FACULTY OF SPATIAL SCIENCES

Master Thesis on:

CONTRACEPTIVE KNOWLEDGE AND USE AMONG MARRIED WOMEN IN TANZANIA AT DILEMMA

Conducted by:

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Summary.

Tanzania Demographic and Health Survey show 96% of women know at least one contraceptive method, but only 26% of married women are currently using any method. The study determines factors that influence contraceptive use for married women in Tanzania, analysing secondary data from TDHS through descriptive study design. Results show that fearing of side effects, desire to have more children, problem with access and availability, husband disapprove of contraceptive use, women education, regions, husband and women approves of family planning, discussion of family planning with partner, wealth index, and religion are determinants factors for contraceptive use. From results, we recommend increasing women enrolment in primary, secondary as well as university educations. Moreover, Ministry of Health and Social Welfare and other stakeholder should conduct adequate and reliable counseling, timely follow-up of user and empower service providers to remove misconception about side effects as well as male involvement as an actor.

Key words: Knowledge, contraceptive use, married women, Tanzania

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Abstract.
Family planning as an ability for couples to control the timing and number of their pregnancies play a crucial role in reducing fertility rate when it efficient and effectively implemented. In Tanzania 26% of married women reported to use any family planning methods, whereas 20% are using modern methods despite of 96.5% of knowledge on family planning methods for both sexes. The study was conducted with main objective to assess knowledge and contraceptive use among married women towards family planning methods in Tanzania.

The study use Tanzania Demographic and Health Survey 2004-2005 with permission to use dataset from Measure DHS. Data was analysed quantitatively using Statistical Package for Social Sciences (SPSS) divided into three parts, descriptive statistics (univariate analysis), binary and multinomial logistic regression.

Results show that fearing of side effect, desire to have more children, problem with access and availability, husband disapprove of contraceptive use, women education, regions, husband and women approves of family planning, discussion of family planning with partner, wealth index, and religion, are determinant factors for contraceptive use.

Following these results we recommend increasing women enrolment in primary, secondary and at university level, not only on having nice plan and policy, but also more important on implementation. Moreover, Ministry of Health and Social Welfare together with other stakeholder should address the issue through adequate and reliable counseling, timely follow-up of user and improving the knowledge and technical competence of service providers to remove misconception about side effects as well as male involvement as an actor.

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CHAPTER 1: INTRODUCTION

1.1.1. Background Information

The United Republic of Tanzania is the largest country in East Africa, covering 940,000 square kilometres. Tanzania lies south of the equator and shares borders with eight countries: Kenya and Uganda to the north; Rwanda, Burundi, Democratic Republic of Congo, and Zambia to the west; Malawi and Mozambique to the south; and Indian Ocean to the east. Tanzania (then Tanganyika) became independent of British colonial rule in December 1961. One year later, on December 9, 1962, it became a republic, severing all links with the British crown except for its membership in the Commonwealth. On April 26, 1964, Tanganyika and Zanzibar joined to form the United Republic of Tanzania (National Bureau of Statistics, 2005)

1.1.2. Population

The population of any country is a crucial resource for development. It is the resource of labour supply for production of goods and services as well as consumption of various products produced within and outside the country. Therefore, determination of the size of a population and its future growth is one of the important parameters for economic development. At the same time population, growth increases demands for food, water, energy and other natural resource. Moreover, the growth and distribution of population structure also determines the demand for essential social services such as education, health, water, transportation, housing, as well as pension fund. To maintain sustainable economic development and improvement of well being of people as well as to maintain the environment, population growth should been kept at an appropriate level (Beegle, 1995).

Furthermore, high parity, close spacing of birth and childbearing contribute to high maternal morbidity and mortality, both during and after delivery. A birth interval of more than three years reduces the risk on maternal and under-five mortality by half as compared to the interval less than three years (National Bureau of Statistics, 2005).

Since independence in 1961, Tanzania has managed to conduct four censuses starting from 1967, 1978, 1988 and the last on 2002. The trend shows that the population doubles after every two decades, for example in 1957, the population was 9 million and on 1978, the population had doubled to 17.5 million, and doubled again to 34.4 million in 2002. The population distribution is still higher in rural areas, the 2002 census shows that the percentage of the population living in rural areas was 77% and in urban areas 23%. Table 1 below shows basic demographic trends from 1967 to 2002 censuses (National Bureau of Statistics, 2006).

Table 1: Basic demographic trend

Indicator	Year			
	1967	1978	1988	2002
Population (millions)	12.3	17.5	23.1	34.4
Intercensal growth rate (%)	2.6	3.2	2.8	2.9
Sex ratio (male/female)	95.2	96.2	94.2	96.0
Crude birth rate	47	49	46	43

Total fertility rate	6.6	6.9	6.5	6.3
Crude death rate	24	19	15	14
Infant mortality rate	155	137	115	95
Percent urban	6.4	13.8	18.3	23.1
Density (pop./km2)	14	20	26	39
Life expectancy at birth (years)	42	44	50	51

Source: Bureau of Statistics, 1967; 1978; 1988; Tanzania National Bureau of Statistics, 2002

1.1.3. Family planning

Tanzania has a long history with issues of family planning and population growth. In 1959, it was one of the first countries to introduce family planning services, under the Family Planning Association of Tanzania (UMATI). Unfortunately, it was one of the last countries in Africa to prepare a comprehensive national population policy. Population policy is an indicator to the international community government recognizes that it has a population 'problem' and struggles to address it through family planning programs (Barrett, 1999).

The 1989 World Bank report describes Tanzania as facing a serious population problem and the Bank suggest the solution will be through contraceptive use. Different international organizations with different goals show an interest on supporting Tanzania simultaneously. After four years of negotiations and revisions, the National Population Policy was been adopted in 1992, and the National Family Planning Programme developed as its primary implementing arm. Due to economic crises and structural adjustment reforms, the national population programme was mainly financed by multilateral and bilateral organizations (United Republic of Tanzania, 1994).

1.1.4. National Population Policy

Population policy in Tanzania is the result of the World Bank report of 1988 because of the Paris Club meeting which explain that, 'Tanzania faces a population problem, and needs to prepare for a national population policy'. The WB supports the government in this phase preparation and provides the fund for the implementation of the policy (Richey, 1999).

The Tanzania National Population Policy was been adopted in 1992 after influence from international agencies (IMF&WB). According to the World Bank, the national population policy was clearly meant to be the family planning policy with main intention been to strengthen family planning services (USAID, 1994 cited by Richey, 1999).

In 2006, the policy was revised with the aim of incorporating other policies and different programs in planning of country development and gender equality in decision-making. It involved multi-dimensional, non-governmental organization, the private sector and the community as a whole to implement it and assured attainment of policy objectives. The objectives of policy were, to promote public awareness of sexual and reproductive health and rights for adolescents, men and women. To promotes and expand quality reproductive health services and counselling of adolescents, men and women. In addition, to promote health care, services for infants and children in order to reduce infant and child morbidity and mortality (National population policy, 2006).

Furthermore, a policy adopted aiming to address different issues arising from the Tanzania Demographic and Health Survey 2004/2005. One of the findings was that the use of modern methods of family planning was still relatively low (only 20%) and un-met need was 22%. In addition maternal, infant and child morbidity and mortality rates were still high, and this was contributed with different factors including shorter birth intervals (shorter child spacing). Moreover, the policy was reviewed with the goals of strengthening family planning services to promote the health and welfare of family, community and the nation as a whole and eventually reduce the rate of population growth (National population policy, 2006).

1.1.5. National health policy.
A national health policy was been adopted in 1990 and reviewed in 2003 with the overall objective to improve the health and well-being of all Tanzanians, with a focus on those most at risk, and to encourage the health system to be more responsive to the needs of the people. More specifically, the policy had the following objectives: to reduce infant and maternal morbidity and mortality as well as increasing life expectancy through provision of adequate and equitable maternal and child health services including family planning, promotion of adequate nutrition, and control of communicable diseases and treatment of common conditions. In addition, to ensure that health services are available and accessible to all people wherever they are in the country, whether in urban or rural areas (URT, 1990).

1.1.6. Health sector strategic planning 2009-2015 (HSSP III)
Te Ministry of Health and Social welfare has different programs, which started since 1990, starting from the structural adjustment program (SAP) with the aim of improving life status of Tanzania citizen. These programs were addressing the reduction in burden of diseases, increase in immunization rate, reduction of communicable diseases, and improvement of health facilities as well as improvement of working conditions. Since 1990, the Ministry has started new programs, the Health System Strategic Plan III (HSSP III) started in 2009-2015 and is an extension of HSSP II that ended in 2008. The aim of this program is to realize the millennium goals in 2015 by a reduction in child and maternal mortality and control of infectious diseases. In order to realize the stated goal, the ministry has embarked on a primary health services development program and the development of human resources for the health strategic plan (URT, 2009).

The strategy advocates improvement of maternal and child health through improving antenatal and postnatal services, an increase of married women using modern family planning methods from 20% to 30% by 2015 as well as to involve men in maternal newborn and child health. These were seen as key element to realize other target such as, reducing neonatal mortality rate from 32/1000 live births to 19/1000 live births, under-five mortality from 94/1000 live births to 48/1000 live births and a reduction of maternal mortality from 578/100,000 maternal death to 265/100,000 by 2015, (URT, 2009).

1.1.7. National Family Planning Costed Implementation Program 2010-2015 (NFPCIP)
The family planning program is one of the programs that prevent maternal infant and under-five mortality. In addition, some of the family planning methods reduce the incidence and prevalence of HIV/AIDS by reducing transmission from infected to non-infected persons as well as

prevention of pregnancy and reduction of mother to child transmission of HIV. In March 2010, the Ministry of Health and Social Welfare developed NFPCIP as a link with HSSP III with its main goals being to increase the contraceptive use among women of reproductive age from 28% to 60% by 2015 (all methods included).

Furthermore, the program has five objectives to realize this target, although these objectives are been grouped into two areas: ensuring contraceptive security and strengthening integrated services delivery of family planning in all aspects of the health sector. More specifically, the programme will achieve the following objectives: first, to expand availability and choice of safe, effective, acceptable and affordable contraceptive methods. Secondly, capacity building of providers to deliver and support safe use of family planning and services. Thirdly, to strengthen service delivery systems, and fourthly, advocacy to increase visibility and support for family planning as a key investment for improving the lives and well-being of all Tanzanians. Lastly, to strengthen health systems management and monitoring and evaluation of national family planning program, (URT, 2010).

1.2. Statement of problem.
Family planning 'allows individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. It is achieved through use of contraceptive methods and the treatment of involuntary infertility. A woman's ability to space and limit her pregnancies has a direct impact on her health and well-being as well as on the outcome of each pregnancy', (WHO, 1994).

For family planning program to run efficiently and effectively, community need to know different types of family planning methods available, how to use them, side effect associated with it, suppliers and required dose. Being skilled is part of the process in developing capabilities for effective family planning practice. Nevertheless, the perceived barriers to obtaining contraceptives (including cost, accessibility, and lack of reinforcing and enabling support) can deter individuals in decision making to engage in contraceptive use. Some may find that despite their knowledge or skills, they may not be able to follow their desired practices because there are elements of the system that block, deter, or discourage them. For example, some health policies may require woman to have permission from her husband before she engaged in family planning methods for instance, in Tanzania female sterilization require consent from husband. Even though she may know that it is dangerous for her health to have more children, she may not seek family planning services for fear of a violent reaction from her husband. Many people who go to health facilities are further discouraged because they feel that the health workers humiliate them by asking them difficult questions, and conduct unpleasant procedures. Costs to obtain the services including transportation from household to health facilities offer the service may be another obstacle in accessing family planning methods (UN, 1995).

The Tanzania demographic and Health survey show that knowledge of contraception is widespread in Tanzania. Ninety-six percent of women and 97% of men know at least one modern method. This is an increase from 91% of women and 92% of men in the 1999 Tanzania

Reproductive and Child Health Survey (TRCHS). The most commonly known methods among both men and women are the birth control pill, injectables, and male condoms.

Unfortunately, only one fourth of married women (26%) who are currently using family planning methods, 20% are using modern methods and 6% are using natural (traditional) methods. Injectables are the leading method, used by 8% of married women, pill and traditional methods 6% both. Furthermore, currently contraceptive use is higher among sexually active unmarried women than among married women (41% and 26%, respectively). The male condom is favoured method among sexually active unmarried women (15%), (National Bureau of Statistics, 2005).

Increasing contraceptive use is been viewed as one of mechanism to lower fertility level and eventually reduce population growth. In addition, contraceptive use is one of factor that prevents maternal, infant and under-five mortality. However, it is not clear what factors are most at achieving these goals. One approach is looking on the supply side as one of cause of low utilization of family planning methods due to high-unmet need. On other hand, attitude, subjective norms and perceive behaviour towards family planning methods are believed to be factors that influence contraceptive use due to large gape between knowledge and contraceptive use. In addition, the expanding availability and choice of contraceptive methods, capacity building of health providers to deliver and support safe use of family planning services as well as strengthen service delivery systems may be one of determinant of contraceptive use (NFPCIP 2010-2015). On top of that, background characteristics such as, education, wealth, parity, religion, and place of residence as well as women status (attitudes, subjective norms, and perceived behavioural control) may be other factors that hinder the contraceptive use in Tanzania.

This study was looking upon knowledge and contraceptive use among married women and come out with findings and suggestions that will increase contraceptive use in Tanzania. Background characteristics and women status was analysed to find which factors have high influence on contraceptive use.

1.3.0. Objective

1.3.1. General Objective
The study was done with a view to assess knowledge and contraceptive use among married women towards family planning methods in Tanzania.

1.3.2. Specifically, the study achieves the following objectives:
1. To find out the level of contraceptive use by background characteristics and women's status that married women has.
2. To analyze the causes/factors that hurdle married women in the use of family planning methods.
3. To examine determinants of contraceptive use: natural, temporary and permanent methods as compared with non-use of contraceptive methods.
4. To come up with suggestions that will improve contraceptive use among married woman.

