

KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

**FACTORS AFFECTING THE CURRENT USE OF CONTRACEPTIVE AMONG
MARRIED WOMEN IN THE WASSA AMENFI WEST DISTRICT**

KNUST
BY

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DECLARATION

I, FELIX ANTWI BAIDOO, hereby faithfully declare this study, with the exception of the references to the work of others cited, as my own study conducted at WASSA AMENFI WEST DISTRICT, while a student at the Department of Mathematics, Faculty of Science, Kwame Nkrumah University of Science and Technology, Kumasi.

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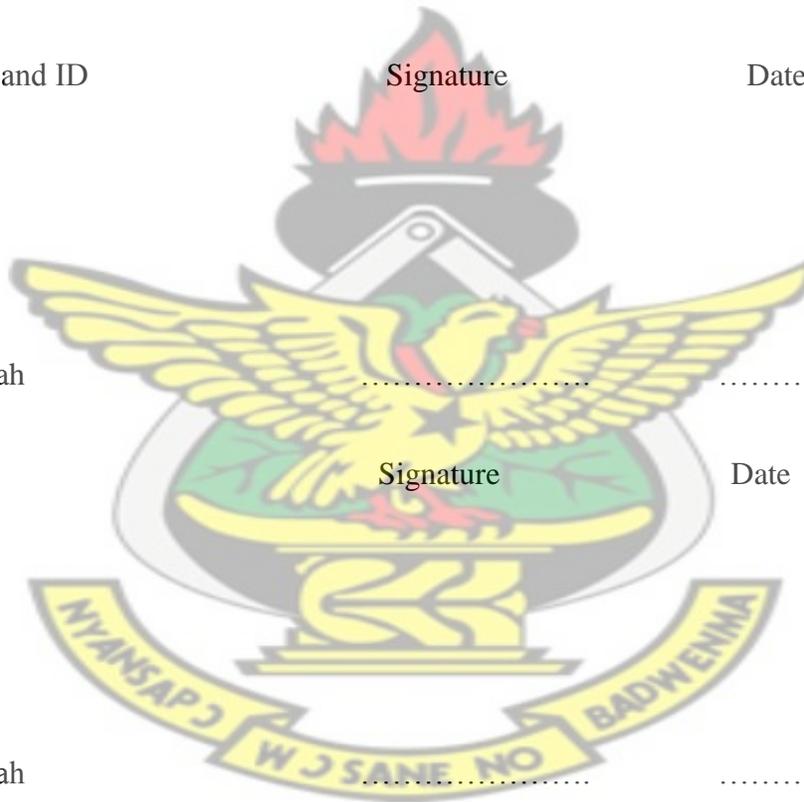
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Date



DEDICATION

This work is dedicated to the Almighty God whose abundant grace, mercy and love has seen me through the period of my programme.

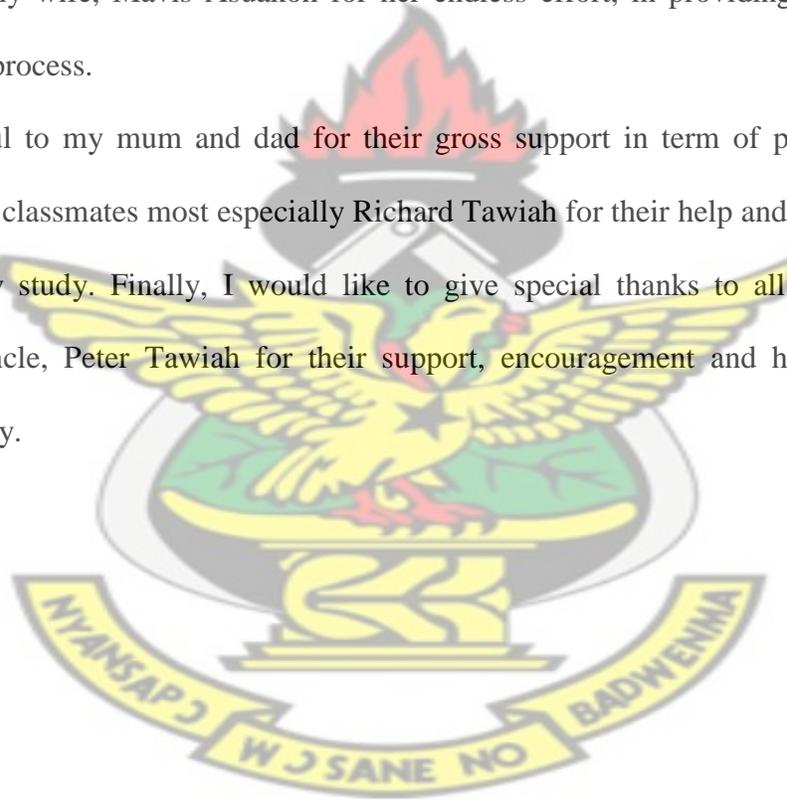
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ABSTRACT

Contraception is one of the major determinants of fertility levels globally. The aim of this thesis were to determine the contraceptive use prevalence and determine the factors affecting contraceptive use among married women aged 18-45 years in WassAmenfi West district. 160 married women from the WassAmenfi West District were purposively sampled and interviewed using structured questionnaires to obtain the data. Univariate, Bivariate and Multivariate analysis, specifically binary logistic model were employed in the study. The study results revealed that majority of the respondents were aged 28-35 years and they were predominantly Christians. We found significant association between the current use of contraceptives and the variables occupation, number of living children, freedom of taking decision, family planning discussion with husband, visits to family planning centers and the level of education of respondents using the Pearson Chi-square test. Finally, the logistic regression model showed that the current use of contraceptives among the married women of WassAmenfi West district was strongly associated with their level of education and the discussion of family planning with husband. The estimated odds of using contraceptives among women with basic education, secondary education and tertiary were 3.406 times, 8.056 times and 8.125 times respectively the estimated odds for those with no education. Family planning discussion with husband showed a strong effect with odds ratio of 19.788 times the odds of those who never discussed family planning with husband. Clearly, the current use of contraceptives increases with increasing level of education of respondents and also substantially influenced by discussion of family planning with husbands.

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LIST OF ABBREVIATIONS

AIC	Akaike’s Information Criterion
DHS	Demographic and Health Survey
FP	Family planning
GSS	Ghana Statistical Service
IECP	Information Education and Community Project
KDHS	Kenyan Demographic and Health Survey
SPSS	Statistical Package for Social Scientist

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Contraception is one of the major determinants of fertility levels. Its use has been increasing steadily since 1970 and is currently widespread throughout the world. However, progress has been uneven across geographical areas, and great challenges remain in terms of both increasing the level of contraceptive use to satisfy existing needs in certain regions and in terms of making available an adequate variety of contraceptive methods to increase the ability of couples wishing to use contraception to do so in a consistent and efficient manner.

Many sub-Saharan African countries have persistent high rates of unmet need for family planning. The persistent high rate of fertility in Ghana and sub-Saharan African countries, accompanied by declining mortality, has given rise to unprecedented rapid population growth contributing to poverty, environment degradation and a deteriorating quality of life for the majority of the people.

Data compiled from 2010 population and housing census questionnaires yielded a Ghanaian population of 24,658,823. This figure represents an increase of 30.4 percent over the 2000 census population of 18,912,079 (Ghana Statistical Service, 2010 Population and Housing Census). The relative high fertility in Ghana is largely attributed to a low level of contraceptive use (Ghana Statistical Service, 2010). Contraception is defined as the practice of methods intended to prevent or space future pregnancy. Contraception is the need of today's age. Contraceptive methods can be divided into two categories: traditional and modern contraceptive methods.

Modern contraceptive are easily classified and include oral contraceptive, intrauterine devices (IUDs), female and male sterilization, injections, female and male condoms, and diaphragm. Other practices which have a direct impact on fertility that have been included prolonged breast feeding and postpartum sexual abstinence, which probably used by mothers more for recuperating between births, child survival and child spacing rather than for limiting family size.

These methods have not been considered as contraceptive methods although their fertility inhibiting characteristics are well recognized. Traditional methods include withdrawal, periodic abstinence and use of herbs.

Several researchers (Abdool, et al, 1992, Agyei and Migadde, 1995) have indicated that sexually active young women need access to family planning information and service to prevent unwanted pregnancies. They also argued that sexually active young women need support and encouragement from their peers, adults and the media to use contraceptive effectively and consistently. However improving contraceptive use by sexually active young women requires the expanding and enhancing existing services as they often do not meet the demands of the growing population of sexually active young women.

The negative effects of high fertility rate on women, their children and the society as a whole are well known and the benefits of birth control are also well known in term of social and economical developments. Too many or too closely space pregnancy especially at too young or too old an age, give rise to health risks for mother and the infants, with associated higher maternal and neonatal mortality rates. The health of other children in the family is also affected. These factors, among others provide health rational for fertility regulation and family planning which is now considered as an essential element of preventive health care.

The ability of women to control their own fertility is one of her basic and important rights. A better regulated sexuality and fertility life affects positively the status of the women socially and economically. Even though, trends of increase in contraceptive use have been acknowledged widely with estimated 650 million or 62 percent of more than one million married women or in-union women in reproductive age are using contraceptive (Rand, 1998) worldwide, contraceptive prevalence, the percentage of women using contraception among women of reproductive age who are married or in a consensual union reached 61 per cent in 1998, the average rate for the most recent data available for 160 countries. With an average level of 59 per cent, the less developed regions had a level of contraceptive prevalence ten points lower than that in the more developed regions (United Nations, 2002).

Between 2000 and 2025, it is estimated that overall contraceptive prevalence at the world level needs to increase from 63 per cent to 67 per cent in order to make possible the reduction of total fertility from 2.8 children per woman to 2.3 children per woman as projected in the medium variant of the 2002 revision of the United Nations population projection (United Nations, 2002). In Ghana, government support for methods of contraception has been rising steadily since 1975. A lot of efforts have been made to support family planning programmes and the distribution of contraceptives, either directly through government facilities by the Ministry of Health (MOH), or indirectly through support of the activities of nongovernmental organizations such as family planning associations. This has resulted in a general increase on the use of contraceptives over the last two decades. There have also been a drop in fertility rate from 6.4 percent in the 1970's to 4.4 percent in 2005 (UNDP, 2008)

A national contraceptive use of 33 percent has been estimated even though 43 percent of married women in the country desired to space their children and an additional 24 percent need to limit births. The disparity of use of family planning methods among urban and rural and the rich and poor puts many women in the most deprived area at a disadvantage (Ghana Statistical Service, 2003)

The Wassamanfi West District in the western region of Ghana have tried in various ways to adhere to the policies and programmes intervention of the Ministry of Health and other agencies in order to increase to the reproductive health service including family planning and the use of contraceptive. Some of the various ways include education and communication strategies coupled with services counseling and outreach programmes that are instituted in the district by the district health office and other stakeholder.

The district which is largely rural is been served by one catholic hospital and other health centers, clinics and chip compounds. The population of this district according to 2000 population and housing census was 156,256 and a current population of 161,166 with a growth rate of 3.2 percent per annum according to 2010 population and housing census.

This is a clear indication of high fertility rate due to low level of family planning knowledge and contraceptive use and it consequences on the social and economic development of the inhabitants most especially mothers and children are of great concern.

Sexually active married women often lack basic reproductive health information and education. They lack information on the consequences of unprotected sexual intercourse and also need to be well informed on development body changes.

The last few decades have seen an enormous increase in the use of contraceptive around the world. The programme of action adopted at the International Conference on Population and Development (ICPD) in 1994 established the right of men and women to be well informed about their reproductive choice and health, and have access to a range of reproductive health care services including health education, family planning, information and counseling on sexuality and reproductive health issues.

In 1999, 179 countries including Ghana ratified an “ICPD +5” target for the worldwide contraceptive security: government should strive to ensure that by 2015 all primary health care including family planning facilities are able to provide directly or through referral, the widest achievable range of safe and effective family planning and contraceptive methods: prevention and management of reproduction tract infections, including sexually transmitted diseases: and barriers methods such as male condoms and microbicides, if available to prevent infections (the united nations general assembly special session on the international conference on population and development, icpd, 1999).

In response to the 1994 ICPD programme and action, the government of Ghana introduced the reproductive health and family planning programmes through the ministry of health and other stakeholders with the overall aim of promoting, protecting and improving the health of family members, especially women and children. The objective of the programme was to reduce maternal and infant deaths, increase contraceptive use among women of reproductive age, and promote and improve access to reproductive health service at all levels of health care delivery. The objectives of these programmes have not been fully achieved.

