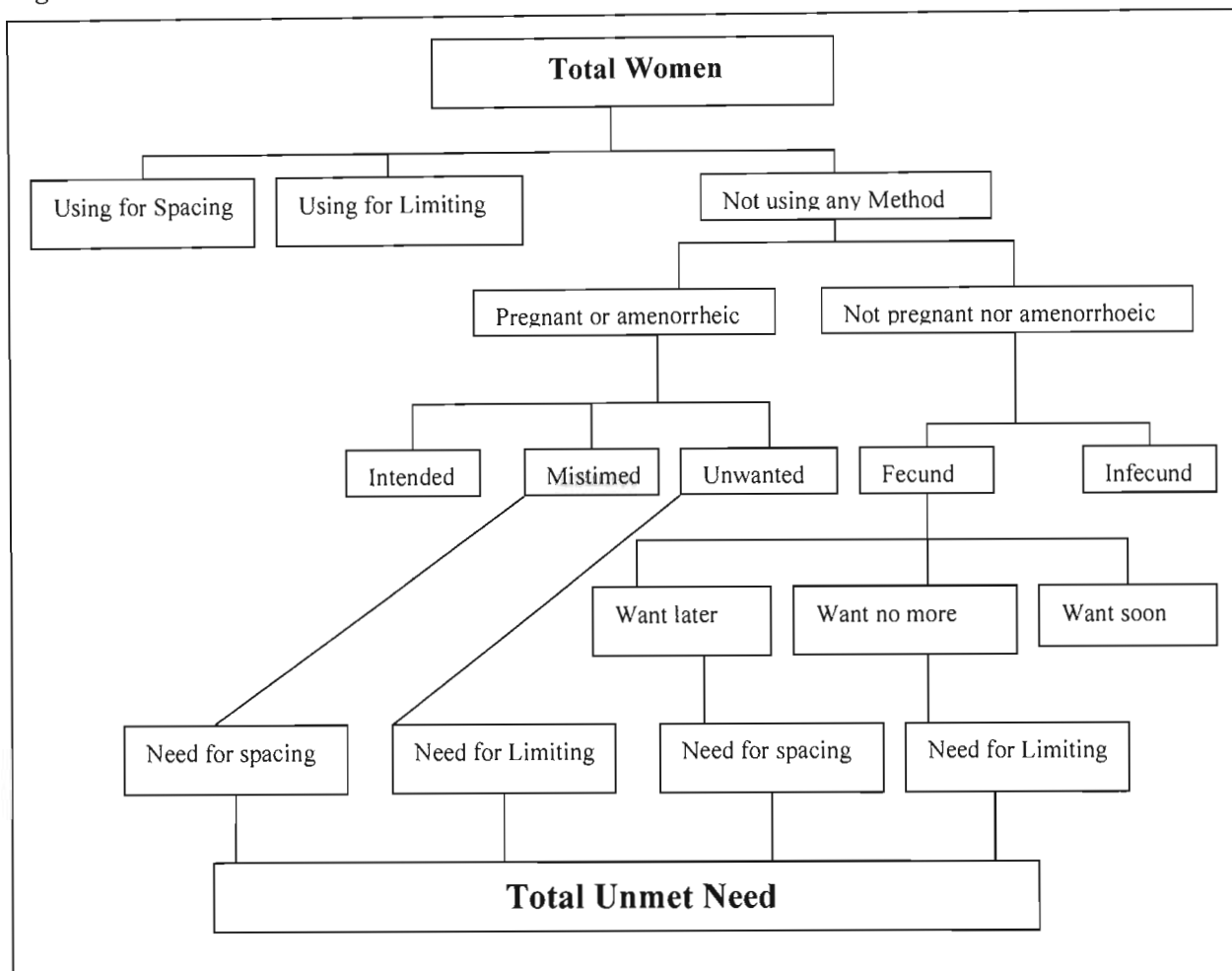
from those neither pregnant, nor amenorrhoeic. Women intending to become pregnant, and infecund women, were excluded from the estimation of unmet need for contraception. Further, women wanting to be pregnant or have a child soon were also excluded.

For pregnant and amenorrhoeic as a result of breastfeeding were separated from those who had mistimed and unwanted children. According to Becker (1999), pregnant or amenorrhoeic women are asked “At the time you became pregnant, did you want to become pregnant?” Then “Did you want to wait until later, or did you want no (more) children at all?” The 1997 DHS used the same question. Studies show that “If the pregnancy had occurred earlier than desired then it is an unmet need for spacing births and if pregnancy was not wanted it is an unmet need for limiting births” (Mturi, 1995:40). The DHS classified as; wanted then, wanted later and wanted no more. Thus, pregnant or amenorrhoeic women with mistimed and unwanted pregnancies and children were classified as being in unmet need for contraception for spacing and limiting, respectively (see Becker, 1999:173).

To distinguish amenorrhoeic women as a result of breastfeeding, the questions in the surveys were: “When you were expecting your lastborn child, did you want to have the children then, did you want to wait until later, or did you not want to have any (more) children at all”? Women who answered did not want to have any children at all are considered in unmet need for contraception. Ashford (2003) indicated “In DHS, women aged 15-49 are asked about the ideal number of children, as well as whether they would like to have a child (or another child) and if so, how soon, or whether they would prefer not to have any (more) children”.

Women who were neither pregnant nor amenorrhoeic were grouped as fecund and others infecund (menopausal, hysteric and infecund). Infecund women were excluded for the estimation of unmet need for contraception. Fecund women who desired to have a child after a space of two years were classified as being in unmet need for contraception for spacing and those who wanted no more children were classified as being in unmet need for limiting; while women who desire to have a child within two years (want soon) are not in unmet need. Both groups of unmet need for spacing and limiting constitute total unmet need in Mozambique.

Figure 1.0: Model of Unmet Need for Contraception



Source: Govindasamy and Boadi, 2000

Figure 1.0, shows that unmet need “includes pregnant women whose pregnancy was mistimed, amenorrhic women whose last birth was mistimed, and women who were neither pregnant nor amenorrhic and who were not using any modern method of family planning but said they wanted to wait two or more years before having their next birth. Also included were women who were unsure whether they wanted another child or who wanted another child but were unsure when to have the birth, women whose pregnancy was unwanted, amenorrhic women whose last child was unwanted and women who were neither pregnant nor amenorrhic, and who were using any method of family planning but wanted no more children” (Khuda et al. 1999:3).

3.3 Variables

The 1997 DHS provides independent variables like desired number of children, number of living children, number of dead children, place of residence, age, woman's education, partner's education, woman's occupation, partner's occupation and religion. The association between those variables and unmet need were investigated using SPSS. Both bivariate and multivariate analyses were used. Independent variables were grouped as follows: Desired number of children was coded as four or fewer and 5 and more; number of living children 0, 1 and 2 and more; number of dead children 0, 1 and more; place of residence rural and urban areas; age 15-19, 20-29, 30-39 and 40-49; women's education, women's occupation and religion. Others, namely unmarried women, existence of other wives, partner's education and partner's occupation were separately used in married or unmarried women. It is known that the socio-economic characteristics of women with primary education are different compared with women with secondary and high school. For the present study the percentage of secondary and high school women is insignificant about two percent (Gaspar et al. 1998, 21). Thus, women with primary, secondary and high school level were grouped together. This grouping was used for partner's education. Woman's occupation and partner's occupation were grouped into not working and working. Only three religious groups were considered i.e. no religion, Muslim and Christian which included all religious groups based on Christianity.

