KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI, GHANA
COLLEGE OF HEALTH SCIENCES
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF COMMUNITY HEALTH

FERTILITY PREFERENCE AND CONTRACEPTIVE USE IN RURAL AND URBAN COMMUNITIES IN THE ASUNAFO NORTH DISTRICT OF THE BRONG AHAFO REGION

GISELA OPOKU, BSc Nursing

FEBRUARY, 2014

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI, GHANA

DEPARTMENT OF COMMUNITY HEALTH

FERTILITY PREFERENCE AND CONTRACEPTIVE USE IN RURAL AND URBAN COMMUNITIES IN THE ASUNAFO NORTH DISTRICT OF THE BRONG AHAFO REGION

BY

GISELA OPOKU (BSc. Nursing)

A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH, COLLEGE OF HEALTH SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF

MASTER OF PUBLIC HEALTH IN HEALTH SERVICES PLANNING AND MANAGEMENT

FEBRUARY 2014

DECLARATION

I hereby declare that this submission is my own work towards the MPH and that, to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

GISELA OPOKU, 20253548
(STUDENT NAME & ID)

……
SIGNATURE

……
DATE

CERTIFIED BY:

PETER AGYEI-BAFFOUR, PhD
(SUPERVISOR)

……
SIGNATURE

……
DATE

CERTIFIED BY :

DR. ANTHONY K. EDUSEI
(HEAD OF DEPARTMENT)

……
SIGNATURE

……
DATE

DEDICATION

I dedicate this work to my dear husband, Mr. Jaison Osei Boakye, my children Zoe and Kobby and my parents Dr and Mrs Opoku.

ACKNOWLEDGEMENT

I am very grateful to the almighty God for his protection and mercies that have seen me through the successful completion of this programme.

I am also particularly indebted to my supervisor Dr. Peter Agyei-Baffour, who painstakingly read through the manuscript and offered critical and useful suggestions that has brought this thesis this far.

I must also acknowledge, with immense gratitude and appreciation, the help and excellent tutelage of the lecturers of the Community Health Department.

I also wish to express my profound gratitude to the members of the Asunafo North District Health Management Team for the support rendered me throughout my stay in the district especially Dr. Bedima Duut, the District Director of Health Services

My next appreciation goes to Mr. Daniel Atta-Nyarko, and all my study mates

God richly bless you all.

TABLE OF CONTENTS

Contents

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

All over the world over the years, trends of fertility preferences have changed tremendously even though these changes differ as compared to most countries in West Africa largely due to the fact that transitions to replacement of fertility have not yet started in many parts of West Africa. The purpose of this study was to evaluate factors that influence fertility preferences and contraceptive use among rural and urban communities.

The study employed an analytical cross sectional design, using females aged 18 or more years. A multi stage cluster sampling method was used to select the 603 respondents who were administered with structured questionnaire and an interview guide.

About 33.8% had more than three children, with about 72.4% having the intention of having more children. Finance was seen as a possible barrier to having more children. A majority, 57.3% preferred any sex. About 88.5% believed fertility preference was important in their communities. Almost 90% of respondents who had never given birth before intended to give birth, with 44.8% desiring to give more than 3 children. Giving children proper training was the main reason for desired number of children (89.7%). The fertility preference of women was influenced by their age, religion and ethnic groups (p=0.006). Mean age of first birth, number of children to have also influenced fertility preference.

Majority of the women in the Asunafo North district studied intended to have more than three children. Fertility preference in the studied district varied significantly with respect to age, ethnicity, religion, age at first birth and desired children. Improving education on the importance of small family norms, male involvement

and the need to diffuse the dominance of one partner in the choice of a particular gender could be helpful.

CHAPTER ONE

GENERAL INTRODUCTION

1.0 INTRODUCTION

Over the years there have been tremendous changes in trends of fertility preferences all over the world. Statistics have shown that in many developed and developing countries, there is a decline in fertility [Westoff (1990), Freedman, et al. (1975)]. Fertility differences among countries are now larger than ever because transitions to replacement of fertility have not yet started in many parts of West Africa [Bongaarts (2003)]. Past experiences suggest that once fertility declines are underway, they tend to continue and the United Nations therefore projects that most countries will complete their fertility transitions by 2050 [Bongaarts, 2003]. Reasons that account for this historic trend of events, is an increase in contraceptive prevalence.

Although changes in fertility preferences account for a small proportion of the increase in prevalence, this component weighs more heavily in societies at the early stages of transition and in sub-Saharan Africa of which Ghana is part. Besides the declining demand for children in most of the developed settings, which is a significant underlying cause of increase in contraceptive prevalence, there is the need for further declines in demand if the transition is to proceed to replacement level of fertility [Bulatao and Lee (1983), Bongaarts (2003)].

It is important to note that while substantial fertility decline has started to take place in other countries worldwide, Ghana has shown only a slight decline in the prevailing high fertility rates. Several writers have emphasized the role of demand for children as an important source of change in the reproductive behaviour of individuals both males and females [Bulatao (1981); Pullum (1983); Bulatao and Lee (1983); Pritchett (1994)]. In most part of Ghana many anthropologists and social scientists believe that

demand for children, one of the triggers of population growth is still high and this is keeping the fertility levels high. Most couples prefer to have more children because they are valuable assets to society. The demand for children may be intense in religious sects where they are guided by scriptures to procreate to fill the earth. The consequences of high fertility and increasing population in the midst of untapped resources, high demand and low technological advancement cripple economic growth of Ghana. Thus it is imperative to have an insight into the fertility preferences maintained by the people which have a direct relationship with the fertility outcomes and contraceptive use behaviour.

The relevance and essence of measuring reproductive motivations have been and still remains one of the more topical issues in demography. There are methodological contentions in terms of the method to measure human intentions to see if the stated intentions eventually translate into behaviour, and whether it is right to use such parameter to projecting future fertility behavioural trends. Studies by Demeny (1988), Blake (1974) and Hauser (1967) reject the usefulness of studying fertility intentions as a reliable indicator of future fertility behaviour on the grounds that such findings cannot stand the test of time. On the other hand, there are social scientists, like Westoff (1990), Freedman, et al. (1975), Mauldin (1965), and Khan and Sirageldin (1977), who firmly believe in the validity of questions regarding fertility intentions to predict the actual fertility outcomes. Writers such as Bulatao (1981), Pullum (1980), Namboodiri (1972) and Lee (1980), are indifferent and hold the opinion that if the measures are properly Devised, that is, as a dynamic process with series of decisions, fertility intentions can be a reliable source of determining actual behaviour. But Lee [(1980), p: 206] points out that such fertility plans need to be revised with time if it should succeed.

The study assumes that changes in the environment of the individual, including social, economic and demographic conditions, can make the individual reformulate his/her fertility preferences. It is further assumed that measures of fertility preferences, even if they do not completely translate into actual behaviour, do provide an insight into preferred family size and its composition, and its relationship with fertility related behaviour, and also how these preferences are likely to be affected by differentials in contraceptive use, social, economic, and demographic conditions of the individual. Further, as previously observed by Farooq (1981), in developing countries where the contraceptive prevalence rate is low, observed fertility may not reflect actual demand for children, but family size preferences would.

1.2 RATIONALE FOR THE STUDY

Data on the desire for more children or not, in other words, fertility preferences can provide an indication of future reproductive behaviour provided that the required family planning services are available, affordable and accessible to allow people to realize their fertility preferences.

By this study also, conclusions, recommendations and written reports drawn at the end of it will guide and give both the Ministry of Health and the Ghana Health Service insight into the fertility preferences of households in the rural and urban communities since a lot of financial resources go into increasing contraceptive prevalence in these settings yet targets remain unmet because more children are born to poor parents. This would reduce the toll of poverty, save financial resources and lead to improved living conditions of these households.

1.3 PROBLEM STATEMENT

While there has been a substantial decline in fertility preferences in many developed countries, Ghana and for that matter, many rural communities within it have shown only a slight decline in the prevailing high fertility rates. Reasons that have been stated for these decline statistics include contraceptive preference and increase education. However, in many rural settings, many social scientists believe that demand for children is still high and this is still keeping the fertility levels high, that is, couples prefer to have more children. Besides this, several demographers, economists and sociologists have emphasized the role of demand for children as an important source of change in the reproductive behaviour of individuals. In as much as there are both cultural in addition to economic factors relating to high fertility preferences in the rural communities, the survival hypothesis cannot be ruled out all together with the numerous misconceptions that use of contraceptives inhibits fertility. In the light of this, the Government of Ghana, through the Ministry of Health and other health agencies spends a lot of money to educate women on contraceptive use and making it affordable and accessible to all taking into account fertility intentions and desired family size.

In spite of all these relentless efforts of the Government, contraceptive uptake is low in many rural setting compared to urban settlements. It is therefore imperative to have an insight into the fertility preference maintained by both folks of the rural and urban households which are considered to have an important bearing on the fertility outcomes and contraceptive use behaviour. The objectives of the present study, thus, are to investigate firstly, what are the fertility preferences, i.e., the ideal and desired number of children, and the fertility behaviour, i.e., the actual number of children, of the study population. Secondly, to assess how do these preferences vary with changes

in the socio-economic and demographic characteristics and contraceptive among respondents.

1.4 OBJECTIVES

1.4.1 General Objectives

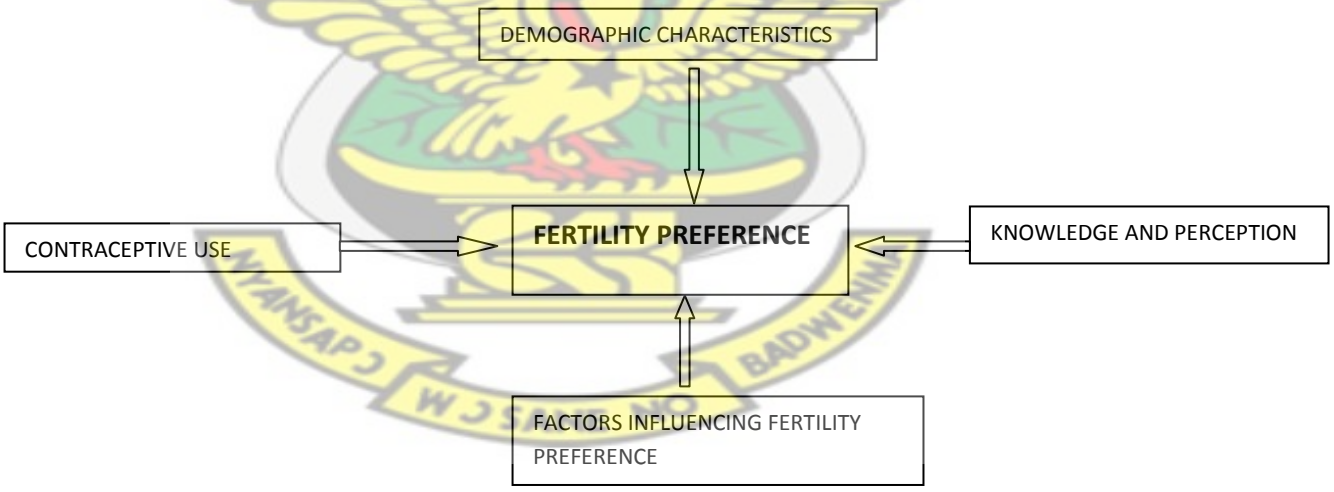
To evaluate the factors that influence fertility preferences and contraceptive use among rural and urban communities and suggest strategies to improve fertility management among households.

1.4.2 Specific Objectives

1. To assess knowledge and perception of fertility preferences
2. To evaluate factors that influence fertility preferences
3. To assess the role of contraceptive in fertility preferences

1.5 Conceptual framework

Figure 1:1 Conceptual framework



Source: Author's own construct, 2013

Figure 1 depicts that there are many factors that may influence the fertility preferences of both rural and urban folks. Demographic characteristics such as education, employment status, marital status could all influence the fertility preferences of rural and urban folks. Contraceptives also play an important role in

fertility preferences. This stems from their availability and willingness of people to use them. Another factor include people's knowledge and perception on fertility preferences. The study seeks to assess the interplay of these parameters on fertility preference among respondents.

CHAPTER TWO

LITERATURE REVIEW

This chapter presents a review of literature in line with the study objectives. Literature was reviewed from journal, publications and other secondary data sources, giving an update of empirical evidence on the global, African and Ghanaian situation of the issues under contention.

2.1 Overview

2.1.1 Fertility preferences and intentions

Fertility is highly valued in Sub-Saharan Africa, and the desire to stop childbearing is rare among younger women. Still, a woman may be reasonably certain that she wants to have another child, but she may be less sure about when she wants to have a child; equally, she may be more focused on whether now is the right time to have a child with a particular partner than on precisely how many children she plans to have over her lifetime (Johnson-Hanks, 2007). This suggests that women's fertility preferences may change over short time periods, which may be particularly true for young or lower-parity women, as they may experience more economic uncertainty and relationship instability (Agadjanian, 2005; Hayford, 2009).

