

**DETERMINANTS OF CONTRACEPTIVE USE: A  
COMPARISON OF CENTRAL AND COAST PROVINCES  
IN KENYA "**

**A PROJECT PRESENTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS OF THE DEGREE IN MASTER OF ARTS IN  
POPULATION STUDIES, UNIVERSITY OF NAIROBI**

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## DECLARATION

I declare that this project is my original work and has never been presented before for the award of a degree in any other university.

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## DEDICATION

This work is dedicated to my beloved parents, dad Ephraim Njeru and mum Janet Ruguru.

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## ACKNOWLEDGEMENTS

This study was undertaken with input from many diverse quarters. I how ever herein single out a few who warrant special mention. This is however by no means exhaustive.

I thank the University of Nairobi for awarding me a full scholarship. I also thank my two supervisors Dr Kimani Murungaru and Professor Zibeon Muganzi who tirelessly guided me through the entire project. Special mention also goes to Dr. A.T.A, Otieno and Dr. Boniface K'Oyugi for their insightful suggestions at the formative stages of the study.

To my parents and siblings, I shall forever be indebted for the sacrifices they undertook collectively and individually to enable me pursue my dreams. To my colleagues, Library and Computer staff, my gratitude is heart felt. Last and by no means least, I commend Edward Miano who was much more than a friend through the two-year study period.

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## ABSTRACT

This study sought to examine comparatively the determinants of current contraceptive use in Central and Coast provinces. The two were chosen based on their contraceptive prevalence rates where Central province had the highest while Coast had the lowest.

The data source was the 1998 Kenya Demographic and Health Survey (KDHS). The sample consisted of married, non-pregnant, fecund women who were aged between 15-49 years at the time of the survey. The sample for Coast was 601 women while for Central was 405 women.

Frequency distributions were the first level of analysis that gave the general characteristics of the sample by both the dependent and independent variables. At the bivariate level, cross-tabulations and the chi-square statistic were used as measures of association and statistical significance. Significance was set at  $\alpha = .05$ . Logistic regression was finally used to examine the determinants of contraceptive use where by a model was fitted for each region.

The findings of the frequency distributions show higher proportions of Central respondents within variable categories associated with greater probabilities of contraceptive use compared to distribution in Coast. Bivariate findings show that more independent variables are statistically associated with the dependent variable in Coast than in Central. At the multivariate level, three determinants emerge significant in both regions, these are; the number of surviving children, respondent's level of education and spousal approval. Desire for more children and reliance on radio as a source of family planning information, are

significant determinants only in Central province. Similarly, reliance on newspapers for family planning information was significant only in Coast.

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The study recommends that besides the macro level policy, region specific population policy be formulated as well. Owing to the significant association between contraceptive use and child mortality, deliberate efforts should be made to lower child mortality especially in Coast province. Emphasis should also be laid on female education especially post primary. Men should also be aggressively targeted within the family planning programs, as their approval is instrumental for successful adoption and practice of contraception. For further research, use of panel data in a similar study is recommended.

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## ACRONYMS

CBS-Central bureau of statistics

CPR-Contraceptive prevalence rate

DHS-Demographic and health survey

FPAK-Family planning association of Kenya

FP-Family planning

IPPF-International planned parenthood federation

Mi-Macro international

NCPD-National council for population and development

PRB-Population reference bureau

## CHAPTER ONE

### 1.0 Introduction and background to the study

Contraceptive prevalence rate (CPR) among married women has been on the increase worldwide rising from 10 percent in the 1960's to around 55 percent in the late 1980's (NRC 1993,c.f. Bongaarts et al 1990, PRB, 1992). While CPR in the highly industrialized countries was 72 percent the rate in the developing countries was 51 percent by 1990.

In Africa, CPR is low even by developing countries' standards. In 1993, CPR for Africa, was only 13 percent, when compared to prevalence rates of 56 percent and 57 percent for Asia and Latin America respectively, the difference is quite significant. Regional figures however mask considerable variation among countries in a given region for instance, Thailand had a CPR of 66 percent compared to Pakistan's 12 percent Costa Rica's 70 percent compared to 30 percent for Bolivia and 43 percent in Zimbabwe against 3 percent in Mali (NRC, 1993, c.f. PRB 1992).

In Kenya, the history of family planning efforts goes back to pre-independence times. Nairobi and Mombasa family planning associations were established in 1955 and were among the earliest organized family planning services in Africa. The two family planning associations merged in 1961 to form the Family Planning Association of Kenya (FPAK). In 1962, FPAK became the first country in Sub-Saharan Africa affiliate of the International Planned Parenthood Federation (IPPF) (NRC, 1993, c.f. World Bank, 1988).

In 1967, a family planning program was launched under the ministry of health with the goal of providing information and services in all government hospitals and health centers throughout the country (NRC, 1993,c.f. Krystal 1975). By 1968, FPAK operated 40 clinics, the majority of them in ministry of health facilities. Supplementing the program services were other players like Nairobi City Council, family planning services provided by private clinics, Christian health association of Kenya, and Maendeleo ya Wanawake organization.