3.4 Method of analysis

3.4.1 Bivariate analysis

The percentage of unmet need was obtained through crosstab, dividing each category by the total numbers of interviewed women. This shows the effect of each selected independent variable on unmet need for contraception. These estimations were calculated according to the proposed independent variables.

3.4.2 Multivariate analysis

In this analysis it is important to mention that some of the variables are significant at the level of 0.05 while others are not significant. Results on the tables show the odds ratio of variables, which are significant to the model. So, those variables that are not significant were omitted. In this context, some of the variables were used in total women. Others were differently used in married and unmarried women. It demonstrates that in some of the cases married and unmarried women presented different determinants in this issue.

3.4.2.1 Binary logistic regression

In binary regression women were grouped in two categories; those who were not in unmet need for contraception were coded “0” and those in unmet need coded “1”. Binary regression was used to determine the odds ratio of a woman with a set of demographics and socio-economic characteristics to have an unmet need for contraception. According to Halli and Rao (1992:102), the parameters in the model represent the increment (or decrement) in log odds for the category coded one, as opposed to that coded zero throughout. In this context, a binary logistic model was used to assess the effect of each independent variable once the other is held constant.

The binary logistic model is calculated by, $Ln(P_i/1-P_i) = b_0 + b_i X_i$, where;

P_i is the estimated probability a set of event occurs to a set of individuals with a set of characteristics, X_i , b_0 is a constant that defines a probability; b_i in values is the estimated coefficient. The percentage $P_i/1-P_i$ is an equation between the probability of individuals with a set of characteristics to have unmet need. The odds ratio estimated for each variable X_i is interpreted as a difference of possibilities between individuals in a given category and the reference category. The odds ratio greater than unity, means that women in that category are more likely to have an unmet need for contraception compared with women in the reference category. While odds ratio lower than unity means less likelihood of being in unmet need compared to the reference category.

3.4.2.2 Multinomial logistic regression

The multinomial logistic regression uses the same equation presented in binary regression but, in this case, the dependent variable has three categories. The model was designed to examine the relationship between the dependent variable and a set of predictor variables. The dependent variable should be categorical. Halli and Rao (1992:105) explain that we can consider the log odds of being in category 1 versus category 3 and the log odds of being in category 2 versus category 3. Thus, the equation is presented as;

$$\text{Log}(P_1/P_2) = \log(P_1/P_3) - \log(P_2/P_3)$$

Based in this description the model is adapted for this study which considers a dependent variable with three categories namely; unmet need for spacing, unmet need for limiting and those women not in unmet need for contraception. Considering that the dependent variable has three

categories, the model considers those women who did not experience the event as dependent category and those who experienced the event as independent categories. In this sense, the model works simultaneously on these calculations.

$$\begin{aligned} & \text{Log} \left(\frac{\text{unmet need for spac}}{\text{Unmet need for limit}} \right) = \\ & \text{log} \left(\frac{\text{unmet need for spac}}{\text{Not in unmet need}} \right) - \text{log} \left(\frac{\text{unmet need for limit}}{\text{Not in unmet need}} \right) = \\ & \text{Log} \left(\frac{\text{unmet need for spac}}{\text{Unmet need for limit}} \right) - \text{log} \left(\frac{\text{unmet need for limit}}{\text{Not in unmet need}} \right). \end{aligned}$$

Results from these equations will show the probability of women at a set of category to have unmet need for spacing or limiting respectively. If the odds ratio is greater than 1.000 it means that they are more likely to have unmet need for spacing or limiting than reference category. If the odds ratio is less than 1.000 it means that women at that category are less likely to have unmet need for spacing or limiting than the reference category.

CHAPTER 4

ESTIMATION OF UNMET NEED FOR CONTRACEPTION

The basis to estimate unmet need for contraception is “currently married and unmarried, pregnant women whose pregnancy was mistimed (that is, they did not want a child so soon) or unwanted (that is, they did not want a child at all), amenorrhoeic women whose last birth was mistimed or unwanted, and women who were neither pregnant, nor amenorrhoeic, and who either wanted to wait two or more years for their next birth, or have no more children, but were not using contraception” see (Chaudhury, 2001:4) chapter 1. Tables 1, 1.1 and 1.2 show the percentage of women not using modern methods for contraception; total women, married women and unmarried women respectively. The majority of women were among those intended pregnancy and children, among those wanted having a child soon and those wanted later.

Table 1.0: Percentage of total women not using modern methods for contraception

	Frequency	Percentage
Pregnant/amenorrhoeic		
Intended	2743	34.2
Mistimed	218	2.7
Unwanted	82	1.0
Not pregnant/amenorrhoeic		
Want soon	2273	28.3
Want later	1793	22.4
Want no more	482	6.0
Infecund	431	5.4
Total	8022	100.0

Source: The 1997 Mozambique DHS

To estimate unmet need for contraception the starting point is to separate missing cases that is those women that not responded all selected variables. There were 38 missing cases and were removed remaining 8741 women. In this context, before going on to estimate the unmet need for contraception, a total of 719 women using modern methods of contraception (for spacing, limiting and other reasons), that is 8.2 percent of women were separated from the total of 8741 respondent women. The remaining 8022 women were not using modern methods for contraception (see table 1.0). For married and unmarried women, results are presented in tables 1.1 and 1.2.

Table 1.1: Percentage of married women not using modern methods for contraception

	Frequency	Percentage
Pregnant/amenorrhoeic		
Intended	1583	27.5
Mistimed	190	3.3
Unwanted	64	1.1
Not pregnant/amenorrhoeic		
Want soon	1938	33.6
Want later	1352	23.5
Want no more	338	5.9
Infecund	296	5.3
Total	5761	100.0

Source: The 1997 Mozambique DHS

Table 1.2: Percentage of unmarried women not using modern methods for contraception