Studies in Africa have documented considerable change in individuals' fertility preferences over time (Bankole and Singh, 1998; Gipson and Hindin, 2007; Lloyd, 1996; Montgomery and Cohen, 1998). In two studies, one from Morocco and the other from Ghana, approximately two-thirds of women changed their family size preferences over two and three years, respectively (Bankole and Westoff, 1998; Debpuur and Bawah, 2002). In another study from Ghana that used multiple waves of closely spaced data (approximately nine months apart), women changed their preference for wanting a child or for the desired timing of the next birth in more than

one-third of the survey waves (Kodzi, Casterline and Aglobitse, 2010). Fertility preferences are related to several factors, including age, education, and marital and socioeconomic status. As life circumstances evolve, so too may fertility preferences. In Sub-Saharan Africa, women may alter their preferences because of relationship changes and the influence of their partner's preferences (Bankole and Westoff, 1998; Dodoo, 1998); child mortality (Bankole and Westoff, 1998; Joyce, Kaestner and Korenman, 2000); pregnancy or pregnancy complications (Kodzi, Casterline and Aglobitse, 2010) and changes in economic circumstances, employment or health (Bankole and Westoff, 1998; Kodzi, Casterline and Aglobitse, 2010).

Most of the studies that have investigated change in fertility preferences over time both in Africa and in the West have used data points spaced at least one year apart, although many have used considerably longer periods (Bankole and Westoff, 1998; Joyce, Kaestner and Korenman, 2000). Multiple changes in preferences may occur over the years and are likely to be missed when there are long gaps between surveys, potentially leading researchers to overestimate the stability of preferences. In addition, long periods between surveys make it possible for a variety of changes to take place in respondents' lives, complicating efforts to isolate characteristics or events that could be associated with change. Shorter reference periods make it easier for researchers to measure changes in fertility preferences as they occur in tandem with other life events. Furthermore, shorter reference periods are particularly useful for capturing fluctuations in short-term fertility preferences, such as the desired timing of the next birth, which may be more sensitive to changing life circumstances.

In many European countries, fertility decisions take place in a context characterized by a high proportion of economically active women who are in their childbearing years of age. In addition, younger generations, and women especially, are becoming

more educated. On the other hand, the costs of raising children are rising. Family policy measures are particularly deficient with regards to facilitating reconciliation between work and family obligations in some countries (Gauthier, 2007). In developed countries, there exists a gap between the desired and the actual number of children (Bongaarts, 2001). Some authors argue that high personal ideals about the desired number of children indicate an unrealized demand for children and thereby find space for a pro-fertility policy (Hakim, 2003). This, so-called, hidden demand for children is largely a result of unfavourable social and economic conditions. It is believed that in many countries, and especially those with very low fertility, high personal aspirations concerning the desired number of children are relatively difficult to accomplish in the current socio-economic context. To some extent, countries with adequate incentives and fertility policy measures can stimulate women and couples to achieve their desired fertility intentions.

Fertility preferences are important measures for forecasting fertility, calculating levels of unwanted or mistimed fertility and assessing unmet need for contraceptives. One of the assumptions underlying the use of fertility preferences for these objectives is that they are relatively stable over time (Casterline and El-Zeini, 2007). However, in Sub-Saharan Africa—where fertility, both desired and actual, remains comparatively high and childbearing patterns are increasingly heterogeneous—fertility preferences are likely to be unstable. Very little research has focused on how individuals' fertility timing desires change over time; however, there is evidence that other fertility preferences respond to changes in life circumstances (Johnson-Hanks, 2007). Indeed, researchers in the region have argued that even individuals who are committed to a particular family size may temporarily alter their fertility preferences in response to changes in economic or reproductive circumstances (Agadjanian,

2005; Johnson-Hanks, 2005, 2007). In studies from Africa, fertility preferences reported in surveys are often tentative and malleable (Agadjanian, 2005; Johnson-Hanks, 2007; Bledsoe, 2002). Such flexibility may allow for change in fertility preferences, even over short time periods. Understanding how fertility timing preferences change over time is particularly useful, because the timing of births is likely to influence ultimate family size, perhaps even more so than individuals' ideal number of children.

In fertility transition research, which has traditionally focused on aggregate measures of fertility preferences and their predictors, structural changes, such as economic development and societal improvements in education and health, are associated with changes in country level fertility preferences (Kirk and Pillet, 1998; Weinberger, 1987). However, fertility preferences are characteristics of individuals and couples, not countries.

The usefulness and importance of measuring reproductive motivation has long been one of the more controversial areas in demography. Along with the basic problems regarding the method to measure human intentions is the issue whether the stated intentions eventually translate into behaviour, and whether can they be used as an effective means of projecting future fertility behavioural trends. Demeny (1988) reject the usefulness of studying fertility intentions as a reliable indicator of future fertility behaviour. He believes that the answers are tailored to conditions at the time of the interview that do not hold in the long run. Some take a more balanced view, including Bulatao (1981) and Lee (1980) that if the measures are properly devised fertility intentions can be a reliable source of determining actual behaviour. They believe that fertility intentions should be considered as a result of a dynamic process, a series of decisions. As Lee (1980) points out, "there is no reason to expect couples

to be more successful in such forecasts than sociologists or economists, and fertility plans will frequently be revised with the benefit of new experiences".

According to the2008 Ghana Demographic and Health Survey report, women in Ghana have an average of 4.0 children. The average number of children per woman ranges from 3.1 in urban areas to 4.9 in rural areas. Fertility has gradually decreased over the past 20 years from 6.4 children per woman in the 1988 GDHS. Fertility varies dramatically by region. Women in the Greater Accra region have an average of 2.5 children compared with 6.8 children in the Northern region.

2.1.2 Theories explaining fertility determinants

There is a wide variety of theories of low fertility determinants (de Bruijn, 2006; Morgan and Taylor, 2006). Theories explaining low fertility determinants are not exclusively demographic, but also rely on other disciplines such as economics, sociology, anthropology, psychology, and biology. According to economic explanations of fertility behavior, individuals or couples maximize their lifelong well-being by conforming to the number and the quality of children to scarce resources (i.e. time and money). Economic theories on fertility are based on the idea that having children is a result of utility maximization by individuals or couples (Becker, 1991; Ermisch, 2003). Economists argue that there is a reasonable amount of evidence on the effects economic factors have on individual and couple decisions about having children (Cigno and Ermisch, 1989).

Parenting involves many concerns about economic, social and psychological development of a child for at least a decade and a half, and, in many cases, for over two decades. The biggest lifestyle changes occur during the birth of the first child (Hobcraft and Kiernan, 1995). In the process of society modernization, children have lost their economic value in terms of child labour and support to parents throughout

their old age. Nowadays, psychological value of children is gaining increasing importance. Individuals can meet their psychological needs with a smaller number of children. On the other hand, a smaller number of children do not necessarily imply less investment in children. On the contrary, the economic costs of children have grown, and greater investment in the quality of children inevitably leads to an increase in psychological costs of raising children, primarily with regards to time and emotions (Becker and Lewis, 1973).

In recent years, economic approaches to explain low fertility have focused on increased women's autonomy, a growing number of women in the labour market and calculation of direct and indirect costs of having children (Bernhardt, 1993). Empirical studies during the 1960s and the 1970s, when fertility decline went hand in hand with an increase in women's labour market participation, confirmed such views even further. The evidence was so obvious that the negative relationship between female employment and fertility became a fact (see Becker, 1991). However, recent demographic, economic and sociological literature disagrees with the idea that women's employment must always have a negative impact on fertility. Research suggests the importance of policy in coordinating motherhood with employment. Policies regarding women's participation in the labour market may have positive effects on the fertility rate (Bernhardt, 1993; McDonald, 2000; Neyer, 2003).

At the end of the 1980s, there has been a reversal in the relationship between total fertility rate and female labour participation rate in developed countries. From negative, this relationship turned positive at the aggregate level (Ahn and Mira, 2002; Engelhardt and Prskawetz, 2004). One of the most common explanations of this reversal is the importance of institutional environment conducive to aligning work with family responsibilities. Research on fertility aspirations suggests that the vast

majority of men and women do not have as many children as they would like (Goldstein *et al*., 2003). This shows that couples face limitations which prevent them to have the desired number of children and that there exists a mechanism according to which these restrictions operate. The link between fertility intentions and actual reproductive behaviour is pretty complex. It is likely that over time, intentions will change upwards or downwards (McDonald, 2002). Little is known about when fertility intentions occur and how they evolve over time. Most of the studies focus on married couples, and research fails to distinguish between those who delay childbearing from those who voluntarily remain childless (Schoen *et al*., 1999).

2.2 Factors that influence fertility preferences

Changes in the environment of the individual, including social, economic and demographic conditions, can make the individual reformulate his/her fertility preferences. Measures of fertility preferences, even if they do not completely translate into actual behaviour, do provide an insight into preferred family size and its composition, and its relationship with fertility related behaviour, and also how these preferences are likely to be affected by differentials in social, economic, and demographic conditions of the individual. Further, as observed by Farooq (1981), in developing countries where the contraceptive prevalence rate is low, observed fertility may not reflect actual demand for children, but family size preferences would.

In high-fertility countries, the stated fertility intentions tend to be lower than the actual values; however, low fertility countries showed just the opposite tendency (Goldstein, Lutz and Testa, 2003). In 1982, American women aged 15–44 years expected to have a mean of 2.38 children, whereas in 1988, they expected to have a mean of 2.22 children. Both of these estimates are significantly higher than the actual

Total Fertility Rates (TFRs) for the corresponding years (1.83 births in 1982 and 1.93 in 1988) (Mosher and Bachrach, 1996). The same trend was observed in low-fertility in European countries, suggesting that poor economic conditions, especially among the younger generation, may lower the desire to have a large family, thus making the younger population more pessimistic about their ability to find a partner and to afford having children (Goldstein, Lutz and Testa, 2003).

2.2.1 Age, race, social status

A woman's family size preference is strongly related to her social background. A study in China showed that the preference for a small family was associated with younger age, urban residence, and higher level of education (Ding and Hesketh, 2006). The National Health Statistics Reports in the United States revealed that the fertility intention of men and women differed across races and religions (Mosher and Bachrach, 1996). With regard to religion, Catholic women tended to have fewer children than Protestant women; however, fertility intention was high among Mormons and Hispanics, regardless of their religion, and was lowest among Jewish women and those with no religion (Mosher and Bachrach, 1996). The latest reports have shown that white women had fewer number of children and an older mean age at first birth than Hispanic and black women (National Survey of Family growth, 2012).

In a study conducted at 18 hospitals and clinics (urban, 8; semi-urban, 5; rural, 4; and island, 1) in Japan's Hyogo Prefecture between October 2011 and February 2012, the mean desired number of children was significantly higher than the mean actual number of children across all generations (Matsumoto1and Yamabe, 2013). The mean desired numbers of children in the women in their 20s and 30s were significantly lower than those in the women in their 40s, those in their 50s, and in

those older than 60 years. There was no significant difference in the desired number of children between the women in their 40s, those in their 50s, and those older than 60 years. The mean actual numbers of children of the women in their 40s, those in their 50s, and those older than 60 years were significantly greater than those of the women in their 20s and 30s. The women in their 50s and those older than 60 years had a significantly high preference for a female child. The mean actual number of children of the women in their 30s was significantly higher than that of the women in their 20s; however, there was no significant difference between the women in their 40s and 50s and those older than 60 years (Matsumoto and Yamabe, 2013).

Again in the study by Sennott and Yeatman (2012), age, socioeconomic status, baseline timing preference and number of living children were associated with shifts in timing preferences. Women whose age fell in the middle of the sample's age range—around age 20—were more likely than younger and older women to report changes (both delays and accelerations) in timing preferences. Further in that study, Women from higher socioeconomic status households had more stable timing preferences than poorer women. Women with a higher baseline timing preference were less likely to desire to delay and more likely to desire to accelerate their next birth, suggesting some regression toward the mean.

2.2.2 Place of residence

In the study by (Matsumoto1and Yamabe, 2013)on the family size preference and factors affecting the fertility rate in Hyogo, Japan, the desired and actual numbers of children were significantly greater in the rural areas than in the urban and semi-urban areas. According to Knodel, et al (1996), regional variations exists in regard to fertility intention because of different socio-cultural pattern and practices. Urban

people prefer smaller families. Family size preference also varies with regional variations of place of residence (Knodel *et al*., 1996; Ali, 2000).

Likewise, Islam *et al*. (1995) found that place of residence has contributed a substantial effect (about 69 percent of the total effect) on fertility among women aged 30-49 years in Bangladesh. They also found that fertility of older rural women is higher compared to their urban counterparts. Islam et al. (1995) explained the difference by the urban respondent's educational attainment and possession of modern objects (TV, Radio), which provide exposure to modern ideas. Their study addressed only women, so the findings may not apply to men.

2.2.3 Number of living children

The influence of the number of living children on the preferred family size is apparent. The ideal number of children a woman thinks she would like to have tend to slightly increase with increasing number of living children. In the study by Nayab (2012), women having only one living child had a mean ideal family size of 3.1, while those with seven or more living children idealised a mean family size of 3.7. The main reason for this is the rationalisation of births by some of the respondents having more of living children, though not by all. Similarly, women with more children were more likely to desire to delay the timing of their next birth according to the study by Sennott and Yeatman (2012). This finding is largely explained by these women deciding not to have any more children.

Results from the study of factors influencing fertility preferences of currently married men in Kenya by Naison (2012) also shown significant influence of number of living children on desire for additional children.

2.2.4 Education

Among socio-economic factors, education has a major influence over family size preference. An inverse relationship is expected between husband's education and family size goals (Uche and Isiugo, 1994). The study also confirms that the effect of education on fertility is negative for both younger and older cohorts. Educated men prefer to have small families in part because they are more likely to have views and lifestyles that are consistent with lower fertility and higher quality of children. Education may act on the desire for children through partner communication, since educated couples are better able and more likely to converse about sensitive topics such as family planning (Mahmud and Ringheim 1997). Cochrane (1990) also noted that education was positively related to more favourable attitudes toward birth control, greater knowledge of contraception and husband-wife communication. Ezeh's study (1993) based on the 1988 Ghana Demographic Health Survey reported that men's education significantly affects their contraceptive attitudes. An educated husband is more likely to approve family planning than an uneducated husband. Though the study did not focus on fertility desire, the result implied that educated men have lower fertility preference. As noted earlier in this section such fertility desire is the precursor of fertility-related behavior.