Despite Kenya's early embrace of family planning the CPR remained low. By 1978, the use of modern methods was only 6 percent (NRC, 1983). At the same time, the annual targets of family planning users and acceptors weren't being realized. In 1976 and 1977 for instance only 55 percent and 60 percent of the set targets were attained. This low use was blamed partly on setting of unrealistically high targets, problems in sustaining the rate of adoption, client retention and continuation and in ensuing access and quality of care. Other hurdles were distance to the service delivery points, short hours of operation, personnel problems and inadequate training while lack of coordination between the various providers made the difficulties more acute.

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Since the early 1980's, use of family planning in Kenya has shown an upward trend. This increase has been attributed partly to the establishment of the National Council for Population and Development (NCPD) in 1992 (NCPD and CBS 1989). It was established as a governmental agency in charge of formulation of population policies and coordination of public and private sector efforts in family planning provision and promotion. Since the 1980's the Kenyan government has also worked closely with a large number of multilateral

and bilateral donors chiefly the World Bank, United States Agency for International Development (USAID) NGOs and private associations to improve both public and private sector programs (NRC, 1993 c.f. UNPF, 1991).

Greater and consistent government commitment and the close collaboration between the private and public sector have resulted in increments in CPR for modern methods. This has risen from 6 percent in 1978, 10 percent in 1984, 18 percent in 1989, 27 percent in 1993 and 32 percent in 1998 (M I, NCPD and CBS 1998). While the CPR for all methods of 39 percent in 1998 may look satisfactory, there is still much that needs to be done to realize the 43 percent target by the year 2000 that was set in the sessional paper on population of 1997.

Marked differentials however exist in use of contraception between and within regions. These differentials are attributed to, age, education, fertility desires, child death experience and occupation. In terms of region, the CPR for all methods ranges from a high of 65 percent in Central to a low of 27 percent in Coast (NCPD and CBS 1998). Coast province's current use of modern methods was 7 percent in 1978, 6.8 percent in 1984, 14.8 percent in 1989 and 20 percent in 1998. Corresponding values for central province were 12 percent, 20.7 percent 30.8 percent and 54.8 percent over the same period consequently there is need to focus on region specific enquiry if further increment at the national level is to be realized.

### **1.1 Problem statement**

Contraceptive use studies, in the field of demography arouse so much interest owing to the close relationship between contraceptive prevalence and fertility (NRC 1993, c.f. Segal and

Mauldin 1988). Of the four key proximate factors of fertility, i.e. induced abortion, post-partum insusceptibility, involvement in sexual union and contraception; contraception has the strongest effect on fertility in most developing countries (NRC 1993, c.f. Donaldson and Tsui 1990). Rapid population growth is a problem most countries, Kenya included are grappling with.

Contraceptive use rate in Africa, relative to other regions of the developing world is quite low. While the rate for Africa stood at 13 percent those for Asia and Latin America were 56 percent and 57 percent respectively (NRC 1993, c.f. Population Reference Bureau 1992). These regional figures however, mask considerable differentials among countries in a given continent

Generally the situation at the National level determines in part what occurs at the regional level. However, there are other factors that affect regional outcomes. Differences in economic activity, standards of living, transport and communication infrastructure, and ethnic composition among other factors contribute to regional variation (National Research Council, 1993). National contraceptive prevalence rates tend to conceal the substantial regional diversity extant within the countries.

In Kenya, there have been several studies focusing on the determinants of contraceptive use. Their focus have been either at the macro level hence encompassing the whole country or case studies targeting a district, province or a portion of society within the above two administrative demarcations such as a particular educational institution.

At the aggregate level Ikamari (1985) focused on nine explanatory variables. These were; wife's level of education, wife's occupation, husband's occupation, place of residence, child death experience, number of additional children desired, current family size, access to contraceptive services and duration of breastfeeding. Njogu (1991) for his part used the 1977-8 Kenya fertility survey together with the 1989 Kenya Demographic and Health Survey to examine the trend and determinants of contraceptive use over that period. He focused on a reduced number of independent variables which turned out to be significant determinants, i.e. age of wife, type of current residence, region (Province), wife's education, desire for children and child death experience.

Case studies undertaken include Wachu (1991) and Otinda (1991) conducted their studies in Nairobi. The former, a Provincial level focus while the latter restricted to the University of Nairobi community. Keraka (1991) based her study in Kisii district and among significant independent variables found were; woman's level of education, number of children dead, rural/urban residence, age of the woman, marital status, religion and the ideal number of children. Studies at the national level as well as case studies have shown that among the significant determinants of contraceptive use are age of the respondent, number of surviving children, fertility intentions, number of children dead, respondents level of education, respondent's occupation, type of place of residence and region of residence. However these studies have not examined whether the determinants vary from region to region in the country and especially in regions with great variance in CPR, as is the case of Central and Coast provinces. This study seeks to fill this gap by examining determinants of contraceptive use in Coast and Central province and comparing the two.