1.4.0. Research Question

1.4.1. Key Question
What are determinants of contraceptive use among married women in Tanzania?

1.4.2. Specific questions.
1. What are the states in contraceptives use by background characteristics and women's status factors that married women has?
2. What are the background factors and women's status factors that contribute to contraceptive use?
3. What are determinants of contraceptive use: natural, temporary and permanent methods as compared to non-user of contraceptive methods?

1.5. The Study achieves the following results;
1. Come up with suggestion that will increase contraceptive use among married women and enhance reducing population growth (fertility rate) as result, on other hand the ministry of health and social welfare will achieve its goal of increase enrolment of married women in family planning methods, and meet it ultimate goals of prevent maternal, infant, and under-five mortality.
2. To collect and analyze information that will help policy maker and administrator to make more effective family planning program.
3. It becomes source of material for improvement of family planning programs.
4. Create a room for further researches on family planning programs in Tanzania.
5. The output of this proposal was be evaluated for master thesis and paper publication.

1.6. Structure of the paper.
The structure of this paper is organized in five chapters, chapter one concerns background information, problem statement, objectives, and research questions. Chapter 2 provides general overview on literature review, of use of family planning methods, review of related research, and theoretical framework, the conceptual model and operationalization of concepts. Chapter 3 provides an overview of data and methodology, sampling and data processing and analysis. Furthermore, chapter four explains on result findings. Chapter 5 describes the discussion and conclusion. Lastly, chapter six provides policy recommendations, and suggestions for further research.

CHAPTER 2: LITERATURE REVIEW

2.1. Concepts and definition of family planning

The international Conference on population and Development in Cairo Egypt 1994 define family planning as the process that allows individuals and couples to anticipate and attain their desired number of children, spacing and timing of their births. This will be achieved through use of contraceptive methods and the treatment of involuntary infertility. 'A woman's ability to space and limit her pregnancies has a direct impact on her health and well-being as well as on the outcome of each pregnancy' (WHO, 1994)

2.2.1 Historical Background of Family planning

The family planning has started long time ago from different society using different chemicals and substance, which are locally available to avoid pregnancy. For example, Egyptian women were using various acidic substances and lubricated with honey or oil, to act as spermicidal. Asian oiled paper as a cervical cap, and Europeans bees wax for this purpose. The condom was first applied in 17th century, which was made from animal intestine. It was not effective as modern latex condoms, but it was been used as contraceptive and way of preventing people from sexual transmitted infection such as syphilis (Michael, 2000).

The rhythm method was developed in the early 20th century, when researchers discovered that a woman have ability to ovulate once per each menstrual cycle. In 1950s, the scientists understood better the functioning of the menstrual cycle and the hormones involved, which yield in advancement and introduction of oral contraceptive (Michael, 2000).

2.2.2. Evolution of family planning in developing countries.

In 1960s, number of developing countries was facing rapid population growth and high fertility. Moreover, women do not want more children but there were no family planning programs for control of childbirth. The development of contraceptive pills and intrauterine device was seams as measure to regulate high population growth and fertility rate and cover unmet need of family planning. Another influential factor was high infant, child and maternal mortality in 1980s. It believed that family planning would reduce the burden of diseases and increase the child spacing. Lastly, in 1990s new paradigm of human right was emerged on the belief that 'individual and couples have a fundamental right to control reproductive decision, including family size and timing of birth'. This notion was developed in International Conference on Population and Development (ICPD) held in Cairo, Egypt 1994 (Judith, 2002).

2.3.0. Methods

2.3.1. Natural method

Natural family planning is the techniques for planning or preventing pregnancies by observation of naturally occurring signs and symptoms of the fertile and infertile phases of the menstrual cycle. It involves regulating the timing on intercourse to prevent the introduction of sperm into the female reproductive tract (WHO, 1975 cited by Michael, 2000).

The term Natural family planning (NFP) is sometimes used to refer any use of fertility awareness methods. However, this term specifically refers to the practices that are permitted by the Roman Catholic Church-Breastfeeding (Post-partum infecundability) and periodic abstinence during fertile times. Most breastfeeding women have a period of infertility after the birth of their child. The lactation amenorrhea method, or LAM, gives guidelines for determining the length of a woman's period of breastfeeding infertility (Michael, 2000).

2.3.2. Temporary Methods (Physical methods)
Physical methods involve preventing sperm from entering the female reproductive tract, hormonally preventing ovulation from occurring, making the woman's reproductive tract inhospitably to sperm. Temporary methods are mainly divided into two category, hormonal contraceptives and barrier contraceptives.

Hormonal contraceptives are produced in different forms that can used by client depending on the choice and meeting the criteria to use certain types of contraceptive. It includes injectable (Depo-Provera), implantable rods, contraceptive patches, hormone-containing intrauterine systems, contraceptive rings, combine pills as well as progestin-only pill (oral contraceptives).

Barrier methods are among the oldest methods widely used. It prevents the contact between sperm and eggs for fertilization. These barriers include condoms (male and female condoms) diaphragms and cervical caps. These methods depend on proper use before or at the time of intercourse since it may yield to high failure if it not properly used. Condoms are sheaths worn over the erect penis (male condom) or inside vagina (female condom) to prevent sperms from reaching the egg. Male condoms are only temporary methods available for man, and when it properly used it prevent pregnant, sexually transmitted infection including HIV/AIDS. Moreover, Diaphragm cervical caps and sponge are latex-covered dome shaped devise, which used to cover the anterior wall of vaginal and cervix to protect the contact between sperm and eggs for fertilization. These devices are been inserted in vaginal 6 hours before sexual intercourse with additional of spermicidal jelly or cream, and left in place for 6 to 8 hours after sexual intercourse. Lastly, intrauterine methods are devices, which are placed inside the uterus, coils (Beckmann, *et al* 2010). They are usually shaped like a "T", the arms of the T hold the device in place. There are two main types of intrauterine contraceptives, those that contain copper (which has a spermicidal effect), and those that release a progesterone (Campbell, 2000).

2.3.4. Permanent methods
Surgical sterilization is permanent method of family planning available in the form of tubal ligation for women and vasectomy for men. In women, the process involve tying, cut, clamp or block of the fallopian tube to prevent sperm from joining the unfertilized egg. Vasectomy is the process of cutting vas deference to prevent the transfer of sperm to woman reproductive organ to fertilize eggs (Campbell, 2000).

2.3.4. Traditional methods in Tanzania.

In Tanzania (Usambara) it reported 'the use of local plant species which were prepared to either drink, eat, or wear, water consumption directly after intercourse, a lack of menstruation while lactating, and ceremonial dances to give the body power to resist and obtain pregnancies at the necessary times'. The dances were mainly for celebrations after a woman gave birth to her first child. During this time and the recovery after giving birth, grandmothers would teach women how to use knowledge of their menstruation cycle to prevent pregnancy. In addition, grandfathers would teach the husband about the withdrawal method as a form of birth control (Melissa, 2009).

2.4. Family Planning in Tanzania.

There several Legislation and Regulations aimed at promoting the health and social well-being of women and young children instituted in Tanzania. These measures were directly or indirectly encouraged the practice of child spacing and family planning program at large. For instance, the law that governs maternity leaves of 84 days for employed female workers once every three years encouraged child spacing and hence Family Planning Development at large. Furthermore, the income tax relief of up to four (4) children or dependants for all workers discouraged the parents from bearing more than four children. Lastly the provision of travel allowance for up to four (4) children once every (two) years when going on annual leave again discouraged parents from bearing more than four children. These are some of evidences that, show indirect implementation of family planning programs in different sectors.

2.5. Religious views on birth control

Religions vary widely in their views of the ethics on birth control in Tanzania. In Christianity, the Roman Catholic Church accepts only Natural Family Planning, while Protestants maintain a wide range of views from allowing none to very lenient. In Islam, contraceptives are allowed if they do not threaten health, although some discourage their use.

For instance, in 2005 catholic leadership conference advocate that, western nation's taxpayers without consent contribute to the unjust implementation of population control programs that promote family planning methods. As result, poor countries bear the financial burden of curing the numerous health complications arise from such programs. Furthermore, numerous studies have confirmed the direct correlation between contraceptive use especially oral contraceptive and breast, cervical and liver cancer. Although, this researches has been hidden from majority of women especially in poor countries (Wilson, 2005).

2.6. Review of related research.

Ritchey (1999), in his article on family planning and the politics of population in Tanzania, explains the differences in understanding of the population problem between government officials and donors. These a contribute to delay in adopting the population policy despite of having a long history of family planning services provision through its child spacing programmes that started in 1959. Richey writes that Tanzania has a difficulty in achieving the population policy due to a difference in approach of the problem; 'positive' and 'negative', the government officials of Tanzania have a positive perception on population as the source of development. On other hand, donors have a negative definition on population as number of

people that lead to underdevelopment. In addition, there is opposition from religious leaders with respect to family planning.

The study conducted by Anna (2006), in utilization of modern family planning methods among women of reproductive age in a rural setting reveals that, the most important determinants of using the methods were observed to be level of knowledge of the methods, religious affiliation and discussion of FP issues among partners.

Another qualitative study conducted by Schuter *et al* (2009) on, "Gender norms and family planning decision-making in Tanzania" reveals that, the fear of side effect is one of the strong barriers for use of modern family planning methods. Lack of knowledge and motivation for male to participate in family planning is another barrier for low utilization of family planning methods. Lastly, study found that the man is the decision maker in the household, as result women are not able to use family planning methods without consent from the man.

In addition, a follow up study in Morogoro, Kilimanjaro and Ruvuma was carried out in 1995-96, June-December 2000 and January 2004 by Richey (2008) on "family planning service provider interpretation of contraceptive knowledge". The finding show that the educated women have ability to discuss more with health provider and select the method that they want compared with non-educated women. The education level between health provider with non-educated women act as barrier. Moreover, the word "modern" and "traditional" made discrimination in assessing the service since the modern terminology is associated with development and uneducated women believe that they are not developed, and hinder their access to family planning.

2.7. Theoretical perspective of study

Theory is a framework that explains existing observations and predicts new ones. Normally research are built from theories, theory guide researcher by providing guideline and basic assumptions on area of study, on the other hand research provides the ways of establishing, formulating, strengthening and revising theory (Babbie, 2006)

In the initial stages of development of demographic studies, the attention of the demographer was drawn towards population theories. The ideas regarding population can be traced back to classic antiquity and ancient Chinese philosophers who realized that a population explosion could dislocate the economic system of a nation (Bruijn, 2005). According to Thomas Robert Malthus in his essay on the principles of population, a population increases geometrically (1,2,4,8,16,32…) at a given scarcity of natural recourses, but food supply increases only arithmetically (1,2,3,4,5…) by a constant amount. The resulting over-population, Malthus argued, leads inevitably to natural resource depletion, poverty and social disorder and he called for stringent methods of population control to avert these problems (Bruijn, 2005)

Malthus claimed that the difference between the rate of increase in population and food supply and inevitable food shortage due to over-population acts as the ultimate positive check to control over-population. He was against deliberate birth control in his first writing until he edited the second edition of his essay and advocated preventive measure applied voluntarily to limit the

number of children, such as postponement of marriage, and sexual abstinence within marriage (Bruijn, 2005).

Louis Henry (2006) as mentioned by Bruijn, introduces a natural fertility concept which defines the existences of fertility without control through abortion or contraceptive use. He proposes that; "the natural fertility is determined by a biological principle such as age of menarche, fecundability, gestation period, intrauterine mortality and postpartum amenorrhea". Later, Bongaarts and Potter (1983) develop the work of Davis and Blake (1956) framework of fertility into a choice perspective on fertility, and define seven proximal determinants of fertility. The determinants were; "proportion of reproductive women married, use of contraceptives, induced abortion, postpartum infecundability, frequency of intercourse, the onset of menopause, and intrauterine mortality".

Fishbein and Ajzen, (1975, 1980) developed value-expectancy models in decision-making theory. The models address the issue of family planning as control of fertility advocacy on women empowerment. Fishbein-Ajzen model states that; "the intention to perform certain behaviour is a reliable indicator of the performance of that behaviour". "This intention can be assessed by measuring beliefs, norms and culture of a given community in relation to consequence of the behaviour, and evaluation these consequences with perception". The model recognizes the effect and influence of social environment on the behaviour of a person.

The study uses Malthus theory (1798) on the, 'principle of population' as one of the first thinkers of birth control and family planning methods. Moreover, Bongaarts and Potter's (1983) framework of proximal determinants was used to analyse the determinants of contraceptive use as one proximate determinant of fertility control. Lastly, decision-making theory and model of Fishbein and Ajzen (1980) was adopted looking on social environment in making decision especially on contraceptive use. The three theories were used to assess the determinants of contraceptive use among married women in Tanzania. It is aimed to look on the social change that occurs through the awareness and acceptance of family planning methods.

2.3. Synthesis
Tanzania has the lowest levels of contraceptive use in eastern and southern Africa. Even though the use of modern contraceptives among married women has increased, to around 20%, it is still low, as compared to other Sub-Saharan countries that have the same socio-economic characteristics (URT, 2007).

My research on knowledge and contraceptive use among married women is clearly embedded in various policies and follows findings from different articles aiming to study determinants of contraceptive use in Tanzania. As shown in the population policy, national health policy, Health Sector Strategic Plan, and National Family Planning Costed Implementation Program 2010-2015, the main concern is to reduce fertility rate as whole. Moreover, reduction of the fertility rate will not been achieved if women will not be able to plan the number of children and time to be pregnant. This will be realized through well-planned family planning programs.

Furthermore, most research showed that, knowledge on methods, religious affiliation, and ability of women to make decisions on contraceptive use, lack of male participation, and education level are important factors that determine contraceptive use. The study was looking upon these and other factors to determine their effect on contraceptive use as well as analysing the discrepancy between knowledge and contraceptive use. Lastly, the findings of this research will be used to formulate short term and long term recommendations that will help to improve family planning programs and hence, increase contraceptive use in Tanzania.