Education influences attitudes and perceptions, gives openness to ideas and generates liberal attitudes towards the sex of a child (Sharma, 1998). However, Chowdhury (1994) observed in a study in Matlab, Bangladesh, gender-preference is not related with the years of schooling. Yet the study focused only on women and their preference for sex of the children.

The impact of education may operate through many different paths to reduce fertility levels. These factors include delayed age at marriage, increase in woman's

individuality and aspirations for the quality of children, increased opportunities for personal advancement, awareness of social mobility, and most importantly a desire for a reduced number of children and a greater exposure to knowledge of means to regulate fertility (Oppong, 1983; Mahmood and Khan, 1985; Mahmood, 1992). The study by Nayab (2012) revealed that, in the study villages a substantial proportion of the respondents (61%) and their husbands (31%) had never been to school. Relatively more educated respondents were younger in age compared to the older respondents most of whom had never been to school. It was obvious that there was a strong negative association between fertility preferences and education, and that the impact of wife's education was stronger than that of the husband. The initial three years of women's schooling did not seem to have any significant impact on the fertility preferences and behaviour. But after "4-5" years of schooling there was a significant decline in the number of children ever born and living, and also the desired and ideal number of children the women would like to have. Another recent report indicated that men and women with low levels of education were likely to have high mean numbers of children (National Survey of Family growth, 2012).

2.2.5 Employment

The link between employment and fertility has been widely recognized throughout demographic literature (Brewster and Rindfuss, 2000; Engelhardt and Prskawetz, 2004; Matysiak and Vignoli, 2008). Most of these studies focus on women's labour market status (employment versus non-employment) and number of working hours (part-time versus full-time employment). Yet, papers describing the relationship between working conditions and childbearing remain relatively scarce. Previous research shows that an individual's perception of work-family conflict is influenced

by longer and unsocial working hours (Gallie and Russel, 2009). It is therefore reasonable to assume these factors also affect fertility behaviour.

Employed women cannot be viewed as a homogenous group (Martín García, 2010). Working typical hours might make it more difficult to combine work with family responsibilities, especially if formal childcare institutions do not follow women's work time. Therefore, these women could opt for a strategy of reduced fertility, particularly in the absence of informal childcare arrangements provided by partners, (close) relatives or others.

2.2.6 Other reproductive characteristics influencing fertility preference

Women reproductive characteristics which include the age of first birth or marriage influence their fertility preferences. The GDHS 2008 report shows that 13%of women aged 15–19 in Ghana are already mothers or are pregnant with their first child and the median age at first birth for all women age 25–49 was 20.7. Women in urban areas have their first birth two years later than women in rural areas (22.1 years versus 20.0 years). The likelihood of giving birth earlier also depends on the age one gets married. Reports from the GDHS 2008 showed that one-third of women in Ghana are married by age 18. The median age at first marriage was 19.8 for women aged 25–49 compared with men age 30–59 who marry much later at a median age of 25.9. Women in urban areas marry almost three years later than women in rural areas (21.3 years versus 18.7 years).

Shurang (2005) also reported a relationship between the sex structure of present children and couple's subsequent reproductive behaviour. Age when giving first birth and "the number of family members living together" are both believed to have correlation with fertility rate separately (Xing and Fang, 2010). The sex of the first child also affects the final size of family. Compared with family whose first child is a

girl, family whose first child is a boy shows a possibility 1.02 times higher to have only one child in the end, which supports the findings of other previous studies that couples would decide whether to continue or stop child-bearing according to the first child's conditions (Udry, 1983).

2.3 Role of contraceptive in fertility preferences

The corresponding decline in fertility and consequent uptake of contraceptives has sprouted research into the relationship between uses of contraceptives and fertility preferences among women. In the three countries in Africa in which there has been substantial fertility decline-Ghana, Kenya and Zimbabwe- contraceptive use stand at 17%, 32% and 50% respectively. Although the percentage in Ghana is relatively low, the recognition of Ghana as the only country in Western Africa in which more than 8% of the women use modern contraceptive underscores the correspondence between fertility and contraceptive use.

Other studies also reveal reproductive intention or preference as important predictor of contraceptive behaviour (Bongaarts 1991; Ghule, 1999). If the couples do not use contraceptives, it may be the cause as in Amin *et al*. (1994) study that they want a child. Although people's fertility desire (preference) is an important predictor of their fertility behaviour, it is found to vary by social and family structure (Bankole *et al*. (1998).

A study conducted by Yount , Langsten and Hill (2000), Used Data from two surveys of currently married women aged 15-44 conducted in 1979-80 and 1990-91 to explore the changing impact of gender preference on modern contraceptive use and on fertility in rural Menoufia, Egypt. The significantly positive effects on contraceptive use of having one or more sons in 1979 remained constant in 1990. Families without living sons had higher odds of having a birth than did families with

two or more sons during 1979-80, and these relative odds were even higher in 1990-91 among families with three or more living children.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter entails the methods used in collecting data for the research. It describes the study design, study sites and the sample size. It also contains the sampling methods, study variables, data analysis and finally, ethical considerations for the research.

3.1 Study Design

The study was an "anthropological demography", Caldwell [(1996), p: 327], with analytical cross sectional in design, as it uses anthropological approaches and concepts to study the nature and causes of demographic behaviour". It involved the ascertaining of perception, knowledge and practice pertaining to fertility preferences. The study compared and analyzed patterns of fertility preferences among households in urban and rural communities in the Asunafo North district of the Brong Ahafo region, Ghana. Households in these communities were compared in dimensions considered as determinants that affect the fertility preferences of persons living in those communities. Such determinants included the perception, attitudes and beliefs, contraceptive use, and the economic value associated with fertility preferences. Background characteristics of these persons were taken into consideration regarding the type of marriages these households engaged in, level of education, occupation and income, economic reasons , where exactly one lives and having engaged ever in induced abortions. Other variables such as the survival hypothesis (that is the notion that when you give birth some will die therefore give more so that some will be left after some have died), the desire for another birth and the ideal family size were also looked at.

3.2 Study population

The study population comprised a cross section of community members who were females aged 18 or more years and who had stayed in the community or district six months or more prior to the commencement of the study.

3.3 Study Site

The Asunafo North Municipal forms the base of the colonial Ahafo district created in 1912. It is the remainder of the Ahafo district after the Asunafo South district was curved out of the Asunafo District. The district attained a Municipal status in 2008. Goaso is the Municipal capital, and it is located 85 kilometers from Sunyani the Brong Ahafo regional Capital. The district shares common boundaries with the Asutifi District to the north and east, the Dormaa Municipal to the north-west and the Juaboso Bia and the Sefwi Wiawso districts in the Western region to the west and south. The Municipal is bordered to the south-east by the Ashanti Region's Atwima District.

The Asunafo North Municipal has a population of 124,685 projected from the 2010 population and housing Census (GDHS, 2010). This is made up of about 51% female and 49% males with a growth rate of 2.6% which compares favourably with the regional and national growth rates of 2.2% and 2.4% respectively. The Asunafo North Municipal is predominantly rural, with 71.6 of its population living in the rural areas. This is higher than the national figure of 56.2% and the regional figure of 61% (GDHS, 2010). The Management of health facilities in the Municipal is the responsibility of the Ghana Health Service, Mission institutions and Private practitioners. There are a total of 15 health facilities located in various parts of the Municipal. There is one government Hospital at Goaso and two industrial clinics owned by the Ayum Forest Products and the Scanstyles Limited at Mim. There are

also one health center located at Akrodie, five rural clinics at Ayomso, Fawohoyeden, Asumura, Ampenkro and Dominase and two Community Health Planning Compounds at Gyasikrom and Kojo Addaikrom. In addition are four private maternity homes at Goaso Mim and Kasapin.

Generally about 85% of the people in the district have access to healthcare services. Accessibility to health care is further categorized into high and low. People with high access in the district amounted to 65%, while those with low access is 35%. The indicators of access to healthcare services are generally financial, geographical and physical accessibility. Please provide sub titles for the profile of the study area in the main work. The district health delivery is based on a 3-tier Primary Health Care System. These are the district, the sub-district, and the community levels. The activities at the district level are headed by the DHMT, while the Sub-District Health Team (SDHT) oversees health activities in the sub-district. The Village Health Committee (VHC) manages the community level. The health directorate is sub-divided into sub-districts, namely Akrodie, Asumura, Kasapin, Dominase, Ayomso, Fahoyeden andMim.

The municipality is however, predominantly Christians constituting about 83% of the population. Moslems form about 16% with traditional religion forming about 1%. The Asunafo North Municipality is predominantly an agrarian one. Agricultural activities in the municipality are centered mainly on crop production. Agriculture employs about 64% of the potential labour force, and about 44.5% of the workers in non-agriculture sector, who also engage in agriculture as a secondary occupation. Studies revealed that there is

no large scale farming activities in the municipality, implying that agriculture is basically on subsistence basis.

3.4. Sample Size

With the assumption that communities in Asunafo's preference for fertility were influenced by child survival hypothesis, a prevalence fertility preference rate of 70% was used to estimate the sample size. With a power of 80% confidence interval and 5% significance level, and design effect of 2, the required sample size needed to detect an assumed 80% prevalence fertility preference rate was calculated as follows:

$n = Za^2 p (1-p) d / i^2$ (Kirkwood and Sterne, 2003)

Where n = sample size required,

Za^2 = risk (0.03) (1.96),

P = proportion of event of interest 25% (80%-50%)

d = design effect = 1.5

i^2 =precision of the confidence interval (0.05^2)

$n= 1.96^2 * 0.30(1-0.50)*2.0/0.03^2$

n= 296 x 20%, n=355.2

N=355.2 x design effects of 1.7 =603

3.4.1Sampling

The Asunafo district was clustered into 5 using the Ghana Health Service's definition of a sub-district. A multi stage cluster sampling method was used to select and interview respondents with probability proportional to the population size. The sampling method is appropriate for areas without accurate listing of households in this case prospective respondents houses may not be readily available [Benette et al., 1991; Henderson et al., 1982]. In stage I: Three clusters were randomly selected. Communities in the selected clusters were randomly selected based on probability

proportional to their population sizes. At stage II: Households in the selected clusters were chosen randomly for the interview process. In the event of no respondent in the selected household, an alternative household was considered through ballot until the total sample size was attained.

3.5 Study variables

The main outcome variable was fertility behaviours and the independent variables were socio-economic and demographic characteristics, contraceptive use, location (rural or urban).

Current Fertility

Current fertility behaviours or preferences in the country may be influenced by age-specific and total fertility rates, general fertility rate, crude birth rate, fertility by background characteristics, mean number of children ever born to women aged 40-49, fertility trends, fertility by marital duration, children ever born and living, birth intervals by background characteristics, age at first birth, teenage pregnancy and motherhood by background characteristics and birth order.

Fertility Preferences

Fertility preference patterns include number of living children, age, desire to limit childbearing, unmet need for family planning services, ideal and actual number of children, average ideal number of children by background characteristics.

3.6 Data Collection

3.6.1. Fertility preference

Knowledge and perception data were sources of information, awareness, desired family size, meaning of fertility, reasons for family size, what people do to solve fertility problems, beliefs and norms values. Factors that influence fertility preference

were classified into socio-cultural or family reasons, economic reasons, and 'child-survival hypothesis' related factors

3.6.2 Data Collection Tools

For objective one (O1) knowledge and perception, key informant interviews and review of documents on fertility preference were employed. The sources of these data were opinion leaders, community leaders, and health staff. Tools for the interviews were semi-structured interview and discussion guides and tape recorders, batteries, note books and pens.

In the case of objective two (O2), factors that influenced fertility preference, in addition to interviews and document review, community members were asked to narrate the pathways or typical experiences of fertility issues. Data collection tools were interview guide, questionnaires, note books, pens, tape recorder, batteries.

Data pertaining to objectives three and four (O3), the role of contraceptive in fertility preference were collected with structured questionnaire administered to community members and health staff.

3.7 Data, analysis and reporting

All interviews were transcribed verbatim from recorded tapes. Data from the qualitative data from the structured questionnaire was analysed using themes, flow charts and study codes. Data was entered and analyzed with EPI Data 3.0 and SPSS 19th versions respectively. Descriptive statistics (mean, median, standard deviation, etc) were summarized. Continuous variables were compared using students-t test and discrete variables analysed using chi-square and other inferential statistics. For continuous variables, the estimates were for difference in means with 95% confidence interval and for binary data, the estimates were for the relative risk or odds ratio of 95% confidence levels.

3.8 Ethical Considerations

Ethical clearance was obtained from the School of Medical Sciences of the Kwame Nkrumah University of Science and Technology Committee on Human Research Publications and Ethics. Permission was sought from the Asunafo North District Health Directorate, community leaders through the Department of Community Health of the School of Medical Sciences of the Kwame Nkrumah University of Science and Technology. Strict confidentiality and anonymity were adhered to. No invasive approach was used. Prospective respondents were made to sign informed consent after the study had been explained to them. They were made to understand they could withdraw from the study if they so wished. No response (s) were identified with any interviewee.