As Kenya strives to raise her CPR from 39 percent, factors that are responsible for the CPR rates of 65 percent in Central province ought to be closely examined. This would enable the policy maker's device strategies of bringing the very low level of 27 percent in Coast province, closer to the National average. The study therefore seeks to answer the question what are the determinants of current use of contraceptives in Central and Coast provinces?

## **1.2 Study objectives**

### **1.2.1 General Objective**

Since it is appreciated that there exist regional differentials in contraceptive use the main objective of the study is to examine the determinants of contraceptive use in Central and Coast Provinces.

### **1.2.2 Specific Objectives**

1. Examine the determinants of contraceptive use in central and coast provinces.
2. To compare the relative significance of the determinants in the two regions.

## **1.3 Rationale and justification**

The fact that almost four decades since Kenya put up a family planning program, less than 40 percent of women at the risk of conceiving are current users of contraception is a pointer to the slow pace at which progress is being made in fertility regulation efforts.

Studies have been carried out with regard to the determinants of contraceptive use at the national level, but a comparison between the high CPR and low CPR regions has not been



attempted. This study aims at examining the determinants in the regions, which are at opposite extremes of CPR in Kenya in a bid to evaluate whether similar factors are significant in the two regions.

The government in the 1997 population policy set a CPR target of 43 percent by the year 2000. To achieve this, it is imperative that all regions' CPRs have to rise appreciably this would be aided by a better understanding of the factors responsible for the differential regional performances. Findings will hence be of interest to population policy makers.

Lastly, the Kenya demographic and health survey 1998 data set is the one that this study will utilize. The findings will therefore be of use in comparing with other studies that have utilized KDHS data sets in examining contraceptive determinants as the relative significance over the years can be evaluated.

#### **1.4 Scope and limitation**

The study shall restrict itself to only two provinces in Kenya, these are Central and Coast. The choice was prompted by the fact that the two are at extreme ends of the Kenyan contraceptive prevalence continuum, with the prevalence for all methods of contraception in Central at 61 percent while that for Coast was 22 percent (NCPD, CBS, 1998).

Current contraceptive use, which is of great interest to demographers, as a proximate determinant of fertility UN ECA (1992) will be examined. Married women aged between 15-49 years who were at the risk of conceiving at the time of survey will be the units of analysis.

The data set that will be used is the KDHS 1998. In this survey, variables such as frequency of coitus among couples, actual as opposed to perceived access to a family planning service facility, the regular source of ones supplies of family planning as opposed to source of supply during the most recent visit were not included. Such would have enriched the current study.

The study is also limited in the sense that the data set used is cross-sectional in nature while contraceptive use is a dynamic process involving adoption, switching as well as discontinuation of the respondents reporting themselves as users. Some might drop out very soon after; hence these findings should be interpreted with the 1998 as the year of reference.

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## **CHAPTER TWO: LITERATURE REVIEW**

### **2.0 Introduction**

Interest in contraceptive prevalence emanates from the close relationship between contraceptive use and fertility. Contraceptive use is one of the four key factors that determine fertility, the other three being sexual intercourse, post-partum insusceptibility and induced abortion (Bongaarts, 1978). Of these four, contraceptive use has the strongest effect on fertility in most developing countries (NRC, 1993 c.f. Donaldson and Tsui, 1990). Among the methods couples seeking to limit or space births use, contraceptives is the most common practice. Other important means of effecting the timing and number of births are delayed marriages, prolonged breastfeeding and induced abortion (NRC, 1993 c.f. Mauldin and Segal). Post-partum sexual abstinence also plays a role in certain societies.

Although the situation observed at the national level in part determines what occurs at the different regions of the country. Other factors also play a role in determining regional outcomes these include different economic activities, variations in standards of living, ethnic composition, transport and communication as well as infrastructure facilities. Various scholars have undertaken studies in diverse regions of the developing world. Most have come up with common determinants of contraceptive use. As would be expected, contradictory findings have likewise been arrived at.

### **2.1 Studies outside Kenya**

Modern contraceptive use is generally higher in urban than in rural areas. In Zimbabwe, the range between urban and rural areas is 18 percent in favour of urban regions. In an analysis

of 12 countries covered in the 1989 DHS, modern contraceptive use was higher in urban and peri-urban regions in Botswana, Burundi, Liberia, Sudan, Mali Nigeria, Senegal, Togo, Uganda and Zimbabwe. Only Kenya, Botswana and Zimbabwe, all who report over 25 percent CPR was contraceptive, use in rural areas significantly high. Regions within a country that are fairly urbanized report higher CPRs than the national averages. In Kampala Uganda the CPR is 15.4 percent against a national average of 2.5 percent. Harare and Chitungwiza in Zimbabwe have proportions using a modern form of contraceptive that is at least 10 percent higher than the countries average i.e. 48 percent against 36 percent

Less urbanized regions, have modern contraceptive use that is lower than the national averages. In Matabele land north and south, modern contraceptive use was 18 percent and 21 percent respectively compared to a national average of 36 percent. In Sudan the regions of Darfur and Kordofan had modern contraceptive use percentages of 0.2 percent and 1.5 percent respectively against a national average of 5.5 percent (National research council 1993).