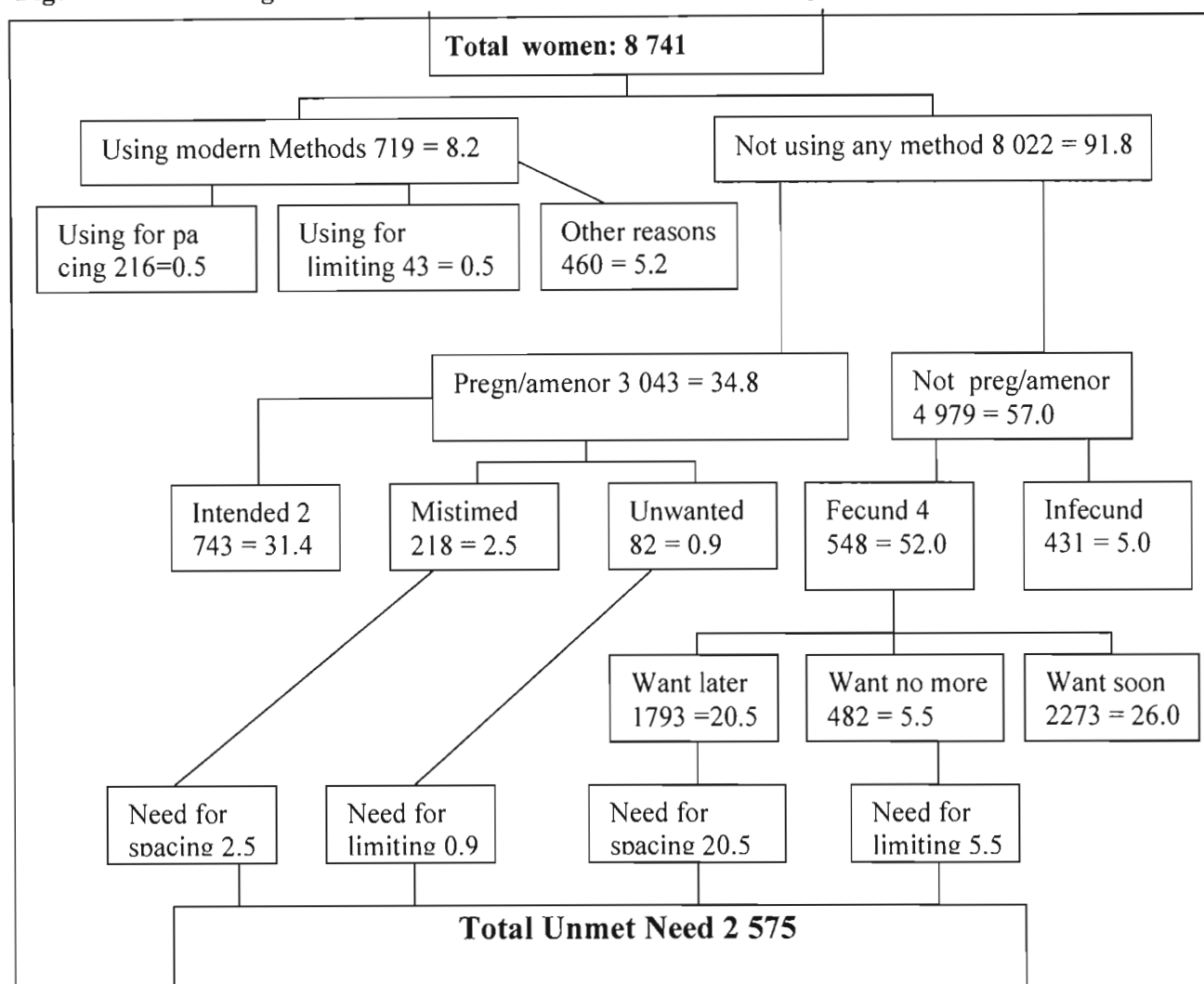
	Frequency	Percentage
Pregnant/amenorrhoeic		
Intended	1160	51.3
Mistimed	28	1.2
Unwanted	18	0.8
Not pregnant/amenorrhoeic		
Want soon	335	14.8
Want later	441	19.5
Want no more	144	6.4
Infecund	135	6.0
Total	2261	100.0

Source: The 1997 Mozambique DHS

The majority of women either intended pregnancy or had children, while others wanted children soon. Few women were infecund and these were not included in these experiencing an unmet need for contraception. Figure 2.0 presents the percentage of all responded women including those with an unmet need for contraception. About 91.8 percent of women were not using modern methods of contraception. Results show that 29.4 percent (2 575) of women experienced an unmet need for contraception. Despite similarities with some countries this result can be considered high compared with other countries in the region. It means that in Mozambique one third of women experienced an unmet need for contraception. From these women, 23.0 percent have an unmet need for spacing purposes and 6.4 percent have an unmet need to prevent any further pregnancies (limiting having children). As results demonstrates almost four times more women having an unmet need for spacing than those women having an unmet need for limiting the number of children. This suggests that the majority of women could not find modern methods for contraception to postpone the next child. They wanted to have more children but not

as early as happened. A further 6.4 percent of women wanted not more children unfortunately they were not using modern methods for contraception.

Figure 2.0: Percentage of women with an unmet need for contraception in Mozambique



Source: The 1997 Mozambique DHS
 Note: %=100.0

Demographic and Health Surveys (DHS) undertaken in other countries have different levels of unmet need for contraception. For example, the 1996-DHS in Tanzania presented 31.8 percent (Planning Commission, 1997:90); 1999-DHS in Kenya 28.8 percent (National Council for Population and Development, 1999:84); 1998-DHS in South Africa 20.7 percent (Department of Health, 1998:71) and 15.0 percent in 1999-DHS in Zimbabwe (Central Statistical Office, 2000:93) and 36 percent in Malawi (Finger, 1999). The percentages of unmet need demonstrated above have their explanation in socio-economic and demographics factors.

CHAPTER V

FACTORS ASSOCIATED WITH UNMET NEED FOR CONTRACEPTION

5.1 Introduction

As indicated in the literature review there are several demographics and socio-economic factors that determine the levels of unmet need for contraception. In this section, bivariate and multivariate techniques are used to assess the effect of desired number of children, number of living children, number of dead children, place of residence, age, woman and partner's education, woman and partner's occupation and religion on unmet need for contraception.

5.2 Bivariate analysis

The levels of unmet need for contraception vary substantially according to the demographic and social characteristics of women. Table 2.0 shows the percentage of women who experienced an unmet need for contraception, by socio-economic and demographics characteristics. Unmet need for contraception is higher for spacing than for limiting as discussed in the previous chapter. It means that more women wanted to have more children not at that moment but later (two or more years), than those who wanted to stop having children altogether but were not looking for or using any modern methods for contraception.

For example, table 2.0 shows that unmet need for spacing is 18.4 percent among women who desired four or fewer children and 4.4 percent for limiting family size. It means that 18.4 percent of women desired having four or fewer children but they were not using any modern method for contraception to postpone the next child. The 4.4 percent who did not want more children were unlikely to be successful since they were not using any modern method of contraception. Unfortunately, at that moment they were not looking for or not using any modern methods for contraception to avoid having children within the next two years.

Table 2.0: Women with unmet need for contraception as a percentage of all women by background characteristics

Characteristics	Unmet Need		Total
	For spacing	For limiting	
Desired number of children			
0-4	18.4	4.4	22.8
5 and more	4.6	2.0	6.6
Number of living children			
0	3.8	1.5	5.3
1	7.9	2.5	10.4
2 and more	11.3	2.4	13.7
Number of dead children			
0	19.2	5.2	24.4
1 and more	3.8	1.3	5.1
Place of residence			
Rural	17.1	4.5	21.6
Urban	5.8	2.0	7.8
Age			
15-19	5.5	1.5	7.0
20-29	12.0	2.8	14.8
30-39	4.6	1.6	6.2
40-49	0.8	0.6	1.4
Woman's education			
No education	8.2	2.4	10.6
Primary, secondary/high school	14.8	4.0	18.8
Woman's occupation			
Not working	10.6	2.7	13.3
Working	12.4	3.7	16.1
Religion			
No religion	4.5	1.5	6.0
Muslim	4.0	0.8	4.8
Christian	14.5	4.1	18.6
Total	23.0	6.4	29.4

Source: The 1997 Mozambique DHS

Note: n=8741

% = 100.0

Tables 2.1 and 2.2 show similar patterns on distribution of unmet need for contraception among married and unmarried women. Considering the selected and common variables, the unmet need for contraception presents similar patterns in desired number of children, number of dead children, place of residence and women's education, being different in number of living children and age. The other variables were used in accordance with women being married or unmarried.