CHAPTER FOUR

RESULTS

This chapter presents the results of the study. Results are presented in tables and figures proceeded by narrations. Of the 603 questionnaire that were presented, 592questionnaires merited inclusion into the analysis due to incompleteness of some of the questionnaires. Results are organized at the univariate, bivariate and multivariate levels.

4.1 Background characteristics of respondents

Table 4.1 indicates the summary of socio-demographic characteristics of respondent involved in the study. The mean age of the respondents was 29 years (SD=8.2) and about 72% of the respondents were less than 35years. Only 3.8% of the clients were above 44 years and 38.5% were below 25years. Majority of the respondents had basic education (primary and JSS) and about 14.9% had no formal education. Majority, 75.0% were Akans and 84.3% were Christians.

About 42.1% of the respondents were married whereas only 43.9% of them were single. Interestingly, about 5.6% of the respondents were divorced whereas 7.4% were separated. Most (72.52) of respondents were employed and among those employed 45.6% were into trading whereas 20.9% were artisans. Eighty-nine respondents constituting 26% were farmers. Reasons cited among respondents (27.5%) for not working included having no preferred work (5%), looking for work (34%), doing family business/chores (14%), and currently schooling (41%). Most of the respondents rated themselves as moderately rich (75.6%) whereas 18% rated themselves as poor. Only 0.2% rated themselves as very rich. As shown in Figure 4.1, majority of the respondents did not have the assets stated. Only 15% had a

vehicle or bicycle and 28.2% had land. About 32% and 21.3% had farmland and house respectively.

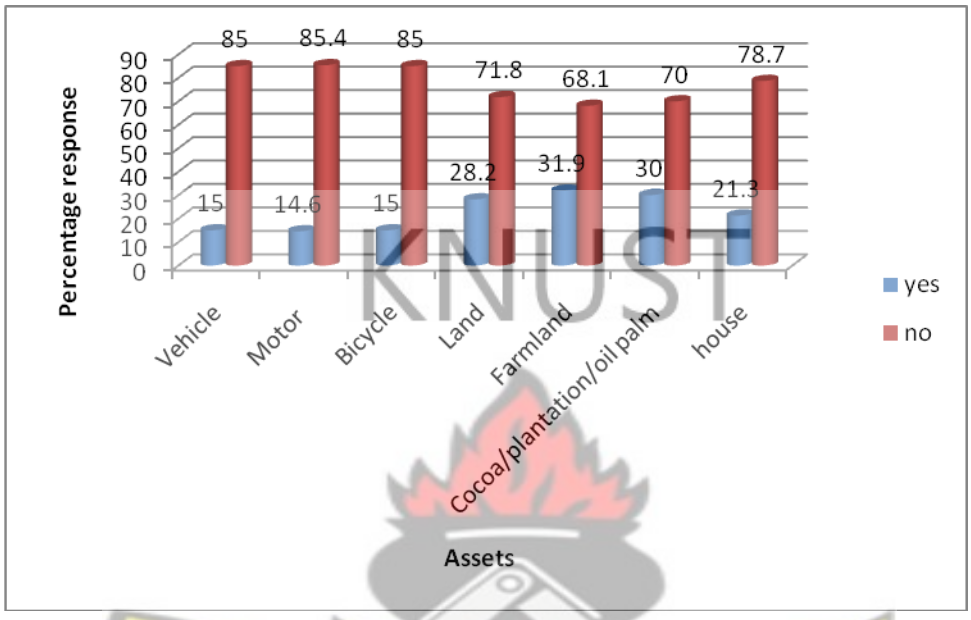
Table 4.1 Socio-demographic characteristics of respondents

Variable	Frequency (n)	Percentage (%)
Sex		
- Male	290	49.0
- Female	302	51.0
Age (n=585)		
– <25	225	38.5
– 25-34	197	33.7
– 35-44	141	24.1
– >44	22	3.8
Mean (SD)	***29 (8.2)***	
Education level (n=592)		
– no formal education	88	14.9
– primary	125	21.1
– JSS	274	46.3
– SSS/SHS	85	14.4
– Tertiary	20	3.4
Ethnic group (n=585)		
– Akan	439	75.0
– Ewe	30	5.1
– Ga	18	3.1
– Northerner	93	15.9
– Other	5	0.9
Region (n=592)		
– Christian	499	84.3
– Muslim	72	12.2
– Traditional	8	1.4
– No religion	13	2.2
Marital status (n=592)		
– single	260	43.9
– married	249	42.1
– divorced	33	5.6
– separated	44	7.4
– widowed	6	1.0
Currently employed (n=576)		
– Yes	416	72.2
– No	160	27.8
Main occupation (n=412)		
– Professional	23	5.6
– Sales/ trader	188	45.6
– Administrative/ managerial	6	1.5
– Clerical	-	-
– Service	-	-
– Production/artisan	86	20.9
– Farmer	109	26.5
Means of payment (n=468)		
– Cash	315	67.3
– Kind	10	2.1
– Both	143	30.6
Self-rating of financial status (n=549)		
– Very rich	1	0.2
– Rich	30	5.5

– Moderately rich	415	75.6
– Poor	99	18.0
– Very poor	4	0.7

Source: Field data, 2013

Figure 4.1 Current assets of respondents



Source: Field data, 2013

4.2 Perception on fertility preferences

Respondents' perception about fertility revealed interesting findings: Whereas some explained fertility as the outcome of sexual intercourse between couples, others believe it is the ability to give birth, a woman becoming pregnant and giving birth after 9 months, a blessing from God, as presented during the Focus Group Discussions:

[…] Fertility is about somebody who is capable of giving birth, […] Sexual Intercourse between a man and a woman brings about fertility,[…] the p

lan of God; everybody should be fertile, […] Accident causes infertility,[…]Blood incompatibility and infections acquired during youthful age[…] There is nothing you can do about it**[Focus Group Discussion]**

Table 4.2 presents results of respondents' perceptions and views on fertility preferences. Most of the respondents had children whereas 16.1% had none. Among those with children, 20.1% had one child, 17.9% had two whereas 33.8% had more than three children. Majority of the respondents had one or two male or female children and about 72.4% had the intention of having more children citing finance as possible barrier to have more children as expressed by respondents in the in-depth interview:

[…]. It does because if a person has money, the person can decide to give birth to so many children but if they do not have money, they will give birth to a sizeable number of children that they will be able to cater for. [..] If you are not employed, you cannot even marry, let alone give birth **[In-depth Interview, Teacher].**

Majority, 57.3% preferred any sex whereas 24.2% preferred a female child. More than 50% strongly agreed that the gender of children is determined by God and almost, 90%, stated that fertility preference was important in their communities. In the focus group discussions respondents confirmed this as follows:

*[..]… It is a gift from God. It is God who determines the gender of the gender of the children. Sometimes a couple may decide to have only boys but they turn up giving birth to only girls, so as they try to get boys they turn to have a large family size which they cannot cater for****[Focus group Discussion, mixed group]***

[…..] In the olden days, it was believed that men were better than women but in recent times, it has been proven not so. Whether male or female, it depends on how you take care of them ***[Focus group Discussion, women's group]***

[…] For now we do not have any responsibility or role to determine the fertility preference in the community. You cannot force anybody to give birth to any number of children ***[Focus group Discussion, men's group].***

About 86% also indicated that fertility preference was important to them and reasons `cited included 'it boosts ones confidence, more loved by spouse, receives favour from spouse's relatives and gain recognitions among community members.

These were confirmed by the focus group discussion with both men women where respondents said:

[..] ooh, eerrhh……. marriage without a child is full of conflicts and sadness. As a man having children in your marriage boosts one's confidence and shows that you are really a man" ***[Focus group Discussion, men's group]***

[….] hmmm……, as a woman if you enter marriage and have no child with your husband, then trouble for you. Your in-laws and other husband's relatives will stand against ***[Focus Group Discussion, women group]***

[…] That is God's gift, if you give birth to only males or females you need to accept it. In the olden days, their grandparents married two or three wives to help them in farming, as a result ended up having a lot of children since they cherish children ***[Focus Group Discussion, women group]***

[..].. There is more to marriage than bearing children. Marriage is a companionship to share secrets and ideas. […] In the extended family, one cannot determine the gender and number of children for the couple but in the nuclear family the couple can decide on their fertility preference […] ……so many ways. Because I am a learned person so I know the problem and because of that, we have decided on the number of children to have ***[Focus Group Discussion, mixed group].***

Table 4.2: Results of respondents' perceptions on fertility preferences

Variable	Frequency	Percentage
Current number of children (n=553)		
– None	89	16.1
– 1	111	20.1
– 2	99	17.9
– 3	67	12.1
– >3	187	33.8
Mean (SD)	***2.8 (2.3)***	
Number of existing male children (n=513)		
– None	143	27.9
– 1	164	32.0
– 2	103	20.1
– 3	56	10.9
– >3	47	9.0
Mean (SD)	***1.5 (1.2)***	
Number of existing female children (n=508)		
– None	140	27.6
– 1	148	29.1
– 2	112	22.1
– 3	62	12.2
– >3	46	9.1
Mean (SD)	***1.5 (1.2)***	
Intention to have any more children? (n=532)		
– Yes	385	72.4
– No	135	25.4
– Don't know	12	2.3
Number of children intended (n=479)		
– 1	25	5.2
– 2	53	11.1
– 3	118	24.6
– >3	199	41.5
– No idea	84	17.5
Sex preferred most (n=520)		
– Male	96	18.5
– Female	126	24.2
– Any	298	57.3
That Male children are better than female children (n=573)		
– Strongly agree	60	10.5
– Agree	87	15.2
– Indifferent	178	31.1
– Disagree	200	34.9
– Strongly disagree	48	8.4
That Female children are better than male children (n=590)	95	16.1
– Strongly agree	s117	19.8
– Agree	156	26.4
– Indifferent	181	30.7
– Disagree	41	7.0
– Strongly disagree		
That the gender of children are determined by God (n=588)	298	50.6
– Strongly agree	265	45.1
– Agree	10	1.7
– Indifferent	14	2.4
– Disagree	1	0.2

– Strongly disagree		
Is fertility preference important in this community? (n=591)	523	88.5
– Yes	68	11.5
– No		
Is fertility preference so important to you? (n=571)		
– Yes	491	86.0
– No	80	14.0

Source: Field data, 2013

4.3 Women's fertility preferences

This section further presents respondents perceptions and reproductive characteristics that influence fertility preferences. The majority of respondents had ever given birth and the mean age of their first birth was 20 years (SD=3.1). The majority, 50.8%, gave birth before the age of 20years and 97.7% gave birth to their babies alive. About 86% of those who had never delivered indicated that they intended to give birth and about 44.8% intended to have more than three children. The most cited reason for their preferred number of children among respondents was to give them better upbringing. Respondents' knowledge and perception of fertility revealed interesting findings: Reasons included children assisting in farming as well as others who shared the notion that the number of children to have is the decision of God as shown in Figure 4.2. Three hundred and fifty-three respondents constituting 61.3% indicated they had fertility preferences with 36.3% showing preference for any gender. Respondents' reasons for preferring a particular gender included society preference, partner preference, able to attain higher education and being more responsible as shown in Figure 4.3.

The responses were also consistent with the findings from the FGD:

[…]She will accept all of them since they are human being. [...] Society is a factor since they expect you to give birth. Individual preference [..]. Through their personal experience they may yearn for a particular gender ***[Focus Group Discussion, women's group]***

*[…] It is the dream of every woman to give birth to a female likewise a man wish to have a male. In the society in which we live, male children are more recognized than female children. But most women prefer female children to assist in caring for the home now and in future when the mother is old.**[Focus Group Discussions, Women group].***

*[…] Giving birth to a female implies there is procreation but male do not help in procreation. However, men also help in problem solving, so all are important **[Focus Group Discussion, Women's group]***

*[..] If couple's are unable to give birth, people consider the marriage to be of no importance **[Focus Group Discussion, Women's group]**.*

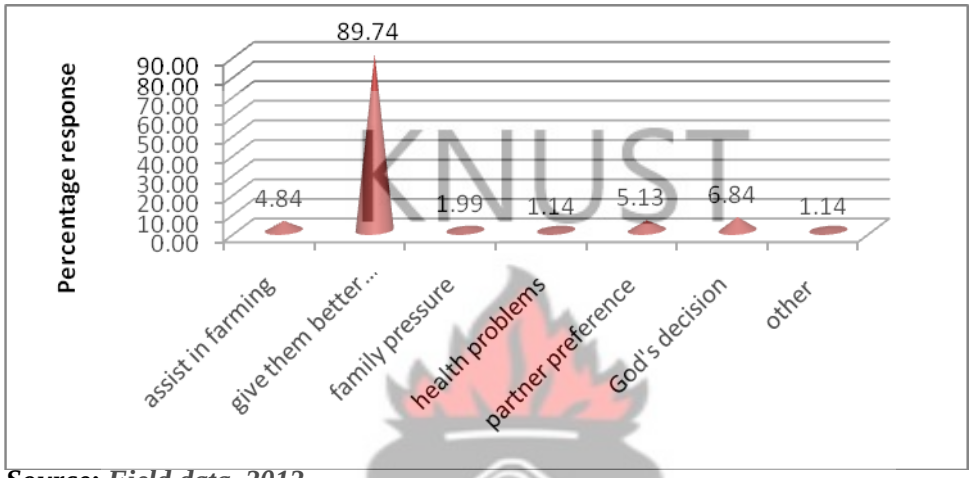
Table 4.3 Results of fertility intentions among respondents