2.6.3. Conceptual model
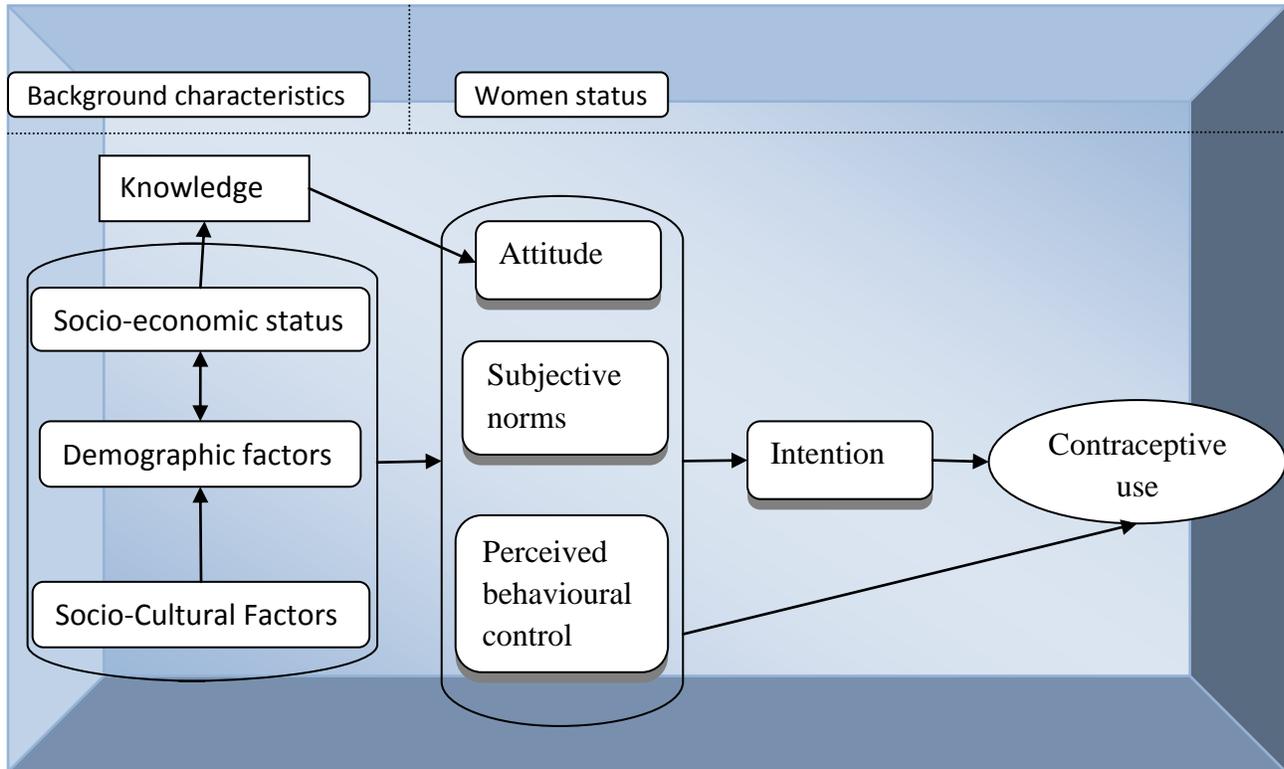
Figure 1. Conceptual model adopted from Fishbein and Ajzen, (1975, 1980) model

The arrows on the conceptual model show the relation between one concept with another. Socio-economic factors have influence on contraceptive knowledge and knowledge has influence on attitude towards contraceptive use. In addition, socio-cultural factors have influence to demographic factors that interacts with socio-economic status. Furthermore, Background characteristics (socio-economic, demographic and socio-cultural factors) have influence on the women's status factors (attitude, subjective norms and perceived behavioural control). Women status factors can determine the intension of women either use or non-use of family planning methods. In addition, the women status factors have direct influence to contraceptive use as well.

2.6.4. Definitions of Concepts.
1. Attitude:- Involve feeling and perception on consequence of particular behaviour, it may be positive or negative (Bruijn, 2005)
2. Subjective norms:- Beliefs on how others perceive an individual in society when engaged in certain behaviour (practice) (Bruijn, 2005)
3. Perceived behavioural control: - Concern with perception of how an individual can perform action accurately toward certain behavioural change (Bruijn, 1999).

4. Intention: - 'To intend to perform certain behaviour is a reliable indicator of the performance of that behaviour' (Ajzen and Fishbein, 1980 (courted by Bruijn, 2005 pg 558.)

5. Practice/family planning use:- Conscious and effort of couple to use family planning methods (Bruijn, 1999)

6. Knowledge: - Expertise and skills acquired by person through experience or education, it involve having fact and information, awareness or familiarity and ability to use it for a specific purpose (Oxford advance learner dictionary, 2006).

7. Social-economic status: - Is the conditions that define social and economic condition of a person (Bruijn, 2005)

8. Demographic factors are statistical classification of people's interims of age, sex, parity race etc.

9. Socio-cultural factors it involving both social and cultural factors. It is values refer to the attitudes and dispositions that influence a person's thinking, comprehension and perception that are learnt from the social and cultural groups to which the person belongs (Oxford advance learner dictionary, 2006).

2.6.5. Operationalization

Tanzania demographic and Health survey 2004-2005 use three types of questionnaire as tools for data collections. These questionnaires were household questionnaire, female questionnaire and male questionnaire. Moreover, after data collection the dataset were grouped into three categories: individual records (female records), couples records and male records. The research was using couple file for analysis due to fact that it have all relevant information in relation to these study.

Operationalization model.
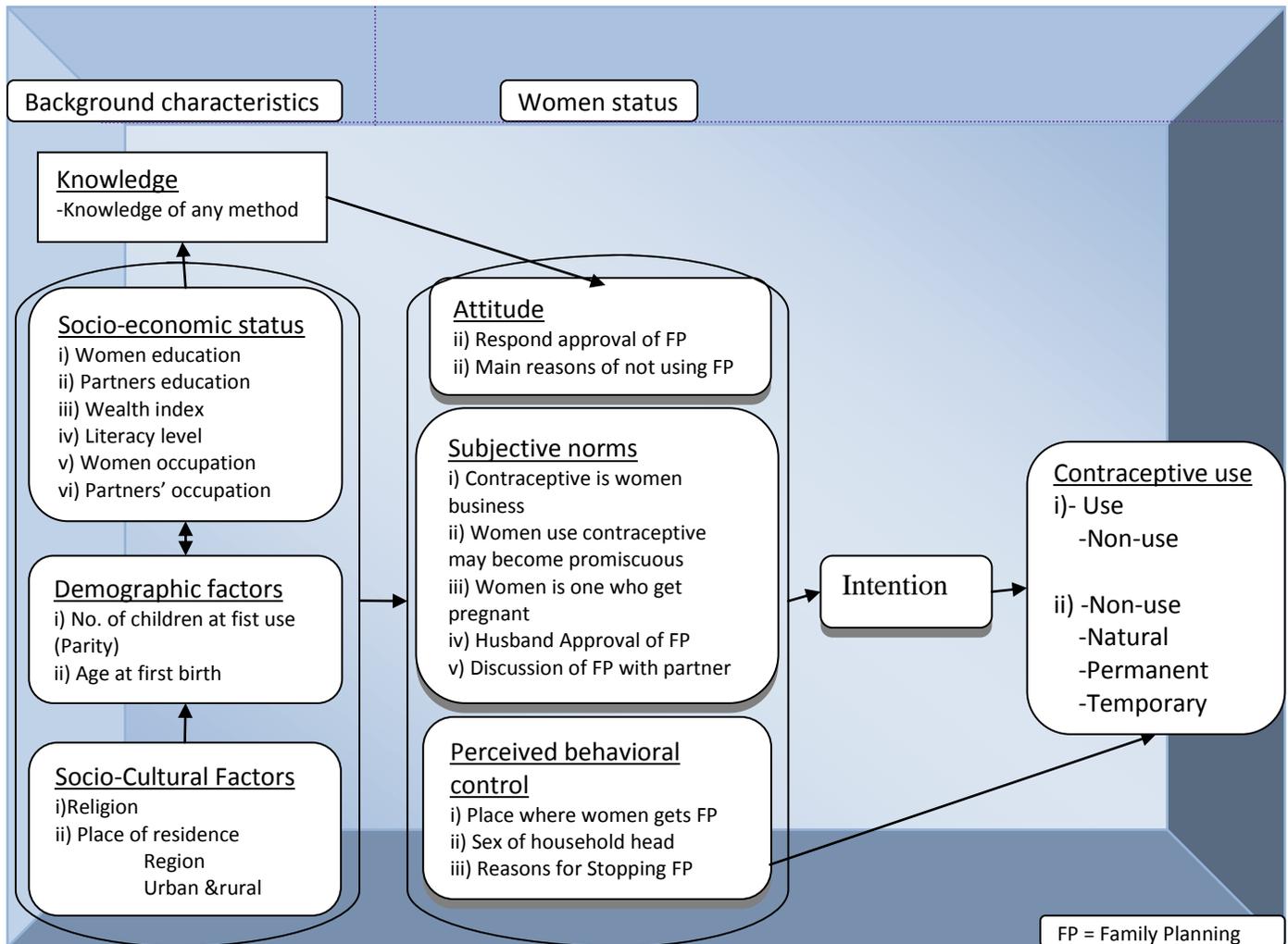
Figure 2. Operationalization model

Attitude: - The survey does not have the critical questions that reflect on attitude of married women toward contraceptive use. However, the analysis on attitudes was done looking at:

  ➤ Respondent approve of family planning and
  ➤ Reasons for not using family planning methods.

These two variables were studied for their consequences on women intention to use family planning methods.

Subjective norms: - Women perception on how others perceive her behaviour is one of determinant of contraceptive use. The following variables (statement) from male category were used to analyze this concept;
  ➤ Contraceptive is women's business and a man should not worry about it,
  ➤ Women who use contraceptive may became promiscuous and woman is the one who gets pregnant so she should be the one to use contraceptive.
  ➤ Husband approves contraceptive use
  ➤ Discussion of family planning with partner was also analyzed.

Perceived behaviour: - Some researchers viewed supplier of family planning methods as one of the determinant of contraceptive use. Unfortunately, the survey lacks variables that explain on supplier side of contraceptive to health facilities, distance from household to centre providing services and behaviour of health workers towards family planning client. However, the analysis was done on:

- ➢ Place where women gets family planning methods,
- ➢ Sex of household head, and
- ➢ Main reasons for stopping family planning methods.

Knowledge: - Having knowledge about family planning methods is one of important step in contraceptive use. Knowledge of knowing any family planning methods was assessed as independent variable to examine the level of knowledge among married women.

Socio-economic: - Socio-economic factors are one of the background characteristics, which determine the contraceptive use. The following variables were analyzed for purposes of this concept:

- ➢ Education level of women
- ➢ Partner education level
- ➢ Wealth index
- ➢ Literacy level
- ➢ Women occupation
- ➢ Partner occupation

Demographic Factors: - Parity and age at first birth were used as variables to explain the concept of demographic factors. Timing on contraceptive use between numbers of children ever born is one of the factors to determine if the woman is using contraceptive for child spacing or reducing number of children. Moreover, the age at first birth will determine the duration that women will be in reproductive carrier.

Socio-cultural: - Religion and place of residence was viewed as influential variables on contraceptive use. Place of residence was done by looking on urban and rural and different regions.

Table 2 Classification and description of dependent and independent variables.

Concepts	Variables	Descriptions
Dependent variable		
Contraceptive use	i) Current use by methods type	0=No methods, 1= folkloric methods, 2=traditional methods, 3=modern methods
	Record new variable Current Use	0. Non-user 1. Use (Folkloric, Traditional and modern methods)
	ii) Current Contraceptive methods	0=not using, 1= pills, 2=IUD, 3= Injections, 4= condoms, 5 Female sterilization, 6= Periodic abstinence, 7= withdrawal, 8=others 9= Norplant and 10= lactational amenorrhea.
	Record new variable Contraceptive use.	0=non-use, 1=Natural Methods (periodic abstinence,

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		withdrawal, others and lactational amenorrhea) 2=Temporary methods (Pill, IUD, Injections, condoms and Norplant 3=Permanent methods(Female sterilization)
	Independent Variables	
Knowledge	Knowledge of any methods	0=Knows no methods, 1=knows only folkloric, 2=Know only trad. Method & 3=Knows modern methods
Socio-economic status	i) Women education	0=no education, 1=primary, 2=secondary, & 3=Higher
	ii) Partners education	0=no education, 1=primary, 2=secondary, & 3=Higher
	iii) Wealth index	1=poorest, 2=poorer, 3=middle, 4=richer & 5=richest
	iv) Literacy level	0=cannot read at all, 1-Able to read only parts of sentence and 3=able to read whole sentence
	v) Women occupation	0=did not work, 1=Prof., tech., Manag., 2=clerical, 3=sales, 4=agric-self employed, 5=agric-employee 6=household & domestic, 7=services, 8=skilled manual & 9=unskilled manual
	vi) Partners' occupation	0=did not work, 1=Prof., tech., Manag., 2=clerical, 3=sales, 4=agric-self employed, 5=agric-employee 6=household & domestic, 7=services, 8=skilled manual & 9=unskilled manual
Demographic factors	i) Children at first use (Parity)	0,1,2,3,4+ & Never used
	ii) Age at first birth	Starting from 11 to 36 years
	Record new variable; Age at first Birth	1=10-14, 2=15-19, 3=20-24, 4=25-29, & Above 30
Socio-Cultural Factors	i)Religion	1=Moslem, 2=Catholic, 3=Protestant, & 4=None
	ii) Place of residence Region	1=Dodoma, 2=Arusha, 3=Kilimanjaro, 4=Tanga, 5=Morogoro, 6=Pwani, 7=Dar es Salaam, 8= Lindi, 9=Mtwara, 10=Ruvuma, 11=Iringa, 12=Mbeya, 13=Singida, 14=Tabora, 15= Rukwa, 16=Kigoma, 17=shinyanga, 18=Kagera, 19=Mwanza, 20=Mara, 21=Manyara, 51=Zanzibar North, 52=Zanzibar South, 53=Town west, 54=Pemba Nort, & 55=Pemba south
	Urban &rural	1=Urban & 2=Rural
Attitude	i) Husband Approval of FP	0=Disapproves, 1=Approves & 8=Don't know
	ii) Main reasons of not using FP	**20=Fertility related,** 22=Infrequent sex/no sex, 23=Menopausal Hyster., 24=Subfecund, infecund, 26=Want more children, **30=Opposition to use**, 31=Respondent opposed, 32=Husband opposed, 33=Other opposed, 34= religion prohibit, **40=lack of knowledge,** 41=knows no methods ,42= knows no source, **50 methods Related,** 51=Health concern, 52= Fear side effects, 53=lack of access, 54= Cost too much, 55 Inconvenient to use, 56=Interfere with body & 96=others
Subjective norms	i) Contraceptive is women business	0=Disagree, 1=Agree, 2=Don't know (DK)
	ii) Women use contraceptive become promiscuous	0=Disagree, 1=Agree, 2=Don't know (DK)
	iii) Women is one who get pregnant	0=Disagree, 1=Agree, 2=Don't know (DK)
	iv)Discussion of FP with partner	0=Never, 1=Once or twice, & 2= More often
Perceived behavioral control	i) Last source for current users	**10=Public,** 11=Referral/spec. Hosp, 12=Regional Hosp, 13=District Hospital, 14=Health centre, 15=Dispensary, 16=Village Health post, 17=CBD workers, **20=Private Medical,** 21=Specialized hospital, 22=Health centre, 23=Dispensary, **30=Other Private** 31=Pharmacy, 32=NGO, 33=VCT centre, 34=Shop/kiosk 35=Bar, 36=Guest House/hotel, 37=Friend/relative/ neighbor, **40=Religious/Voluntary,** 41=Religious/ Voluntary :Referral/Speci.hosp, 42=Religious/voluntary District hospital, 43=Religious/voluntary; health centre 44= Religious/voluntary: Dispensary, 99=Others.
	ii) Sex of household head	1=Male, 2= Female
	iii) Respond approval of FP	0=Disapproval, 1=Approves, 8=Don't know
	iv) Reasons for Stopping FP	1=Become pregnant, 2=Wanted to become pregnant, 3=Husband disapproved, 4=Side effects, 5=Health concerns, 6=Access, availability, 7=Wanted more effective method, 8=Inconvenient to use, 9=Infreq sex, husb away, 10=Cost, 11=fatalistic, 12=Diff pregnant menopause, 13= Marital dissolution 14=others, 98=Don't know.