Table 2.1: Married women with an unmet need for contraception as a percentage of all married women by background characteristics

Characteristics	Unmet Need		Total
	For spacing	For limiting	
Existence of other wives			
None	18.3	4.5	22.8
Others	6.4	2.0	8.4
Desired number of children			
0-4	19.1	4.2	23.3
5 and more	5.6	2.2	7.9
Number of living children			
0	1.7	1.0	2.7
1	8.7	2.6	11.3
2 and more	14.3	2.8	17.1
Number of dead children			
0	20.0	5.0	25.0
1 and more	4.7	1.4	6.1
Place of residence			
Rural	19.9	4.8	24.7
Urban	4.8	1.6	6.4
Age			
15-19	3.9	1.1	5.0
20-29	13.9	2.9	16.8
30-39	5.9	1.8	7.7
40-49	1.0	0.7	1.7
Woman's education			
No education	9.9	2.8	12.7
Primary, secondary/high school	14.8	3.6	18.4
Partner's education			
No education	5.0	1.3	6.3
Primary/secondary/high school	19.7	5.2	24.9
Woman's occupation			
Not working	10.5	2.5	13.0
Working	14.2	3.9	18.1
Partner's occupation			
Not working	1.2	0.4	1.6
Working	23.5	6.0	29.5
Religion			
No religion	5.3	1.7	7.0
Muslim	4.7	0.9	5.6
Christian	14.7	3.8	18.5
Total	24.7	6.4	31.1

Source: The 1997 Mozambique DHS; Note: n=6239; %= 100.0

Table 2.2: Unmarried women with an unmet need for contraception as a percentage of all unmarried women by background characteristics

Characteristics	Unmet Need		Total
	For spacing	For limiting	
Unmarried women			
Never married	12.5	3.8	16.3
Widowed, divorced and not living together	6.2	2.6	8.8
Desired number of children			
0-4	16.7	5.1	21.8
5 and more	2.0	1.4	3.4
Number of living children			
0	8.9	2.9	11.8
1	5.7	2.1	7.8
2 and more	4.1	1.5	5.6
Number of dead children			
0	17.0	5.7	22.7
1 and more	1.7	0.8	2.5
Place of residence			
Rural	10.2	3.6	13.8
Urban	8.5	2.9	11.4
Age			
15-19	9.5	2.5	12.0
20-29	7.2	2.4	9.6
30-39	1.6	1.3	2.9
40-49	0.5	0.4	0.8
Woman's education			
No education	4.1	1.6	5.7
Primary, secondary/high school	14.6	4.9	19.5
Woman's occupation			
Not working	10.8	3.1	13.9
Working	8.0	3.4	11.4
Religion			
No religion	2.2	1.2	3.4
Muslim	2.3	0.5	2.8
Christian	14.2	4.8	19.0
Total	18.7	6.5	25.2

Source: The 1997 Mozambique DHS

Note: n= 2502

% = 100.0

5.3 Multivariate analysis

Table 3.0 shows the distribution of women with unmet need by selected characteristics that were included in this analysis. Analyses on married and unmarried women are presented in tables 3.1 and 3.2. In general, the number of women not experiencing an unmet need for contraception is higher than that of women experiencing an unmet need for contraception. For example, women not experiencing an unmet need are twice as many or more than those experiencing an unmet need for contraception. As presented at table 1.0 and figure 2.0 there were many women who intend becoming pregnant and having children and who want to have children soon. This means that they are not using modern methods for contraception. The reason of not experiencing an unmet need is mainly due to their intention of having children.

Table 3.0: Distribution of total women with an unmet need for contraception by background characteristics

Characteristics	Unmet need		Not in unmet need	
	For spacing	For limiting		Total
Desired number of children				
0-4	1609	387	4533	6529
5 and more	402	177	1633	2212
Number of living children				
0	328	134	2145	2607
1	690	215	1521	2426
2 and more	993	215	2500	3708
Number of dead children				
0	1675	453	4878	7006
1 and more	256	87	862	1205
Place of residence				
Rural	1499	390	4353	6242
Urban	512	174	1813	2499
Age				
15-19	481	128	1258	1867
20-29	1051	241	1972	3264
30-39	406	142	1697	2245
40-49	73	53	1239	1365
Woman's education				
No education	719	216	2483	3418
Primary, secondary/high school	1292	348	3683	5323
Woman's occupation				
Not working	923	237	2616	3776
Working	1088	327	3550	4965
Religion				
No religion	391	138	1142	1671
Muslim	349	68	1052	1469
Christian	1271	358	3972	5601
Total	2011	564	6166	8741

Source: The 1997 Mozambique DHS

Note: n=8741

Table 3.1: Distribution of married women with an unmet need by background characteristics

Characteristics	Unmet Need		Not in unmet need	
	For spacing	For limiting	Total	
Existence of other wives				
None	1140	280	3069	4489
Others	402	122	1226	1750
Desired number of children				
0-4	1191	261	3093	4545
5 and more	351	141	1202	1694
Number of living children				
0	106	62	1065	1233
1	545	162	1209	1916
2 and more	891	178	2021	3090
Number of dead children				
0	1250	311	3232	4793
1 and more	217	71	1063	1446
Place of residence				
Rural	1244	300	3231	4775
Urban	298	102	1064	1464
Age				
15-19	244	66	444	754
20-29	870	182	1542	2594
30-39	366	110	1385	1861
40-49	62	44	924	1030
Woman's education				
No education	616	177	1913	2706
Primary, secondary/high school	926	225	2382	3533
Partner's education				
No education	311	80	1001	1392
Primary, secondary/high school	1231	322	3294	4847
Woman's occupation				
Not working	654	160	1673	2487
Working	888	242	2622	3752
Partner's occupation				
Not working	77	26	222	325
Working	1465	376	4073	5914
Religion				
No religion	335	108	816	1259
Muslim	291	55	848	1194
Christian	916	239	2631	3786
Total	1542	402	4295	6239

Source: The 1997 Mozambique DHS

Note: n=6239

Table 3.2: Distribution of unmarried women with an unmet need for contraception by background characteristics

Characteristics	Unmet need			Total
	For spacing	For limiting	Not in unmet need	
Unmarried women				
Never married	314	96	1130	1540
Widowed, divorced and not living together	155	66	741	962
Desired number of children				
0-4	418	126	1440	1984
5 and more	51	36	431	518
Number of living children				
0	222	72	1080	1374
1	145	53	312	510
2 and more	102	37	479	618
Number of dead children				
0	425	142	1646	2213
1 and more	39	16	225	289
Place of residence				
Rural	255	90	1122	1467
Urban	214	72	749	1035
Age				
15-19	237	62	814	1113
20-29	181	59	430	670
30-39	41	32	313	385
40-49	12	9	314	334
Woman's education				
No education	103	39	570	712
Primary, secondary/high school	366	123	1301	1790
Woman's occupation				
Not working	269	77	943	1289
Working	200	85	928	1213
Religion				
No religion	355	119	326	412
Muslim	58	13	204	275
Christian	56	30	1341	1815
Total	469	162	1871	2502

Source: The 1997 Mozambique DHS
 Note: n=2502

5.3.1 Binary regression

Table 4.0, 4.1 and 4.2 show the odds ratio of total, married and unmarried women. In table 4.0 the odds ratio of zero parity women reporting unmet need is 0.19 meaning that they are 81 percent less likely to have unmet need compared to women with 2 and more children. The odds ratio of women who wanted to have one child reporting unmet need is 0.72 meaning that they are 28 percent less likely to have unmet need compared to women with 2 and more children. In regard to the number of dead children, the odds ratios is 0.58 meaning that they are 42 percent less likely to have unmet need compared to women with one and more children. In regard to a place of residence the odds ratio of married women is 1.129 times more when they live in rural areas. In reference to the age, women aged 15-19, 20-29 and 30-39 are 13.750 times more, 7.486 and 3.092 times more compare to those in age 40-49.