Women in Ghana have an average of 4.0 children. The average number of children per woman ranges from 3.0 in the urban areas to 5.0 in the rural areas (2008 Demographic and Health Survey, Ghana Statistical Service). A major factor underlying the high fertility rate in Ghana is the low use of modern contraceptive (Ghana Health Service). Unfortunately, in Ghana, only 25% of current married women are currently using contraceptive (Ghana statistical service, 2004). The disparity of use of contraceptive methods among urban and rural, and rich and poor puts many women in the most deprived area at a disadvantage (Ghana statistical service, 2003).

The particular problem which led to this study has been acknowledged that unwanted marital childbirths have been on an increase in the Waas Amenfi West District despite the efforts on the part of the Ministry of Health and other stakeholders to provide quality health and contraceptive service. This study therefore wants to probe health care policies that affect married women's reproductive health and contraceptive needs.

1.2 Problem statement

The problem of unwanted pregnancies among married women is most grievous aspect of the complex of negative factors associated with underdevelopment. Although the problem of unwanted children among married women exists in industrialized countries as well, the incidence is much higher in the 3rd world. In industrialized countries modern contraceptives are widely available, public awareness is high and legal abortion may be an option in the event of contraceptive failure or nonuse but the situation seems different in the 3rd world since there is lack of access to contraceptive information and service. Research from variety of sources suggests that being unwanted and unloved can have lasting effects on the child's development. The incidence of the unwanted children among married women can be drastically reduced by effective family planning services and access to modern contraception.

WassaAmenfi West District has not been an exception of this problem. The ability of women to control her own fertility is one of her basic and important rights. A better regulated sexuality and fertility life affects positively the status of the women socially and economical. The researcher therefore sought to determine the contraceptive prevalence rate in the district and factors affecting contraceptive usage among married women in the WassaAmenfi West District.

1.3 Objectives of the Study.

The following are the main objectives of the study:

1. To determine factors affecting contraceptive use among married women using a logistic regression model and to make in-depth analysis about these factor(s).
2. Predict the probability of a married woman using contraceptive.

1.4 Methodology

160 married women from the WassaAmenfi West District were purposively sampled and interviewed using structured questionnaires. The data contained the demographic, socio-economic, and other related characteristics of respondents aged between 18-45. A descriptive analysis of the sampled data was carried out by calculating frequencies of the demographic, socio-economic and other related variables. Pearson chi-Square test of independence analysis was adopted to determine whether there is a significant association between the various variables and current contraceptive use. Also binary logistic regression is used to determine the likelihood of the independent variables in affecting contraceptive use of the respondents.

The descriptive analysis of the data and Pearson chi-square of independence was performed in SPSS 16.0. The binary logistic regression was analyzed using the R statistical software.

1.5 Justification

With a lot of evidences associated with increasing unwanted and unplanned children among married women in the country which has a direct impact on the development of the child, contraceptive use becomes an important issue in health care delivery and Government policies and programmes. The identification of factors that influence the use of contraceptive will provide knowledge for health care providers and clients as well. In summary the finding in this thesis would go a long way to help health providers of contraceptive to make informed decisions. Also it will help Government in policies formulation and implementation.

1.6 Organization of the study

Chapter one is made up of the introduction, which comprises of the background of the study, problem statement, objectives of the study, methodology and justification of the study. Chapter two highlights on review of literature of ideas of different authors whose findings have been defined in relation to the topic under study. Chapter three focuses on methodological review in the light of statistical tools that are relevant to the analyses of the various data gathered. The statistical tools and models covered under this chapter include Pearson chi-square tests of independence and the binary logistic regression model. Chapter four deals with data analysis and discussion of results, and chapter five consists of conclusion and recommendations. The project report however ends with references and appendices in supportive to the researcher's investigation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this section there is a review of work of several authors regarding definition, concept of family planning and contraception. Researches, empirical work and authors' opinion are looked at.

Below are focuses of the review.

- Knowledge about family planning and contraceptive use
- Factors affecting the use of contraceptive
- Access and quality of contraception

2.2 KNOWLEDE ABOUT FAMILY PLANNING ANB CONTRACEPTIVE USE

Women's knowledge on contraceptive methods reflects their accessibility to family planning information that affect on their behavior related to contraceptive usage. This study hypothesized that women who have less knowledge of contraceptive are less likely to use contraception. In contract those who know more have greater chance of using contraception.

Knowledge of family planning is universal among women and men in Ghana. The most commonly known methods are male and female condoms, the Pill, and injectables (GDHS, 2008). Overall, 17% of married women currently use a modern method of family planning; an additional 7% are using a traditional method. Injectables (6%) and the pill (5%) are the most commonly used methods, followed by female sterilization and the male condom (2% each). More than one third of unmarried, sexually active women are using a modern method of family planning, most commonly the male condom (18%).

Use of modern family planning varies by residence and region. Modern methods are used by 19% of married women in urban areas compared with 15% in rural areas. Modern contraceptive use ranges from 6% of married women in the northern region to 22% in the greater Accra and Brong Ahafo regions. Modern contraceptive use increases with women's education. Nineteen percent of married women with more than secondary or higher education use modern methods compared with 11% of women with no education. Use of modern methods also increases with household wealth. Twelve percent of women in the poorest households use a modern method of family planning compared with 21% of women in the wealthiest households (GDHS, 2000).

Salifu,(2005) in a study which used frequency distribution table reported that among the 100 people sampled in the Tamale metropolis, 19% had heard of family planning among those who had heard about family planning, 87% of both male and female knew at least one modern method of contraception but many did not approve of it.

Salina, (2009) studied into accessing and utilization of family planning in the Ga East District. A sample size of 120 males with ages between 19-59 years was used in the survey. The study design was descriptive cross-sectional. In addition views about utilization of family planning among men from twenty service providers were obtained to support the study. It was discovered in the study that educational background was a significant predictor of one knowledge about family planning, in other words the higher one moves along the educational ladder, the more his knowledge about family planning. Also knowledge about family planning was universal and majority of the respondents were within the age 19-39 years.

Kulsoom,(2006) in a research into knowledge, attitude and practice (KAP) of family planning among the women of rural Karachi. A random sample of 500 currently married rural women in their reproductive age (15-49 years) was analyzed. Simple tabulation was made on the

background showing the frequency and the percentage by simple tabulation and the Chi-square method was applied to test the hypothesis for significant relationship. The study confirms that, for the success of family planning programmes, awareness is very necessary especially in the rural areas where though many women reported being aware of family planning but contraceptive rate is still low. Also to improve contraceptive use in the rural parts of the country, we need to use multiple media sources to educate couples and their parents regarding contraceptives services. In addition discrimination among sons and daughters should be discouraged.

In another study into contraceptive use dynamics in Kenya, further analysis of Demographic and Health Survey (DHS) data by Calverton, (2001) where the study utilizes data from the three waves of Kenya Demographic and Health Surveys (KDHS) conducted in 1989, 1993 and 1998. Multilevel modeling technique was employed to deal with the hierarchical data structure and the study revealed that contraceptive use remains higher in urban areas than rural areas. Also urban contraceptive users are more likely to choose long-term modern methods and less likely to choose traditional methods than their rural counterparts. Moreover, the analysis of the non-users revealed that the proportion of the ever –sexually active non-users who are aged 15-24 is increasing, as is the proportion that is unmarried. Another important trend identified by this study was that of the mean number of living children at first use declined by half a child. The analysis shows that this decline is primarily driven by increased initiation of contraception for limiting at lower parities, although there has also been some increase in use for spacing, and spacing remains the main reason for initiating use at low parities.

Akyeah,(2007) in a study in Kwabre District revealed that most of the women have high level of knowledge about contraceptive but this does not translate into the use of modern contraceptives. Most of the respondents (122) (30.5%) were aware of at least three methods of contraception while 47 (4.7%) were aware of seven to nine contraceptive methods. Also 367 (91.7%) of the respondents knew at least two contraceptive methods. It also came out that these women have access to family planning services but the quality of the services offered is quite low in terms of availability of different contraceptive methods. The most common contraceptive methods available were contraceptive pill, contraceptive injection and the condom. Another study revealed that most of the women have high level of knowledge about contraceptive but this does not translate into the use of modern contraceptives.

A shift in the source of family planning methods had been observed and that in the last five years, family planning users had relied more on the private sector for their methods, which was about 54 per cent more than the public sector, which was about 41 per cent (GSS,2003). The persistently high levels of fertility in Ghana and most sub-Saharan African countries, accompanied by declining mortality, has given rise to an unprecedented and rapid growth in population, contributing to environmental degradation, poverty and a deteriorating quality of life for the majority of the people.

Odimegwu, (1999) in a study in Nigeria revealed that respondents' perceptions of family planning were associated with contraceptive use: those who approved of family planning were twice as likely as respondents who disapproved to be using contraceptives. Furthermore, respondents who communicated with their spouse about family planning were three times more likely than those who did not to be using a contraceptive. Women who agreed with statements supporting girls' education and discouraging early marriage were three times more likely than women who disagreed to be practicing contraception.

Contraceptive practice was also more common among men who were exposed to family planning through the media than among those who were not.

To help people make informed choices, communication can stress people's right to information about personal health and their ability to make family planning decisions for themselves.

Messages can point to the range of contraceptive methods available, describe the characteristics of specific methods, and tell where and how to find out family planning information and service.

Communication can help people get the most out of family planning counseling by discussing the need and responsibility to ask questions and obtain answers from family planning providers.

(JHUCCP, 2001). The level of awareness of a range of contraceptive methods provides a rough measure of the availability of family planning information in the country. In countries where people have more exposure to family planning messages on radio and television, people are aware of more methods. (JHUCCP, 2001)

Piotrow et al. (1999) conducted a research into changing men attitudes and behaviors: the Zimbabwe Male Motivation Project using longitudinal analysis. In this study a multimedia communication campaign was conducted between 1988 and 1989 to promote family planning among men in Zimbabwe. The campaign consisted of a 52 episode semiweekly radio soap opera, about 60 motivational talks, and two pamphlets about contraceptive methods. Changes over time were measured by comparing a subset of a follow-up survey conducted from October to December 1989 to a baseline survey conducted from April to June 1988. Men exposed to the campaign were also compared to men who were not exposed. The follow-up survey revealed that the campaign reached 52 percent of men aged 18 to 55. Among married Shona-speaking men, use of modern contraceptive methods increased from about 56 percent to 59 percent during the campaign. Condom use increased from about 5 percent to 10 percent. Awareness and current use

of modern contraceptives was also higher among men exposed to the campaign, primarily because of their greater awareness of condoms. Men exposed to the campaign were significantly more likely than other men to make the decision to use family planning and to say that both spouses should decide how many children to have.

Fapohunda and Biddlecom, (1992) published an article titled Covert Contraceptive Use: Prevalence, Motivation and consequences. In these study multivariate analyses was used to analyzed data collected from urban Ndola district, Zambia. It was found that women's covert use of contraceptives is estimated to account for 6 to 20 percent of all current contraceptive use, and it is more widespread when contraceptive prevalence is low. The multivariate analysis indicates that difficult spousal communication about contraception is the strongest determinant of covert use. Husbands' disapproval of contraception works through spousal communication rather than as a direct influence on covert use. Husbands' pronatalism had no significant effect. The article concludes with implications of covert use for reproductive health and family planning programs, especially women's (and men's) needs for confidential services.

2.3 FACTORS AFFECTING THE USE OF CONTRACEPTIVES

Research scientist around the world working on family planning and contraceptive use behavior have come to the conclusion that social-economic conditions, cultures setup, spouses' discussion on family planning, concerns about detrimental side effects of contraception (most crucial one), religious misconception, social and culture acceptability of contraception, excluding men from family planning and too much emphasis on women regarding contraception, women economic status, right of a decision making, education, son preference, predominantly rural area, poverty, fatalistic attitude, male dominance in most of the societies, designing or implementation

of various strategies, ignorance about vasectomy, family size, working status of women and the behavioral approach of the human influenced contraception. Modern contraceptive use increases with women's education. Nineteen percent of married women with more than secondary or higher education use modern methods compared with 11 per cent of women with no education. Use of modern methods also increases with household wealth.

Afi, (2009) researched into factors influencing the current use of modern contraception methods in Lampung Province. In this study, data from the 2007 IDHS from among 925 currently married women aged between 15 and 50 years were analyzed. The correlation between selected demographic, socio-economic and family planning variables and the current use of modern contraception was analyzed by using the Chi-Square Test and multinomial logistic regression. The findings of the Chi-Square Test have confirmed that the number of living children, women's age, marital duration, women's educational attainment, women's occupation, wealth index, place of residence, being decision makers in contraception choices, and being informed of those choices all have a strong correlation with the current use of modern contraception. In addition, the findings of the multinomial logistic regression have confirmed that women aged between 15 to 24 years, women who work in the agricultural sector, and those who were informed about choices were likely to use short-term methods. Moreover, it was less likely that other people who acted as decision makers encouraged women to use short-term and long-term methods of modern contraception.