Hypothesis

'Hypothesis is a specified testable expectation about empirical reality that follows from a more general proposition', (Babbie 2008 pg 46). Hypothesis connects the concepts by specifying the expected relation between concepts. For instance, the relation between hypotheses such as "Knowledge increase contraceptive use" shows positive relationship between the concept knowledge and contraceptive use. Moreover, hypothesis is divided into two groups, Null hypothesis and alternative hypothesis. Null hypothesis is statistical statement designated as H_0 that show no relation between concept y and x, it is a hypothesis which researcher tries to disprove, reject or nullify. On other hand, alternative hypothesis describe the situation when null hypothesis is false (H_1), it what the researcher really think is the cause of phenomenon either a positive or a negative association (Norusis, 2008).

1. H_0: Knowledge on Family planning methods is not related to contraceptive use among married women in Tanzania.
   H_1: Knowledge on family planning methods is related with contraceptive use among married women in Tanzania.

2. H_0: There is no significant difference in use and non-use of contraceptive between group of women with different background characteristics and women's status
   H_1: There is a difference in use and non-use of contraceptive between group of women with different background characteristics and women status.

3. H_0: Background characteristics and women's status factors have no relation with contraceptive use
   H_1: Background characteristics and women's status factors have relation with contraceptive use.

CHAPTER 3: DATA AND METHODOLOGY

3.1. Source of data

The data for analysis of this research was obtained from Tanzania Demographic and Health Survey 2004-2005. Tanzania Demographic and Health Survey were fielded between October 2004 and February 2005. Permission and dataset were requested from Measure DHS. This survey was conducted by National Bureau of Statistics (NBS) with collaboration with office of the Chief Government Statistician -Zanzibar, Reproductive and Child Health Section and Policy and Planning Department of the Ministry of Health, and Safe motherhood Initiative at the ministry of Health and Social Welfare–Zanzibar. Moreover, the technical assistance was provided by ORC Macro through the MEASURE DHS program and funded by USAID**.**

3.1.1. Research design

The aim of quantitative research is to determine the relationship between one thing (an independent variable) and another (a dependent or outcome variable) in a population. The analytical study design was used to explain the relation between dependent variable ie contraceptive use and the independent variables (Babbie, 2008).

3.1.3. Units of Analysis.

Study unities were currently married women in couple file as well as married men in the same file. Knowledge and contraceptive use were analyzed from married women with their husband on the subjective norms towards contraceptive use.

3.1.4. Data collection techniques.

The data collection techniques used was questionnaire. Three types of questionnaire were used for the 2004-2005 TDHS: household questionnaire, women questionnaire and men's questionnaire. The content of these questionnaires was based on the questionnaire developed by the Measure DHS. In addition, the series of technical meeting with various stakeholders from government ministries and agencies, nongovernmental organization and international donors was done to reflect the population and health issue in Tanzania. The final version was adopted by NBS and translated to Swahili from July and August 2004.

The household questionnaires were used to list all the usual members and visitors in the selected households. Basic information on characteristics of each individual was listed such as age, sex, education and relation with household. In addition, it records other information on wealth of household as well as anthropometric measurement of women age 15-49 and children under age of 6 years.

Furthermore, women questionnaire was used to collect information from all women aged 15-49 years. Following information were asked from women; background characteristics, birth history and childhood mortality, knowledge and use of family planning methods, fertility preference and information reproductive history as well as maternal and child health or nutrition.

Lastly, men's questionnaire was administered to all men age 15-49 living in every 3rd household in the survey sample. The male question have the same information as women question however,

does not have information on reproductive history as well as maternal and child health or nutrition.

3.2.0. SAMPLING

3.2.1. Sampling frame
Sample for TDHS 2004-2005 was been designed and selected to comprise entire country, selecting participant from rural and urban areas of Tanzania mainland and Zanzibar. In addition, the sample was designed in such a way that, allowed for specific indicators such as contraceptive use to be analyzed for each of 26 regions. Due to geographic differences the regions in Tanzania Mainland was divided into seven geographical zones.

These zones are:
Western: Tabora, Shinyanga, and Kigoma
Northern: Kilimanjaro, Tanga, Arusha and Manyara
Central: Dodoma and Singida
Southern Highlands: Mbeya, Iringa and Rukwa
Lakes: Kagera, Mwanza and Mara
Eastern: Dar es Salaam, Pwani and Morogoro
Southern: Lindi, Mtwara and Ruvuma
Zanzibar: Zanzibar North, Zanzibar south, Town West, Pemba North and Pemba South.

3.2.2. Sampling method
The sample was selected in two stages. First stage, 475 cluster were selected from a list of enumeration areas from the 2002 Population and Housing Census where, eighteen clusters were selected from each region except Dar es Salaam where 25 cluster were selected. Second stage, household were systematically selected for participation in the survey. Twenty-two household were selected from each clusters in all regions except for Dar es Salaam where 16 household were selected in each clusters. All women age 15-45 who were either permanent of the households during survey or visitors present in the household on the day before the survey were eligible to be interviewed. Lastly, the sub sample of one-third of all household selected for the survey, all men age 15-49 were eligible to interviewed and included in the survey.

3.2.3. Sample size
A representative probability sample of 10,312 household was selected to provide an expected sample size of 10,000 women. 9,852 household were successfully interviewed yielding to 2,635 individual males, 10,329 individual females and 1,244 couples.

3.4. Data processing and analysis
Dataset were obtained from Measure DHS comprise of 2,635 individual males, 10,329 individual females and 1,244 couples. The couple file was used which comprise of 1111 variables that include all demographic and health issues like fertility, family planning, child survival and child health. The important variable necessary for these analysis were recorded into new file from the couple file basing on the concepts explained in conceptual model.

Data was analysed quantitatively using Statistical Package for Social Sciences (SPSS) version 16.0 (2007), which involve production of frequencies and tables to describe findings. Dependent and independent variables were numerical represented for the purposes of describing and explaining the relation between contraceptive use and independent variables. The analysis was divided into three parts, descriptive statistics (univariate analysis), binary logistic regression and multinomial logistic regression.

Descriptive statistics was applied to analyse frequency and cross-tabulation to explore the relation between the dependent variable and independent variables. The methods evaluate the central tendency as well as the variability of data (Norusis, 2008)

Examining contraceptive use and non-use follows under dichotomous outcome. It calls upon use of binary logistic regression, which is most used model to analyze the probability of an event to occur. Moreover, new variable contraceptive use was computed from the former variable in couple file "Current use by methods type" which has four values (No methods, folkloric methods, traditional methods and modern methods). It grouped into two categories, use and non-use to become dichotomous dependent variable. The model is described in the following logit function below.

$$Logit(y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 ... \beta_p X_p$$

Estimate probability of use and non-use is given by;

$$P(y=1) = \frac{\exp\{\beta_0 + \beta_1 X_1 + \beta_2 X_2 ... \beta_p X_p\}}{1 + \exp\{\beta_0 + \beta_1 X_1 + \beta_2 X_2 ... \beta_p X_p\}}$$

Where;

  Y is dichotomous dependent variable called **logit** defined as;
  y= (1=use of contraceptive; 0=non-user of contraceptive)
  β_0 =Is the intercept
  $\beta_1, \beta_2, \beta_p$ =Logistic regression coefficient of X_1, X_2, X_p respectively
  X_1, X_2, X_p =Independent variables
  Exp=Exponential value

Intercept is the value of y when value of all independent variables is zero. Regression coefficients describe the size of the contribution of independent variable to the dependent variable. In addition, positive regression coefficient mean that the explanatory variable increase the probability of the outcome, while a negative regression coefficient means that variable decrease the probability of that outcome. Lastly, a large regression coefficient means that the risk factor strongly influences the probability of that outcome; while a near-zero regression coefficient means that risk factor has little influence on the probability of that outcome.

Lastly, the multinomial (polytomous) logistic regression was done to examine the relationship between dependent variable (non-user, temporary, permanent and natural methods) and set independent variables. The model is called multinomial since for each combination of values of independent variables, the count of dependent variable are assumed to have more than two categories. Moreover, the multinomial regression is extension of binary logistic regression where dependent variable has more than two (dichotomous) values.

If the dependent variable has more than two values, one value should be the baseline or reference category logit. For each the group, you calculate the log of ratio of probability of being in that group compared to being in baseline group. The baseline will be comparison group and the coefficients are all zero. The multinomial logistic regression model can be written as:

$$\text{Log } (\frac{P(category_i)}{P(category_j)}) = \beta_{i0} + \beta_{i1}X_1 + \beta_{i2}X_2...\beta_{ip}X_p$$

Where;

$\text{Log } (\frac{P(category_i)}{P(category_j)})$ = Logit, Natural log of the odds that the event occurs.

J is baseline category of ith categories

β_{i0} Is intercept

$\beta_{i1}, \beta_{i2}, \beta_{ip}$ = logistics regression coefficients and

X_1, X_2, X_p =Independent variables

Another variable, contraceptive use 2 with four values (Non-use, temporary, Permanent and natural methods) was extracted from "current contraceptive use". Moreover, non-use was selected as baseline category, which made its coefficient to be zero and generate the three sets of questions with non-zero coefficients.

2.8. Ethical consideration

The permission to use demographic and health survey data set was requested from Measure DHS by giving them the aim of the study and its contribution in family planning program. Measure DHS was assured of none misusing the data by providing wrong analysis and interpretation. Furthermore, the final report was sent back to Measure DHS and they promise to send the findings to Tanzania for implementation of findings and recommendations. Lastly, all visited and sited document were acknowledged to avoid plagiarism.

CHAPTER 4: RESEARCH FINDINGS

4:0. Introduction

The results provided here are presented based on the research questions raised in chapter one section 1.4.2. Three analysis techniques were used to answer the research questions that is, descriptive statistics (univariate analysis), binary logistic regression and multinomial logistic regression to obtain relevant information concern this study.

4.1.0. What are the states in contraceptives use by background characteristics and women's status factors that married women has?

Descriptive statistics involve analysis of frequency and cross-tabulation to explore the relationship between the categorical dependent variable and categorical independent variables. The separate cross-tabulation was created to show the relation between contraceptive use and background characteristics as well as women's status (Norusis, 2008).

First part involves analysing the relation between dependent variable (use and non-use of contraceptive) with independent variables (Background characteristics and women's status). Second party involves analysing the relation between non-use, Natural, permanent and temporary methods (dependent variable) and independent variables.

4.1.1. Back ground characteristics.

Descriptive statistics was applied to analyse the relationship between contraceptive use and non-use with background characteristics. Cross-tabulation with frequencies and percentage of each variable was produced and plotted in table 3 below. The independent variables are usually presented in the columns and dependent variables in the rows. However, for the sake of readability of the tables, the dependent variable (non-use or use of contraceptive) is presented in the columns. Moreover, the person Chi-Square were used to analyze whether there significance difference between the expected frequencies and observed frequencies in each categories in use and non-use of contraceptive. The analysis was done testing null hypothesis that, there is no significant difference between use and non-use of contraceptive within different variable in background characteristics. Where, alternative hypothesis states there are differences.

Following table 3, it can be noted that all background variables (women education, partner education level, wealth index, literacy level, women occupation, partner occupation, number of children at first use, age at first use, religion, place of residence and region) are significantly different between users and non-users of the contraceptive methods (p<0.05). This implies that the null hypothesis can be rejected. Results shows, knowledge on modern contraceptive methods for non-user is very high (85.7% for traditional and 75% for modern methods) yet they are not using it. User shows positive relation between knowledge and contraceptive use. 25.1% of respondent who know modern methods are user where 20% are using, the same to 14.3% of respond that know traditional methods are user and 6% are using.