Table 4.0: Binary regression estimates for the parsimonious model of factors associated with unmet need for contraception: Total women

Characteristics	Sig	Odds ratio
Number of living children		
0	0.000	0.194**
1	0.000	0.721**
2 and more		1.000
Number of dead children		
0	0.000	0.584**
1 and more		1.000
Place of residence		
Rural	0.031	1.129**
Urban		1.000
Age		
15-19	0.000	13.750**
20-29	0.000	7.486**
30-39	0.000	3.092**
40-49		1.000
Religion		
No religion	0.042	0.877**
Muslim	0.027	0.832**
Christian		1.000
Constant		0.205

Source: The 1997 Mozambique DHS

Note: **Level of significance 0.05

In religion, the odds ratio of women who do not practice any religion reporting unmet need is 0.88. This means that they are 12 percent less likely to have unmet need compared to women practicing Christian religion. At the same time the study shows that women practicing Muslim religion are 17 percent less likely to have unmet need compared to women practicing Christian religion. Results for married and unmarried women are presented in table 4.1 and 4.1. Variables not presented are not significant at 0.05 level.

Table 4.1: Binary regression estimates for the parsimonious model of factors associated with unmet need for contraception: Married women

Characteristics	Sig	Odds ratio
Number of living children		
0	0.000	0.142**
1	0.000	0.594**
2 and more		1.000
Number of dead children		
0	0.000	0.517**
1 and more		1000
Place of residence		
Rural	0.000	1.317**
Urban		1.000
Age		
15-19	0.000	14.725**
20-29	0.000	6.704**
30-39	0.000	2.960**
40-49		1.000
Religion		
No religion	0.001	0.782**
Muslim	0.001	0.734**
Christian		1.000
Constant		0.261

Source: The 1997 Mozambique DHS

Note: **Level of significance 0.05

Table 4.2: Binary regression estimates for the parsimonious model of factors associated with unmet need for contraception: Unmarried women

Characteristics	Sig	Odds ratio
Desired number of children		
0-4	0.008	1.429**
5 and more		1.000
Number of living children		
0	0.000	0.447**
1	0.001	1.600**
2 and more		1.000
Age		
15-19	0.001	10.528**
20-29	0.000	9.300**
30-39	0.000	3.391**
40-49		1.000
Constant		0.049

Source: The 1997 Mozambique DHS

Note: **Level of significance 0.05

5.3.2 Multinomial regression

Table 5.0 shows the odds ratio of women experiencing an unmet need for contraception by selected socio-economic characteristics. According to the results, women who intended to have four or fewer children increase the odds ratio of unmet need for spacing by 1.544 times and by 1.726 for limiting. In regard to the number of children who are alive the odds ratio zero parity women reporting unmet need is 2.021 times more for spacing while the odds ratio of women with one child is 0.74 meaning that they are 26 percent less likely to have unmet need for spacing compared to women with 2 and more children. In limiting, the odds ratio of zero parity women reporting unmet need is 0.29 meaning that they are 71 percent less likely to have unmet need for limiting compared to women with 2 and more children.

The odds ratio of women with deceased child is 0.56. This means that they are 44 percent less likely to have unmet need for limiting compared to women with one and more children deceased. In relation to the area of residence the odds ratio is 1.452 more to have unmet need when women are living in rural area. In terms of age, in the three categories (15-19, 20-29 and 30-39) the odds ratio of women reporting unmet for spacing is respectively 76 percent, 69 percent and 51 percent less likely to have unmet need for spacing compared to women at age 40-49. Meanwhile, women

aged 15-19, 20-29 and 30-39 are 5.259, 3.185 and 1.894 times more compared to women in age 40-49. Similar trends are for women who wanted to limit having children. Another variation concerns the occupation. Results show that the odds ratio increases 1.259 times.

Table 5.0: Multinomial regression estimates of the odds ratio of characteristics of total women with unmet need for contraception

Characteristics	Odds ratio of unmet need For spacing		Odds ratio of unmet need For limiting			
	Stand error	Sig	Stand error	Sig		
Desired number of children						
0-4	0.100	0.000	1.544**	0.111	0.000	1.726**
5 and more			1.000			1.000
Number of living children						
0	0.152	0.000	2.021**	0.170	0.000	0.289**
1	0.130	0.002	0.742**	0.140	0.000	0.445**
2 and more			1.000			1.000
Number of dead children						
0	0.147	0.540	1.094	0.161	0.000	0.564**
1 and more			1.000			1.000
Place of Residence						
Rural	0.101	0.154	1.156	0.111	0.001	1.452**
Urban			1.000			1.000
Age						
15-19	0.205	0.000	0.243**	0.241	0.000	5.259**
20-29	0.164	0.000	0.306**	0.201	0.000	3.185**
30-39	0.167	0.000	0.488**	0.207	0.002	1.894**
40-49			1.000			1.000
Woman's occupation						
Not working	0.094	0.353	1.092	0.102	0.024	1.259**
Working			1.000			1.000
Religion						
No religion	0.108	0.010	1.323**	0.118	0.086	1.225
Muslim	0.156	0.000	1.853**	0.167	0.001	1.759**
Christian			1.000			1.000

Source: The 1997 Mozambique DHS

Note: **Level of significance 0.05

Finally, in religion, the odds ratio of women increases 1.323 times without any religion and those practicing Muslim increases 1.823 times. Meanwhile, the odds ratio of Muslim women increases 1.759 times more to have unmet need for contraception for limiting. Odds ratios for married and

unmarried women are demonstrated in tables 5.1 and 5.2. Other tables in appendix A.1, A.2 and A.3 represent the odds ratios of total, married and unmarried women with all variables, together without significant or not.

Table 5.1: Multinomial regression estimates of the odds ratio of characteristics of married women on unmet need for contraception

Characteristics		Odds ratio of unmet need For spacing		Odds ratio of unmet need For limiting		
Desired number of children	Stand error	Sig	Stand error	Sig		
0-4	0.116	0.000	1.697**	0.126	0.000	1.712**
5 and more			1.000			1.000
Number of living children						
0	0.189	0.000	2.228**	0.219	0.000	0.790**
1	0.151	0.345	0.133	0.164	0.000	0.571**
2 and more			1.000			1.000
Number of dead children						
0	0.169	0.291	1.196	0.185	0.001	0.453**
1 and more			1.000			1.000
Place of Residence						
Rural	0.124	0.437	1.101	0.136	0.001	1.593**
Urban			1.000			1.000
Age						
15-19	0.239	0.000	0.793**	0.276	.000	4.878**
20-29	0.182	0.000	0.654**	0.220	.000	3.332**
30-39	0.186	0.002	0.441**	0.227	.001	2.173**
40-49			1.000			1.000
Religion						
No religion	0.125	0.005	1.428**	0.135	0.235	1.174
Muslim	0.174	0.000	2.002**	0.186	0.008	1.641**
Christian			1.000			1.000

Source: The 1997 Mozambique DHS

Note: **Level of significance 0.05

Table 5.2: Multinomial regression estimates of the odds ratio of characteristics of unmarried women with an unmet need for contraception