Gustiana (2010) conducted a research into factors associated with contraceptive discontinuation in Indonesia. The study used data from the 2007 Indonesia Demographic and Health Survey (DHS). The study included 22,657 non-pregnant and non-sterilized married women aged 15-49 years old who have used at least one contraceptive method. The study applied univariate,

bivariate, and multivariate analyses, specifically binary logistical analysis. The results show that contraceptive knowledge, spousal communication, exposure to family planning messages, and socio-economic and demographic factors have significantly affected contraceptive discontinuation. The results of adjusted proportionate probability analysis show that both exposure to family planning messages through personal contact and women's autonomy have had strong effects on contraceptive discontinuation.

Kweligeza (2005) researched into factors affecting family planning in the northern region and the study revealed that women who discussed the number of the children they would like to have in their reproductive lifetime been three times more likely to use contraceptive methods as compared to women who did not discuss the issue with spouses/partners. Also women who discussed family planning issues with their spouses/partner were six times more likely to use a contraceptive methods as compared to those who did not discuss with their spouses/partners on family planning .

Also another study in the Accra Metropolis by Boamah (2005) reported that a major lack of communication between husbands and their partners on the acceptance of contraceptive contributed to the low prevalence rate in the area. More than three -quarter of the married men reported that there were no communications with their partner on contraceptive use.

Akyeah,(2007) in a study into actors influencing the utilization of family planning in Kwabre District revealed that most of the women have high level of knowledge about contraceptive but this does not translate into the use of modern contraceptives. Most of the respondents (122) (30.5%) were aware of at least three methods of contraception while 47 (4.7%) were aware of seven to nine contraceptive methods. Also 367 (91.7%) of the respondents knew at least two

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Derose et.al (2004) revealed in a cross-sectional survey of 21 countries in Sub-Saharan Africa, using demographic health survey data, it was established that discussions with partners on contraceptive informs women of their husbands' attitude towards contraceptive and therefore the intention for its use. The study also established that women usually do not discuss sexual plans and desire with their husbands especially on matters relating to the number of children to have and spacing of birth. Women's socioeconomic position which is often indicated by their occupation is also influenced by contraceptive behavior.

Salway, (1994) conducted a research into how attitudes towards family planning and discussion between wives and husbands affects contraceptive use in Ghana. The study used regression to analyze data from the 1988 Ghana Demographic and Health Survey. The research revealed that 77% of cohabiting marital partners held similar attitudes toward family planning and that 73% of the concordant couples approved of contraceptive use. However, only 61% of the wives correctly re-ported their husband's attitude. Although 76% of the couples agreed on whether they wanted more children, just 44% gave concordant responses on ideal family size. Among respondents who reported knowing a contraceptive method, 35% of wives and 39% of husbands said they had discussed family planning with their spouse during the previous year. Regression analysis shows

that urban residence, the wife's attitude toward family planning and discussions of family planning between spouses have significant independent effects on current contraceptive use.

Husband –Wife communication about family planning and contraceptive use have been important factor in the use of contraceptive. Lasee and Becker, (1997) researched into this in Kenya by using multiple logistic regression to analyzed data from the 1989 KDHS. The research finding was that, both knowledge and approval of family planning are virtually universal in Kenya. Among 98% of couples, one or both partners know of at least one modern method, and among 85% of couples both partners approve of family planning. Discussion with the partner about family planning was re- ported in 82% of couples. However, only 67% of wives and 75% of husbands correctly predicted their spouse's approval of family planning, Knowledge and approval of family planning, husband-wife communication, desire for more children and ideal family size are all significantly associated with current use. Multiple logistic regression analyses show that husband-wife communication, particularly the wife's perception of her husband's approval of family planning, is highly associated with current contraceptive use (odds ratio of 4.2). Dialogue appears to in- crease the effectiveness of communication: Specifically, one spouse's perception of the other spouse's approval is more likely to be correct if they have discussed family planning than if they have not, and this relationship significantly affects contraceptive use.

A review of religious research by Addae, (1999), showed that a contraceptive use differential by religious groups is accounted for by the differences in socioeconomic and demographic characteristics of these women. However, for the urban other Christian women, even after the necessary controls, religion continued to emerge as significant determinant of contraceptive use.

Piotrowet al. (1992) revealed that among married Shona-speaking men, use of modern contraceptive methods increased from about 56 percent to 59 percent during the campaign. Condom use increased from about 5 percent to 10 percent. Awareness and current use of modern contraceptives was also higher among men exposed to the campaign, primarily because of their greater awareness of condoms. Men exposed to the campaign were significantly more likely than other men to make the decision to use family planning and to say that both spouses should decide how many children to have. The contraceptive prevalence (% of women ages 15-49) in Ghana was reported at 23.50 in 2008, according to the world bank. Its highest value over the past 28 years was 25.20 in 2003, while its lowest value was 9.50 in 1980. Contraceptive prevalence rate is the percentage of women who are practicing, or whose sexual partners are practicing, any form of contraception.

Oppong, (1994) in a study using binary logistic regression reported that married women who have higher education were more likely to be current contraceptive users, the odds ratio being three times higher for such women compared with their uneducated counterparts. However, there is no significant difference in current contraceptive use between women with primary education and those without any formal education. The respondent's number of living children has a positive effect on current use of contraception. This is to be expected in view of the positive relationship between fertility and infant mortality. The probability of a subsequent birth increases significantly following the death of the last child or earlier child death experience.

Gage (1995), reported that women who participated in rotating credit or savings schemes were more likely to discuss family planning with their husbands and use more traditional and modern contraception than are other women who worked for cash. However, those women who worked for cash often increased their autonomy which induced them to take part in fertility

decision-making. This result highlighted the importance of women's economic power and their control on their partner may influence their participation in using contraception. It can be seen that women who have economic power in terms of their occupation will have the power to make decisions about their health. Another socioeconomic factor that can have influence on fertility behavior is access to media. Family planning programs can be promoted via media such as television, radio, print and electronic media. This is an effective means to inform people and increase their knowledge about the program.

Oni and Mc Carty (1990) studied the Nigerian government's proposed family planning program through a mass-media campaign using radio and television to improve the program and other activities such as training and workshops. Furthermore, a Family Planning Information, Education, and Communication project (IEC) was launched in 1984. As a consequence, it reported that over five years, contraceptive knowledge and use was universal, even among those uneducated women and those who lived in the poorest areas. An increase of knowledge was followed by an increase in contraceptive use, particularly in the current use of contraception. Although the area did not experience high contraceptive use, the change in the last five years has been considerable. It can be assumed that the access of media at the grass roots level of education is crucial factors in promoting, educating, and communicating the family planning program. Five Jordanians religious leaders and the general public alike believed that family planning is consonant with Islam. Importantly, this demonstrates that most religious leaders interpret family planning to represent an action that is permitted within the Islamic world view (IFPP, 2000). Religious leaders and, to a lesser degree, the public in Jordan however, favor use of family planning and contraception.

Another study by Indingo (2008) reported that educational attainment, such as completed secondary school will be conducive to an increased knowledge of fertility and positive behaviour regarding contraceptive use. Being informed about the family planning program is classified by the level of knowledge of contraception methods and how to source those modern methods.

Twelve percent of women in the poorest households use a modern method of family planning compared with 21 per cent of women in the wealthiest households. Indeed, some studies have shown that religious leaders, as respected members of the community, can be effective advocates for family planning. The Islamic Republic of Iran, for example, has developed a highly successful family planning program in the past decade, and much of this success has been attributed to the support and guidance provided by the country's religious leaders (IFPP, 2000). Data from a study in Jordan show that four of contraceptives to increase birth intervals and not, for the most part, to limit family size (IFPP, 2000).

Unlike Traditional and Catholic faiths, Protestant and Other Christian churches do not directly or indirectly oppose contraceptive use. Therefore the higher contraceptive use among Protestant and Other Christian faiths may be influenced by their lack of opposition to contraception, abortion, and sterilization. These churches have also been found to be more adaptive to local customs and practices (Lesthaeghe, 1989).

This study cannot directly examine the impact of the various religious norms and practices of contraceptive use, because such information is not available in the data set. However, as indicated above, the various religious groups under consideration here may differ somewhat in their normative prescriptions regarding fertility regulation. Hence the normative differences between the religious groups under study here are more a matter of degree of restrictiveness or permissiveness.

Castro and Fatima (1996) in a study using data from Demographic and Health Surveys for nine Latin American countries, women with no education have large families of 6-7 children, analogous to those of women in the developed world. Better educated women have broader knowledge, higher socioeconomic status and less fatalistic attitudes toward reproduction than do less educated women. Results of a regression analysis indicate that these cognitive, economic and attitudinal assets mediate the influence of schooling on reproductive behavior and partly explain the wide fertility gap between educational strata. It is undeniable that an individual's decision-making process is influenced by interpersonal communication regarding the acceptance of new ideas and behaviors.

Clients deserve to receive high quality services and to be treated with dignity and respect when obtaining various form of health services. From the Human Rights perspective, there is a little need to demonstrate that improvements in quality services can affects clients' reproductive behavior and health(IFPP,2003).Residing in an area with good quality family planning services tend to encourage contraceptive use. A multivariate analysis using a link Demographic and Health Survey situation analysis data set from Peru revealed that women living in a high-quality services environments were significantly more likely to be practicing contraception than those living in a poor –quality service environment (IFPP,2003).

2.4 Access and Quality of contraception

Yasmin, (2007) researched into quality of care in FP services from clients and providers perspective in Punjab, Pakistan. The objectives were to examines the clients rights and provider's needs in the provision of FP services. A total sample size of 600 ever married women was used and the data was collected through exit interview and follow up approaches. The data

was analyzed using multiple linear regression and the result showed that many weaknesses in clients' rights including information, access, choice, safety, privacy, comfort, continuity of care and opinion rights. According to respondents, they were not informed properly about use for FP methods, had low economic access to FP services as service providers demanded the charges of FP services and clients preferred method were not selected by them. Service providers were not technically competent as respondents mentioned side effects of FP methods. Service providers counseled the clients in the presence of other clients but privacy during physical examination was completely provided. Different facilities were not provided properly at FWCs. Clients were not followed up and service providers did not take their opinion to improve the quality of services. Service providers mentioned gaps in their support including training, information, infrastructure, supply, guidance, encouragement, feedback and self expression.

Stanbank and Twun-Baah, (2001) researched into why family planning restricts access to services? Situation analysis data from Ghana were used to identify 46 facilities offering family planning services where clients were at high risk of facing medical barriers and other obstacles. Interviewers visited a purposive sample of 97 providers in late 1994 and used closed- and open-ended questions to identify restrictive practices and probe providers about their reasons for these practices. The results showed that providers enforced a variety of restrictions known to impede clients' access to services. Concerns about client safety and morals were the most often cited rationales for restricting services according to age and parity. Many providers were especially concerned that contraceptives might cause future fertility problems, and used minimum age or parity requirements to ensure that only women of proven fertility could obtain contraceptives. A number of providers apparently believed in particular that injectable contraceptives cause

permanent infertility. Providers also cited health concerns as the reason for enforcing strict resupply and revisit schedules, as well as for routinely conducting laboratory tests.

In another by Isabella, (2009) with the objective of determining contraceptive utilization among HIV positive women in the Mulago ISS Clinic. Qualitative data was collected using FGDs. Data was then analyzed logistic regression was used for the quantitative data. From the study, Contraceptive Prevalence Rate among all the women in the study was 60% and 70% among the married compared to 48% among the unmarried. The most commonly used methods included the male condom (41.4%), Injectables (38.9%) and Pills (13.69%). Among the factors associated with contraceptive utilization included intention to have children (OR=57.50, CI: 7.09-46.23) and marital status (OR= 5.61, CI: 2.14-14.73). Duration on ARV was found to be confounding the relationship between Contraceptive utilization and intention to have children in the future (43.9%). Desire for children was found to be highest among those who were newly married. In addition, discontinuation of contraceptives was mainly because of the side effects associated with the different contraceptive methods. It was concluded that Women with HIV infection like other women may wish to plan pregnancy, limit their family or avoid pregnancy. It is therefore important to take into consideration their desires in order for them to make informed reproductive choices especially concerning use of contraceptives

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Materials and method

This investigation was carried out in the WassAmenfi West District to study factors affecting the current contraceptive use behavior in the area. The analysis of the study was restricted to married women between the age of 18 and 45 at the time of the study. The statistical tools used in the present study were carefully selected to ascertain quality results and investigate all possible relationship that were directly or indirectly influencing current contraceptive use among married women in the WassAmenfi West District. The analysis largely utilizes the information obtained in the individual married women questionnaire which provides socio-economic and demographic characteristics of the respondents. The study was undertaken in the following fashion:

3.1.1 .Sampling

6 out of 24 towns in the WassAmenfi West District were selected randomly. Young married women between the age of 18 and 45 years from each town were selected purposeful to answer the questionnaires. Below is the breakdown:

Table 3-1 shows various towns and number of respondents drawn from each town to answer the questionnaire

Town	Number of respondents
WassaDunkwa	25
Achichire	26
Asankra-Saa	20
Samre-Boi	45
AsankraBreman	25
Moseaso	19
Total	160

SOURCE: FIELD DATA

3.2. Variable Use

Dependent variable: current use of contraceptive which refer to as the respondent using contraception at the time of the survey.