Traditional methods of contraception however show little regional variation that suggests that traditional methods are part of a set of culturally prescribed practices that are less affected by forces of modernization or access to family planning services.

Urbanization is associated with greater exposure to family planning and health services. The effect could however be attenuated in countries or regions where community based

distribution of contraceptive is strongly developed in rural areas as is the case in Zimbabwe (Jolly and Brass 1993).

Studies show that contraceptive use is positively associated with a woman's level of education. In Jordan, Mamlouk (1982) found that having at least secondary school level of education was a significant determinant of contraceptive use. Education was also significant in Columbia, Peru and Mexico all in which 65 percent of those with at least secondary school level of schooling. These were practicing contraception compared to 30 percent in Jordan and Columbia and less than 20 percent in Mexico and Peru among those who had not attended school at all. Similar findings were obtained in Uganda's Rukai district. The odds of contraceptive practice was, 2.3 times among women with primary level of education, those with secondary level of education had user odds of 5.5 times while those with tertiary level had odds of 7.3 all relative to women with no education (Lutalo et al 2000)

The United Nations Economic Commission on Africa (UNECA) (1992) conducted an analysis of contraceptive use by level of education utilizing the 1978-80 world fertility survey (WFS) data. Trends in use by the level of education show differences in use between those with no education and those with 10 or more years of schooling ranging from 13 percent in Ghana to 43 percent in Morocco. Similar analysis utilizing DHS data resulted in differences ranging from 12 percent in Ghana to 38 percent in Morocco. Therefore, between 1978-80 and 1988 period, the impact of education on contraceptive use persisted.

Differentials in contraceptive use have also been witnessed based on the number of living children that a mother has. Jonawitz, et al (1987) found a positive relationship between

contraceptive use and the number of living children in Honduras. Among women with no living child, contraceptive use was 5 percent those with one child had use percentage of 28 those women with 2 and 3 children had user proportions of 39 percent and 45 percent respectively. The percentages of use then leveled off before declining for women with six or more children whose percentage was 31. In Bangladesh and Fiji, the odds of using contraception was twice as high among women with 2 children relative to those with only one child (Mamlouk 1982). Contrary to this finding, user levels somewhat declined with the number of children in Thailand, Dominican Republic, and Columbia (Mamlouk, 1982). This observation could be attributed to more traditional attitudes among higher parity women who are unlikely to be highly educated hence have lower motivation to regulate fertility. Similarly, contraceptive users are unlikely to have large families.

In Uganda's Rukai district, Lutalo et al (2000) found the number of living children to be a statistically significant determinant of contraceptive use at their 1995 survey. On follow up in 1998 however, the association disappeared this was attributed to adoption of family planning by parity one mothers as well as zero parity ones. In Indonesia, use of modern methods increased from a low of 23 percent for women with 0-2 living children to 41 percent for those with 3-4 children and then dropped to 44 percent among those with 5 or more children. (Ikamari,1985).

Generally, use of contraceptive increases then decreases with age. Njogu (1991) points that a curvilinear relationship obtains between current contraceptive use and age. Couples are expected to practice contraception less when fecundity is low which is largely at the oldest

and youngest ages. The decline in contraceptive practice at older ages is also a consequence of diminished coital frequency at older ages. Age, through its close association with the number of children a woman has borne is expected to influence contraceptive use. Young women are less likely to have attained their desired family sizes hence less probable to practice contraception. The peak of the curve differs from one country to the other.

Lutalo et al (2000) found wife's age to be significantly related to contraceptive use in Uganda. The odds of using contraceptives among women aged 20-29 were 2.1 times those of women aged 15-19 years. The odds of those aged 30-39 years and those 40 or over, were 2.3 and 1.3 times respectively relative to women aged 15-19 years.

Husband's approval of contraceptive use is a factor influencing contraceptive adoption that has largely been ignored. However, Joesoef et al (1988) in a study in metropolitan Indonesia where attention was on five cities: Jakarta, Semarang, Surabaya, Ujung Padang and Medan, husbands approval was found to be the strongest determinant of contraceptive use followed by the number of living children and wife's education.

Among women who desired to have no more children, 17.4 percent and 27.8 percent of contraceptive non-use in Medan and Jakarta respectively was attributable to husband's disapproval. Approval by the husband has been shown to improve the utilization of family planning services and success of family planning programs (Joesoef et. al., 1988 c. f. Cook and Maine, 1987). Husbands' involvement is important in all stages of contraceptive use,

such as the decision to seek contraception, type of contraception used and the length of **contraceptive** practice (Joesoef et. al **1988** cf. **IPPF; 1984**).