Characteristics	Desired number of children	Stand error	Odds ratio of unmet need		Odds ratio of unmet need	
			For spacing	Stand error	For limiting	Stand error
		Sig			Sig	
0-4	0.203	0.551	1.166	0.244	0.002	2.100**
5 and more			1.000	.		1.000
Number of living children						
0	0.267	0.872	1.502	0.300	0.064	0.573
1	0.235	0.004	0.511**	0.262	0.278	0.752
2 and more			1.000			1.000
Age						
15-19	0.399	0.000	0.236**	0.506	0.008	3.808**
20-29	0.373	0.000	0.187**	0.481	0.078	2.331
30-39	0.389	0.001	0.273**	0.511	0.854	0.910
40-49			1.000			1.000
Religion						
No religion	0.217	0.922	1.021	0.253	0.109	1.499
Muslim	0.348	0.429	1.317	0.385	0.037	2.227**
Christian			1.000			1.000

Source: The 1997 Mozambique DHS

Note: **Level of significance 0.05

5.4 Summary of the results

The majority of women experienced an unmet need for spacing than for limiting. In general, in bivariate analyses, the levels of unmet need for contraception are higher among women who wanted fewer than five children. The same result was prevalent among women with two or more living children and those who had non dead child. Residential areas also determined similar patterns. The analysis show higher levels of unmet need for contraception among rural and young women than urban and adult women. Women with some level of education have more unmet need for contraception than those who did not have education. Such is true with women who are employed. Finally, women in Christian religion have higher level of unmet need compared to Muslim and no religion women. In the multivariate analyses results demonstrated that some of the selected variables were significant and others which more irrelevant were excluded for the analysis. In bivariate analysis variables with significant levels in the model are the followings: number of living children, number of dead children, place of residence, age and religion (see table 4.0). In the multinomial regression seven variables namely; desired number of children, number of living children, number of dead children, place of residence, age, woman's occupation and religion were significant (see table 5.0).

CHAPTER 6

DISCUSSION AND CONCLUSION

6.1 Discussion

Results from figure 2.0 and table 1.0 previously indicated showed that 719 women (2.5 percent) were using modern methods of contraception of spacing, 0.5 percent for limiting and 5.2 percent were using contraceptives for reasons not related to fertility such as prevention sexually transmitted infection (STI), medical recommendations or pleasure. Of the total responded women, the majority (2743) of them not experiencing an unmet need for contraceptives (31.4 percent) either intended to become pregnant or were amenorrhoeic (see figure 2). Women who wanted to have children soon (2273) constitute the second largest group (26.0 percent) of the women while infecund women (431) formed 4.9 percent of the total women.

Results from the bivariate analysis showed that among women experiencing an unmet need for contraception the majority were among those who wanted to space their children rather than to limit them altogether. It means that the majority of women experiencing an unmet need for contraceptives wanted more children later (after two years) but as they were not using any modern method for contraception they become pregnant sooner or were exposure to be pregnant than they would have liked (less than two years) that is they experienced an unmet need for contraceptives with regard to spacing. Some of the women probably prefer having more children in the sense that some of the children may die. In Pakistan, studies showed that unmet need for contraception varies in relation to preference for sons (Pasha et al. 2001). There, it is likely that women preferring more children can stop having children if they give birth to sons before daughters. Other studies show that in some countries of Asia the husband inhibits his partner from using contraceptive methods because he prefers more children than does his female partner (Casterline et al. 2001).

In Mozambique, the level of unmet need for contraception is not influenced only by preference for male children but also socio-economic factors. It means that some women who could experience unmet need for contraception do not because they have daughters while they want son. So, instead looking for contraception probably to experience unmet need they look for more children until bearing a son.

Unmet need for contraception is high among women who reported wanting four or fewer children. This suggests that they wanted to stop having children or to space their children to achieve their preference, but unfortunately as they were not using any modern methods of contraception they can have more. Limiting the number of children could be relevant among women at an earlier reproductive age. In this study results showed that the gap between unmet need for spacing and limiting reduce among women at a later reproductive age. It shows that at a later reproductive age, despite not wanting more children, probably women were not using modern methods of contraception.

The tables reflecting the study of married and unmarried women show, that there are far more married women than unmarried women, so the married women influence the total far more than unmarried women. Results of unmarried women could indicate that young women likely completed their family size or they are satisfied with contraception. The patterns of unmet need for contraception are different from married women compared to unmarried women in terms of having living children and women who are in employment. In the former (married women) unmet need for contraception increases from women without living children to women with two and more children.

Meanwhile among unmarried women the levels of unmet need for contraception decreases from women without living children to women with two and more children (see table 2.2 and 3.2) compared to table 2.1 and 3.1. Furthermore, it suggests that unmarried women probably needed to wait longer to have a first child because they have no partner or husband. At the same time the majority of unmarried women experiencing an unmet need for contraception were among those not working while among married women were among working women. It suggests that unmarried women seek but they not find contraceptives to avoid having unwanted children in the sense that they cannot afford them without partners. So, they have more reasons to look for modern methods for contraception and as they do not find them they experience an unmet need for contraception. So, the patterns of unmet need for contraception decrease as long as the number of living children increases contrasting with the pattern for married women. It could suggest the weight of opposition from others on married women are more than on unmarried women; that is unmarried women probably seek, find and use modern methods if they want to space or to limit having more children. It demonstrates how unmarried women can decide and control themselves on reproductive issues.

In terms of living children, the results showed that those women who do not have living children probably want children and they do not have an unmet need for contraception. Thus, they did not register an unmet need for contraception at the level of those women who have children two and more children. In fact those who had no children were not interested either spacing or to limiting their children unless they were unmarried.

Regarding to the number of dead children results show that unmet need for contraception decreases as long as the number of dead children increases. It suggests that if the number of dead children increases, women do not need contraceptives since they want to have a child. In this context, women without dead children are far to have unmet need compared with those that had one and more dead children. Other variables among those previously selected variables fitted for married and unmarried women (see tables 5.1 and 5.2).

Residential area is another determinant factor on issues of unmet need for contraception. Women in urban areas experienced lower levels of unmet need for contraception than women in rural areas. Availability and accessibility, lower levels of education, inappropriate information, myths, fear of side effects, opposition from others and other factors determine high levels of unmet need in rural area. In contrast, the lower level of unmet need in urban areas is because many women are aware of contraception services. In addition, the level of education, the preference for small families, and reduced opposition from relatives to the use of modern methods of contraception makes them more willing to use contraceptives. This means that in urban areas contraceptive services are available, accessible and women seek them and use them. This contributes to the existence of a lower level of unmet need for contraception in urban areas.

Studies from South Asia found that unmet need for contraception is higher in rural areas than in urban areas (Chaudhury, 2001). Similar results to these in Mozambique were found in some countries surrounding a country. For example, DHSs held in some countries in the sub-Saharan region showed that the percentage of unmet need for contraception in rural areas was 15.8 percent in Zimbabwe (Central Statistical Office, 2000:93), 25.6 percent in Kenya (National Council for Population and Development, 1999:84), 21.0 percent in South Africa (Department of Health, 1998:71) and 19.2 percent in Tanzania (Planning Commission, 1997:90). By contrast in urban areas unmet need was 7.9 percent in Zimbabwe, 17.2 percent in Kenya, 10.9 percent in

South Africa, and 15.1 percent in Tanzania (see DHSs). The same sources showed that as in Mozambique, unmet need for spacing of children was higher than for limiting family size in these countries except in South Africa.