Independent variables: the independent variable is as follows:

Age: the age of the respondent at the time of the survey

Education: the highest level of education of the respondent at the time of the study.

Religion: religion of the respondents at the time of interview

Number of living children: number of children born who are alive at the time of interview.

Occupation: occupation of the respondent at the time of interview.

Freedom: freedom of respondent taken personal decision including family planning adoption.

Visiting family center: respondent visiting any hospital or clinic for enquires into family planning issues.

Discussing family planning with husband: frequency respondents discussed family planning with their husband

3.3. Method of Data Collection

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The researcher considered the use of instrument that may be suitable for the operation of the research. The instrument used for the study was interview schedule. In the selection of this particular method of data collection, the following points were considered:

1. Due to the low level of most of the respondents' face to face interview were found suitable to get reliable information.
2. The interview schedule was used because the researcher wants to collect data with probing questions.

The interview schedule contains the following section

1. Background information of the respondents
2. Knowledge about family planning
3. Attitude toward family planning
4. Contraceptive use

Three paid female WASSE certificate holders were trained and engaged to interview the respondents. A proper training was given to them before they entered into the actual field administration. The training included:

1. Brief introduction to the present study
2. Discussion on the questionnaire and handle the administering the questionnaire
3. Handle the respondent in case of awful situation

3.4. Data Analysis

The data was analyzed using various statistical techniques namely, descriptive, bivariate and multivariate procedure. Brief description for the selection of any one of the aforementioned methods for data analysis is given below.

3.4.1. Descriptive Analysis

Descriptive analyses were carried out for the background variables to investigate the socio-economic characteristics of the respondents. It comprised frequency distribution and percentage proportions of the respondents.

3.4.2. Pearson Chi-Square of Independence

Pearson Chi-square test of independence was carried out to study the association between the dependent and independent variables. Pearson chi-Square test of independence analysis was adopted to determine whether there is a significant association between the various variables and current contraceptive use. The test statistics of the chi square test of independence is given by

$$T = \sum_{i=1}^R \sum_{j=1}^C \frac{O_{ij} - E_{ij}}{E_{ij}}$$

Where

R=the number of row in the contingency table

C= the number of column in the contingency table

O_{ij} =the observed frequency of the i th row and the j th column

E_{ij} =the expected frequency of the i th row and the j th column

$$E_{ij} = \frac{R_i C_j}{N}$$

R_i =the sum of the frequency for row i

C_j = the sum of the frequency for column j

N =the total sample size

3.4.3 Multivariate Analysis

Binary logistic regression is used to determine the likelihood of the independents variables in affecting contraceptive use of the respondents.

The logistic regression was used because both the dependent and the independent variables were categorical and did not satisfy the multivariate normality assumption. The dependent variable was dichotomous that is either the respondent is using contraception or not.

Let $P(X=1)$ be the probability of success and $P(X=0)$ be the probability of failure where the X 's are the independent variables.

Logistic Model

$$P(X = 1/X_1, X_2, \dots, X_K)$$

$$= \frac{1}{1 + e^{-(\alpha + \sum \beta_i X_i)}}$$

Where α and β_i in the model are unknown parameters.

$$p(y = 1) = \frac{e^{\alpha + \beta x}}{1 + e^{\alpha + \beta x}}$$

Where $P(y=1)$ is the probability of success

Fitting these model estimate the unknown parameters. The method used to obtain the estimate is the maximum likelihood.

The logit form of the model which is the transformation of the model:

$$\text{Logit}P(X) = \ln_e \left[\frac{P(X)}{1 - P(X)} \right]$$

$$= \alpha + \sum \beta_i X_i$$

The transform model complete the $\text{Logit}P(X)$ for the individual independent variables given by X . The logit function describe the “log odd”

The odd ratio is given by

$$OR = \exp(\hat{\beta})$$

Where $\hat{\beta}$ are the estimates of the parameters.

3.4.4 Fitting and selection of the model

The stepwise regression was used in the model selection. The backward elimination was used. The procedure started with a fitted model which comprises of all careful selected independents variable which were important to the study.

In the fitted model, the backward elimination was used to eliminate the variable with the highest P-value and the Akaike's Information Criterion (AIC) was supposed to improved(AIC).The model with the smaller AIC is the better fit.

$$AIC = 2 \text{maximized log-likelihood} + 2 \text{number of parameters}$$

The procedure of the backward elimination stops when the AIC cannot be improved. The overall selected fitted model is tested..

3.4.5 Pearson Chi-Square and Deviance Test

This test asked whether the model with the predictors fit significantly better than a model with just the intercept. To emphasize the fact that the fitted values in the logistic regression are calculated for each covariate pattern, we denote the fitted values for j_{th} covariate pattern as \hat{y}_j where

$$\hat{y}_j = m_j \hat{\pi}_j = \frac{m_j e^{\hat{g}(x_j)}}{1 + e^{\hat{g}(x_j)}}$$

where $\hat{g}(x_j)$ is the estimated logit

For a particular covariate pattern, the Pearson Residual r is

$$r(y_j, \hat{\pi}_j) = \frac{(y_j - m_j \hat{\pi}_j)}{\sqrt{m_j \pi_j (1 - \hat{\pi}_j)}}$$

The summary statistic based on these residuals is the Pearson Chi-square statistics given as

$$X^2 = \sum_{j=1}^J d(y_j, \hat{\pi}_j)^2$$

The deviance residual is define as

$$d(y_j, \pi_j) = \pm \left\{ 2 \left[y_j \ln \left(\frac{y_j}{m_j \pi_j} \right) + (m_j - y_j) \ln \left(\frac{m_j - y_j}{m_j (1 - \pi_j)} \right) \right] \right\}^{\frac{1}{2}}$$

For covariate pattern with $y_j = 0$ the deviance residual become

$$d(y_j, \hat{\pi}_j) = -\sqrt{2 m_j |\ln(1 - \pi_j)|}$$

The Deviance (D)

$$D = \sum_{j=1}^J d(y_j, \hat{\pi}_j)^2$$

3.4.6 Hosmer-Lemeshow Test

The Hosmer –lemeshow goodness of fit statistics \hat{C} is obtained by calculating the Pearson Chi-square from $g * 2$ table of observed and estimated expected frequency

The formula of \hat{C} is given by

$$\hat{C} = \sum_{k=1}^g \frac{(o_k - n'_k \hat{\pi}_k)^2}{n'_k \pi_k (1 - \hat{\pi}_k)}$$

Where n'_k is the total number of subjects in the k^{th} group, C_k denote the number of covariate patterns in the k^{th} deciles

$$O_k = \frac{m_j \hat{\pi}_j}{n'_k}$$

is the number of responses among C_k covariate pattern and

$$\hat{\pi}_k = \frac{\sum_{j=1}^{C_k} m_j \hat{\pi}_j}{n'_k}$$

Is the average estimated probability



CHAPTER FOUR

Results and Analysis

In the following pages, the researcher has presented and analyzed the data which have been collected from the respondents in the field through interviewed schedule. The results and discussion of the study are classified into three main sections. The first presents the characteristics of respondents and their respective husbands under a Univariate analysis. This includes the demographic, socio-economic and other characteristics of respondents and their respective husbands. Demographic factors include age, religion, number of living children and length of marriage. Socio-economic factors include occupation and educations. Other factors include family planning knowledge, family planning discussion with husband and current use of contraceptive. A Bivariate analysis (Pearson chi-square) was used to find a relationship between the current use of contraceptive and the variables. The third section is binary logistic regression analysis of socio-economics, demographic, family planning knowledge and current use of contraceptive characteristics.

4.1. Descriptive Analysis

The descriptive analysis in this study is aimed at finding out the basic characteristics of married women in the WassAmenfi West District. This section is divided into three sections. Section one measured the demographic characteristics of respondents which include age, religion, number of living children and length of marriage.

The second section also measured the socio-economic characteristics which include occupation and education of respondents and their respective husbands.

The third section measured other related information such as family planning knowledge, desire for male child, freedom of taking personal decision including contraceptive usage, visiting family planning center, attitude toward family planning, discussing family planning with husband, ideal number of children and current use of contraceptive.

Table 4.1: Percentages and number of married women by demographic characteristics

Characteristics	Number of women	Percentage
Respondents age		
18-27	43	26.9
28-35	70	43.8
36-45	47	29.3
Religion of respondents		
Christian	133	83.1
Islam	12	7.5
Traditional	5	3.1
Others	10	6.2
Number of living children		
0-3	63	39.4
4-6	56	35.0
7 and above	41	25.6
Length of marriage		
1-5	50	31.2
6-10	57	35.6
11 and above	53	33.1
Total	160	100

Table 4.1 Shows the demographic characteristics of the 160 married women interviewed. Most of the respondents aged between 28-35 years old accounted 43.8%, followed by those in the age between 36-45 years (29.3%) and those between 18-27 accounted for 26.9%. Most of the respondents which accounted for 83.1% were Christian. 7.5% were in the Islamic religions while other religions including tradition accounted for 6.2%.

Another demographic factor that was considered in the study was the number of living children of the respondents. The highest number of living children of the respondents was 0-3 which accounted for 39.4, followed by 4 to 6 which accounted for 35.0%. The lowest of all was 7 and above number of living children with 25.6%. The length of marriage of respondent was also considered.

The highest of the marriage duration of respondents was 6 to 10 year which accounted for 35.6%. This was followed by the marriage duration of 11 years and above which accounted 3.1 and the lowest marriage duration was 1-5 years (31.3%)

TABLE 4.2: Percentages and number of married women by socio-economic characteristics

Characteristics	Number of women	Percentage
Education		
No education	89	55.6
Basic	51	31.9
Secondary	18	11.2
Tertiary	2	1.2
Occupation		
House wife	40	25.0
Government employee	10	6.2
Private employee	13	7.5
Self employee	98	61.2
Education of husband		
No education	39	24.4
Basic	78	48.8
Secondary	30	18.8
Tertiary	13	8.0

Table 4.2 Shows the socio- economic factors of the 160 married women, among these respondents, majority of them never attained formal education(55.6%). 31.9% had basic education while 11.2% had secondary education. The lowest of all was tertiary education which

accounted 1.2 percentages. Similarly most of the respondents (61.2%) were self employed and 25% were housewife.6.2% and 7.5% were government and private employees respectively.

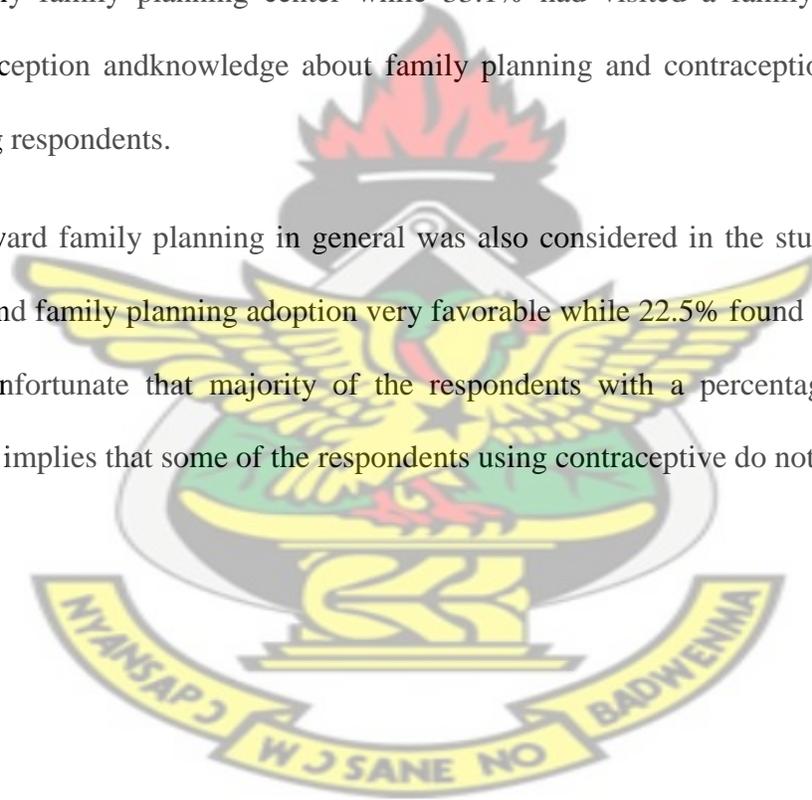
Another socio-economic factor which was considered in the study was the educational level of the respondent's husband. Most of the respondents' husband had attained basic education (48.8). This was followed by respondents whose husband has never attaining any formal education with a percentage of 24.4 percent. 18.8% and 8.0% of respondents husband had attained secondary and tertiary education respectively.