Variable	Frequency	Percentage
Ever given birth? (n=557)		
– Yes	441	78.3
– No	116	21.7
Age you first gave birth? (n=441)		
– <20	224	50.8
– 20-25	195	44.2
– 26-30	22	5.0
Mean (SD)	***20 (3.1)***	
What was the outcome delivery? (n=469)		
– Baby born alive	458	97.7
– Baby born alive but died few days later	11	2.3
What was the gender of your baby? (n=490)		
– Male	236	48.2
– Female	245	50.0
– Both males (twins)	5	1.0
– Both females (twins)	1	0.2
– Male and female (twins)	3	0.6
If never delivered before, do you intend to give birth? (n=151)	127	85.5
– Yes	24	13.8
– No	1	0.7
– Don't know		
If already given birth, do you intend to give birth again? (n=424)		
– Yes	290	68.4
– No	128	30.2
– Don't know	6	1.4
How many children do you intend to have? (n=344)		
– 1	22	6.4
– 2	65	18.9
– 3	103	29.9
– >3	154	44.8

Do you have a fertility preference? (n=576)		
– Yes	353	61.3
– No	223	38.7
Which gender do you prefer most (n=418)		
– Male	142	34.0
– Female	124	29.7
– Any	151	36.3

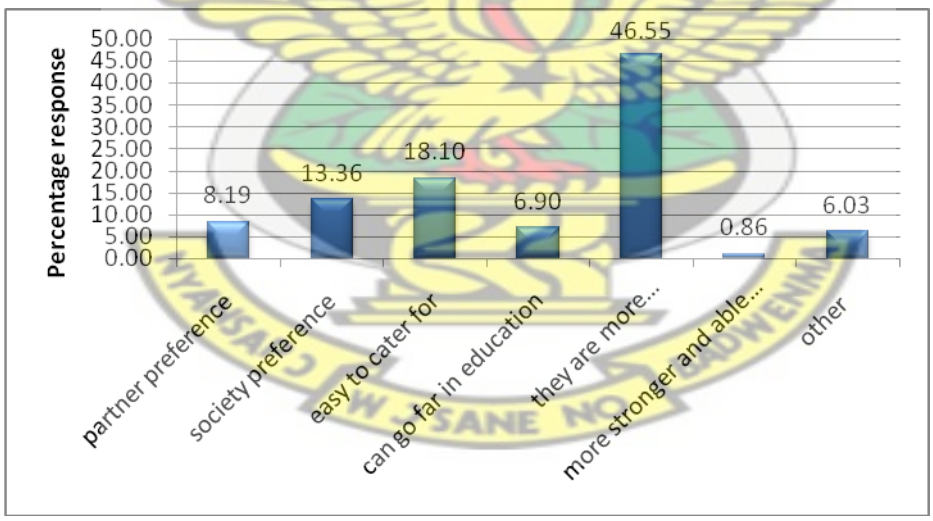
Source: Field data, 2013

Figure 4.2 Reasons for intended number of children



***Source:** Field data, 2013*

Figure 4.3Reasons for preferred gender of child



Source: Field data, 2013

4.4 Contraceptive Awareness among Respondents

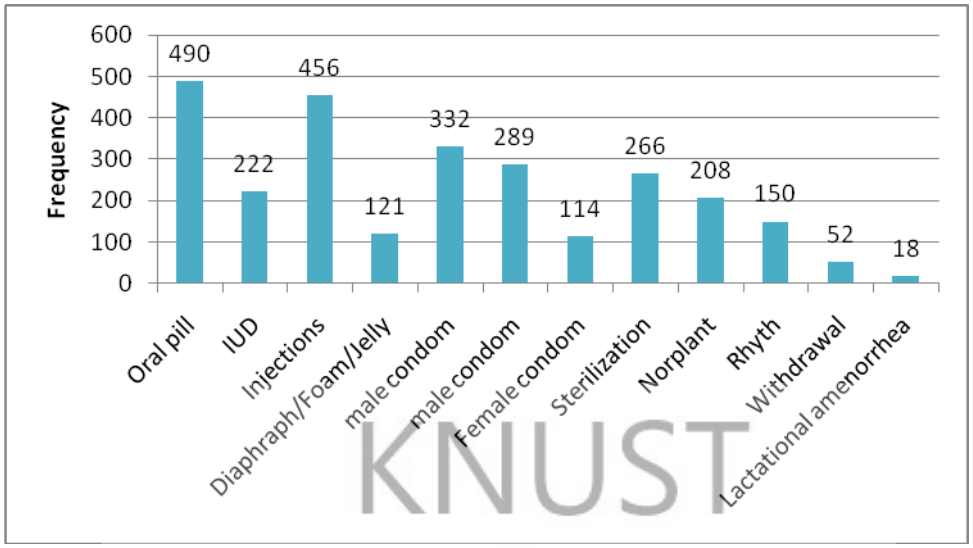
Figures 4.4 and 4.5 Table 4.4 present results of respondents' views and perceptions on the role of contraceptives in fertility preferences. As shown in Figure 4.4, the majority of respondents were aware of the oral pill and injectables. Awareness of the

condom as well as norplant was also high. About 45% of the respondents in this study indicated that their partners favoured the use of contraceptives by couples, Table 4.4.Majority, 56.5%, stated they were not doing anything to prevent or delay pregnancy whereas 41.6% stated that they were using at least one contraceptive or doing something to prevent delay pregnancy. Respondents' reasons for not using any family planning method to prevent or delay pregnancy included being currently pregnant, breastfeeding, not having sex with fear of side effects being the most cited reason.

Family planning methods mentioned as being used by the respondents included oral pill, injections, norplant and the rhythm methods. None of the women or partner was using the diaphragm, female condom or lactational amenorrhoea. The use of the male condom 47.9% and sterilization 44.1%, was quite low as shown in Figure 4.5. The sources of family planning services cited among respondents included the hospital (22.5%), clinic and health centres (38%) and pharmacy shops or drug stores (28.2%). More than half of the women intended to use family planning methods in the future and 61.2% also said that contraceptive use was important in fertility preference.

Respondents' alluded the importance of contraceptives in fertility preference to many reasons some of which included; it allows you to be very prepared for next pregnancy, it can determine the sex of child, it delays pregnancy and also it saves money.

Figure 4.4 Awareness of contraceptives



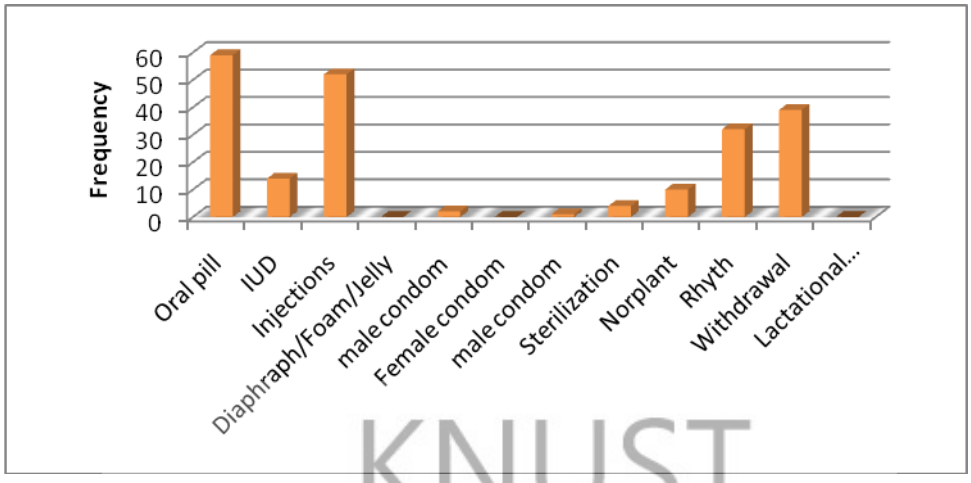
***Source:** Field data, 2013*

Table 4.4 Results on role of contraceptives in fertility preferences

Variable	Frequency	Percentage
Think your partner in favour of couples using a method to delay or avoid pregnancy? (n=570)		
– In favour	255	44.7
– Not in favour	73	12.8
– Don't know	61	10.7
– No partner	181	31.8
You or your partner currently doing something to prevent or delay pregnancy? (n=423)		
– Yes	176	41.6
– No	239	56.5
– Don't know	8	1.9
Where do you most often receive your family planning services? (n=142)		
– Hospital	32	22.5
– Maternity home	6	4.2
– TBAs	4	2.8
– Clinic or health centre	54	38.0
– Pharmacy/drug store	40	28.2
– Other	6	4.2
Do you intend to use any family planning methods in the future? (n=556)		
– Yes	311	55.9
– No	172	30.9
– Don't know	73	13.1
Is contraceptive use important in fertility preference? (n=544)		
– Yes	333	61.2
– No	139	25.6
– Don't know	72	13.2

Source: Field data, 2013

Figure 4.5 Family planning methods used by respondents



Source: ***Field data, 2013***

4.6 Factors influencing fertility preferences

4.6.1 Socio-demographic factors influencing fertility preferences

The fertility preference of the women was influenced by their age, religion and ethnic groups. As shown in Table 4.5, there was significant difference in the ages of the women with respect to their preferred child sex type (p=0.006). The percentage of women with fertility preference also varied significantly among the various ethnic groups of the respondent's with the percentage of women with fertility preference being higher among the Akans and lowest among the Gas as detailed in Table 4.6. Further, the religion of the respondents had significant influence on the fertility preference of the women (p=0.008) and their preferred sex of child (p=0.031). The educational level, marital status, current employment status and rating of financial status did not influence fertility preference of the women in this study.

Table 4.5: Bivariate analysis of socio-demographic factors influencing fertility preferences

	Have fertility preference		p-value	Type of sex preference			p-value
	Yes	No		Male	Female	Any	
Age (mean age)	29.4 ± 8.1	28.0 ± 8.0	0.114	28.4 ± 8.3	26.7 ± 7.6	29.1± 7.7	0.006
Education level							
– No formal education	62.2	37.8	0.146	32.7	15.4	51.9	0.056
– Primary	60.8	38.2		40.0	25.7	34.3	
– JSS	64.6	35.4		33.9	31.6	34.5	
– SSS/SHS	73.1	26.9		38.5	36.5	25.0	
– Tertiary	41.2	58.8		8.3	41.7	50.0	
Ethnic group							
– Akan	69.2	30.8		35.8	31.2	33.0	
– Ewe	44.0	56.0	0.001	38.9	11.1	50.0	0.052
– Ga	33.3	66.7		16.7	50.0	33.3	
– Northerner	48.7	51.3		34.6	15.4	50.0	
– Other	60.0	40.0		0.0	60.0	40.0	
Religion							
– Christian	64.4	35.6	0.008	37.2	28.2	34.6	0.031
– Muslim	50.8	49.2		26.7	24.4	48.9	
– Traditional	100.0	0.0		33.3	50.0	16.7	
– No religion	91.7	8.3		0.0	63.4	36.4	
Marital status							0.187
– Single	64.0	36.0	0.919	33.0	33.0	34.0	
– Married	63.6	36.4		36.9	24.2	38.9	
Currently employed							
– Yes	63.9	36.1	0.975	33.7	32.9	33.3	0.094
– No	64.1	35.9		35.2	22.2	42.6	
Self-rating of financial status							
– Very rich	100	0.0		0.0	100.0	0.0	
– Rich	61.5	38.5	0.371	34.8	43.5	21.7	0.069
– Moderately rich	61.4	38.6		34.0	29.9	36.1	
– Poor	70.9	29.1		37.3	20.0	42.7	
– Very poor	100.0	0.0		0.0	100.0	0.0	

Presented in means** **Tests: ANOVA and Fischer's Exact

4.6.2 Reproductive characteristics influencing fertility preferences

Table 4.6 presents the bivariate analysis of the association between respondent's reproductive characteristics and fertility preferences. Mean age of first birth was significantly associated with the women's fertility preference (p=0.026). The mean age of first birth also varied significantly with the type of sex preferred by the women with the mean age being higher among respondents who preferred female child as compared to those who preferred male child. The number of children the women intended to have also had significant influence on the fertility preference. The mean

number of intended number of children varied significantly with the women's fertility preference.

Table 4.6:Bivariate analysis of socio-demographic factors influencing fertility preferences

Variable	Have fertility preference		p-value	Type of sex preference			p-value
	Yes	No		Male	Female	Any	
Age you first gave birth? *	19.6 ±3.2	20.2 ±2.9	0.026	18.8 ±2.8	20.3 ± 3.7	19.8 ± 2.8	0.045
Outcome of first delivery?							
– Baby born alive	62.3	37.7	0.431	35.3	28.3	36.4	0.003
– Baby born alive but died later	50.0	50.0		0.0	0.0	100.0	
How many children do you intend to have?*	3.3 ±1.9	3.9±1.9	0.001	4.1± 1.9	3.5 ± 2.1	4.1 ± 1.9	0.514

Presented in means ***Tests: ANOVA and Fischer's Exact*** ± = standard deviation

4.6.3 Multivariate analysis

Table 4.7 presents results of regression analysis of factors influencing fertility preferences among respondents in this study. The regression analysis showed a significant influence of ethnicity on fertility preference of the women in this study. Coming from an ethic group other than an Akan, was associated with lower odds of having a fertility preference (OR=0.7; p<0.01). Ethnic origin however did not influence the women's preference for a particular gender. Women who had their first birth at the age of 20-25 years were also less likely to have a fertility preference as compared to those who had their birth under 20years (OR-0.5; p<0.05). The religious background of the women also influences their preference for gender of child: As compared to Christians, women from other religious backgrounds were more likely to prefer any child sex (OR=1.9; p<0.05).