In rural Ghana, the Danfa family planning project revealed that half of the fertility reduction might have been due to husband's involvement in family planning (Joesoef et. al 1988 c. f. Lamprey, 1978). In the Philippines, husband's acceptance of contraceptive played a major role in the decision to seek contraceptives and in the continuation rate of contraceptive practice (IPPF, 1984). Most cultures do support the dominant role of the husband in decisions regarding family life. It is due to this fact that husband's approval plays an important role in the decision to practice contraception.

Child death experience has been shown to be negatively associated with contraceptive practice. This factor affects contraceptive use through two avenues; one behavioral while the other is biological. At the behavioral level, there is the tendency of the parents to replace the child who has died, in this scenario, contraceptive use would be negated. At the biological level, loss of a child at infancy curtails breast-feeding therefore, there is sooner return of menses as amenorrheic effect of breastfeeding is neutralized. This might necessitate contraceptive use (Davanzo \$96).

In peninsular Malaysia, Davanzo et al (**1996**) found a negative and highly significant coefficient for the child-death variable for all the contraceptive methods in the study. Njogu (**1991**) however argues that, the relationship between child loss and contraception offers mixed results. While most studies show low probability of contraception among women who



have had a child loss, others argue that, prior child loss may be a sign of unmet need for contraception. According to this view, child death is often caused by intentional neglect, as the births were unintended. Consequently, the women who have previously experienced a child loss are more motivated to practice contraception than those who haven't had such experience.

The proximity to a family planning service outlet is expected to influence contraceptive use. This is through information on contraceptives that are available to the couples. Time and monetary costs of fertility regulation are also expected to have some impact (Davanzo et al 1996).

Guilkey and Susan (1997) in a study in Zimbabwe however came up with contradictory findings. Current access to all types of fixed health facilities with family planning services had no significant impact on the use of modern contraceptives. The presence of a community based distribution point however significantly increased use of modern contraceptives especially the pill relative to no method.

A respondent's employment status is shown to be associated with contraceptive use in several studies. The expectation is that, where there is a significant cost element, the use of certain methods may be hampered by a lack of effective demand (Davanzo et al 1996).

Miles-Doan in a study of the Philippines found significant difference across types of employment with regard to contraceptive use. Wage earners in white-collar jobs and self-

employed women were significantly more likely to have adopted a method of contraception. This is as opposed to respondents, who were not employed for pay. Studies by United Nations Fund for Population Activities (UNFPA) show consistent positive relationship between contraceptive use and wife employment. In a Columbian study, employed ever users were 63 percent compared to unemployed ever users who were 52 percent

The type of employment affects contraceptive use through the opportunity cost of child bearing and rearing. As a result, white collar employees are most inclined to use contraceptives because the nature of their job entails significant investment in human capital, therefore being out of work would entail significant loss, secondly, their work is normally away from home and is incompatible with child rearing.

The desire of a couple to have additional children is a factor that influences contraceptive use. The anticipation would be higher levels of contraceptive use among couples that have attained their desired family sizes and lower levels of contraceptive use among those who haven't attained their family size targets. This scenario would be witnessed especially within countries where contraceptive use is practiced largely for family limitation as opposed to child spacing. \*

Guilkey and Susan (1997) found that 65 percent of Zimbabwean women who wanted to delay their next births by more than one year were practicing contraception, contrasted with only 25 percent of the women who wanted to have a child in less than two years. Of those who wanted to have no more children 57 percent were using a method of contraception.

In Uganda's Rukai district, women who wished to delay their next birth by two or more years or to terminate child bearing altogether had higher contraceptive user rates than the women who desired to have a child in less than two years (Lutalo et al 2000).

## **2.2 Studies in Kenya**

Kenya has a fairly high CPR compared to other east and southern Africa countries. When compared to the other Sub-Saharan Africa countries where DHS surveys have been conducted, Kenya's level of contraceptive use is exceeded only by Zimbabwe and South Africa (NCPD and CBS 1998). The CPR for Kenya has increased markedly since the early 1980s from 10 percent in 1984 to, 18 percent 27 percent and 32 percent for modern methods in 1989, 1993 and 1998 respectively.

Differentials however exist by place of residence with use being higher in urban than in the rural areas. Provincial differentials are also observed with modern method use highest in central and lowest in coast with percentages of 55 and 20 respectively. Differentials by level of education are also witnessed with higher rates of use associated with higher levels of education. Use varies from 16 percent among those with no education to 46 percent among those with secondary education or higher. The number of living children a woman has also influences contraceptive use.

It has been observed that, women are increasingly adopting contraception at earlier ages and much lower parities. According to the 1998 KDHS, only 3.0 percent 2.1 percent and 3.1 percent of the cohorts aged 45 - 49, 40 - 44 and 35 - 39 had used contraception at parity

zero. On the other hand, 64 percent, 41 percent and 32 percent of those aged 15 - 19, 20 - 24 and 25 - 29 had ever used contraception at parity zero, this shows a greater demand by women to space their children.