Table 4.3: Percentages and number distribution of married women by contraceptive use, family planning discussion and other related characteristics

Characteristics	Number of women	Percentage
Heard of family planning		
Yes	159	99.4
No	1	0.6
Discuss FP with husband		
No	91	66.9
Yes	69	43.1
Visiting FP center		
No	107	56.9
Yes	53	33.1
Current use of contraceptives		
No	115	71.9
Yes	45	28.1
Attitude toward FP		
Favourable	49	30.6
Unfavourable	36	22.5
Don't know	75	46.6
Freedom in taking decision		
No	48	30
Yes	122	70
Desire for male child		
No	4	2.5
Yes	156	97.5

Table 4.3 shows the contraceptive use, family planning discussion and other related characteristics. This shows that the contraceptive prevalence rate among married women in the WasswaAmenfi West District is 28.1%. This figure is slightly higher than the national prevalence rate which is 28% (population and housing census, Ghana 2010). Among the 160 married women who were interviewed, 43.1% have had discussion about family planning adoption with their husbands before while majority of respondents with a percentage of 66.9% have never had any discussion on family planning adoption with husband. More so 56.9% of respondents had never visited any family planning center while 33.1% had visited a family planning center before. The perception and knowledge about family planning and contraception was clear and universal among respondents.

The attitude toward family planning in general was also considered in the study. 30.6% of the respondents found family planning adoption very favorable while 22.5% found it as unfavorable. It was rather unfortunate that majority of the respondents with a percentage of 46.6% are undecided. This implies that some of the respondents using contraceptive do not actually see it as favorable.



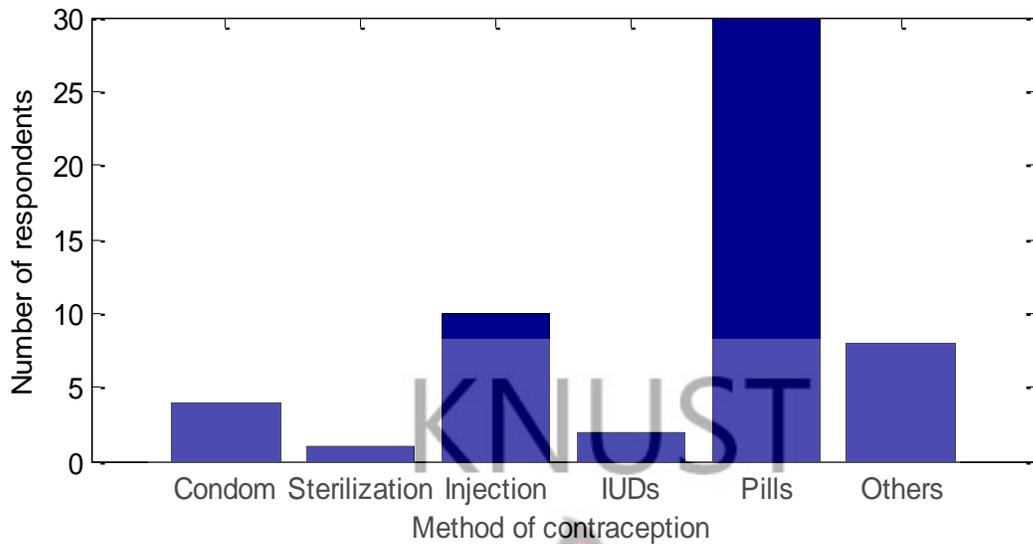


Figure 4.1: The bar chart shows the methods of contraception used by respondents

Figure 4.1 shows the contraceptive methods been used by some of the respondents. Majority of the respondents using contraception use pills (54.5%). Injections was the next contraceptive method been used by respondents followed by others with the least used being sterilization.

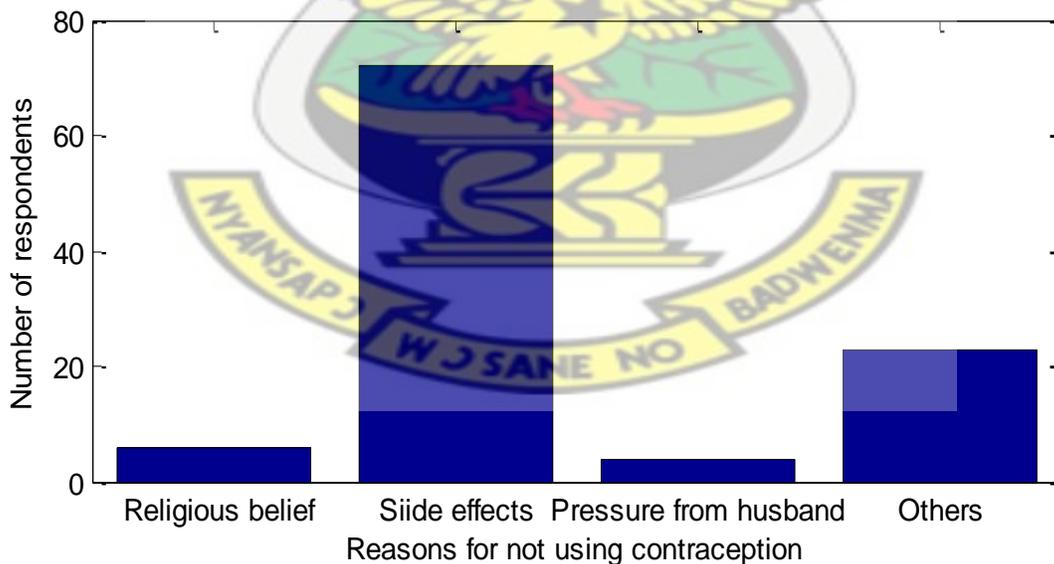


Figure 4.2: Bar chart showing reasons why respondents are not using contraception

Figure 4.2 shows various reasons why some of the married women were not using any contraceptive. The fear of side effects were predominant. Just few of the the respondents were not using any of the

contraceptive method due to religious beliefs and pressure from husband. Other assigned different reasons which have been assigned in the bar chart as others.

4.2 Pearson Chi-square test of Independence

This seek to use the Pearson chi-square to find the association between the independent variables and the current use of contraceptive among married women in the WassaAmenfi West district

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Table 4.4: Characteristics of respondents and the current use of contraceptives

	Current use of contraceptives		P-Value
	No	Yes	
Age			0.245
18-27	30	13	
28-35	41	29	
36-45	34	13	
Religion			0.326
Christian	84	49	
Islam	8	4	
Traditional	4	1	
Other	9	1	
Occupation			0.001
Housewife	26	14	
Government worker	1	9	
Private worker	6	6	
Self employed	72	26	
Number of living children			0.008
No child	41	19	
1-3	24	26	
4-6	30	7	
7 and above	10	3	
Freedom of taking decision			0.018
No	38	10	
Yes	67	45	
Family planning discussion with husband			0.000

No	87	4	
Yes	18	51	
Visits to family planning centers			0.001
No	80	27	
Yes	25	28	
Education of respondents			0.000
No education	34	5	
Basic education	57	21	
Secondary education	11	19	
Tertiary education	3	10	

Table 4.4 depicts the characteristics of the respondents in relation to the current use of contraceptives and also shows the p-values of the Pearson chi-Square test of association of this relation. The p-value of the Pearson chi-square test of 0.245 for the variable age indicates that there is no association between the age of respondents and the current use of contraceptives. Correspondingly, the religion of respondents (p-value=0.326) was not associated with the current use of contraceptives.

However, the variables occupation, number of living children, freedom of taking decision, family planning discussion with husband, visits to family planning centers and the level of education of respondents were all significantly associated with the current use of contraceptives at 5% level of statistical significance. The most significant variables were family planning discussion with husband and the level of education of respondents, both with p-values of 0.000.

4.3 Multivariate analysis

The binary logistic regression was applied for the analysis with dichotomous dependent variable (current use of contraception or not). This was to measure the effect of certain independent

variables which included age, education, occupation, religion of respondents, discussing family planning adoption with husband, visiting family planning centers and freedom of taken personal decision including family planning adoption.

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Table 4.5: Logistic regression model for the characteristics of respondents and the current use of contraceptives (Model 1: AIC=162.79)

Variables	Estimate	Std. Error	Odds Ratio	P-Value
Intercept	-36.77386	2414.02770	1.065E-16	0.98785
Age				
18-27	0.0000			
28-35	0.84851	0.60733	2.336	0.16237
36-35	-0.34710	0.73003	0.707	0.63446
Religion				
Other	0.0000			
Christian	16.73747	1436.30924	1.858E7	0.99070
Islam	17.19612	1436.30945	2.934E7	0.99045
Traditional	16.24421	1436.30976	1.134E7	0.99098
Number of living children				
No children	0.0000			
1-3	15.22735	1940.24322	4.103E6	0.99374
4-6	16.29368	1940.24320	1.192E7	0.99330
7 and above	15.51714	1940.24338	5.483E6	0.99362
Education of respondent				
No education	0.0000			
Basic	1.19132	0.63280	3.291	0.05975
Secondary	2.00892	0.76857	7.455	0.00895
Tertiary	1.84581	1.10084	6.333	0.09360

Family planning discussion with husband				
No	0.0000			
Yes	2.92783	0.53448	18.687	4.3e-08
Occupation of respondent				
Housewife	0.0000			
Government employee	0.38766	1.12216	1.474	0.72975
Private employee	1.63473	1.27561	5.128	0.20001
Self employed	0.23039	1.10044	1.259	0.83417
Freedom of taking decision				
No	1.0000			
Yes	0.58271	0.63860	1.791	0.36151
Visits to family planning center				
No	0.0000			
Yes	-0.07225	0.52331	0.930	0.89019

The backward elimination regression model-building technique was used to select the significant variable(s) in to a fitted logistic regression model. The technique begins with a full model (i.e. model with all the variables under study) and deletes variable one by one until the model begins to degrade. Each deletion of variables from the model is explained in a sequence of Models. A 5% statistical significance level is required for a variable to stay in a model.

Table 4.5 shows the results obtained from the full model (Model 1). From this model, secondary education (p-value=0.00895) and family planning discussion with husband (p-value=4.3E-08) were the only variables that were significantly associated with the current use of contraceptives. All the remaining variables were not significant. Therefore, this resulted to an Akaike's information criterion (AIC) statistic of 162.79.

Table 4.6: Logistic regression model for the characteristics of respondents and the current use of contraceptives (Model 2: AIC=162.3)

Variables	Estimate	Std. Error	Odds Ratio	P-Value
Intercept	-20.5854	1493.0445	1.148E-19	0.98900

Age				
18-27	0.0000		1.000	
28-35	0.8982	0.5801	2.455	0.12151
36-35	-0.2786	0.6863	0.757	0.68475
Religion				
Other	0.0000		1.000	
Christian	16.1208	1493.0435	1.003E7	0.99139
Islam	16.7191	1493.0437	1.824E7	0.99107
Traditional	15.6570	1493.0440	6.306E6	0.99163
Education of respondent				
No education	0.0000		1.000	
Basic	1.1543	0.6167	3.172	0.06126
Secondary	1.9642	0.7456	7.129	0.00843
Tertiary	1.6753	1.0733	5.340	0.11857
Family planning discussion with husband				
No	0.0000		1.000	
Yes	3.0244	0.5289	20.582	1.08e-08
Occupation of respondent				
Housewife	0.0000		1.000	
Government employee	0.4785	1.0832	1.614	0.65871
Private employee	1.5014	1.2372	4.488	0.22493
Self employed	0.3068	1.0547	1.359	0.77112
Freedom of taking decision				
No	0.0000		1.000	
Yes	0.3710	0.5985	1.819	0.53541
Visits to family planning center				
No	0.0000		1.000	
Yes	0.1765	0.4907	1.193	0.71915

In Model 2, the categorical variable ‘number of living children’ was dropped because it was the least significant having the highest p-value. This resulted in improving the Akaike’s information criterion (AIC) by reducing it slightly from 162.79 to 162.30. Similarly to the results in Model 1, secondary education (p-value=0.00843) and family planning discussion with husband (p-value=1.08E-08) were the only variables that were significantly associated with the current use of contraceptives in Model 2.