Another, concept socio-economic status that has six variables, women education, partner education, wealth index, literacy level, women occupation and partner occupation was analysed. Percentages of contraceptive use increase as education increase for both women and men starting

from 10.9% to 52.9% and 11.6% to 50.0% respectively. On other hand, the percentage of non-use decrease as level of education increase for both women and men starting from 89.2% to 47.1% and 88.4% to 50.0% respectively. Furthermore, contraceptive use increase as wealth index increase from poorest to richest starts from 16.3% to 41.6% as compared to non-user where percentages decrease from 83.7% to 58.4%. Findings show that women who are able to read all sentences have high percentage of contraceptive use amount to 28.0%. In addition, women and men occupations have influence on contraceptive use. Clerical, Professor, Technician, and Manager as well as household and domestics have more than 50% chances in contraceptive use for women while, for men clerical is only the category which has percentage more than 50% that is 83.3%.

Demographic factor have two variables that was analysed, number of children at first use (parity) and age at first birth. Table 3 below reveal that, 53.1% of user used family planning after first birth and 51.3% after third birth. Furthermore, median age at first birth (half of population to have first birth) is below 20 years old. Women who give the first birth at age between 10-19 years have low percentage of contraceptives use as compared to women at age group 25-29 years who has high percentage of contraceptive use. Group that has first birth at age 10-14 years has 90.2% of non-use of contraceptive contrast to those has first birth at 25-29 years which have 41.5% of contraceptive use.

Furthermore, socio-cultural factors were analyzed involving two variables, religion, and place of residence. The following result were observed in religion variable, Protestant are more likely to use family planning 32.4% followed by Catholic 27.0% and lastly was Moslem 23.0%. Urban area has high percentage in contraceptive use as compared to rural area 39.0% and 21.3% respectively. Moreover, Mbeya region has high percentage of contraceptive user 59.6% followed by Arusha 56.5% and Kilimanjaro 50.0%, while Zanzibar North 4.4%, Mwanza 8.2%, Pemba north 8.5%, Pemba south 8.5%, and Tabora 9.2% are lastly regions in contraceptive use which has percentage below 10%.

Table 3: Cross tabulation of Dependent variable and Back ground characteristics.

	Non-use		Use		Total	Chi-Square Tests		
Knowledge of any method	Frequency	Percentage	Frequency	Percentage	Freq.	Value	df	Sig.(2-sided)
Knows no method	23	100%	0	0.0%	23	8.39	3	0.039
Knows only folkloric	6	85.7%	1	14.3%	7			
Knows only trad. mth	1	100%	0	0.0%	1			
Knows modern method	909	74.9%	304	25.1%	1213			
Highest educational level								
No education	304	89.2%	37	10.9%	341	52.799	3	0.000
Primary	562	71.0%	229	29.0%	791			
Secondary	65	68.4%	30	31.6%	95			
Higher	8	47.1%	9	52.9%	17			
Partner's education level								
No education	191	88.4%	25	11.6%	216	37.842	4	0.000
Primary	656	73.9%	232	26.1%	888			
Secondary	72	72.0%	28	28.0%	100			
Higher	19	50.0%	19	50.0%	38			
Wealth index								
Poorest	206	83.7%	40	16.3%	246	48.305	4	0.000
Poorer	212	80.0%	53	20.0%	265			
Middle	196	79.0%	52	21.0%	248			
Richer	197	74.1%	69	25.9%	266			

Richest	128	58.4%	91	41.6%	219			
Literacy Level								
Can not read at all	240	86.0%	39	14.0%	279	26.991	3	0.000
Read parts of sentence	41	82.0%	9	18.0%	50			
Read whole sentence	658	72.0%	256	28.0%	914			
Women Occupation								
Not working	140	79.1%	37	20.9%	177	30.979	8	0.000
Prof. Tech. Manag	12	48.0%	13	52.0%	25			
Clerical	1	33.3%	2	66.7%	3			
Sales	6	54.5%	5	45.5%	11			
Agric-self employed	689	77.7%	198	22.3%	887			
Household &domestic	2	50.0%	2	50.0%	4			
Services	3	75.0%	1	25.0%	4			
Skilled manual	27	73.0%	10	27.0%	37			
Unskilled manual	59	61.5%	37	38.5%	96			
Partner's occupation								
Not working	4	80.0%	1	20.0%	5	31.27	9	0.000
Prof. Tech. Manag	40	66.7%	20	33.3%	60			
Clerical	1	16.7%	5	83.3%	6			
Sales	27	73.0%	10	27.0%	37			
Agric-self employed	711	78.7%	193	21.3%	904			
Agric-employee	7	77.8%	2	22.2%	9			
Household &domestic	1	100.0%	0	0.0%	1			
Services	7	77.8%	2	22.2%	9			
Skilled manual	73	62.4%	44	37.6%	117			
Unskilled manual	67	70.5%	28	29.5%	95			
Children at first use								
0	19	59.4%	13	40.6%	32	4.19E+02	5	0.000
1	107	46.9%	121	53.1%	228			
2	81	51.6%	76	48.4%	157			
3	38	48.7%	40	51.3%	78			
4+	63	53.4%	55	46.6%	118			
Never used	629	100.0%	0	0.0%	629			
Age at first birth								
10-14	37	90.2%	4	9.8%	41	16.982	4	0.002
15-19	520	75.7%	167	24.3%	687			
20-24	244	69.3%	108	30.7%	352			
25-29	31	58.5%	22	41.5%	53			
30 and above	4	66.7%	2	33.3%	6			
Religion								
Moslem	395	77.0%	118	23.0%	513	31.48	3	0.000
Catholic	206	73.0%	76	27.0%	282			
Protestant	207	67.6%	99	32.4%	306			
None	130	91.6%	12	8.4%	142			
Place of residence								
Urban	137	60.9%	88	39.1%	225	31.61	1	0.000
Rural	802	78.7%	217	21.3%	1019			
Region								
Dodoma	39	78.0%	11	22.0%	50	1.49E+02	25	0.000
Arusha	20	43.5%	26	56.5%	46			
Kilimanjaro	17	50.0%	17	50.0%	34			
Tanga	25	59.5%	17	40.5%	42			
Morogoro	24	64.9%	13	35.1%	37			
Pwani	36	83.7%	7	16.3%	43			
Dar Es Salam	25	64.1%	14	35.9%	39			
Lindi	29	67.4%	14	32.6%	43			
Mtwara	41	75.9%	13	24.1%	54			
Ruvuma	25	61.0%	16	39.0%	41			
Iringa	24	55.8%	19	44.2%	43			
Mbeya	19	40.4%	28	59.6%	47			
Singida	50	71.4%	20	28.6%	70			
Tabora	59	90.8%	6	9.2%	65			
Rukwa	42	84.0%	8	16.0%	50			
Kigoma	33	80.5%	8	19.5%	41			
Shinyanga	62	88.6%	8	11.4%	70			
Kagera	45	81.8%	10	18.2%	55			
Mwanza	45	91.8%	4	8.2%	49			
Mara	41	85.4%	7	14.6%	48			
Manyara	37	77.1%	11	22.9%	48			

Zanzibar North	43	95.6%	2	4.4%	45
Zanziba South	35	81.4%	8	18.6%	43
Town West	37	78.7%	10	21.3%	47
Pemba North	43	91.5%	4	8.5%	47
Pemba South	43	91.5%	4	8.5%	47
Total	**939**		**305**		**1244**

4.1.2. Women's status

Table 4 below shows the relationship between contraceptive use and women status. It examines attitude, subjective norms and perceived behavioural control of married women towards contraceptive use. All variables are significantly different between user and non-user of contraceptives (P<0.05), except for the statement that by sterilization of women become promiscuous, and the sex of head of household (p>0.05).

Attitude was measured using two variables, respondent approval of family planning and main reason for not using family planning methods. 26.9% of user approves for family planning while 73.1% approves yet they are not using it. 90.6% among non-user disapprove and 9.4% of user disapprove but still they are using. In addition, analysis was done in view of looking for reasons for married women not using family planning methods as shown in table 6. The following reasons are the main with score more than 10% of the respondents; fear of side effect 27.4%, wants more children 18.5%, respondent opposed 16.6%, and husband disapprove 12.5%.

Another, concept analyzed was subjective norms, which comprise of the following variables, husband approves of family planning methods, and respondent discusses family planning with partner. In addition, there were statements that men were asked concerning contraceptive use: firstly, contraceptive use is women's business and a man should not worry about it, secondly, women who use contraceptive may become promiscuous, and lastly, a woman is the one who gets pregnant so she should be the one to use contraceptive. Those women whose husband approves of the use of family planning have a high percentage of contraceptive use (36.8%) as compared to those did not get approval from their husband (8.8%). Moreover, women that frequently discuss family planning with their partner are more likely to use family planning (41.0%) as compared to those who discuss once (27.2%) or who never discuss (4.3%). No men statements give the clear picture on those who agree or disagree with statement since the percentages are more less the same.

The last concept analyzed was perceived behavioural control that has three variables, place where women gets family planning methods, sex of household head, and reasons for stopping family planning methods. Reason for last discontinuation was analyzed and the following were findings, 66.7% of non-user reveal was due to side effects, 63.3% wanted to become pregnant, 63.0% have problem with access and availability and 56.2% claim husband disapprove the contraceptive use. Sex of household head does not show any significant relation with contraceptive use and the percentage are 24% for male and 22.9% for female.

Among current user, the analysis was done to determine the last source of family planning methods. Table 5 below shows that, 35.1%, 18.6%, 14.1% and 5% gets contraceptives at government dispensaries, government health centers, government district hospitals and regional hospitals respectively. The responds that gets contraceptive in religious/voluntary and private health facilities have less than 5%. 4.1% gets their family planning methods at voluntary district

hospital (Designated district Hospital) 2.9% at voluntary health centre, 0.4% at Voluntary dispensaries and 0.8% and 5.4% gets their family planning methods at private health centre and private dispensary respectively.

Table 4: Cross tabulation of Dependent variable and women status.

	Non-use		Use		Total	Chi-Squre Tests		
Women approves FP	Frequency	Percentage	Frequency	Percentage	Freq.	Value	df	Sig.(2-sided)
Disapproves	144	90.6%	15	9.4%	159	23.023	2	0.000
Approves	781	73.1%	287	26.9%	1068			
Don't know	13	81.2%	3	18.8%	16			
Total	**939**		**305**		**1244**			
Contraceptive is women business								
Disagree	578	72.8%	216	27.2%	794	12.836	2	0.002
Agree	327	79.0%	87	21.0%	414			
DK	34	94.4%	2	5.6%	36			
Total	**939**		**305**		**1244**			
Sterilized women become promiscuous								
Disagree	406	72.8%	152	27.2%	558	4.309	2	0.116
Agree	465	78.0%	131	22.0%	596			
DK	68	75.6%	22	24.4%	90			
Total	**939**		**305**		**1244**			
Women can get pregnant								
Disagree	487	73.0%	180	27.0%	667	10.916	2	0.004
Agree	415	77.1%	123	22.9%	538			
DK	37	94.9%	2	5.1%	39			
Total	**939**		**305**		**1244**			
Husband approves FP								
Disapproves	291	91.2%	28	8.8%	319	1.54E+02	2	0.000
Approves	471	63.2%	274	36.8%	745			
Don't know	176	98.3%	3	1.7%	179			
Total	**939**		**305**		**1244**			
Discussed FP with partner								
Never	400	95.7%	18	4.3%	418	1.59E+02	2	0.000
Once or twice	275	72.8%	103	27.2%	378			
More often	262	59.0%	182	41.0%	444			
Total	**937**		**303**		**1240**			
Sex of household								
Male	892	75.4%	291	24.6%	1183	0.085	1	0.771
Female	47	77.1%	14	22.9%	61			
Total	**939**		**305**		**1244**			
Reason of last discontinuation								
Become pregnant	21	53.8%	18	46.2%	39	29.498	10	0.001
Wanted to become prg	112	63.3%	65	36.7%	177			
Husband disapproved	9	56.2%	7	43.8%	16			
Side effects	66	66.7%	33	33.3%	99			
Health concerns	3	100.0%	0	0.0%	3			
Access, availability	17	63.0%	10	37.0%	27			
Wanted more eff.meth	2	9.5%	19	90.5%	21			
Inconvenient to use	6	42.9%	8	57.1%	14			
Infreq.sex,husb away	2	66.7%	1	33.3%	3			
Marital dissolution	1	50.0%	1	50.0%	2			
Other	5	62.5%	3	37.5%	8			
Total	**244**		**165**		**409**			

Table 5: Last source of family planning methods for current user

	Frequency	Percentage
Referral/ spec. hospital	4	1.7%
Regional hospital	12	5.0%
District hospital	34	14.1%
Health centre	45	18.6%
Dispensary	85	35.1%
Village health post	2	0.8%
CBD worker	9	3.7%
Health centre	2	0.8%
Dispensary	13	5.4%
Pharmacy	10	4.1%
NGO	2	0.8%

Shop/ kiosk	2	0.8%
Friend/ relative/ neighbor	2	0.8%
Religious/voluntary: Referral/Spec. hospital	1	0.4%
Religious/voluntary: District hospital	10	4.1%
Religious/voluntary: Govt. health centre	7	2.9%
Religious/voluntary: Dispensary	1	0.4%
Other	1	0.4%
Total	**242**	**100.0%**

Table 6: Main reasons for not using any method by non-user

	Frequency	Percentage
Infrequent sex/no sex	5	1.2%
Menopausal, hyster.	4	1.0%
Subfecund, infecund	8	1.9%
Wants more children	77	18.5%
Respondent opposed	69	16.6%
Husband opposed	52	12.5%
Religious Prohibit.	19	4.6%
Knows no method	10	2.4%
Knows no source	9	2.2%
Health concerns	7	1.7%
Fear side effects	114	27.4%
Lack of access	1	0.2%
Inconvenient to use	1	0.2%
Interfere with body	8	1.9%
Other	22	5.3%
DK	10	2.4%
Total	**416**	**100.0%**

4.2.0. What are the background characteristics and women's status factors that contribute to contraceptive use?

To answer this question binary logistic regression analysis was done to find out the probability of use and non-use of family planning based on the set of background characteristics and women's status factors (independent variables). In addition, it involves the transformation of dependent variables, non-use (0) and use (1) to logit, natural logs of odds. In this way, logistic regression estimates the odds of contraceptive use as compared to non-user.