Education has emerged as an important determinant of contraceptive use in Kenya (Njogu 1991, Ikamari 1985 and Keraka 1991). Using the 1977 - 8 KFS data, Njogu (1991) found that education had statistically significant effect on contraceptive use even after controlling for other covariates. Women with more than nine years of schooling were almost nine times as likely to use contraception, as were women with no education. In 1989 however, utilizing the KDHS data, the effect was less strong but still significant implying that women with less or no education were increasingly embracing contraception.

Age of a respondent has been shown to be an important determinant of contraceptive use in Kenya. Ouchó and Ayiemba (1989) argue that centrality of age in contraceptive analysis lies in the fact that it determines the entry and exit of reproductive risk. It also determines the degree of exposure to contraceptives. In their study, the two researchers found that

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contraceptive use was least amongst older women to which end they advanced the following reasons: -

- (i) Women of parity four or more were relatively older, belong to a generation within which the levels of illiteracy were high and resentment towards use of contraception was widespread.

(ii) These women by virtue of their generation subscribed to fertility regulation as dictated by social-cultural norms of reproduction.

Studies by Mungai (1986), Njogu, (1991), Keraka (1991) have all found age to be a determinant closely associated with contraceptive use with the peak of contraceptive use within the age-group 30 - 34 years while 15-19 and 45 and above age groups bring the rear.

In Kenya, as in most other parts of the world, the number of living children is positively correlated with contraceptive use. Jolly and Brass (1993) found that current contraceptive use rose from 4.6 percent among women of zero parity to 16.8 percent among women with 1 living child, 24.2 percent among women with 2 children, 28 percent and 31 percent respectively among women with 3 and 4 living children respectively. Other studies that found number of living children to be a key determinant of CPR include (Mungai 1986, Njogu 1991, Keraka 1991).

Fertility intentions do turn out to be significant factors influencing contraceptive practice in Kenya. Those desiring to have additional children show lower propensity to use contraceptive as opposed to those who desire no additional children who adopt contraception for purposes of limiting child bearing.

Njogu (1991) found that even after controlling for other factors desire for no more children still had significant effect on decision to adopt contraception. The odds of contraception among women who want no more children were triple those among women who wanted to have additional children.

The type of place of residence within the rural/urban dichotomy exhibits significant differentials in CPR in Kenya. Njogu (1991) found higher use among urban respondents. This could be a result of desire for large families in rural areas and a higher concentration of medical facilities in urban areas.

As expected, studies show a negative association between child mortality and contraceptive use. Mothers who had experienced at least one child loss had contraceptive use rates that were less than half the rates among those who had not had such a loss (Njogu 1991). Keraka (1991) also found negative correlation between child death experience and contraceptive use. These findings are consistent with a desire to replace dead children as well as insure against possible future losses.

Employment statuses of the respondents show no consistent results. Most studies however show at best a weak effect of employment on contraceptive use. Mungai (1986) found the work status variable had negative correlation both for those working as well as for those not working. She however felt that the respondents might have misunderstood the concept work as it had been specified in the questionnaires. Njogu (1991) and Ikamari (1985) found the variable to be insignificant in their studies.

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### **2.3 Conceptual framework**

This study is premised on Bongaarts (1984) proximate determinants of fertility model. The model identifies nine proximate determinants that affect fertility outcomes directly. These are:

- (1) Percentage of women in sexual unions
- (2) Frequency of sexual intercourse
- (3) Post-partum amenorrhea