Table 4.7: Logistic regression model for the characteristics of respondents and the current use of contraceptives (Model 3: AIC=159.11)

Variables	Estimate	Std. Error	Odds Ratio	P-Value
Intercept	-4.6380	1.4714		0.00162
Age				
18-27	0.0000		1.000	
28-35	0.9233	0.5823	2.518	0.11282
36-35	-0.2682	0.6676	1.950	0.68789
Education of respondent				
No education	0.0000		1.000	
Basic	1.1855	0.5995	3.2723	0.04798
Secondary	2.0742	0.7334	7.958	0.00468
Tertiary	1.9072	1.0388	6.734	0.06636
Family planning discussion with husband				
No	0.0000		1.000	
Yes	3.0490	0.5141	21.094	3.01e-09
Occupation of respondent				
Housewife	0.000		1.000	
Government employee	0.4586	1.0541	1.582	0.66352
Private employee	1.5877	1.1810	4.892	0.17881
Self employed	0.5181	1.0152	1.679	0.60980
Freedom of taking decision				
No	0.0000		1.000	
Yes	0.2863	0.5910	1.331	0.62803
Visits to family planning center				
No	0.0000		1.000	
Yes	0.1877	0.4796	1.206	0.69550

The categorical variable ‘religion’ was dropped in Model 3. This resulted in improving the Akaike’s information criterion (AIC) by reducing it from 162.30 to 159.11. As a result, the intercept (p-value=0.00162), basic education (p-value=0.04798), secondary education (p-value=0.00468) together with family planning discussion with husband (p-value=3.01E-09) were the significant variables in this model.

Table 4.8: Logistic regression model for the characteristics of respondents and the current use of contraceptives (Model 4: AIC=157.26)

Variables	Estimate	Std. Error	Odds Ratio	P-Value
Intercept	-4.6048	1.4618	0.010	0.00163
Age				
18-27	0.0000		1.000	
28-35	0.9192	0.5799	2.507	0.11297
36-35	-0.2828	0.6654	0.754	0.67083
Education of respondent				
No education	0.0000		1.0000	
Basic	1.1643	0.5954	3.204	0.05051
Secondary	2.0545	0.7280	7.803	0.00477
Tertiary	1.9080	1.0352	6.740	0.06531
Family planning discussion with husband				
No	0.0000		1.000	
Yes	3.0999	0.5002	22.196	5.73e-10
Occupation of respondent				
Housewife	0.0000		1.000	
Government employee	0.4515	1.0503	1.571	0.66730
Private employee	1.5973	1.1859	4.940	0.17803
Self employed	0.5181	1.0125	1.679	0.60884
Freedom of taking decision				
No	0.0000		1.000	
Yes	0.3101	0.5893	22.220	0.59876

In the fourth model the categorical variable ‘visits to family planning centers’ was dropped, therefore improving the Akaike’s information criterion (AIC) by reducing it from 159.11 to 157.26. The intercept (p-value=0.00163), secondary education (p-value=0.00477) and family planning discussion with husband remained significant at 5% level of statistical significance. On the other hand, the removal of the categorical variable ‘visits to family planning centers’ from the fourth model caused ‘basic education level’ which was significant in the previous model to be insignificant.

Table 4.9: Logistic regression model for the characteristics of respondents and the current use of contraceptives (Model 5: AIC=153.43)

Variables	Estimate	Std. Error	Odds Ratio	P-Value
Intercept	-4.0107	0.9246		1.44e-05
Age				
18-27	0.0000			
28-35	0.9357	0.5700	2.549	0.10067
36-35	-0.1858	0.6257	0.830	0.76648
Education of respondent				
No education	0.0000			
Basic	1.2255	0.5868	3.406	0.03676
Secondary	2.0864	0.6829	8.056	0.00225
Tertiary	2.0950	0.9161	8.125	0.02220
Family planning discussion with husband				
No	0.0000			
Yes	2.9851	0.4797	19.788	4.87e-10
Freedom of taking decision				
No	0.0000			
Yes	0.2411	0.5745	9.404	0.67471

The AIC statistic decreased from 157.26 to 153.43 in the fifth model when the categorical variable ‘occupation of respondent’ was dropped. The variables that were significantly associated with the current use of contraceptives were the intercept (p-value=1.44E-05), basic education (p-value=0.03676), secondary education (p-value=0.00225), tertiary education (p-value=0.02220) and family planning with husband (4.87E-10).

Table 4.10: Logistic regression model for the characteristics of respondents and the current use of contraceptives (Model 6: AIC=155.35)

Variables	Estimate	Std. Error	Odds Ratio	P-Value
Intercept	-3.4997	0.7179		1.09e-06
Education of respondent				
No education	0.0000			
Basic	1.2220	0.5705		0.0322

Secondary	2.0166	0.6614		0.0023
Tertiary	2.2225	0.9164		0.0153
Family planning discussion with husband				
No	0.0000			
Yes	2.8334	0.4547		4.64e-10
Freedom of taking decision				
No	0.0000			
Yes	0.2210	0.5430		0.6840

In model sixth model, the AIC statistic became worst (i.e. increased from 153.43 to 155.35) when the variable age was dropped. However, comparing the models based on their AIC statistic the fifth model was selected yielding the least AIC at 153.43. Therefore, the appropriate logistic regression model fitted with the significant variables is;

$$P(cuc = 1) = \frac{e^{-4.010+1.226 \times Basic\ edu+2.086 \times sec\ edu+2.095 \times Ter\ edu+2.985 \times fphusb}}{1 + e^{-4.010+1.226 \times Basic\ edu+2.086 \times sec\ edu+2.095 \times Ter\ edu+2.985 \times fphusb}}$$

This model is useful in estimating the probability of the current use of contraceptives among the married women of WassAmenfi West district. For instance, the estimated probability of the current use of contraceptives for a woman with basic education (i.e basic edu=1) who has ever discussed family planning with her husband (i.e. respondents discussing family planning with husband=1) is

$$P(cuc = 1) = \frac{e^{-4.010+1.226 \times 1+2.985 \times 1}}{1 + e^{-4.010+1.226 \times 1+2.985 \times 1}} = 0.550$$

Again a woman with the same level of education who has never discussed family plan with her husband (i.e. . respondents discussing family planning with husband =0) is

$$P(cuc = 1) = \frac{e^{-4.010+1.226 \times 1+2.985 \times 0}}{1 + e^{-4.010+1.226 \times 1+2.985 \times 0}} = 0.058$$

Similarly, a woman with the secondary education who have ever discussed family plan with her husband (i.e. . respondents discussing family planning with husband=1) is

$$P(cuc = 1) = \frac{e^{-4.010+2.086 \times 2+2.985 \times 1}}{1 + e^{-4.010+2.086 \times 2+2.985 \times 1}} = 0.959$$

Also a woman with the same level of education who has never discussed family plan with her husband (i.e. . respondents discussing family planning with husband =0)

$$P(cuc = 1) = \frac{e^{-4.010+2.086 \times 2+2.985 \times 0}}{1 + e^{-4.010+2.086 \times 2+2.985 \times 0}} = 0.540$$

Clearly, the effect of family planning discussion with husband on the current use of contraceptive is very substantial.

Table 4.11: Test of Overall fitness of the fitted model

Test	Value	DF	P-Value
Chi-Square	76.203	7	1.043956e-12

A chi-square value of 76.203 with p-value $1.043956e-12 < 0.05$ indicates that the fitted model as a whole fits significantly better than an empty model, therefore resulting to the rejection of the null hypothesis. This brings out the implication that there exist a significant relationship between the current use of contraceptives and at least one of the study independent variables.

4.4 Discussions

The results of the Pearson chi-square test revealed that the occupation, number of living children, freedom of taking decision, family planning discussion with husband, visits to family planning centers and the level of education of respondents were the variables which were significantly associated with the current use of contraceptives. Among these variables the most significant ones were the education of respondents and family planning discussion with husband. The age and religious background of respondents were not significantly associated to the current use of contraceptives.

Similarly, the results obtained from the logistic regression model revealed that the current use of contraceptives among the married women of WassAmenfi West district was strongly associated with their level of education and the discussion of family planning with husband. The estimated odds of using contraceptives among women with basic education equal 3.406 times the estimated odds for those with no education. Also among women with secondary education, the estimated odds of using contraceptives equal 8.056 times the estimated odds for those with no education. Thirdly, the estimated odds of using contraceptives among women with tertiary education equal 8.125 times the estimated odds for women with no educational background. These figures suggest that the use of contraceptives increases with increasing educational level. Thus, women with higher level of education tend to use contraceptives more than those with lower educational background.

In addition, the estimated odds of women who ever discussed family planning with their husbands equal 19.788 times the estimated odds of those who never discussed family planning with husband. This figure suggests a very strong effect on the current use of contraceptives among the married women of WassAmenfi West district.

On the contrary, the remaining variables including occupation, number of children, freedom of taking decision and visits to family planning centers which were significantly associated to the current use of contraceptives in the Pearson chi-square test were not significant in the logistic regression model. However, both age and religious background of respondents were not significantly associated to the current use of contraceptives in both statistical approaches.

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CHAPTER FIVE

Conclusions and Recommendation

5.0 Conclusions

The objectives of this thesis were to describe the socio-economic and demographic characteristics of the respondents. Also to estimate the contraceptive prevalence rate and investigate the factors that is associated with the current use of contraceptives among married women of WassAmenfi West District. In this study, we used a sample size of 160 married women who were aged 18-45 years of WassAmenfi West District. Majority of the respondents were aged between 28-35. This was followed by 36-45 and finally 18-27 years. The respondents were predominantly Christians with few been Muslim and other Religious setup. Most of the respondents had their living children between 0-3 while a few had 7 and above living children.

Among the respondents, more than half (55.6%) never attained formal education. 31.9%, 11.2% and 1.2% had basic, secondary and tertiary education respectively. Most of them were self-

employed with few been government and private employee. The estimated contraceptive prevalence rate among married women in WassAmenfi West District is 28.1%

In terms of the measurement of statistical association, results obtained from the Pearson chi-square test revealed that the occupation, number of living children, freedom of taking decision, family planning discussion with husband, visits to family planning centers and the level of education of respondents were significantly associated with the current use of contraceptives whereas the results obtained from the logistic regression model revealed that the current use of contraceptives among the married women of WassAmenfi West district was strongly associated with only their level of education and the discussion of family planning with husband.

5.2 Recommendation

Although perception and knowledge about family planning of respondents were clear and universal, awareness should be created for the misconceptions on side effects of contraceptive use to make it convenient for the illiterates. More education should be given out to give more information about the side effects of each contraceptive method and how to deal with them.

Since educated women have a direct influence on the use of contraceptives, government and stakeholders should lay more emphasis to improve female education.

For general acceptance of contraceptive use, men should be included among the target group as most of the decisions regarding family planning and contraception necessitate prior approval from husbands.