Table 4.7 Results of the logistic regression analysis of factors influencing fertility preference among women.

Variables	Have fertility preference	Preferred sex of child *(1=any sex; 0=male/female)*
	OR (95% CI)	**OR (95% CI)**
Age (ref=<25)		
– 25-34	0.8 (0.4, 1.0)	1.9 (0.9, 4.1)
– 35-44	0.8 (0.3, 1.8)	1.3 (0.5, 3.4)
– >44	0.7 (0.2, 1.9)	3.5 90.7, 16.9)
Ethnicity (ref=Akan)	0.7 (0.6, 0.8)**	1.2 (0.9, 1.5)
Religion (ref=Christian)	1.5 (1.0, 2.3)	1.9 (1.1, 3.4)*
Age of first birth (ref=<20)		
– 20-25	0.5 (0.3, 0.9)*	1.7 (0.9, 3.1)
– 26-30	0.9 (0.3, 3.2)	0.2 (0.05, 1.2)
Intended number of children	0.8 (0.4, 1.8)	0.8 (0.4, 1.7)
N	***490***	***472***
Log likelihood	***-178.967***	***-133.677***
Prob>chi2	***0.0041***	***0.0015***

*p<0.05 **p<0.01 ***p<0.001

While the quantitative survey identified ethnicity, age at first birth and religion, as significant factors influencing fertility, the results of the in-depth interviews and focus group discussions showed happiness and tenacity in marriage, individuals perception, modernity, education delays one's fertility and employment as factors that can influence fertility. Other important factors included finance, religious influence, in-laws or family, desire to prove to community and family members that one is fertile.

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter discusses the study. It involves a discussion of the findings of the study in relation to published literature on fertility preferences. The outline is based on the objectives of the study.

Measuring of reproductive and fertility motivations remains a major topical issue in public health. Changes in the environment of the individual, including social, economic and demographic conditions, have been shown to influence the individual in reformulating his/her fertility preferences. Measures of fertility preferences (even if they do not completely translate into actual behaviour), do provide an insight into preferred family size, its composition, and its relationship with fertility related behaviour. Again, it helps in measuring how these preferences are likely to be affected by differentials in social, economic, and demographic conditions of the individual (Farooq, 1981). This cross-sectional study measured the fertility preference among women in rural and urban communities in the Asunafo North District of the Brong Ahafo Region. The study further assessed the role of contraceptives in fertility preferences of this group of people.

5.2 Fertility intensions and preferences

This study measured the fertility preferences of women in the Asunafo North district. Fertility preferences are important measures for forecasting fertility, calculating levels of unwanted or mistimed fertility and assessing unmet need for contraceptives and according to Johnson-Hanks (2007), fertility preferences respond to changes in

life circumstances. However, very little research has focused on how individuals' fertility timing desires change over time.

A majority of the responding women involved in this study had ever given birth and the mean age of their first birth was 20 years (SD=3.1). Study results further showed that most of them gave birth under the age of 20 years, with almost all respondents giving birth to their babies alive. The results was consistent with the Ghana Demographic and Health survey 2008 where the median age at first birth for all women in the reproductive age was 20.7. The median age of first birth among rural women was two years earlier than that of women in urban areas (20.0 years versus 22.1 years) and this was very consistent with the mean age in this study since most of the study respondents were from a rural background. The age women gave birth could also be as a result of early marriage. According to the Ghana Demographic and Health Survey 2008, one-third of women in Ghana are married by age 18. The median age at first marriage is 19.8 for women age 25–49 compared with men age 30–59 who marry much later at a median age of 25.9. Women in urban areas marry almost three years later than women in rural areas (21.3 years versus 18.7 years).

The mean number of children for women in this study was 2.8 (SD=2.3). Among those with children, 20.1% had one child, 17.9% had two whereas 33.8% had more than three children. This indicates that majority of the women had at least one child as shown in Table 4.2. This is similar to a study in Ghana by Kordzi, Johnson and Casterline (2010) to examine the predictive value of fertility preferences among Ghanaian women, where a total of 47% of the subsample of 1,068 women who were married or in stable unions, and who were neither permanently abstaining from sex nor sterilized, became pregnant at least once over this period. Over the period 1998-

2003, 29% of the women had one pregnancy, 16% had two pregnancies, and 2% had three pregnancies.

The mean number of children by women in this study (2.8) was lower than the 2008 GDHS report for the region (4.1) and nationally (4.0). This could be the continued decrease in fertility over the past 20 years from 6.4 children per woman in the 1988 GDHS as stated by the 2008 GDHS report. This decline in fertility in recent years, have been explained with increased women's autonomy, a growing number of women in the labor market and calculation of direct and indirect costs of having children (Bernhardt, 1993). Empirical studies during the 1960s and the 1970s, when fertility decline went hand in hand with an increase in women's labor market participation, confirmed such views even further. Evidence from empirical studies during the 1960s and the 1970s was so obvious that the negative relationship between female employment and fertility became a fact (Becker, 1991).

A recent study by Goldstein and others (2003), also suggests that the vast majority of men and women do not have as many children as they would like. This shows that couples face limitations which prevent them to have the desired number of children and that there exists a mechanism according to which these restrictions operate. However, recent demographic, economic and sociological literature disagrees with the idea that women's employment must always have a negative impact on fertility. Research suggests the importance of policy in coordinating motherhood with employment. It is believed that creating the conducive environment will enable women combine work with their fertility intentions.

As van de Walle (1992) points out, numeracy about children and the norm of an ideal family are prerequisites for fertility decline. Although majority respondents in this study had two or three children, most of the women studied intended to have more

than three children. The most cited reason for their preferred number of children among respondents was to give them better upbringing. Other reasons included assisting in farming and it being God's decision. This was consistent with the study by Nayab (2012) where the majority of the women idealise a family with four children followed by those preferring three. Some women in that study also believed the number of children could only be determined by God and some were also not sure of how many they intend to have indicating that many respondents had not yet started thinking in terms of a concrete family size. The intentions of Ghanaian women to have more children was reported in the 2008 GDHS report where the women wanted to have four4 children, on average Ideal family size was however higher among women in rural areas than urban areas (4.7 versus 3.9) and young women desire few children than their counterparts.

The study also recorded preferences among the women with respect to the gender of children. Almost 90% of the women stated that fertility preference was important in their communities and to them. Majority of the women preferred any sex whereas about 24% preferred a female child. However, majority strongly agreed that gender of children is determined by God. Respondents' preference for a particular gender boarded on society preference, partner preference, a particular gender able to attain higher education and being more responsible than counterpart. These are shown in Table 4.2. Previous studies have also found strong preference for sons among married couples (Song and Tao, 2013; Mahmood, 1992). The study by Song and Tao (2013) further showed that reference for both sexes is likely to increase the number of children, no preference to decrease the number most, and girl preference tends to increase the number of children more than boy preference.

5.3 Factors influencing fertility preferences

Previous studies in Africa including Ghana have documented changes in fertility preferences of women over a period of time (Bankole and Westoff, 1998; Debpuur and Bawah, 2002; Kodzi, Casterline and Aglobitse, 2010). This shows that fertility intentions are influenced by set of factors which include changes in the socio-demographic background of the women, employment or health (Bankole and Westoff, 1998; Kodzi, Casterline and Aglobitse, 2010), pregnancy or pregnancy complications (Kodzi, Casterline and Aglobitse, 2010) and relationship changes and the influence of their partner's preferences (Bankole and Westoff, 1998; Dodoo, 1998). This study also assessed the influence of socio-demographic and reproductive characteristics on fertility intentions among women in the Asunafo-North district of Ghana.

This study recorded a significant difference in the ages of the women with respect to their type of sex of child preferred (p=0.006). The mean age of the respondents was 29 years (SD=8.2) and majority were less than 35years. The younger women in this study preferred a girl whereas the older women preferred any gender. Table 4.5 outlines these findings. This could be explained by the fact that as the women ages, the preferences decrease because they might be in dire need of children and might also harbor the fear of not having children at all which has some socio-cultural consequences in some communities in Ghana. This was inconsistent with the study by Matsumoto1and Yamabe (2013). In their study, the women in their 50s and those older than 60 years had a significantly high preference for a female child and the mean desired numbers of children in the women in their 20s and 30s were significantly lower than those in the women in their 40s, those in their 50s, and in those older than 60 years. The study by Song and Tao (2013) however found no

significant association between age of women and preferred gender of children. Young women have also been reported to show high preference for smaller family size (Ding and Hesketh, 2006).

This study also found significant association between fertility preferences of the women and their ethnic and religious background. The percentage of women with fertility preference was higher among the Akans and lowest among the Gas. In the multivariate analysis, being from an ethic group other than an Akan, was associated with lower odds of having a fertility preference (OR=0.7; p<0.01) and as compared to Christians, women from other religious backgrounds were more likely to prefer any gender of child (OR=1.9; p<0.05), this is evident in Table 4.7. Consistently, the study by Mosher and Bachrach (1996) also reported significant associations between religion and fertility preferences. In their study, Catholic women tended to have fewer children than Protestant women and fertility intentions were lowest among Jewish women and those with no religion. The study by the National Survey of Family growth (2012) also reported differences in the fertility preferences of women with respect to the race of the women studied.

The education backgrounds of couples have been shown to be a great determinant of the fertility desires and intentions. Education may act on the desire for children through partner communication (Mahmud and Ringheim 1997) education was positively related to more favorable attitudes toward birth control, greater knowledge of contraception and husband-wife communication (Cochrane, 1990). Previous studies show that education influence fertility preferences through delayed age at marriage, increase in woman's individuality and aspirations for the quality of children, increased opportunities for personal advancement, awareness of social mobility, and most importantly a desire for a reduced number of children and a

greater exposure to knowledge of means to regulate fertility (Oppong, 1983; Mahmood and Khan, 1985; Mahmood, 1992).

This study however found no significant association between educational background and the fertility preferences of the women studied. Majority of the respondents in this study had basic education (primary and JSS) and about 15% had no formal education (Table 4.1 and Table 4.5). This study results is consistent to Chowdhury (1994) in Bangladesh, who reported that gender-preference, is not related with the years of schooling. Similarly, Sharma (1998) also indicated that education influences attitudes and perceptions, and rather gives openness to ideas and generates liberal attitudes towards the sex of a child. Therefore, educated couples tend to be much open towards the gender of their children and do not hold specific preferences.

The result of this study is however inconsistent with some other studies which have reported varied relationships between the educational background of married couples and their fertility desires. The study of reproductive motivation and family size preferences among Nigerian men by Uche and Isiugo (1994) reported an inverse relationship between husband's education and family size goals. According to their study, educated men prefer to have small families in part because they are more likely to have views and lifestyles that are consistent with lower fertility and higher quality of children. Again, the study by Ezeh's (1993) based on the 1988 Ghana Demographic Health Survey reported that educated husband is more likely to approve family planning than an uneducated husband and implied that educated men have smaller fertility preference. The study by Nayab (2012) revealed a strong negative association between fertility preferences and education, with the impact of wife's education with stronger than that of the husband.

Most respondents in this present study were employed. This study found no significant relationship between employment status and fertility intentions of the women studied (Table 4.5). However, there has been an established relationship between employment and fertility by some previous demographic literature including studies by Brewster and Rindfuss, (2000), Engelhardt and Prskawetz (2004) and Matysiak and Vignoli (2008). This has been explained by the difficulty of combining atypical working hours with family responsibilities, especially if formal childcare institutions do not follow women's work time, Therefore, forcing women to opt for a strategy of reduced fertility, particularly in the absence of informal childcare arrangements provided by partners, (close) relatives or others.

This present study further found and association between mean age of first birth and the women's fertility preference (Table 4.5). The mean age of birthing among women in this study was 20 years (Table 4.3). The mean age of first birth also varied significantly with the type of sex preferred by the women with the mean age being higher among respondents who preferred female child as compared to those who preferred male child (Table 4.5). In the multivariate analysis, women who had their first birth at the age of 20-25 years were less likely to have a fertility preference as compared to those who had their birth under 20years (OR-0.5; $p<0.05$) (Table 4.7). This is consistent with the study by (Xing and Fang, 2010) which also found significant relationship between age of first birth and fertility rate. The number of children the women intended to have also had significant influence on the fertility preference in this study.

5.4 Role of contraceptives in fertility preferences

The decline in fertility over the years and consequential uptake of contraceptives has resulted in an increased interest in the research into the relationship between uses of contraceptives and fertility preferences among women. The fertility trend in Ghana decreased from 6.4 in 1988, to 5.2 (1993), 4.4 (1998), 4.4 (2003) and 4.0 in 2008 (GDHS, 2008). As at 2008 in Ghana, a total of 17% of married women currently use a modern method of family planning and an additional 7% are using a traditional method and Ghana is known to be the only country in Western Africa with high use of modern contraceptives. This further stresses on the relationship between fertility and contraceptive use.

Awareness of the oral pill, injectable, condom and Norplant was high among respondents in this study and about 45% of the respondents in this study indicated that their partners favour the use of contraceptives by couples (Table 4.4). According to the GDHS 2012, knowledge of family planning is universal among women and men in Ghana and the most commonly known methods are male and female condoms, the pill and injectable, which is consistent with this study finding. About 42% of the women were preventing or delaying pregnancy. More than half of the women intend to use family planning methods in the future and majority were of the view that contraceptive use is important in fertility preference. Other studies also reveal reproductive intention or preference as important predictor of contraceptive behavior (Bongaarts 1991; Ghule, 1999) and according to Amin and others (1994) if the couples do not use contraceptives, it may be the cause as in study that they want a child. This was evident in this study as women who did not use contraceptives stated that they were pregnant, breastfeeding or not having sex indicating that did not want to have children at that time.