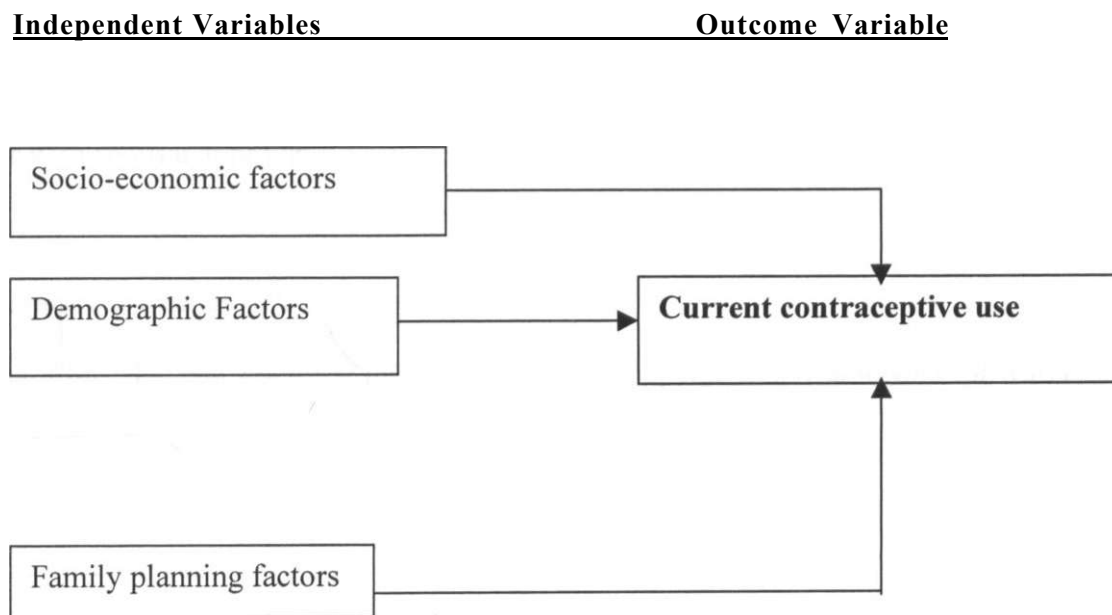


proximate determinant. Demographic factors are included as literature reviewed points their central role in contraceptive use. In the same vein, some of the social-economic factors are omitted in the study owing to the paucity of the data set used that didn't capture some of the factors.

#### 2.4 Conceptual framework in the study

The conceptual statement of the study is that, demographic, Socio-economic and family planning factors influence current contraceptive use. This can be presented in a framework as below:

**Figure 2.1 Conceptual framework in the study**



Source: **Suggested by the author**

From the above framework, conceptual hypotheses can be formulated as below:

- (i) Socio - economic factors are likely to influence contraceptive use.



Demographic factors are likely to influence contraceptive use

Family planning factors are likely to vary directly with contraceptive use.

#### **2.4.1 Definition of concepts**

**Social economic factors:** - In the study this refers to factors that have the effect of either lowering or increasing the subjective and or economic costs of fertility regulation. In the study, these include occupational and educational attainment as proxies.

**Demographic factors:** In the study these include all variables that have a bearing on the family size of respondents.

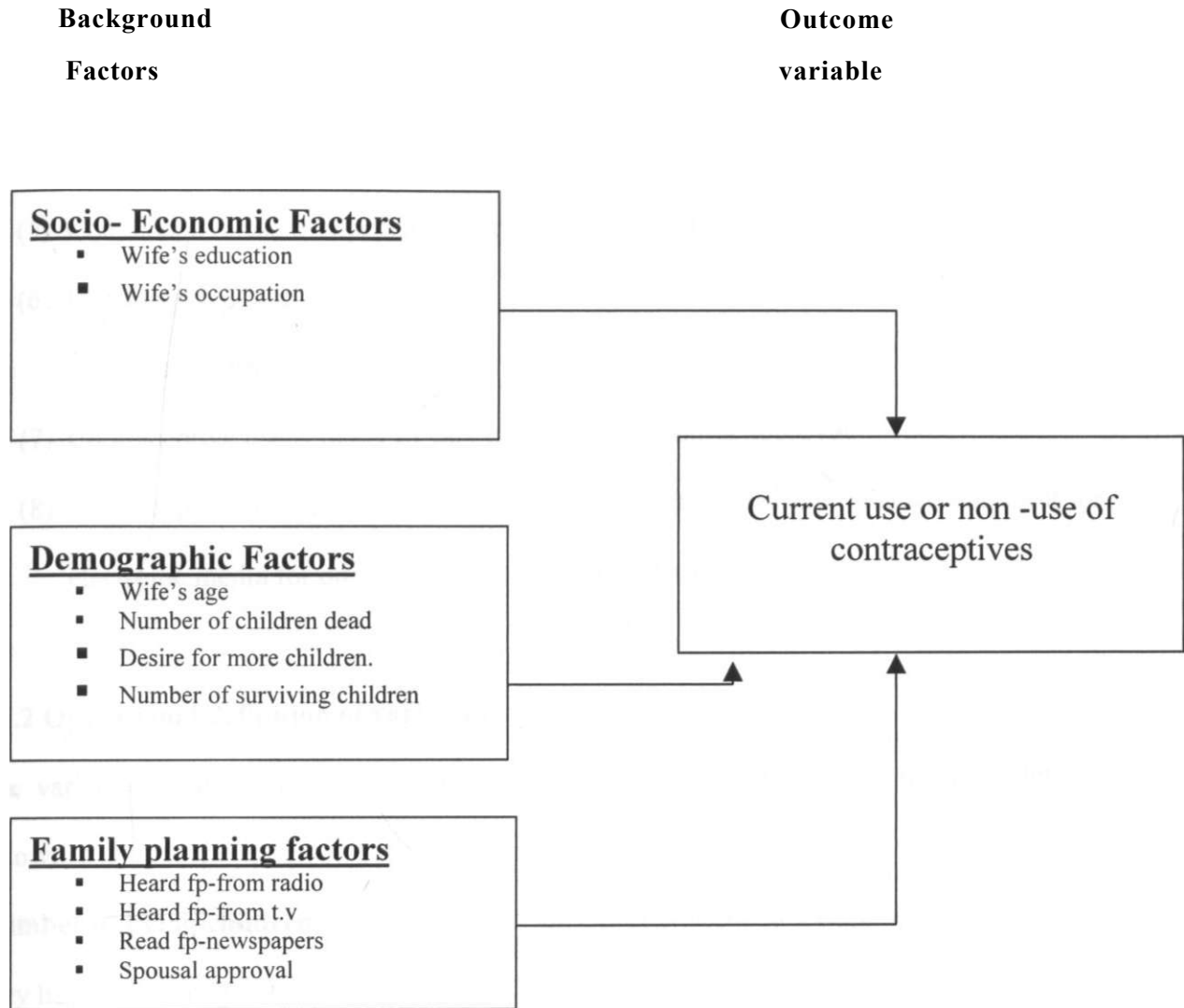
**Family planning factors:** Refers to the regular source of family planning information together with spousal approval.