Furthermore, separately analysis was done for each concept i.e socio-economics status, demographic factors and socio-cultural factors in background characteristic as well as attitude, subjective norms, and perceived behavioural control for women's status. Only those variables that had shown to be significantly different between users and non-users in the descriptive analysis where include in the logistic model. For that reason, sex of household head and the statement that sterilized women become promiscuous were not included. In addition, main reasons of not using family planning, and last source of current method were not included in the analysis since those questions have only one category use or non-use where it cannot be analysed in logistic regression.

First step, concept in background characteristics was entered in to the model separately and those with significance level high than 0.05 (p>0.05) was removed from the model. The remain variable was rerun again to look at the model fit and the variable that have high p value greater than 0.05 was removed again from the model remain with the variable that have p<0.05. Secondly, the women's status variables were entered to the model and the variables that have the p value greater than 0.05 was removed from the model. Remain variable were rerun again and that variable p<0.05 have been select. Lastly, the variables that were selected from background

characteristics concepts and that from women's status was entered to the regression model to produce the final logistic regression model.

4.2.1. Result of knowledge and Socio-economic Status.

Knowledge and socio-economic status was analysed in logistic regression and result shows model fit of 14.9% (Nagelkerke R Square) and the variables that have p value low than 0.05 are women education, partner education, and wealth index. In addition, knowledge, literacy level, women occupation and partner occupation are variables that have p>0.05. Variables with p<0.05 was carried forward to be included in to the final regression model.

4.2.2. Demographic factors

In addition, demographic factors were analyzed. The model summary, Nagelkerke R Square is 51.9%. The variable which has p<0.05 is age at first birth and, remaining variable number of children at first use have p>0.05. Age at first birth was analyzed in the final regression model.

4.2.3. Socio-cultural factors.

All variables in the socio-cultural factors have p<0.05 which made them eligible to be included in final regression model. Religion and place of residence have p<0.05 and Nagelkerke R Square 20.0%.

4.2.4. Women's status factors

Two variables husband approve of family planning and discussion of family planning with partner are the one which have the p<0.05 with model summary of 28.4% (Nagelkerke R Square). These variables are included to the final model of logistic regression. The remaining variables, respondent approve of family planning, contraceptive is women business and women is the one who get pregnant have p>0.05, they are removed from further analysis in final logistic Regression model.

4.2.5. Result of Final model of logistic Regression.

Variables that show significant in each concept were included in the model and that with p>0.05 was removed from model. Moreover, the variable with highest p value was removed first and the model fit and significant was evaluated. This procedure was done until all variables in the model were significant.

Table 7 shows the variables that are included in the final model for logistic regression model. First step the variable that have p<0.05 from different concept were included. Included variables are women education, partners education and wealth index from socio-economic factors, age at first birth from demographic factors, religion and place of residence from socio-cultural and lastly are husband approve of family planning and discussion of family planning with partner from subjective norms.

The variable with highest p value was removed first from the model and the model fit and significant level was rechecked until we remain with the variables that are significant for final model. The first variable to be removed from model was place of residence (Urban and rural) followed by Religion, partner education, Age at first birth and wealth index consecutively.

The final model is shown in the table 7 below where four variables have p<0.05. Variables included to the final model are women education, place of residence (Regions), Husband approve of family planning and discussion of family planning with partner. It comprises one variable from socio-economic factor, one variable from socio-cultural factors and two variables from subjective norms.

Table 7: Variable in equation final model

		B	Wald	df	Sig	Exp(B)
Women education	No education	**Reference**	12.601	3	**0.006**	
	Primary	0.397	3.170	1	0.075	1.487
	Secondary	1.052	8.177	1	**0.004**	2.864
	Higher	1.906	7.577	1	**0.006**	6.727
Regions	Mwanza	**Reference**	85.693	25	**0.000**	
	Dodoma	0.270	0.165	1	0.685	1.310
	Arusha	2.001	9.241	1	**0.002**	7.394
	Kilimanjaro	1.765	6.611	1	**0.010**	5.843
	Tanga	1.444	4.775	1	**0.029**	4.239
	Morogoro	1.054	2.480	1	0.115	2.868
	Pwani	0.285	0.162	1	0.687	1.330
	Dar Es Salam	0.976	2.097	1	0.148	2.654
	Lindi	1.118	2.824	1	0.093	3.058
	Mtwara	0.657	1.018	1	0.313	1.929
	Ruvuma	1.145	3.035	1	0.082	3.144
	Iringa	1.819	7.504	1	**0.006**	6.166
	Mbeya	2.409	13.555	1	**0.000**	11.121
	Singida	1.053	2.775	1	0.096	2.867
	Tabora	0.229	0.100	1	0.752	1.257
	Rukwa	0.228	0.107	1	0.743	1.257
	Kigoma	0.376	0.292	1	0.589	1.457
	Shinyanga	0.095	0.019	1	0.890	1.100
	Kagera	0.251	0.141	1	0.707	1.285
	Mara	0.141	0.038	1	0.846	1.152
	Manyara	0.859	1.612	1	0.204	2.360
	Zanzibar North	-1.099	1.393	1	0.238	0.333
	Zanziba South	-0.019	0.001	1	0.979	0.981
	Town West	0.090	0.015	1	0.902	1.094
	Pemba North	-0.174	0.048	1	0.826	0.840
	Pemba South	-0.366	0.205	1	0.651	0.693
Husband approve of FP	Disapproves	**Reference**	32.449	2	**0.000**	
	Approves	1.214	26.063	1	**0.000**	3.367
	Don't know	-0.787	1.465	1	0.226	0.455
Discussion of FP with partner	Never	**Reference**	37.069	2	**0.000**	
	Once or twice	1.421	21.215	1	**0.000**	4.142
	More often	1.829	36.238	1	**0.000**	6.229
Constant		-4.464	48.990	1	**0.000**	0.012

In addition, table 7 above shows that, the odds of contraceptive use increased non-significantly (borderline significant) by 1.487 for women with primary education as compared to non-educated. On other hand, the odds of contraceptive use increased by factor of 2.864 for women with secondary education as compared with non-educated. Lastly, the odds of contraceptive use are increasing by factors of 6.727 if respondent have high education as compared with non-educated.

Furthermore, regions have different findings where there some religion that are significant and others are not significant. Mwanza was used as reference category since it is second region with lowest percentage in contraceptive use (8.2%) after Zanzibar North (4.4%). Moreover, the region

was select because it has mixed religions as well as multicultural society compared to last region (Zanzibar North) which is Muslim only. The odds of contraceptive use increase non-significantly (p>0.05) for Dodoma, Morogoro, Dar es Salam, Lindi, Ruvuma, Pwani, Mtwara, Tabora, Rukwa, Kigoma, Shinyanga, Kagera, Mara, Manyara, Singida, and Town west as compared with reference region Mwanza. In addition, odds of contraceptive use decrease non-significantly for Zanzibar North, Zanzibar South, Pemba North, and Pemba South as compared to Mwanza. Lastly, Arusha, Kilimanjaro, Tanga, Iringa, and Mbeya have odds of contraceptive use that increase significantly (p<0.05) with highest factor in Mbeya 11.121, Arusha 7.394, Iringa 6.166, and Kilimanjaro 5.843 as compared with Mwanza.

Another, Variable that show significant in final model is husband approve for family planning methods. Odds of contraceptive use increase by factors of 3.367 if husband approve for family planning methods as compared to husband disapprove of contraceptive use.

Lastly, variable that show significant in model was discussion of family planning methods with partner. The odds of contraceptive use increase by factor of 4.142 for couples that have discussion on contraceptive use once or twice as compared to those who did not discuss on family planning methods. Likewise, the odds of contraceptive use increase by factor 6.229 if the couple have often discussion on family planning as compared with those does not have discussion on family planning methods.

Thus in the output above, we find that all four independent variables in the model (women education, region, husband approve of FP and discussion of FP by partner) are significant, but not all categories of each independent variable are significant. Some of regions, for instance, do not have a significant impact on the odds of contraceptive use.

4.3.0. What are determinants of contraceptive use: natural, temporary and permanent methods as compared to non-use of contraceptive methods?

In the third part of analysis the three categories of contraceptive use were analyze against the non-user. It involves the extension of categorical dependent outcome from two categories to four categories, natural, temporary permanent and non-user. Therefore, it calls upon usage of multinomial regression model, which is an extension of logistic regression to conduct analysis. It tells whether independent variable has an effect on the outcome of the dependent variable, and what the size of that effect is.

The baseline category was non-user of contraceptive. The analysis was done by calculating the natural log of the odds of using permanent, temporary and natural methods as compared to baseline group (non-use). Furthermore, the analysis was started with descriptive analysis by creating cross-tabulation as it was done in logistic regression but this time with four categories of dependent variable. The variables that show significant difference between dependent variable (non-use, natural, temporary and permanent) with independent variables were analyzed in multinomial regression model.

4.3.1. Descriptive Findings

Table eight below shows the cross tabulation results between categorical dependent (non-use, natural temporary, and permanent methods) variable and background independent variables. The results are more less the same as the result in first descriptive analysis with minor differences. All variables have $p<0.05$ which show there significant different between dependent variable and independent variables. The slight differences emerge in regions where Kilimanjaro is the region that have high percentage of people using permanent methods. Furthermore, Arusha have high percentage in Temporary methods 47.8%, Mbeya natural methods 13% and Zanzibar North have high percentage in non-user 95.6%.

Table 8: Cross tabulation of dependent variable and background characteristics.

	Non-use		Nat. methods		Temp. Methods		Perm. Methods		Total	C-SQ. Tests
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	Sig.(2-sided)
Highest educational level										
No education	304	89.1	11	3.2	23	6.7	3	0.9	341	0.000
Primary	562	71	38	4.8	173	21.9	18	2.3	791	
Secondary	65	68.4	6	6.3	24	25.3	0	0	95	
Higher	8	47.1	2	11.8	7	41.2	0	0	12	
Partner's education level										
No education	191	88.4	8	3.7	14	6.5	3	1.4	216	0.000
Primary	656	73.9	36	4.1	181	20.4	15	1.7	888	
Secondary	72	72	6	6	21	21	1	1	100	
Higher	19	50	7	18	10	26	2	5.3	38	
Wealth index										
Poorest	206	83.7	8	3.3	30	12.2	2	0.8	246	0.000
Poorer	212	80	14	5.3	36	13.6	3	1.1	265	
Middle	196	79	7	2.8	39	15.7	6	2.4	248	
Richer	197	74.1	10	3.8	55	20.7	4	1.5	266	
Richest	128	58.4	18	8.2	67	30.6	6	2.7	219	
Literacy Level										
Can not read at all	388	86	18	4	39	8.6	6	1.3	451	0.000
Read parts of sentence	53	76.8	1	1.4	15	21.7	0	0	69	
Read whole sentence	496	68.8	38	5.3	173	24	14	1.9	721	
Women Occupation										
Not working	140	79.1	7	4	28	15.8	2	1.1	177	0.016
Prof. Tech. Manag	12	48	3	12	9	36	1	4	25	
Clerical	1	33.3	0	0	2	66.7	0	0	3	
Sales	6	54.5	1	9.1	4	36.4	0	0	11	
Agric-self employed	689	77.7	40	4.5	145	16.3	13	1.5	887	
Household &domestic	2	50	0	0	2	50	0	0	4	
Services	3	75	0	0	1	25	0	0	4	
Skilled manual	27	73	0	0	8	21.6	2	5.4	37	
Unskilled manual	59	61.5	6	6.2	28	29.2	3	3.1	96	
Partner's occupation										
Not working	4	80	0	0	1	20	0	0	5	0.004
Prof. Tech. Manag	40	66.7	7	11.7	11	18.3	2	3.3	60	
Clerical	1	16.7	2	33.3	3	50	0	0	6	
Sales	27	73	2	5.4	7	18.9	1	2.7	37	
Agric-self employed	711	78.7	38	4.2	142	15.7	13	1.4	904	
Agrric-employee	7	77.8	0	0	2	22.2	0	0	9	
Household &domestic	1	100	0	0	0	0	0	0	1	
Services	7	77.8	0	0	2	22.2	0	0	9	
Skilled manual	73	62.4	4	3.4	38	32.5	2	1.7	117	
Unskilled manual	67	70.5	4	4.2	21	22.1	3	3.2	95	
Children at first use										
0	19	59.4	6	18.8	6	18.8	1	3.1	32	0.000
1	107	46.9	31	13.6	89	39	1	0.4	228	
2	81	51.6	7	4.5	63	40.1	6	3.8	157	
3	38	48.7	4	5.1	35	44.9	1	1.3	78	
4+	63	53.4	9	7.6	34	28.8	12	10.2	118	
Never used	629	100	0	0	0	0	0	0	629	
Religion										
Moslem	395	77	16	3.1	95	18.5	7	1.4	513	0.000
Catholic	206	73	13	4.6	58	20.6	5	1.8	282	

	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	Sig.(2-sided)
Protestant	207	67.6	22	7.2	68	22.2	9	2.9	306	
None	130	91.5	6	4.2	6	4.2	0	0	142	
Place of residence										
Urban	137	60.9	14	6.2	66	29.3	8	3.6	225	0.000
Rural	802	78.7	43	4.2	161	15.8	13	1.3	1019	
Region										
Dodoma	39	78	0	0	10	20	1	2	50	0.000
Arusha	20	43.5	4	8.7	22	47.8	0	0	46	
Kilimanjaro	17	50	2	5.9	12	35.3	3	8.8	34	
Tanga	25	59.5	3	7.1	14	33.3	0	0	42	
Morogoro	24	64.9	3	8.1	9	24.3	1	2.7	37	
Pwani	36	83.7	2	4.7	5	11.6	0	0	43	
Dar Es Salam	25	64.1	2	5.1	12	30.8	0	0	39	
Lindi	29	67.4	1	2.3	12	27.9	1	2.3	43	
Mtwara	41	75.9	0	0	12	22.2	1	1.9	54	
Ruvuma	25	61	1	2.4	13	31.7	2	4.9	41	
Iringa	24	55.8	4	9.3	13	30.2	2	4.7	43	
Mbeya	19	40.4	13	27.7	14	29.8	1	2.1	47	
Singida	50	71.4	3	4.3	14	20	3	4.3	70	
Tabora	59	90.8	1	1.5	5	7.7	0	0	65	
Rukwa	42	84	2	4	6	12	0	0	50	
Kigoma	33	80.5	4	9.8	4	9.8	0	0	41	
Shinyanga	62	88.6	1	1.4	6	8.6	1	1.4	70	
Kagera	45	81.8	0	0	8	14.5	2	3.6	55	
Mwanza	45	91.8	0	0	2	4.1	2	4.1	49	
Mara	41	85.4	0	0	7	14.6	0	0	48	
Manyara	37	77.1	2	4.2	9	18.8	0	0	48	
Zanzibar North	43	95.6	1	2.2	1	2.2	0	0	45	
Zanzibar South	35	81.4	2	4.7	6	14	0	0	43	
Town West	37	78.7	5	10.6	4	8.5	1	2.1	47	
Pemba North	43	91.5	0	0	4	8.5	0	0	47	
Pemba South	43	91.5	1	2.1	3	6.4	0	0	47	

Table 9 below shows that all variables in women's status have $p<0.05$ except the statement that women is the one who can get pregnant and sex of household head which they have $p>0.05$. These variables were removed from further analysis in multinomial regression model.