In Karachi, studies showed that difficulty in accessing distant family planning services has been identified as an important factor on unmet need (Pasha et al. 2001). For instance, people in rural areas have limited access to transportation, or they cannot afford it. In addition, there is an irregular transport system. Women who do not go to the clinic cannot know about methods of contraception or they receive inappropriate information related to family planning. This atmosphere increases the number of people who learn about contraceptive services through third parties. In general, it is the third parties who spread rumours about negative and adverse side effects of contraceptive use. Studies in Pakistan showed that a large a portion of women who had heard of modern methods of contraception were scared of harmful side effects and refrained from using them (Finger, 1999).

Regarding age, results showed a negative relationship between an unmet need for contraception and women's age. In this study and others DHSs (Central Statistical Office, 2000; National Council for Population and Development, 1999; Department of Health, 1998; Planning Commission, 1997) the unmet need for contraception decreases as women age from 20-29 to 40-49. The patterns of unmet need for contraception are similar in tables 2 and 2.1 but different in table 2.2 in which the level of unmet need decreases from 15-19 to 40-49. Results from South Asia, as in Mozambique, demonstrated a negative association between age and the levels of unmet need for contraception (Chaudhury, 2001; (Central Statistical Office, 2000; National Council for Population and Development, 1999; Department of Health, 1998; Planning Commission, 1997).

The binary regression demonstrated that women of younger reproductive age have more unmet need for contraception than do adult women whether for spacing purposes or for limiting family size. Probably, women of a young reproductive age are more aware of contraception considering their level of education. On this sense, women with no education are less likely to be in an unmet need for contraception compared with educated women.

Like in South Africa (Preston-Whyte, 1999), young women in Mozambique still face problems in visiting clinics or in accessing contraceptive methods. In this context, it becomes difficult to determine the accuracy of results since some nurses refuse to attend the youth by not offering contraceptives or not providing appointments for those who are under aged. In addition, those young women are also afraid to talk to their parents or other relatives on issues pertaining to contraception, particularly during the breastfeeding period. Furthermore, some breastfeeding women are scared of using modern contraceptive methods during the period of amenorrhoea or during breastfeeding since it may affect the baby. For adult women, the levels of unmet need can be related to the fact that they prefer to keep their privacy by avoiding meeting their younger relatives seeking contraceptives. They probably prefer traditional methods, which offer more privacy than modern methods, but such methods are inefficient. In this context the use of traditional and folkloric methods at the later reproductive age is probably not efficient thus leading to unwanted pregnancy. It suggests that in Mozambique, varying with age, the levels of unmet need can reflect not only scarcity of contraception but also costs to reach health services, opposition, beliefs and personal perceptions.

Results showed that the majority of women experiencing an unmet need for contraception were among those with education exposure. As referred in the literature review, educated women are aware of contraception. They read, interpret, understand and are familiar with several methods for contraception compared to those not exposed to education. In addition, education also is inversely related with myths and younger women are more likely to be educated than the older ones. Results from Karachi, Pakistan revealed similar patterns. Educated women present higher levels of unmet need for contraception than the less educated women (D'Souza, 2003). In some countries where women seek, find and use contraception the level of unmet need is higher among women with no education (Central Statistical Office, 2000; National Council for Population and Development, 1999; Department of Health, 1998; Planning Commission, 1997). This difference happens if educated women find contraceptives to control their fertility.

Studies from Asia, on the contrary, to findings above showed that the unmet need for contraception was lower among educated women (with primary, secondary and higher education) (Chaudhury, 2001) probably since the better educated women having decided to find contraceptives, are able to do so (Ashford, 2003). So, the expansion of education throughout rural areas may contribute towards women seeking contraception services to space their children

or to limit their family size. Thus, it is possible that an unmet need for contraceptives will manifest among those with no schooling if women with schooling were satisfied. Results from the DHS in Ghana showed that during the past 10 years (1988-1998), (Govindasamy and Boadi, 2000) unmet need for contraception maintained an all time high among those with no education or a primary education compared to the middle and secondary education categories.

Regarding occupation, results showed that an unmet need for contraception was high among those who were working. These levels are similar among total and married women but different to unmarried women. Particularly for working women, the level of relationships and conversation probably differs from those women who are not working. The same (among married women) may apply to those whose partners are not working or working. In Pakistan, the Contraceptive Prevalence Survey (PCPS, 1984-5) showed that the rate of users among working women was 24.6 percent, twice as high as women who are working at home (D'Souza, 2003).

Study demonstrates that women who are working are more likely to seek contraception than those not working. This demonstrates that working women are more exposed to seek information and so contraceptive facilities but then do not find them. Those who are not employed do not even begin to seek such facilities. However, this pattern differs compared to unmarried women as referred to above. For unmarried women high level of unmet need is observed among those not working probably because they cannot afford their children and so they want contraception but they do not use. This suggests that autonomy and decision by women over their reproductive health enables them to discuss these issues and to seek contraceptive methods so avoiding mistimed and unwanted pregnancies and children, in order to guarantee their job positions. For example in Pakistan women who believe that they could lose their jobs due to pregnancy, are twice as likely to have an unmet need for contraception compared to women who are not employed or those who are allowed to work (Pasha et al. 2001). The other aspect is that women who are working are more likely to be educated and this contributes to their understanding and need for contraception.

For religion, the level of unmet need is slightly different among Christians, Muslims and women with no religion. The highest level of unmet need was among Christian women compared to Muslims and those with no religion. In regard to many sects of Christianity that are against modern methods of contraception it can be suggested that the level of unmet need for

contraception reflects religious opposition. Such women are sceptical about seeking and using modern contraceptive methods because of their religious beliefs. In addition to this, it becomes more complex when their partners are also opposed to using contraception. Among Muslim women, low levels of unmet need for contraception were probably because they did not want to limit family size or to space their children because they have had successfully managed their fertility control. For example they prefer large family size and so they do not seek for contraceptives methods reducing the possibility to experience unmet need for contraception. Women, independently of whether they are religious or not religious use contraception more far to spacing their children than for limiting family size.

Therefore, religion plays no significant role on influencing whether contraceptives are needed for spacing of children or limiting having children. Probably Christian's women present the highest levels of unmet need of contraception due to opposition from religion. Studies in Tanzania demonstrated that the levels of unmet need do not vary significantly by kind of religious or not religious or by whether women are not religious (Mturi, 1995). Meanwhile, a decade ago in Pakistan, religious people were mentioned as an obstacle to the use of modern contraception (Casterline et al. 2001). Other studies showed that in Bangladesh and Pakistan (Chaudhury, 2001) and Egypt, Guatemala, India, Philippines and Nepal, husband's opposition and religion were referred as the main reasons for not using contraception (see Casterline et al. 2001), in the sense that women in such situations experiencing an unmet need for contraception are probably among families where it is not acceptable to discuss control over contraceptive use (Finger, 1999). The results presented reveal the same evidence demonstrated in the literature review. Women are aware of the existence of modern methods of contraception. Socio-economic and demographic factors influence the levels of unmet need.