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Appendices

Appendix 1

Frequency Table

AGE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-27	43	26.9	26.9	26.9
	28-35	70	43.8	43.8	70.6
	36-45	47	29.4	29.4	100.0
	Total	160	100.0	100.0	

RELIGION					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CHRISTIAN	133	83.1	83.1	83.1
	ISIMAN	12	7.5	7.5	90.6
	TRADITIONAL	5	3.1	3.1	93.8
	OTHER	10	6.2	6.2	100.0
	Total	160	100.0	100.0	

EDUOFHUABAND					
		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	NO EDUCATION	39	24.4	24.4	24.4
	BASIC	78	48.8	48.8	73.1
	SECONDARY	30	18.8	18.8	91.9
	TERTIARY	13	8.1	8.1	100.0
	Total	160	100.0	100.0	

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EDUCATION					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	.6	.6	.6
	NO EDUCATION	89	55.6	55.6	56.2
	BASIC	51	31.9	31.9	88.1
	SECONDARY	18	11.2	11.2	99.4
	TERTIARY	1	.6	.6	100.0
	Total	160	100.0	100.0	

OCCUPATION					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HOUSEWIFE	40	25.0	25.0	25.0
	GOVERNMENT WORKER	10	6.2	6.2	31.2
	PRIVATE WORKER	12	7.5	7.5	38.8
	SELF EMPLOYMENT	98	61.2	61.2	100.0
	Total	160	100.0	100.0	

NOOFCHILDREN					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	.6	.6	.6
	1-3	62	38.8	38.8	39.4
	4-6	56	35.0	35.0	74.4

	7 AND ABOVE	41	25.6	25.6	100.0
	Total	160	100.0	100.0	

LENOFMARRIAGE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	50	31.2	31.2	31.2
	6-10	57	35.6	35.6	66.9
	15 AND ABOVE	53	33.1	33.1	100.0
	Total	160	100.0	100.0	

DESOFMALE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	4	2.5	2.5	2.5
	YES	155	96.9	96.9	99.4
	1`	1	.6	.6	100.0
	Total	160	100.0	100.0	

FREEDOM					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	48	30.0	30.0	30.0
	YES	112	70.0	70.0	100.0
	Total	160	100.0	100.0	

VISITINGFCENTRE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	107	66.9	66.9	66.9
	YES	53	33.1	33.1	100.0
	Total	160	100.0	100.0	

ATTITOFFP					
		Frequency	Percent	Valid Percent	Cumulative

					Percent
Valid	FAVOURABLE	49	30.6	30.6	30.6
	UNFAVOURABLE	36	22.5	22.5	53.1
	DONT KNOW	75	46.9	46.9	100.0
	Total	160	100.0	100.0	

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HUSBANDFAVOFFP					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	90	56.2	56.2	56.2
	YES	69	43.1	43.1	99.4
	O	1	.6	.6	100.0
	Total	160	100.0	100.0	

IDEALNOCHILDREN					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2	5	3.1	3.1	3.1
	3-4	88	55.0	55.0	58.1
	5-6	67	41.9	41.9	100.0
	Total	160	100.0	100.0	

CUC					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	105	65.6	65.6	65.6
	YES	55	34.4	34.4	100.0
	Total	160	100.0	100.0	

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Appendix 2

Pearson Chi-square test

Crosstab					
			CUC		Total
			NO	YES	
AGE	18-27	Count	30	13	43
		Expected Count	28.2	14.8	43.0
	28-35	Count	41	29	70
		Expected Count	45.9	24.1	70.0
	36-45	Count	34	13	47
		Expected Count	30.8	16.2	47.0
Total		Count	105	55	160
		Expected Count	105.0	55.0	160.0

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.811 ^a	2	.245
Likelihood Ratio	2.809	2	.246
N of Valid Cases	160		

Crosstab						
			CUC		Total	
			NO	YES		
RELIGIO N	CHRISTIAN	Count	84	49	133	
		Expected Count	87.3	45.7	133.0	
	ISIMAN	Count	8	4	12	
		Expected Count	7.9	4.1	12.0	
	TRADITIONA L	Count	4	1	5	
		Expected Count	3.3	1.7	5.0	
	OTHER	Count	9	1	10	
		Expected Count	6.6	3.4	10.0	
	Total		Count	105	55	160
			Expected Count	105.0	55.0	160.0

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.456 ^a	3	.326
Likelihood Ratio	4.078	3	.253
N of Valid Cases	160		

Crosstab					
			CUC		Total
			NO	YES	
OCCUPATIO N	HOUSEWIFE	Count	26	14	40
		Expected Count	26.3	13.8	40.0
	GOVERNMENT WORKER	Count	1	9	10
		Expected Count	6.6	3.4	10.0
	PRIVATE WORKER	Count	6	6	12
		Expected Count	7.9	4.1	12.0

		Count			
	SELF EMPLOYMENT	Count	72	26	98
		Expected Count	64.3	33.7	98.0
Total		Count	105	55	160
		Expected Count	105.0	55.0	160.0

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Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.695 ^a	3	.001
Likelihood Ratio	17.592	3	.001
N of Valid Cases	160		

Crosstab						
			CUC		Total	
			NO	YES		
NOOFCHILDREN	No children	Count	41	19	60	
		Expected Count	39.4	20.6	60.0	
	1-3	Count	24	26	50	
		Expected Count	32.8	17.2	50.0	
	4-6	Count	30	7	37	
		Expected Count	24.3	12.7	37.0	
	7 and above	Count	10	3	13	
		Expected Count	8.5	4.5	13.0	
	Total		Count	105	55	160
			Expected Count	105.0	55.0	160.0

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.734 ^a	3	.008
Likelihood Ratio	11.824	3	.008
N of Valid Cases	160		

Crosstab					
			CUC		Total
			NO	YES	
FREEDOM	NO	Count	38	10	48
		Expected	31.5	16.5	48.0
		Count			
	YES	Count	67	45	112
		Expected	73.5	38.5	112.0
		Count			
Total		Count	105	55	160
		Expected	105.0	55.0	160.0
		Count			

Chi-Square Tests					
	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	5.574 ^a	1	.018		
Continuity Correction ^b	4.750	1	.029		
Likelihood Ratio	5.875	1	.015		
Fisher's Exact Test				.019	.013
N of Valid Cases	160				

Crosstab					
			CUC		Total
			NO	YES	
dDISCUSSIONFPWITHH USBAND	NO	Count	87	4	91
		Expected	59.7	31.3	91.0
		Count			

	YES	Count	18	51	69
		Expected Count	45.3	23.7	69.0
Total		Count	105	55	160
		Expected Count	105.0	55.0	160.0

Chi-Square Tests					
	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	84.071 ^a	1	.000		
Continuity Correction ^b	81.018	1	.000		
Likelihood Ratio	93.892	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	160				

Crosstab					
			CUC		Total
			NO	YES	
VISITINGFPCENTR E	NO-	Count	80	27	107
		Expected Count	70.2	36.8	107.0
	YES	Count	25	28	53
		Expected Count	34.8	18.2	53.0
Total		Count	105	55	160
		Expected Count	105.0	55.0	160.0

Chi-Square Tests					
	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	11.966 ^a	1	.001		

Continuity Correction ^b	10.774	1	.001		
Likelihood Ratio	11.728	1	.001		
Fisher's Exact Test				.001	.001
N of Valid Cases	160				

Crosstab					
			CUC		Total
			NO	YES	
EDUOFRESPOND	NO EDUCATION	Count	34	5	39
		Expected Count	25.6	13.4	39.0
	BASIC	Count	57	21	78
		Expected Count	51.2	26.8	78.0
	SECONDARY	Count	11	19	30
		Expected Count	19.7	10.3	30.0
	TERTIARY	Count	3	10	13
		Expected Count	8.5	4.5	13.0
	Total	Count	105	55	160
		Expected Count	105.0	55.0	160.0

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.537 ^a	3	.000
Likelihood Ratio	31.703	3	.000
N of Valid Cases	160		

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Appendix 3

Results of Logistic Regression Model

Call:

```
glm(formula = cuc.f ~ (age.f) + (religion.f) + (nochildren.f) +
    (eduofresp.f) + (fpdischusband.f) + (occupation.f) + (freedom.f) +
    (visitingfpcentre.f), family = binomial(link = logit))
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-1.9402	-0.5143	-0.2898	0.6143	2.3931

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-36.77386	2414.02770	-0.015	0.98785
age.f2	0.84851	0.60733	1.397	0.16237
age.f3	-0.34710	0.73003	-0.475	0.63446
religion.f2	16.73747	1436.30924	0.012	0.99070
religion.f3	17.19612	1436.30945	0.012	0.99045
religion.f4	16.24421	1436.30976	0.011	0.99098

nochildren.f2	15.22735	1940.24322	0.008	0.99374
nochildren.f3	16.29368	1940.24320	0.008	0.99330
nochildren.f4	15.51714	1940.24338	0.008	0.99362
eduofresp.f2	1.19132	0.63280	1.883	0.05975 .
eduofresp.f3	2.00892	0.76857	2.614	0.00895 **
eduofresp.f4	1.84581	1.10084	1.677	0.09360 .
fpdischusband.f2	2.92783	0.53448	5.478	4.3e-08 ***
occupation.f2	0.38766	1.12216	0.345	0.72975
occupation.f3	1.63473	1.27561	1.282	0.20001
occupation.f4	0.23039	1.10044	0.209	0.83417
freedom.f2	0.58271	0.63860	0.912	0.36151
visitingfpcentre.f2	-0.07225	0.52331	-0.138	0.89019

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 213.64 on 159 degrees of freedom

Residual deviance: 126.79 on 142 degrees of freedom

AIC: 162.79

Number of Fisher Scoring iterations: 16

>

```
fit2=glm(cuc.f~(age.f)+(religion.f)+(eduofresp.f)+(fpdischusband.f)+(o
ccupation.f)+(freedom.f)+(visitingfpcentre.f),family=binomial(link=log
it))
```

```
>summary(fit2)
```

Call:

```

glm(formula = cuc.f ~ (age.f) + (religion.f) + (eduofresp.f) +
      (fpdischusband.f) + (occupation.f) + (freedom.f) +
      (visitingfpcentre.f),
family = binomial(link = logit))

```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-2.1790	-0.5702	-0.3255	0.6447	2.3452

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-20.5854	1493.0445	-0.014	0.98900
age.f2	0.8982	0.5801	1.548	0.12151
age.f3	-0.2786	0.6863	-0.406	0.68475
religion.f2	16.1208	1493.0435	0.011	0.99139
religion.f3	16.7191	1493.0437	0.011	0.99107
religion.f4	15.6570	1493.0440	0.010	0.99163
eduofresp.f2	1.1543	0.6167	1.872	0.06126 .
eduofresp.f3	1.9642	0.7456	2.634	0.00843 **
eduofresp.f4	1.6753	1.0733	1.561	0.11857
fpdischusband.f2	3.0244	0.5289	5.718	1.08e-08 ***
occupation.f2	0.4785	1.0832	0.442	0.65871
occupation.f3	1.5014	1.2372	1.214	0.22493
occupation.f4	0.3068	1.0547	0.291	0.77112
freedom.f2	0.3710	0.5985	0.620	0.53541
visitingfpcentre.f2	0.1765	0.4907	0.360	0.71915

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 213.64 on 159 degrees of freedom

Residual deviance: 132.30 on 145 degrees of freedom

AIC: 162.3

Number of Fisher Scoring iterations: 16

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```
>
fit3=glm(cuc.f~(age.f)+(eduofresp.f)+(fpdischusband.f)+(occupation.f)+
(freedom.f)+(visitingfpcentre.f),family=binomial(link=logit))
>summary(fit3)
```

Call:

```
glm(formula =cuc.f ~ (age.f) + (eduofresp.f) + (fpdischusband.f) +
      (occupation.f) + (freedom.f) + (visitingfpcentre.f), family =
      binomial(link = logit))
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-2.2305	-0.5727	-0.3247	0.6337	2.5465

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-4.6380	1.4714	-3.152	0.00162	**
age.f2	0.9233	0.5823	1.586	0.11282	
age.f3	-0.2682	0.6676	-0.402	0.68789	
eduofresp.f2	1.1855	0.5995	1.978	0.04798	*

eduofresp.f3	2.0742	0.7334	2.828	0.00468	**
eduofresp.f4	1.9072	1.0388	1.836	0.06636	.
fpdischusband.f2	3.0490	0.5141	5.931	3.01e-09	***
occupation.f2	0.4586	1.0541	0.435	0.66352	
occupation.f3	1.5877	1.1810	1.344	0.17881	
occupation.f4	0.5181	1.0152	0.510	0.60980	
freedom.f2	0.2863	0.5910	0.484	0.62803	
visitingfpcentre.f2	0.1877	0.4796	0.391	0.69550	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 213.64 on 159 degrees of freedom
 Residual deviance: 135.11 on 148 degrees of freedom
 AIC: 159.11

Number of Fisher Scoring iterations: 5

```
>
fit4=glm(cuc.f~(age.f)+(eduofrespp.f)+(fpdischusband.f)+(occupation.f)
+(freedom.f),family=binomial(link=logit))
>summary(fit4)
```

Call:

```
glm(formula =cuc.f ~ (age.f) + (eduofresp.f) + (fpdischusband.f) +
      (occupation.f) + (freedom.f), family = binomial(link = logit))
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-2.1876	-0.5811	-0.3281	0.6619	2.5475

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)							
(Intercept)	-4.6048	1.4618	-3.150	0.00163	**						
age.f2	0.9192	0.5799	1.585	0.11297							
age.f3	-0.2828	0.6654	-0.425	0.67083							
eduofresp.f2	1.1643	0.5954	1.956	0.05051	. +						
eduofrespp.f3	2.0545	0.7280	2.822	0.00477	**						
eduofresp.f4	1.9080	1.0352	1.843	0.06531	.						
fpdischusband.f2	3.0999	0.5002	6.198	5.73e-10	***						
occupation.f2	0.4515	1.0503	0.430	0.66730							
occupation.f3	1.5973	1.1859	1.347	0.17803							
occupation.f4	0.5181	1.0125	0.512	0.60884							
freedom.f2	0.3101	0.5893	0.526	0.59876							