Table 9: Cross tabulation of Dependent variable and women status.

	Non-use		Nat. methods		Temp. Methods		Perm. Methods		Total	C-SQ. Tests
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	Sig.(2-sided)
Women approves FP										
Disapproves	180	96.3	3	1.6	3	1.6	1	0.5	187	0.000
Approves	719	70.7	54	5.3	224	22	20	2	1017	
Don't know	40	100	0	0	0	0	0	0	40	
Contraceptive women business										
Disagree	578	72.8	40	5	161	20.3	15	1.9	794	0.022
Agree	327	79	16	3.9	66	15.9	5	1.2	414	
DK	34	94.4	1	2.8	0	0	1	2.8	36	
Sterilized women bec. promiscuous										
Disagree	406	72.8	33	5.9	114	204	5	0.9	558	0.004
Agree	465	78	17	2.9	102	17.1	12	2	596	
DK	68	75.6	7	7.8	11	12.2	4	4.4	90	
Women can get pregnant										
Disagree	487	73	32	4.8	134	20.1	14	2.1	667	0.067
Agree	415	77.1	24	4.5	92	17.1	7	1.3	538	
DK	37	94.9	1	2.6	1	2.6	0	0	39	
Husband approves FP										
Disapproves	291	91.2	8	2.5	18	5.6	2	0.6	319	0.000
Approves	471	63.2	49	6.6	206	27.7	19	2.6	745	
Don't know	176	98.3	0	0	3	1.7	0	0	179	
Discussed FP with partner										
Never	400	95.7	3	0.7	12	2.9	3	0.7	418	0.000
Once or twice	275	72.8	20	5.3	77	20.4	6	1.6	378	
More often	262	59	34	7.7	136	30.6	12	2.7	444	
Sex of household										
Male	892	75.4	55	4.6	217	18.3	19	1.6	1183	0.719
Female	47	77	2	3.3	10	16.4	2	3.3	61	

Reason of last discontinuation

	n	%	n	%	n	%	n	%	Total	p-value
Become pregnant	21	53.8	9	23.1	9	23.1	0	0	39	0.000
Wanted to become prg	112	63.3	15	8.5	49	27.7	1	0.6	177	
Husband disapproved	9	56.2	1	6.2	6	37.5	0	0	16	
Side effects	66	66.7	7	7.1	26	26.3	0	0	99	
Health concerns	3	100	0	0	0	0	0	0	3	
Access, availability	17	63	1	3.7	9	33.3	0	0	27	
Wanted more eff.meth	2	9.5	2	9.5	15	71.4	2	9.5	21	
Inconvenient to use	6	42.9	2	14.3	6	42.9	0	0	14	
Infreq.sex,husb away	2	66.7	0	0	1	33.3	1	0	3	
Marital dissolution	1	50	1	50	0	0	0	0	2	
Other	5	62.5	0	0	3	37.5	0	0	8	

4.3.2. Results of final model of Multinomial logistic regression.

Analysis was done by including the variable with p<0.05 from the cross tabulation in the model. Secondly, the multinomial regression was done for each concept and the variables that have p<0.05 was identified for the final model. Thirdly, final multinomial logistic regression model was run and the variable that was not significant in all categories in dependent variable, with highest p value was removed first. The process of removing variable from model was done one after another until all remain variable become significant at least with one category in dependent variable.

Table 10 below shows the results of multinomial regression model. The observed significance logit level shows that some variable are significant in one group but not significant to another group. For instance, religion has relation with natural method only, in contrast with wealth index, which correlate with natural and temporary methods. In addition, discussion of family planning with partner has relation with two methods only. It related with natural method and temporary method. All are as compared with baseline category (non-user).

Table 10: Parameter estimates in multinomial regression model

Contraceptive use[a]	Variables	B	Wald	df	Sig.	Exp(B)
Natural methods	Intercept	-4.775	33.619	1	**0.000**	
Wealth Index	Poorest	-0.969	4.088	1	**0.043***	0.379
	Poorer	-0.499	1.517	1	0.218	0.607
	Middle	-1.338	7.743	1	**0.005****	0.262
	Richer	-0.874	4.198	1	**0.04***	0.417
	Richest	0[b]	.	0	.	.
Religion	None	1.352	6.065	1	**0.014***	3.863
	Protestant	0.954	7.276	1	**0.007****	2.595
	Catholic	0.436	1.21	1	0.271	1.547
	Moslem	0[b]	.	0	.	.
Women approve of Family planning	Don't know	-17.307	0.000	1	0.998	0.000
	Approves	0.306	0.204	1	0.651	1.358
	Disapproves	0[b]	.	0	.	.
Husband approve of FP	Don't know	-17.372	0.000	1	0.997	0.000
	Approves	0.686	2.356	1	0.125	1.985
	Disapproves	0[b]	.	0	.	.
Discussion of FP with partner	More often	2.022	9.969	1	**0.002****	7.553
	Once or twice	1.565	5.911	1	**0.015***	4.782
	Never	0[b]	.	0	.	.
Temporary methods	Intercept	-4.639	46.842	1	**0.000**	
Wealth Index	Poorest	-0.654	5.628	1	**0.018***	0.520
	Poorer	-0.576	4.92	1	**0.027***	0.562
	Middle	-0.736	8.301	1	**0.004****	0.479
	Richer	-0.351	2.247	1	0.134	0.704
	Richest	0[b]	.	0	.	.
Religion	None	-0.449	0.915	1	0.339	0.638
	Protestant	0.261	1.722	1	0.189	1.298
	Catholic	0.064	0.096	1	0.757	1.066
	Moslem	0[b]	.	0	.	.

Women approve of Family planning	Don't know	-16.426	0.000	1	0.997	0.000
	Approves	1.538	6.272	1	**0.012***	4.657
	Disapproves	0^b	.	0	.	.
Husband approve of FP	Don't know	-0.211	0.097	1	0.756	0.810
	Approves	1.114	15.440	1	**0.000****	3.045
	Disapproves	0^b	.	0	.	.
Discussion of FP with partner	More often	1.834	27.74	1	**0.000****	6.259
	Once or twice	1.468	17.299	1	**0.000****	4.339
	Never	0^b	.	0	.	.
Permanent methods	Intercept	-4.971	17.352	1	**0.000**	
Wealth Index	Poorest	-0.856	1.035	1	0.309	0.425
	Poorer	-0.670	0.834	1	0.361	0.512
	Middle	-0.160	0.068	1	0.794	0.852
	Richer	-0.550	0.681	1	0.409	0.577
	Richest	0^b	.	0	.	.
Religion	None	-17.726	0.000	1	0.998	0.000
	Protestant	0.807	2.359	1	0.125	2.24
	Catholic	0.212	0.121	1	0.728	1.236
	Moslem	0^b	.	0	.	.
Women approve of Family planning	Don't know	-16.829	.	1	.	0.000
	Approves	0.321	0.076	1	0.782	1.379
	Disapproves	0^b	.	0	.	.
Husband approve of FP	Don't know	-17.587	0.000	1	0.998	0.000
	Approves	1.233	2.103	1	0.147	3.433
	Disapproves	0^b	.	0	.	.
Discussion of FP with partner	More often	0.558	0.663	1	0.415	1.747
	Once or twice	0.058	0.006	1	0.937	1.06
	Never	0^b	.	0	.	.

a. The reference category is: Non-use.

b. This parameter is set to zero because is redundant

** Significant at p<0.01

* Significant at p<0.05

The findings of final multinomial model from table 10 above reveal that, the odds ratio of using natural methods relative to not using any method is 0.379 for the poor people as compared to the rich, meaning that poor people are more likely to use natural methods than richer people. On other hand, the odds of using natural methods instead of non-using any methods decrease non-significant by factor of 0.607 by being poorer rather than richest. Then after, the odds decrease significantly with wealth index 0.262 for middle and 0.417 for richer. Moreover, the odds of natural contraceptive use are significant at increasing by factor of 3.863 for none religious and 2.595 for protestant, and increase non-significantly by factor of 1.547 for Catholic contrast to Muslim. In addition, women approves of family planning and husband approves of family planning are increasing non-significant odds ratios as compared with other independent variables in natural contraceptive use. Likewise, odds of use natural contraceptive methods as a substitute of being non-user is increasing significantly by factor of 7.553, 4.782 for those have frequently and once or twice discussion on family planning with partner respectively as compared to those never discuss with partner about family planning.

Furthermore, all variables and most of its categories shows significant, odds of temporary contraceptive use in its place of non-using except for religion which is insignificant. The odds of temporary contraceptive use relatively to non-use are decreasing significantly by factor of 0.520, 0.562, and 0.479 for poorest, poorer, and middle respectively as compared to richest. While, the odds of temporary contraceptive use in its place of non-user is decreasing non-significant by factor of 0.704 for richer as compared to richest. Moreover, the odds of use temporary

contraceptive methods rather than being non-user is increasing significantly by factor of 4.657 for women who approves contraceptive use, and 3.045 for husband that approves contraceptive use as compared to those disapproves. Lastly, the odds of using temporary methods for women who discuss on family planning with their partner more often and once or twice are increasing by factors of 6.259 and 4.339 respectively as compared to those never discuss.

Lastly, the odds of permanent contraceptive use as substitute of being non-user for wealth index (poorest, poorer, middle, and richer) is decreasing non-significantly as compared to richest. The remaining variables religion, women approve of family planning, husband approves of family planning, and discussions of family planning with partner are increasing non-significant as compared to highest category in each.

CHAPTER 5: DISCUSSION AND CONCLUSION.

5.0. Introduction

People in countries that maintain a balanced population growth have a qualitatively comfortable life as opposed to people living in an over-populated country. Even if the country is rich endowed with natural resources, there may be poverty, hunger, unemployment, disease, and lawlessness, as these are by products of overpopulation. In order to stabilize population growth, it is necessary to balance birth. To do so, safe and effective family planning services are required.

The study identifies the different determinants of contraceptive use among married women in Tanzania. Discussion and conclusion of results were done basing on hypotheses raised in section two of this study. The hypotheses were tested by answering the research questions in result presented above. In this short introduction to the discussion, I would briefly mention the most important findings, for each of those findings I am going to reflect on the results and the meaning of the results.

5.1. Knowledge on family planning methods is not related to contraceptive use among married women in Tanzania.

Some of the important findings from the analysis have worth attention. Although, knowledge on family planning methods was high among married women in Tanzania amount to 97.5%, only 20% is reported level of current use of contraceptives in Tanzania. Moreover, we can accept the null hypothesis that, Knowledge on Family planning methods is not related to contraceptive use among married women in Tanzania. And, reject alternative hypothesis, knowledge on family planning methods is related with contraceptive use among married women in Tanzania. It expected that as knowledge on contraceptives increases the contraceptive use increases as well. Surprisingly the contraceptive use is very low. It creates a need to find out other determinants of contraceptive use and questions if knowledge in family planning methods is a relevant one? Questions used in Tanzania Demographic and Health Survey (TDHS) were aiming only to test if the respondent had heard about any family planning methods. This means that, TDHS data on knowledge, does not measure respondents knowledge on how to use the methods, understanding its effectiveness, and side effects associated with family planning methods. Hearing about without considering the source and content of that information may distort the reality on knowledge. Therefore, community requires knowledge on different types of family planning methods available, how to use them, side effects associated with it, suppliers and required dose in order to have effective and efficient family planning program (UN, 1995). There needs to be looked at the content of the knowledge that 97.5% of the community have.

5.2. Background characteristics and women status is different between users and non-users of contraceptives.

Age at first birth was significant p=0.002, where half of the study population give birth at age below 19 years old with low percentage in contraceptive use. Married women that has first birth at age 10-14, 15-19 years has 90.2%, 75.7% respectively of contraceptive use contrast to those has first birth at 25-29 years which have 41.5%. The Demographic and Health survey 2004-2005 report explains that, women who marry early are exposed to the risk of having many children on

her lifetime than women who marry later. The rise of the median age of first birth will act as one of the measure of reducing the fertility rate. The median age for first birth in Tanzania was 19.4 years in 2004 with differences in education level. The educated women are reported to have high median level of 23.8 years as compared with 18.7 of the woman with no education, (National Bureau of Statistics, 2005). This result may be achieved by promoting contraceptive use among young married women before first birth. As shown in the findings the women give first birth at young age has low percentage as compared with the one give first birth at older age on contraceptive use. Initiatives should be taken to this group to increase the contraceptive use.