6.2 Conclusion

The colonial system in Mozambique governed the country on the basis of racial segregation in all sectors, including health services. After independence health services were expanded to the remote areas. Unfortunately, the 16 years of civil war destroyed the existing infrastructure, affecting education, health services, employment, urbanisation, improvement of rural areas, and communication system negatively. The DHS held in 1997, summarizes the aftermath of the war that ended in 1992.

The study demonstrated that despite high levels of knowledge on the existence of modern methods for contraception, several socio-economic and demographic factors have inhibited women from using contraception. Some of the factors presented in Chapter 2 are relevant to determine the levels of unmet need for contraception while others are less relevant. Analysing demographic factors the study showed that unmet need for contraception is high among women who desired four or fewer children, among those with two and more living children and among those without dead children. With regard to socio-economic factors, the study demonstrated that in Mozambique an unmet need for contraception is more concentrated among women in rural areas, is higher among young women, among educated women, among women who are working and among Christian women. These factors reflect the levels of availability, accessibility, costs to reach health services, levels of opposition, expansion of the information through means of communication, pamphlets and kinds of conversation and dialogues. The concentration of unmet need is also differently distributed, because the majority of women have an unmet need for contraception for spacing purposes almost twice that of those with an unmet need for contraception for the purposes of limiting family size.

The perception is that an unmet need for contraception that results in mistimed and unwanted pregnancy and children has hindered household organisation and has contributed negatively to socio-economic development. It will not allow planners to design programmes and policies which can contribute to a better redistribution of resources and lessen mother and child health problems. If efforts are not made, Mozambique cannot reach the international agreement for a total reduction of unmet need for contraception by 2015. The existence of unmet need for contraception is against Mozambican Population Policy Principles, which states that people have a right to freely decide on the number and the time they want to have children.

6.3 Recommendations

Recognising that many people, especially women, are aware of the existence of modern contraceptive methods, it is important for planners and policy-makers and other interested parties to disseminate information and services related to family planning.

In accordance with the ongoing Population Policy in Mozambique, explanations must be provided to the people on the importance of using modern contraceptive methods to control their fertility. People involved in contraception issues like nurses, must take in consideration attending

all those who need to space or to stop having more children, non-exclusion based on age, and giving appropriate advice and explaining the existence of other methods to decrease chances of women having an unmet need for contraception. Thus, they must be trained in matters pertaining to the family planning services.

In rural areas, where women face huge difficulties in accessing health care centres, it would be necessary to supply such services through locally trained personnel. In recognition of the fact that some religious groups are against contraceptive use and advocate the use of abstinence and natural methods, religions should instead advise people on modern contraceptive use. Thus, religious sects should organise youth meetings to advise about them and on reproductive and health matters. Parents should also be involved in order to allow their sons and daughters to participate in such meetings.

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Appendix A.1: Multinomial regression estimates of the odds ratio of characteristics of Total women with unmet need for contraception

Characteristics	Odds ratio of unmet need For spacing			Odds ratio of unmet need For limiting		
	Stand error	Sig		Stand error	Sig	
Desired number of children						
0-4	0.100	0.000	1.538	0.111	0.000	1.718
5 and more			1.000			1.000
Number of living children						
0	0.152	0.000	2.018	0.170	0.000	0.288
1	0.130	0.021	0.741	0.140	0.000	0.445
2 and more			1.000			1.000
Number of dead children						
0	0.141	0.552	1.092	0.161	0.000	0.563
1 and more			1.000			1.000
Place of Residence						
Rural	0.106	0.122	1.177	0.115	0.001	1.479
Urban			1.000			1.000
Age						
15-19	0.207	0.000	0.238	0.244	0.000	5.158
20-29	0.167	0.000	0.301	0.203	0.000	3.129
30-39	0.168	0.000	0.482	0.207	0.002	1.873
40-49			1.000			1.000
Woman's education						
No education	0.101	0.521	0.933	0.109	0.566	0.939
Primary, secondary/high school			1.000			1.000
Woman's occupation						
Not working	0.094	0.351	1.092	0.102	0.023	1.259
Working			1.000			1.000
Religion						
No religion	0.109	0.014	1.309	0.119	0.106	1.213
Muslim	0.156	0.000	1.849	0.167	0.001	1.757
Christian			1.000			1.000

Source: The 1997 Mozambique DHS

Appendix A.2: Multinomial regression estimates of the odds ratio of characteristics of married women on unmet need for contraception

Characteristics	Odds ratio of unmet need For spacing		Odds ratio of unmet need For limiting	
	Stand error	Sig	Stand error	Sig
Existence of other wives	0.118	0.368	0.127	0.168
None			1.112	1.192
Others			1.000	1.000
Desired number of children				
0-4	0.116	0.000	1.684	1.701
5 and more			1.000	1.000
Number of living children				
0	0.189	0.000	2.243	0.210
1	0.151	0.347	0.267	0.428
2 and more			1.000	1.000
Number of dead children				
0	0.169	0.290	1.196	0.542
1 and more			1.000	1.000
Place of Residence				
Rural	0.134	0.303	1.149	1.738
Urban			1.000	1.000
Age				
15-19	0.243	0.000	0.198	4.575
20-29	0.186	0.000	0.335	3.187
30-39	0.187	0.001	0.551	2.142
40-49			1.000	1.000
Women's education				
No education	0.118	0.215	0.863	0.888
Primary, secondary and high school			1.000	1.000
Partner's education				
No education	0.140	0.417	1.120	1.083
Primary, secondary/high school			1.000	1.000
Woman's occupation				
Not working	0.112	0.590	1.062	1.221
Working			1.000	1.000
Partner's occupation				
Not working	0.219	0.361	0.819	0.828
Working			1.000	1.000
Religion				
No religion	0.128	0.011	1.383	1.126
Muslim	0.176	0.000	1.959	1.611
Christian			1.000	1.000

Source: The 1997 Mozambique DHS

Appendix A.3: Multinomial regression estimates of the odds ratio of characteristics of unmarried women with unmet need for contraception

Characteristics	Odds ratio of unmet need For spacing			Odds ratio of unmet need For limiting		
	Stand error	Sig	Stand error	Sig	Stand error	Sig
Unmarried women						
Never married	0.253	0.600	1.142	0.278	0.677	1.123
Widowed, divorced and not living together			1.000			1.000
Desired number of children						
0-4	0.206	0.369	1.204	0.248	0.002	2.163
5 and more			1.000			1.000
Number of living children						
0	0.316	0.276	1.412	0.353	0.024	0.451
1	0.284	0.015	0.499	0.311	0.093	0.593
2 and more			1.000			1.000
Number of dead children						
0	0.343	0.990	0.996	0.386	0.093	0.523
1 and more			1.000			1.000
Place of Residence						
Rural	0.181	0.590	1.103	0.201	0.754	1.066
Urban			1.000			1.000
Age						
15-19	0.448	0.001	0.226	0.555	0.005	4.719
20-29	0.400	0.000	0.188	0.506	0.043	2.780
30-39	0.392	0.001	0.280	0.514	0.907	0.942
40-49			1.000			1.000
Woman's education						
No education	0.217	0.422	1.191	0.244	0.595	1.139
Primary, secondary/high school			1.000			1.000
Woman's occupation						
Not working	0.179	0.500	1.128	0.199	0.238	1.264
Working			1.000			1.000
Religion						
No religion	0.222	0.739	1.077	0.258	0.084	1.561
Muslim	0.348	0.414	1.329	0.386	0.036	2.249
Christian			1.000			1.000

Source: The 1997 Mozambique DHS