A study conducted by Yount, Langsten and Hill (2000) to explore the changing impact of gender preference on modern contraceptive use and on fertility in rural Menoufia, Egypt also reported significantly positive effect of contraceptive use on fertility preferences. In that study, families without living sons had higher odds of having a birth than did families with two or more sons during 1979-80, and these relative odds were even higher in 1990-91 among families with three or more living children. This could imply that families without living sons were not likely to use any form of contraception and vice versa.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the author's conclusions based on the results and discussions made in the previous chapters**.**

6.1 Conclusion

6.1.1 Fertility intensions and preferences

It can be concluded from the results and discussions in this study that women in Asunafo North district of Ghana have varied fertility preferences. Majority of the women gave birth under 20years and the mean age of giving birth was 20 years (SD=3.1) (Table 4.3). The mean number of children for women in this study was 2.8 (SD=2.3) and most of the women studied intended to have more than three children (Table 4.2). Majority of the women preferred any sex whereas about 24% preferred a female child and most of the women indicated the importance of fertility preference in their communities.

6.1.2 Factors influencing fertility preferences

It can further be concluded that the fertility preferences among the women varied significantly with respect to their age, ethnic origin, religion, age at first birth and intended number of children. The younger women in the district preferred a girl whereas the older women did not have a specific preference for gender (Table 4.7). Women who had their first birth at the age of 20-25 years were less likely to have a fertility preference as compared to those who had their birth under 20 years (Table 4.7). The educational background and employment status of the women did not influence their fertility preference in this study (Table 4.5).

6.1.3 Role of contraceptives in fertility preferences

The knowledge of some contraceptives was high among respondents in this study and about 42% of the women were preventing or delaying pregnancy with contraceptives. More than half of the women intend to use family planning methods in the future and majority were of the view that contraceptive use is important in fertility preference. Those who were not using contraceptives had no intentions of preventing or delaying pregnancy (Table 4.4).

6.2 Recommendations

Based on the findings of the study, the following recommendations are made to the respective stakeholders;

Ghana Health Service/stake holders

- Most respondents in this study wanted to have a large family. More emphasis is needed through education to emphasize on the importance of small family norms and male involvement. Mass media may help to weaken the cultural and psychological influence related to the larger family norm. These programs can use local dialects to reach to the target population.
- The importance of contraceptives in minimizing and controlling births was evident in this study. This could however be achieved with improved availability and accessibility to family planning methods and services.

Community/household/individual

- The study results indicated preference for specific gender and this could be a very important factor for preferring larger families. People therefore need to be educated and motivated in regard to their value of children
- Some respondents in this study wanted a particular gender of child because it was a partner's preference, showing the extent of dominance of one partner in fertility preference. Interposal communication should therefore be encouraged as this could be another strategy to influence couple's family size desire.
- It was also seen that community's influence or expectations regarding fertility especially among couples was great. The community should be educated on the fertility in order to remove or minimise the unnecessary pressure especially on couples.

Further research

- More research is needed to understand how economics and fertility are related at the individual level. Finally, fertility decisions are not made in a vacuum. Future research should investigate the potential influence of partners and family on young women's fertility preference formation and change
- Further studies, both qualitative and quantitative, need to be carried out to explore the socio-cultural and religious beliefs, norms and attitudes of men in regard to the value of children, women's status and approval of family planning. Low contraceptive prevalence areas of the country could be focused in this regard.

REFERENCES

Agadjanian V (2005). Fraught with ambivalence: reproductive intentions and contraceptive choices in a Sub-Saharan fertility transition. *Population Research and Policy Review;* 24(6):617–645.

Ahn, N., Mira, P. (2002). A Note on the Changing Relationship between Fertility and Female Employment Rates in Developed Countries. *Journal of Population Economics* 15(4): 667-682

Ali, M (2000). The Effect of selected socio-demographic characteristics on desire of additional children among couple's in Bangladesh." *Master's Thesis,* Faculty of Graduate Studies, Mahidol University. Thailand

Bankole A, Singh S. (1998). Couples' fertility and contraceptive decision-making in developing countries: hearing the man's voice. *International Family Planning Perspectives*; 24(1):15–24.

Bankole A, Westoff CF (1998). The consistency and validity of reproductive attitudes: evidence from Morocco. *Journal of Biosocial Science*. 1998; 30(4):439–455. [PubMed: 9818553]

Becker, G. (1991). *A Treatise on the Family,* Cambridge, Mass., Harvard University Press

Bernhardt, E. (1993). Fertility and Employment, *European Sociological Review*9:25-42

Bongaarts, J. (2001). Fertility and reproductive preferences in post-transitional societies, In: Bulatao, R. A. and Casterline, J. B. (Eds), *Global Fertility Transition. Supplement to Population and Development Review* 27: 260–281

Brewster, K. L. and Rindfuss, R. R. (2000). Fertility and women's employment in industrialized nations. *Annual Review of Sociology*. 26: 271 – 296.

Bulatao, R. A. (1981). Values and disvalues of children in successive childbearing decisions, *Demography, vol*. 18, pp: 1-26.

Christie Sennott, Sara Yeatman (2012). Stability and Change in Fertility Preferences Among Young Women in Malawi. *Int Perspect Sex Reprod Health*; 38(1): 34–42.

Cigno, A., Ermisch, J. (1989.) A Microeconomic Analysis of the Timing of Births *European Economic Review*, vol. 33: 737-760

Cochrane, S. (1997). Fertility and Education: What do we really know?", *World Bank staff occasional paper 26*, World Bank, Washington, DC.

Debpuur C, Bawah AA. (2002). Are reproductive preferences stable? Evidence from rural northern Ghana. *Genus. 2002*; LVIII(2):63–89.

Demeny, P. (1988). Social science and population policy", *Population Development Review*, vol. 14, pp: 451-479.

De Bruijn, B. J. (2006). Fertility: Theories, Frameworks, Models, Concepts. In: Casselli, G., Vallin, J., Wunsch, G. (Eds.), *Demography: Analysis and Synthesys: a treatise in population studies*, vol. 1. (p. 549 – 570), New York, Academic Press.

Engelhardt, H. and Prskawetz, A. (2004). On the changing correlation between fertility and female employment over space and time. *European Journal of Population*. 20: 35 – 62

Ermisch, J. (2003). *An Economic Analysis of the Family*, Princeton and Oxford, Princeton University Press

Ezeh, A. C. (1993). "The Influence of Spouses Over Each other's contraceptive Attitudes in Ghana", *Studies in Family Planning*, Vol 24, No 3

Farooq, G. M. (1981). Concepts and Measurement of Human Reproduction in Economic Models of Fertility Behaviour. *Population and Labour Policies Programme. Working paper No. 102*. Geneva: ILO.

Freedman, R., A. I. Hermalin and M. C. Chang (1975). Do statements about family size predict fertility? The case of Taiwan 1967-70", *Demography*, vol. 12, pp: 407-416.

Gallie, D. and Russell, H. (2009). Work-Family Conflict and Working Conditions in Western Europe. *Social Indicators Research*. 94: 445 – 467

Gauthier, A. (2007). The impact of family policies on fertility in industrialized countries: a review of the literature. *Population Research and Policy Review*. 36: 323 – 346

Ghana Demographic and Health Survey, (2008).

Ghule, M. (1999). Role and Responsibilities of Men in Contraceptive Practices: A Study of Male Textile Employees In Mumbai, India", *Masters thesis*, Faculty of Graduate Studies, Mahidol University, Thailand.

Gipson JD, Hindin MJ (1007). 'Marriage means having children and forming your family, so what is the need of discussion?' Communication and negotiation of childbearing preferences among Bangladeshi couples. *Culture, Health & Sexuality*; 9(2):185–198.

Goldstein JR, Lutz W, Testa MR (2003). The emergence of sub-replacement family size ideals in Europe. *Population Research and Policy Review*, 22:479–496.

Hakim, C. (2003). Preference theory: A new approach to explaining fertility patterns. *Population and Development Review* 29(3): 349-374

Hayford SR (2009). The evolution of fertility expectations over the life course. *Demography;* 46(4): 765–783. [PubMed: 20084828]

Hobcraft, J. and Kiernan, K. (1995). Becoming a Parent in Europe, Evolution or Revolution in European Population. *Proceedings of the European Population Conference. Milano*, pp 27–65

Islam, S.M.S, and H.T. A. Khan (1995). Influences of Selected Socio-economic and Demographic Variables on Fertility in Bangladesh", *Asia Pacific Population Journal*, Vol. 10, No2 pp51-63

Ivy A. Kodzi, David R. Johnson, John B. Casterline (2010). Examining the predictive value of fertility preferences among Ghanaian women. *Demographic research*, Vol22/30

Jian SONG, Ye TAO (2013). How do Gender Preferences Affect Number of Children in a Family? An Empirical Study on China Urban Families. *Paper for the 27th International Population Conference at Busan, Republic of Korea*

Johnson-Hanks J.(2007). Natural intentions: fertility decline in the African Demographic and Health Surveys. *American Journal of Sociology*; 112(4):1008–1043.

Joyce T, Kaestner R, Korenman S (2000). The stability of pregnancy intentions and pregnancy-related maternal behaviors. *Maternal and Child Health Journal*; 4(3):171–178.

Khan, A. and I. Sirageldin (1977). Son preference and demand for additional children in Pakistan", *Demography*, vol. 14, pp: 481-495.

Kirk D, Pillet B (1998). Fertility levels, trends, and differentials in Sub-Saharan Africa in the 1980s and 1990s. *Studies in Family Planning*; 29(1):1–22. [PubMed: 9561666]

Knodel, J (1996). Reproductive preferences and Family Trends in Post Transition Thailand", *Studies in Family Planning*, Vol. 27 (6):307-318

Kodzi IA, Casterline JB, Aglobitse P.(2010). The time dynamics of individual fertility preferences among rural Ghanaian women. *Studies in Family Planning*. 2010; 41(1):45–54. [PubMed: 21465721]

Lee, R. D. (1980). Aiming at a moving target: Period fertility and changing reproductive goals", *Population Studies*, vol. 34, pp: 205-226.

Liu Shuang. (2005). Gender Preferences of Couple of Childbearing Age in China *Journal of Population Studies*, (3):2-10.

Lloyd CB, Montgomery MR (1996). *Policy Research Division Working Paper. Population Council;* New York. The consequences of unintended fertility for investments in children: conceptual and methodological issues.

Mahmood, N. and Z. Khan (1985). Literacy transition and female nuptiality: Implications for fertility in Pakistan", *The Pakistan Development Review*, vol. 24, pp: 589-600.

Mahmood, N. (1992) "Desire for additional children among Pakistani women: The determinants", *The Pakistan Development Review*, vol. 31, pp: 1-30.

Mahmud, N. K, Ringheim (1997). "Knowledge, Approval and Communication about Family Planning as Correlates of Desired Family among Spouses in Pakistan", *International Family Planning Perspective*, 23:122-129and 145

Martín García, T. (2010). The Impact of Occupational Sex-Composition on Women's Fertility in Spain. *European Societies*, 12 (1): 113-133

Mashara JN. Factors influencing fertility preferences of currently married men in Kenya**.** Published on Population Studies and Research Institute (http://psri.uonbi.ac.ke)

Matysiak, A. and Vignoli, D. (2008). Fertility and Women's Employment: A Meta-analysis. *European Journal of Population*. 24: 363 – 384.

Montgomery MR, Cohen, B (1998). *From Death to Birth: Mortality Decline and Reproductive Change*. National Academies of Sciences; Washington, DC.

Morgan, S. P. and Taylor, M. G. (2006). Low Fertility at the Turn of the Twenty-First Century, *Annual Review of Sociology*, 32: 375 – 399.

Neyer, G.R. (2003). Family policies and low fertility in Western Europe. *Journal of Population and Social Security* (Suppl. 1), 46–93

Oppong, C. (1983). Women's roles, opportunity costs and fertility", in R. A. Bulatao and R. D. Lee (eds.) op cit.

Sharma, S. (1998). Relationship Between Gender of Existing Children and Desire for Additional Children by Nepalese Women", *Master's Thesis*, Institute for Population and Social research, Mahidol University.

Schoen, R., Astone N. M., Kim Y. J., Nathanson, C. A. and Fields, J. (1999). Do Fertility Intentions Affect Fertility Behavior?, *Journal of Marriage and Family*, 61: 790 – 799

Uche, C. and Isiugo-Abanihe (1994). Reproductive Motivation and family Size Preferences among Nigerian Men*"*, *Studies in family Planning* 25,149-161

Udry, Richard J. (1983). Do Couples Make Fertility Plans One Birth at a Time? *Demography*, 20(2):117-128.

Van de Walle, E. (1992). Fertility transition, conscious choice and numeracy", *Demography*, vol. 29, pp: 487-502.

Weinberger MB (1987). The relationship between women's education and fertility: selected findings from the World Fertility Surveys. *International Family Planning Perspectives.* 1987; 13(2):35–46.

Westoff, C. F. (1990). Reproductive intentions and fertility rates", *International FamilyPlanning Perspectives*, vol. 16.

Yount KM, Langsten R, Hill K. (2000). The effect of gender preference on contraceptive use and fertility in rural Egypt. *Student Family Planning*.;31(4):290-300.