In addition, the results above show that, most of user gets family planning methods from government health facilities (more than 5%). Contrast to, few responds that gets contraceptives methods in religious/voluntary and private health facilities that has less than 5%. National family planning costed implementation program 2010-2015 identifies the planning partner and implementer for the national family planning program for year 2009-2010. Among the implementer as shown in table 11 below, 73.5% are Mission and private hospitals, 63.8% Designated and private district hospitals and 72.9% are Mission and private health centres. As explain on results above most of married women gets their family planning methods mainly at Government dispensaries, Health centres and District Hospital and few percent low than 5% collect family planning at Voluntary/Mission and private hospital, health centres and dispensary. Though, private and voluntary agency own more than 60% of all regional hospital, District hospital (Designated district hospital) and health centre in Tanzania still, they are lagging behind with low percentage in provision of family planning services. Furthermore, Ritchey (1999), on her article on family planning and the politics of population in Tanzania, explain the opposition from religion leaders in implementation of family planning methods. This may be one of the reasons of low provision of family planning methods in religious owned health facility. There needs of reviewing the family planning supply policy and provision of health services by private and voluntary agency to make sure that all health facilities provide the family planning services.

Table 11: 2009-2010 Family Planning Partner and Implementers

Partner and Implementers	GoT(MoHSW)	NGO, FBO, CBO	Private Sector	Par. Organ.	Total
Regional/Mission/private hospitals	18(13.0%)	83(60.1%)	24(17.4%)	13(9.4%)	138(100%)
District/designated/private district hospitals	85(36.2%)	78(33.2%)	729(30.6%)	0	235(100%)
Health (Mission/private) centers	481(26.9%)	689(38.6%)	613(34.3%)	4(0.2%)	1787(100%)
Dispensaries (Mission/Private)	4679(97.2%)	20(0.4%)	3(0.1%)	112(2.3%)	4814(100%)
Total	**5263**	**870**	**712**	**129**	**6974**

Source: Ministry of Health and Social Welfare 2010.

Key:

GoT=Government of Tanzania facilities

MoHSW= Ministry of Health and social welfare

NGO= Nongovernmental Organization

FBO= Faith Based organization

CBO=Community Based organization.

Lastly, the results have the same answers for those discontinue (stopping contraceptives methods), and those who ever not use any family planning methods. Mostly, were due to side effect, wanted more children, problem with access and availability, and lastly husband disapprove the contraceptive use. High percentage of unmet need of 22% as explaining in Tanzania Demographic and Health Survey 2004-2005 act as a barrier in accessing family planning methods as appear in the result 63% of those women stop family planning was due to

access and availability. Fear of side effect were explained by a follow up study in Morogoro, Kilimanjaro and Ruvuma that was carried out in 1995-96, June-December 2000 and January 2004 by Richey (2008) on "family planning service provider interpretation of contraceptive knowledge". The finding show that the educated women have ability to discuss more with health provider and select the method that they want compared with non-educated women. These cause the women to use a family planning method that is not suitable for her and experience some side effect. In addition, Qualitative study conducted by Schuler, *et al* (2009) on, "Gender norms and family planning decision-making in Tanzania" reveal that, fear of side effect is one of the strong barriers for use of modern family planning methods. Fear and misconception about side effects appeared as one of powerful determinant in contraceptive use. Initially family planning in Tanzania was viewed as women business that leads to misinform the most of non-user male by receiving family planning information from non reputable source as it is not normative for men to seek information from sources such as health facilities. Due to male dominant in decision-making, cause the women to harbour the same misconception and fear on family planning side effect. For example, in December 29, 2009 one radio station own by Roman Catholic situated at Dar es Salaam called *Radio Maria* on its one hour program every Tuesday from 3.00-4.00 PM on *Utetezi wa Uhai* (life defence) the chairman of Pro life Tanzania said that;

… There a lot of side effect of family planning which when I start to explain it I will not finish all but in nutshell it cause frontal headache, blood clotting, blood pressure especially for women above 35 years, breast cancer, cervical cancer, loss of libido, predisposing factors for skin cancer, uterus cancer, kidney stone and infertility. He goes further by saying; *it causes changes in menstrual flow, alopecia arietta, increase body weight, dizziness, general body malaise…*

Men were the one who contribute a lot by supporting the information and messages provided by pro-life chairperson and other speaker through phone call. Having only message on side effects without having the other side of advantage associated with family planning is dangerous for those who do not have another source to receive the right messages concern family planning. It hit more man who initial have no habit to visit MCHC clinic where proper knowledge concerning family planning methods and reproductive health are provided.

5.3. Background characteristics and women's status factors have no relation with contraceptive use

The hypothesis was tested using second and third research questions where the study was analysed using binary and multinomial logistic regression to look the relation between dependent variable and independent variables. The study questions were what are the background factors and women's status factors that contribute to contraceptive use? In addition, what are determinants of contraceptive use: natural, temporary and permanent methods as compared to non-use of family planning methods? Between background characteristic and women status factors four variables have $p<0.05$ in binary and five variables in multinomial logistic regression. In binary logistic regression women education, regions, husband approves of family planning, and discussions of family planning with partner were significant. Moreover, multinomial regression wealth index, religion, women (respondent) approve of family planning, husband approves of family planning, and discussion of family planning with partner were significant. With this result, we can reject the null hypothesis that, background characteristics and women's

factors have no relation with contraceptive use and accept alternative hypothesis there relation between contraceptive use, background characteristics, and women status factors.

Moreover, the odds of contraceptive use increased significantly for women with secondary education, and high education. It starts non-significantly with low factor for primary education and increase significantly as level of education increase with highest factor of 6.727 for higher education as compared with non-educated. Arusha, Kilimanjaro, Tanga, Iringa, and Mbeya have odds of contraceptive use that increase significantly contrast to, Dodoma, Morogoro, Dar es Salam, Lindi, Ruvuma, Pwani, Mtwara, Tabora, Rukwa, Kigoma, Shinyanga, Kagera, Mara, Manyara, Singida, and Town west which have odds of contraceptive use increasing non-significantly as compared to reference region Mwanza. Lastly, Zanzibar North, Zanzibar South, Pemba North, and Pemba South are decreasing non-significantly as compared to Mwanza. Husband approve of family planning is another variable that has odds related to contraceptive use. Lastly, couples that often have discussion of family planning have highest odds of contraceptive use followed with those have had once or twice discussion as compared with those does not discuss.

Men's being the decision maker in the household causes women unable to use family planning methods without consent from the man (Schuter *et al*, 2009). In addition, study conducted by Oyedokun, (2007) at Osun State Nigeria reveal that, women who discussed with their partners about contraceptive use and those women who approved of family planning methods were found to be less likely to ever use any modern contraceptive methods. It implies that women's approving a family planning method does not necessarily mean that they will ever use any of the approved methods. 'The result indicates that men are the primary decision-makers on issues relating to fertility and fertility control'. Previous studies show that male dominance in decision-making is one of key factor in contraceptive use. A study conducted by Almaz (1993) in Ethiopia found that couples which husbands participated in home-visit talks were more likely to initiate contraceptive use and to be using modern contraception one year after the visit than couples in which only the wife participated. Moreover, Zimbabwe National Family Planning Council (ZNFPC) in 1988/89 conducted a first national education project targeting men aiming to increase men's contraceptive knowledge and eventually increase contraceptives use. Second, campaign was launched in 1993 encourage male involvement in family planning and use of long-term methods to limit family size. The analysis of first study found that men who exposed to the campaign were 1.4 times likely to use modern family planning methods, as compared to non-exposed men. In addition, the evaluation of second study reveal that, people exposed to three or more campaign components (radio, television, posters, newspapers, motivational talks, family festivals, live dramas, and musical shows) were 1.6 times as likely to use a modern contraceptives methods compared to others (Kim, et al., 1996). There need to involve male in family planning programs as an actor that will create understanding for them about importance and how to use the available methods. Also it may reduce the misconception that, man have towards family planning methods that cause the most of non-user and those who discontinues from using family planning fear about its side effects. Finally, the results concur with Fisheben and Ajzen (1980) theory on external factors (men/husband) influencing the decision making of married women towards contraceptive use.

In addition, multinomial logistic regression show that, the odds of use natural family planning methods rather than being non-user is decreasing significantly in all categories of wealth index

except for poorer as compared with richest. The coefficients (B) in regression explain the relationship between logit (dependent variable) and independent variable, (Norusis, 2008). Therefore, negative coefficients in wealth index indicate that poorest, middle and richer are less likely than richest to use natural methods rather than being non-user. Furthermore, none-religious and Protestant have odds ratio increasing (positive coefficients) significantly that implies that none-religious and Protestant are likely to use natural methods rather than being non-user as compared to Muslim. Roman Catholic was expected to be one of the main users of natural family planning methods as it is advocated by most of its leader to use natural methods or abstinence, (Anna *et al*, 2006). Surprising the study finding show that, non-religious women and with Protestant denomination are the group that are likely to use natural family planning. Moreover, women approve of family planning and husband approves contraceptive use have positive coefficient value, indicating that compared to those disapproves, women and men (husband) who approves are more likely to use natural family planning methods rather than being non-user.

Furthermore, the finding shows that temporary methods have significant relation with wealth index, women approve of family planning, husband approves of family planning, and discussion of family planning with partner. A book, Tanzania Social Sector Review by Word bank (1999), identifies women age, education level, religion affiliation and wealth index as strongly associated with modern contraceptive use (Temporary and permanent methods). Moreover, education level and income are one of the variables that associated with modern contraceptive use among married Sudanese women, (Ibnouf *et al,* 2007). This study creates the need for women empowerment through income-generation activities as well as improving standards of living of whole community. Advocating women education and increase enrolment in both primary and secondary schools and eventually at University level might help in solving the income (wealth index) problem and would increase awareness on family planning methods and hence, increase contraceptive use.

Although knowledge and perceived behaviour control are thought to determine contraceptive use, the data used in this study limited our examination to hearing of any family planning methods, and place where women gets family planning methods as well as main reasons for stopping family planning methods. The 2004-2005 TDHS was only testing the respondent recalls hearing on family planning methods. The recall were either spontaneous (without interviewer mentioning the method) or prompted (interviewer mentions the method by name). Therefore, the results provided in TDHS include both spontaneous and prompted answers. These questions do not captures the complexity of knowledge on family planning methods by respondent knowing how to use it, its effectiveness and side effects associated with family planning. The questions may be improved by asking the respondent, the source of the information about family planning methods, what are the knowledge they have concerning family planning methods, and if he/she has access/visit to family planning centre in his/her areas.

Furthermore, perceived behaviour control also lacks information that explains it in broader perspective. The questions does not capture on availability of contraceptives at health facilities, distance from household to centre that provide family planning services, ownership of health facilities (private/mission or government) close to respondents, and behaviour of health workers towards family planning clients.

However, the univariate, binary logistic and multinomial regression, as well as findings from other researches results suggested that some of socio-economic factors, socio-cultural factors, women attitudes, subjective norms, and perceived behavioural control have variables that are strongly associated with contraceptive use. Fearing of side effect, desire to have more children, problem with access and availability, and husband disapprove of contraceptive are one of the determinants of contraceptive use. Moreover, variables that show strong relation with contraceptive use under binary logistic regression was women education, regions, and husband approve of family planning, and discussion of family planning with partner. Lastly, wealth index, religion, women and husband approves of family planning, and discussion of family planning with partner were determinants of natural, and temporary contraceptive use under multinomial logistic regression.

CHAPTER 6: RECOMMENDATIONS

6.1. Policy recommendation

Having differences in significant between Regions, Arusha, Kilimanjaro, Tanga, Iringa, and Mbeya that have significantly odds of contraceptive use, and Dodoma, Morogoro, Dar es Salam, Lindi, Ruvuma, Pwani, Mtwara, Tabora, Rukwa, Kigoma, Shinyanga, Kagera, Mara, Manyara, Singida, and Town west which have non-significantly odds of contraceptive use. As well as Zanzibar North, Zanzibar South, Pemba North, and Pemba South that has decreasing non-significantly odds of contraceptive use should have different policies regarding family planning programs. Those regions show significant may have difference programs from non-significant regions.

Secondly, Ministry of Health and Social Welfare have duty to control and co-ordinate the establishment of Voluntary, Religious and private hospitals, health centre and dispensaries (URT, 1990). Therefore, there need for ministry to review the health policy making sure that all voluntary, religious and private health facilities are providing efficiently and effectiveness family planning services as well as Reproductive health programs as whole.

6.2. Recommendation for further research

Although, the study findings show high percentage in knowledge of family planning methods by looking only knowing any method, yet the use are very low. Qualitative researches could be taken in order to explore the nature of knowledge community has concern family planning methods due to lack of such information in TDHS. For instance, researcher may look on what are the nature and a state of knowledge does married women have concern family planning methods in Tanzania. In addition, study the level of knowledge and attitude of family planning methods that married women in Tanzania has.

Furthermore, there a need to improve the questionnaire used by TDHS to incorporate some questions that will probe the level and types of information that community has regarding family planning methods as well as questions that explains on attitudes towards family planning methods. The questions in TDHS may been improved by asking the respondents, where they hear (source of information) about family planning methods, what are the information they hear from mentioned sources, and if he/she has access/visit to family planning centre in his/her areas. Lastly, what are the perceptions he/she has concern family planning methods.

6.3. Short and long-term recommendation.

Firstly, study show that educated women has high chance of using family planning method. Therefore I suggest promotion on female education by creating good environment for increasing women enrolment in primary, secondary and even at university level, not only on having nice plans and policies, but also more important budget are located and programs are smoothly running.

Secondly, religious belief against family planning must be countered through training religious leaders on benefits available in birth control for individual and nation as whole. Also the family

planning programs should include and orientation workshops for religious leader to have positive perception on family planning methods.

Thirdly, one of the reasons for non-using family planning for non-user and discontinuation is fear of side effects. Therefore, Ministry of Health and Social Welfare together with other stakeholder as well as non-profit organization should address the issue through adequate and reliable counseling, timely follow-up of user and improving the knowledge and technical competence of service providers.

Fifth, some of client have discontinues from family planning due availability problem, so there need of increasing supplying of family planning methods in all places timely and required amount, also, involving voluntary, religious and private health facilities in provision of family planning methods.

Lastly, results provide strong relation between contraceptive use and discussion of family planning methods with partner. Ministry of Health and Social Welfare and other stakeholder should focus on Male involvement as an actor by improving awareness and benefit associated with family planning methods. Thus, programs need to target male directly on discussion and plan about contraceptive use with their partners. It may involve using mass media communication advocating male involvement in family planning methods, encouraging male attendance in Maternal and Child Health Clinics (MCHC) where is the place family planning education and services are provided.

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