Signif. codes:	0	***	0.001	**	0.01	*	0.05	.	0.1	'	1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 213.64 on 159 degrees of freedom
Residual deviance: 135.26 on 149 degrees of freedom
AIC: 157.26

Number of Fisher Scoring iterations: 5

```
>  
fit5=glm(cuc.f~(eduofresp.f)+(fpdischusband.f)+(occupation.f)+(freedom  
.f),family=binomial(link=logit))
```

```
>summary(fit5)
```

Call:

```
glm(formula = cuc.f ~ (eduofresp.f) + (fpdischusband.f) +  
      (occupation.f) + (freedom.f), family = binomial(link = logit))
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-2.0156	-0.5150	-0.2671	0.7402	2.2437

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-4.4175	1.2852	-3.437	0.000588	***
eduofresp.f2	1.1788	0.5770	2.043	0.041042	*
eduofresp.f3	2.0565	0.6983	2.945	0.003227	**
eduofresp.f4	2.3390	1.0446	2.239	0.025153	*
fpdischusband.f2	2.9367	0.4739	6.196	5.78e-10	***
occupation.f2	0.7360	1.0465	0.703	0.481859	
occupation.f3	1.5919	1.1858	1.342	0.179438	
occupation.f4	0.8057	1.0003	0.805	0.420556	
freedom.f2	0.2965	0.5564	0.533	0.594064	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 213.64 on 159 degrees of freedom

Residual deviance: 141.48 on 151 degrees of freedom

AIC: 159.48

Number of Fisher Scoring iterations: 5

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```
>with(fit4,null.deviance-deviance)
```

```
[1] 78.37613
```

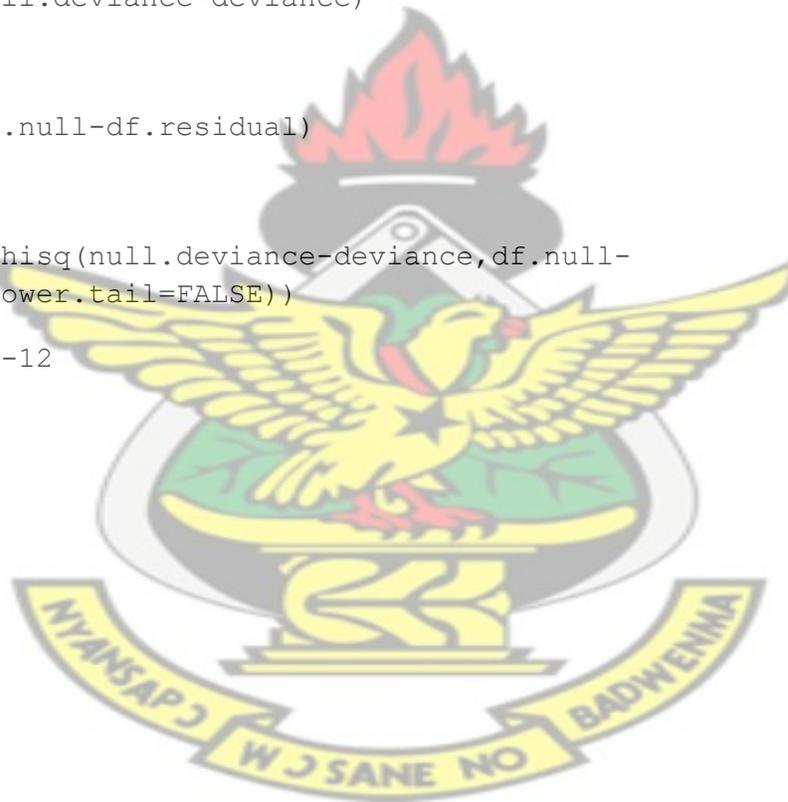
```
>with(fit4,df.null-df.residual)
```

```
[1] 10
```

```
>with(fit4,pchisq(null.deviance-deviance,df.null-  
df.residual,lower.tail=FALSE))
```

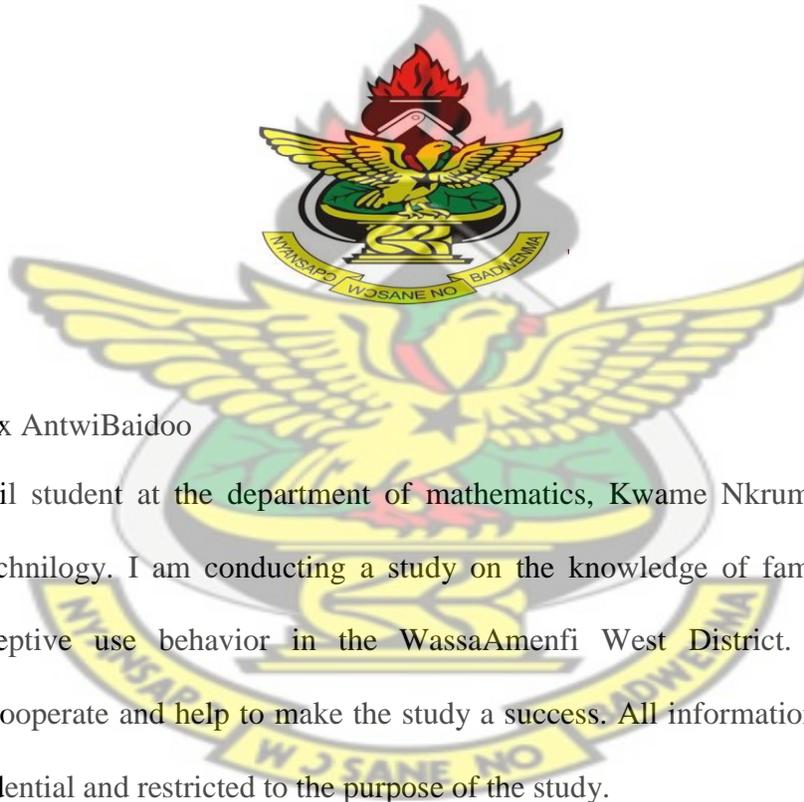
```
[1] 1.043956e-12
```

```
>
```



Appendix 4

KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF MATHEMATICS



Researcher: Felix AntwiBaidoo

This is an Mphil student at the department of mathematics, Kwame Nkrumah University of Science and Technology. I am conducting a study on the knowledge of family planning and current contraceptive use behavior in the WassAmenfi West District. I would expect respondents to cooperate and help to make the study a success. All information provided would be strictly confidential and restricted to the purpose of the study.

ANSWER THE QUESTIONS BELOW

INTERVIEW SCHEDULE

PART I: BACKGROUND INFORMATION OF RESPONDENTS

1. Town

2. Age (in years)
 - a. < 20
 - b. 21-25
 - c. 26-30
 - d. 31-35
 - e. 36-40
 - f. 41-45
3. Education level
 - a. No education
 - b. basic
 - c. secondary
 - d. tertiary
4. Religion
 - a. Christian
 - b. Islam
 - c. Traditional
 - d. Other
5. Occupation
 - a. Housewife
 - b. government employee
 - c. private employee
 - d. self employed
6. Your age at the time of marriage
 - a. 18-22
 - b. 23-27
 - c. 28-32
 - d. 33 and above
7. Your husband's age at the time of marriage
 - a. 18-22
 - b. 23-27
 - c. 28-32
 - d. 33 and above
8. What is the educational background of your husband
 - a. No education
 - b. basic
 - c. secondary
 - d. tertiary
9. What is the length of your marriage life (in years)?
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 21 and above
10. How many children have you born?
 - a. 1-2
 - b. 3-4
 - c. 5-6
 - d. 7-8
 - e. 9 and above
11. What is the number of your living children?
 - a. 1-2
 - b. 3-4
 - c. 5-6
 - d. 7-8
 - e. 9 and above
12. What is the number of children you wanted?
 - a. 1-2
 - b. 3-4
 - c. 5-6
 - d. 7-8
 - e. 9 and above
13. Do you desire for a male child?

- a. Yes b. No

14. Do you have problem in taking decision?

- a. Yes b. no

PART II: KNOWLEDGE ABOUT FAMILY PLANNING

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15. Have you ever heard about family planning?

- a. Yes b. No

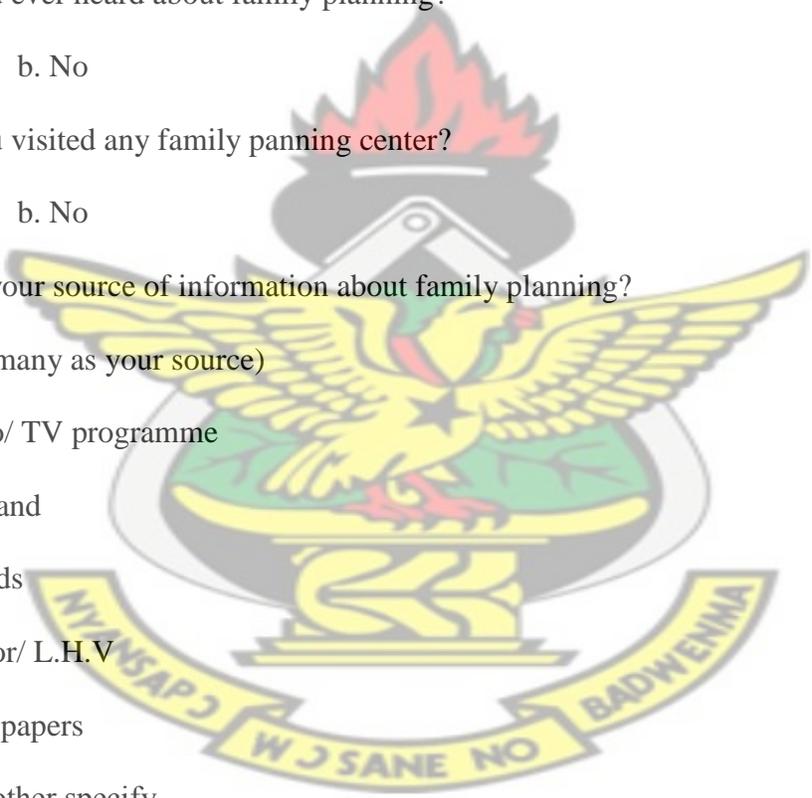
16. Have you visited any family panning center?

- a. Yes b. No

17. What is your source of information about family planning?

(Tick as many as your source)

- a. Radio/ TV programme
- b. Husband
- c. Friends
- d. Doctor/ L.H.V
- e. Newspapers
- f. Any other specify.....



18. Which family planning method do you have detailed knowledge

- a. Pills
- b. Condoms
- c. Sterilization

- d. Ingestion
- e. I.U.D
- f. Withdrawal
- g. Any other specify.....

PART III: ATTITUDE TOWARDS FAMILY PLANNING

19. What is your attitude towards family planning?
 - a. Favourable b. unfavourable c. don't know
20. Do you visit family planning centers regularly?
 - a. Regularly b. casually c. not at all
21. If yes what is the purpose of visiting family planning center?
 - a. To get information about family planning
 - b. For consultation in family planning
 - c. Follow-up a fear treatment
22. Are your husband's in favor of family planning?
 - a. Yes b. No
23. Have you ever discussed with your husband about the adoption of family planning?
 - a. Yes b. No
24. In your own opinion what is the ideal number of children for family?
 - a. 1-2 b. 3-4 c. as many
25. Do you encourage other young married women of your family in adoption of family planning method?
 - a. Yes b. No

26. Do you think standard of life can be raised by adoption of family planning?
a. Yes b. No

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PART IV: CONTRACEPTIVE USE

27. Are you currently using or have ever used any contraceptive method?
a. Yes b. No

28. If yes is it your own opinion?
a. Yes b. No

29. What is your reason for the adoption of family planning?
a. Your ill health
b. Economic problems
c. Proper care of children
d. Any other specify.....

30. Which methods are you currently using or have ever used?
a. Pills
b. Condoms
c. Sterilization
d. Ingestion
e. I.U.D
f. Withdrawal
g. Any other specify.....

31. Have you experience side effect of family planning method after application?
a. Often b. seldom c. never

32. If you are not using any contraceptive method, what are the reasons?

- a. Due to religion belief
- b. Due to fear of side effect
- c. Due to pressure of husband
- d. Due to desire of male child
- e. Any other specify.....

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