Yasuyo Matsumoto, Shingo Yamabe (2013). Family size preference and factors affecting the fertility rate in Hyogo, Japan. *Reproductive Health*, 10:6

Zhou Xing, Wang Fang. (2010). Women's Socio-economic Characteristic and Fertility Decision -making in China. *Population Journal*, (4):18-22.

APPENDICES

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF HEALTH SCIENCESSCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH

Fertility preference and contraceptive use in rural and urban communities in the Asunafo North District of the Brong Ahafo Region

STRUCTURED QUESTIONNAIRE

INTRODUCTION

INTERVIEWER SAYS: My name is (mention name). I am conducting a survey to assess the fertility preferences and contraceptive use among rural and urban communities so that we will use the information gathered to improve the services so that we will all have better service delivery. I will be asking and discussing some questions with you and I want you to respond or tell me your mind. There is no wrong or right answer. Whatever you tell me will be treated confidential and will not be related to you in anyway. I appreciate your time and cooperation and assure you that your responses to the following questions will be treated with utmost confidentiality. Thank you

SECTION 1: DEMOGRAPHIC CHARACTERISTICS

QUESTION NO.	QUESTION	CODING CATEGORIES	SKIP TO
101	How old were you on your last birthday?	AGE IN YEARS……	
102	What is your highest level of education?	NONE……1 PRIMARY……2 JSS/JHS……3 SSS/SHS……4 TERTIARY……5	
103	To which ethnic group do you belong?	AKAN……1 EWE……2 GA……3 NORTHENER……4 OTHER……5 (Specify)	
104	What is your religion?	CHRISTIANITY……1 ISLAM……2 TRADITIONALIST……3 NO RELIGION……4 OTHER……5	

		(Specify)	
105	What is your current marital status?	SINGLE.....1 MARRIED.....2 DIVORCED.....3 SEPARATED.....4 WIDOWED.....5	
107	Currently do you have work that you do that earns money for you and you household?	YES.....1 NO.....2	***IF '2' SKIP TO Q110***
108	What kind of work are you paid to do?	PROFESSIONAL.....1 SALES/TRADER.....2 ADMINISTRATIVE/MANAGERIAL.....3 CLERICAL.....4 SERVICE.....5 PRODUCTION/ARTISAN.....6 FARMER.....7 OTHER.....8 (Specify)	
109	Are you paid in CASH, KIND or BOTH?	CASH.....1 KIND.....2 BOTH.....3	
110	Why are you not doing any work to earn money for you and your household?	NO PREFERRED WORK.....1 SICK/DISABLED.....2 LOOKING FOR WORK.....3 DOING FAMILY BUSINESS/CHORES.....4 HUSBAND/PARTNER STOPPED ME.....5 SCHOOLING.....6	
	Would you rate yourself as	Very rich Rich Moderately rich Poor Very poor	
	Which of the following assets do you have?	Vehicle Motor Bicycle Land Farmland Cocoa/plantation/oil palm house others (specify)	

SECTION TWO: KNOWLEDGE AND PERCEPTION ON FERTILITY PREFERENCES

QUESTION NO.	QUESTION	CODING CATEGORIES	SKIP TO
201	How many children do you currently have?	NO. OF CHILDREN CURRENTLY HAVE…….	
202	How many are males?	MALE CHILDREN……	
203	How many are females?	FEMALE CHILDREN…….	
204	Do you intend to have any more children?	YES, IF GOD GIVES ME……1 NO, I DON'T WANT ANY MORE CHILDREN……2 I DON'T KNOW……3	
205	How many children do you intend to have?	NO. OF CHILDREN INTEND TO HAVE…… NO IDEA……99	
206	Which of the sexes (Male & Female) do you prefer most?	MALE……1 FEMALE……2 ANY……3	
207	Male children are better than female children	STRONGLY AGREE……1 AGREE……2 INDIFFERENT……3 DISAGREE……4 STRONGLY DISAGREE……5	
208	Female children are better than male children	STRONGLY AGREE……1 AGREE……2 INDIFFERENT……3 DISAGREE……4 STRONGLY DISAGREE……5	
209	The gender of children are determined by God	STRONGLY AGREE……1 AGREE……2 INDIFFERENT……3 DISAGREE……4 STRONGLY DISAGREE……5	
	Is fertility preference important in this community?	Yes No	
	Is fertility preference so important to you?	Yes No	
	Why is fertility preference so important to you?	…… ……	

SECTION THREE: FACTORS INFLUENCING FERTILITY PREFERENCES

QUESTION NO.	QUESTION	CODING CATEGORIES	SKIP TO
301	How old were you when you first gave birth?	AGE AT FIRST BIRTH…… NEVER GIVEN BIRTH……..88 DON'T KNOW……99	***IF '88' SKIP TO 304***
302	What was the outcome of your delivery?	BABY BORN ALIVE……..1 BABY BORN ALIVE BUT DIED FEW DAYS LATER……..2 BABY BORN DEAD……..3	
303	What was the gender of your baby?	MALE (SINGLE)……1 FEMALE (SINGLE)……2 BOTH MALES (TWINS)……3 BOTH FEMALES (TWINS)……4 MALE AND FEMALE (TWINS)……5 OTHER……6 (specify)	
304	Do you intend to give birth? ***(IF NEVER DELIVERED BEFORE)***	YES……1 NO……2 I DON'T KNOW……3	
	Do you intend to give birth again? ***(IF ALREADY GIVEN BIRTH BEFORE)***	YES……1 NO……2 I DON'T KNOW……3	
305	How many children do you intend to have?	PREFERRED NO. OF CHILDREN…… CAN'T TELL……99	
306	Why do you intend to have this number of children?	ASSIST IN FARMING……1 TO GIVE THEM BETTER UPBRINGING……2 FAMILY PRESSURE……3 HEALTH PROBLEMS……4 PARTNER PREFERENCE……5 GOD'S DECISION……6 NO IDEA HOW TO STOP GETTING PREGNANT/IMPREGNATING……7 OTHER……8 (Specify)	
	Do you have a fertility preference?	YES……1 NO……2	
307	Which gender do you prefer most	MALE……1 FEMALE……2 DON'T KNOW……3	
308	Why do you prefer the gender you have indicated	PARTNER PREFERENCE……1 SOCIETY PREFERENCE……2	

	above	EASY TO CATER FOR.....3 CAN GO FAR IN EDUCATION.....4 THEY ARE MORE RESPONSIBLE.....5 MORE STRONGER AND ABLE TO ASSIST IN FARMING.....6 OTHER.....7 (Specify)	
	What else motivates your child sex preference?	....	

SECTION FOUR: ROLE OF CONTRACEPTIVES IN FERTILITY PREFERENCES

QUESTION NO.	QUESTION	CODING CATEGORIES	SKIP TO
401	Now I would like to talk about Family Planning – the various ways or methods that a couple can use to delay or prevent pregnancy. Which ways or methods have you heard about? Do not read choices aloud; spontaneous responses sought. PROBE to be sure that all known methods of family planning have been mentioned. (Ask: OK, aside from....., do you know of any other methods of family planning? *If respondent is unable to name any methods, check 'NONE MENTIONED'	ORAL PILL.....1 IUD.....2 INJECTIONS.....3 DIAPH./FOAM/JELLY.....4 MALE CONDOM.....5 FEMALE CONDOM.....6 MALE STERILIZATION.....7 FEMALE STERILIZATION.....8 NORPLANT.....9 RHYTHM.....10 WITHDRAWAL.....11 LACTACTIONAL AMENORRHEA.....12 OTHER.....13 (Specify) NONE MENTIONED.....14	
402	Do you think your partner is in favour or not in favour of couples using a method to delay or avoid pregnancy?	IN FAVOUR.....1 NOT IN FAVOUR.....2 DON'T KNOW.....3 HAS NO PARTNER.....4	***IF '4' SKIP TO 407***
403	Are you or your partner currently doing something to prevent or delay pregnancy?	YES.....1 NO.....2 DON'T KNOW.....3	***IF '2' OR '3', SKIP TO 406***
404	What is the main method you and your husband/partner are currently using?	ORAL PILL.....1 IUD.....2 INJECTIONS.....3 DIAPH./FOAM/JELLY.....4	

		MALE CONDOM.....5 FEMALE CONDOM.....6 MALE STERILIZATION.....7 FEMALE STERILIZATION.....8 NORPLANT.....9 RHYTHM.....10 WITHDRAWAL.....11 LACTACTIONAL AMENORRHEA.....12 OTHER.....13 (Specify)	***IF 10 TO 13 SKIP TO 407***
405	Where do you most often receive your family planning services?	HOSPITAL.....1 MATERNITY HOME.....2 TBA IN COMMUNITY.....3 CLINIC/HEALTH CENTRE.....4 PHARMACY/DRUG STORE.....5 OTHER_____ 6 (Specify)	***ALWAYS SKIP TO 407***
406	What is the main reason why you or your partner are not using any method to avoid or delay pregnancy?	CURRENTLY PREGNANT.....1 POST PARTUM/BREASTFEEDING.....2 WANT MORE CHILDREN.....3 ABSTINENT/NOT HAVING SEX.....4 PARTNER OPPOSED.....5 RELIGIOUS PROHIBITION.....6 FEAR OF SIDE EFFECT.....7 SOURCE TOO FAR.....8 TOO EXPENSIVE.....9 LACK OF KNOWLEDGE.....10 DON'T KNOW.....11 OTHER.....13 (Specify)	
407	Do you intend to use any family planning methods in the future?	YES.....1 NO.....2 DON'T KNOW.....3	
408	Is contraceptive use important in fertility preference?	Yes No Don't know	
409	Why is contraceptive use important in fertility preference?	....	

THANK YOU VERY MUCH FOR YOUR TIME

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF HEALTH SCIENCESSCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH

Fertility preference and contraceptive use in rural and urban communities in the Asunafo north District of the Brong Ahafo Region

INTERVIEW GUIDE FOR ASSESSING KNOWLEDGE AND PERCEPTION ON FERTILITY PREFERENCE

INTRODUCTION

INTERVIEWER SAYS: My name is (mention name). I am conducting a survey to assess the fertility preferences and contraceptive use among rural and urban communities so that we will use the information gathered to improve service delivery. I will be asking and discussing some questions with you and I want you to respond or tell me your mind. There is no wrong or right answer. Whatever you tell me will be treated confidential and will not be related to you in anyway. I appreciate your time and cooperation and assure you that your responses to the following questions will be treated with utmost confidentiality. Thank you

KNOWLEDGE ON FERTILITY PREFERENCE

1. HAVE YOU HEARD ABOUT FERTILITY BEFORE?
2. WHAT WAS THE SOURCE OF YOUR INFORMATION?
3. WHAT IS THE MEANING OF FERTILITY? (PROBE FOR FURTHER EXPLANATIONS)
4. IS EVERYBODY BORN TO BE FERTILE?
5. WHAT COULD RESULT IN INFERTLITY AMONG COUPLES?
6. IS THERE ANYTHING A PERSON CAN DO TO SOLVE THE PROBLEM OF INFERTILITY IF IT EXISTS?
7. WHO DETERMINES THE GENDER OF CHILDREN IN FAMILIES?

PERCEPTION ON FERTILITY PREFERENCE

1. WHAT ARE YOUR OPINIONS ON FERTLITY AND INFERTILITY AMONG COUPLES? (PROBE)
2. WHAT SHOULD BE DONE AGAINST COUPLES WHO ARE UNABLE TO BEAR CHILDREN? (PROBE)
3. WHAT ARE YOUR OPINIONS ON THE DESIRED FAMILY SIZE OF ANY COUPLE? (PROBE)
4. WHICH OF THE GENDERS (MALE AND FEMALE) SHOULD A COUPLE YEARN FOR?(PROBE)
5. WHY DO YOU THINK MALE CHILDREN ARE BETTER THAN FEMALE CHILDREN AND VICE VERSA?(POROBE)
6. DOES THE COMMUNITY HAVE ANY RESPONSIBILITY OR ROLE TO PLAY IN FERTILITY PREFERENCE OF ITS MEMBERS?(PROBE)
7. WHAT ROLES DOES THE COMMUNITY HAVE TO PLAY?(PROBE)
8. DO YOU THINK THE GOVERNMENT HAS A ROLE TO PLAY IN FERTILITY PREFERENCE?(PROBE)
9. WHAT IS THE ROLE OF THE GOVERNMENT?(PROBE)
10. WHAT IS YOUR OPINION ABOUT A COUPLE WHO ARE UNABLE TO BEAR CHILDREN?(PROBE)
11. WHAT IS YOUR OPINION ABOUT COUPLE WHO HAVE GIVEN BIRTH TO
    A. ONLY MALES
    B. ONLY FEMALES

OBJECTIVE TWO: FACTORS INFLUENCING FERTILITY PREFERENCE

1. WHAT DO YOU THINK MOTIVATE COUPLES TO HAVE CHILDREN? (PROBE)
2. WHY SHOULD COUPLES YEARN FOR A PARTICULAR GENDER? (PROBE)
3. DO YOU THINK PRESSURE FROM FAMILIES COULD DETERMINE THE NUMBER AND GENDER OF CHILDREN THAT A COUPLE SHOULD HAVE?(PROBE)
4. HOW DOES EDUCATIONAL STATUS OF COUPLES PLAY A ROLE IN FERTILITY PREFERENCE?(PROBE)
5. HOW DOES ECONOMIC STATUS OF COUPLES PLAY A ROLE IN FERTILITY PREFERENCE?(PROBE)
6. HOW DOES EMPLOYMENT STATUS OF A COUPLE PLAY A ROLE IN FERTILITY PREFERENCE?(PROBE)