#### **2.5 Operational framework**

Deriving from the conceptual framework above, an operational framework of variables measured in the study is presented in figure 2.2 below

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Figure 2.2 Operational framework



Source: suggested by the author

### 2.5.1 Operational hypotheses

Deriving from the above framework, operational hypotheses are formulated giving expected direction of effect on the dependent variable.

- (1) Likelihood of contraceptive use increases with the number of living children that a woman has.

- (2) Contraceptive use is likely to vary inversely with the number of child deaths that a woman has experienced.
- (3) Contraceptive use is likely to vary directly with the age of a respondent
- (4) Contraceptive use is likely to vary inversely with ones desire for more children.
- (5) Contraceptive use is expected to vary directly with a respondent's level of education.
- (6) Contraceptive use is likely to be positively influenced by participation in work outside the home.
- (7) Contraceptive use is likely to vary directly with spousal approval.
- (8) Contraceptive use is likely to be positively influenced by reliance on print or electronic media for ones family planning information.

### **2.5.2 Operational definition of variables**

The variables used in the operational framework shall be understood to mean as defined below:

**Number of living children:** - the total-surviving children borne to a respondent. In the study they have been categorized in to 0, 1-4, and 5 or more children.

**Desire for more children:** -refers to whether one intends to have an additional child /children. \*

**Age** - captures a respondent's completed number of years It is categorized in to 3 i.e. 15-24, 25-34 and 35 or more years.

**Number of children dead:** refers to live births that have subsequently died.

**Education level:** Is the highest educational attainment by a respondent. It's categorized in to no education, primary education and secondary or higher.

**Occupation:** shows the work status of a respondent. It's split in to either working, which refers to one engaged in work outside home and not working i.e. those engaged only in work within the home.

**Spousal approval:** refers to husbands stand with regard to contraceptive use. One either approves, disapproves or the wife is not clear as to the spouse's stand.

**Radio, television or newspaper listener-ship viewer-ship and reader-ship** respectively refer to whether or not one heard or read family planning messages from electronic and print media respectively.

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## CHAPTER THREE: METHODOLOGY

### 3.0 Data source

In this study, the 1998 KDHS data set is used. The KDHS was a representative national survey aimed at collecting information on levels and trends in fertility, family planning knowledge and use, infant and child mortality and other maternal and child health indicators. The entire Northeastern province as well as Samburu and Turkana districts in Rift-Valley province together with Isiolo and Marsabit districts in Eastern province were excluded. However, together they consist of only about 4 percent of the total Kenyan population hence their exclusion is not expected to influence the results substantially.

### 3.1 Sample design

A two-stage sample design was used consisting of 536 sample units (clusters) six of which were not surveyed on grounds of inaccessibility-about 1 percent. The CBS made a household listing in each of the selected clusters. A systematic sample of households was drawn: 22 households per urban cluster and 17 households per rural cluster, giving a total of 9,465 selected households. All women aged 15-49 years in these households were eligible. Every second household was included in the male sample and in those households all men aged 15-54 years were eligible for interview.

Three types of questionnaires were used, i.e. women's questionnaires, household questionnaires and men's questionnaires. Of the total 9,465 households selected for inclusion 8,661 were occupied hence eligible for interview and interviews were conducted successfully in, 8,380 of these households giving a response rate of 97 percent. In these household

interviews, 8,233 eligible women aged 15-49, were identified of which 7,881 were successfully interviewed giving a response rate of 96 percent

The analysis conducted in the study includes respondents from Central and Coast provinces only. In Coast province, there were 711 married women aged 15-49 years, while the corresponding for Central province were 468 respondents bringing the total to 1,179. However the analysis excludes those women who were pregnant at the time of survey, those declared infecund or sterilized giving an effective sample of 405 in Central and 601 for Coast.

### **3.2 Categorization of Variables in the study**

All the variables used in the study are categorical. They have been categorized as shown below.

Current contraceptive use - this is the dependent variable, coded as 1 if one is using 0 otherwise.

Below are the independent variables, which are all categorical.

#### **Grouped ages -**

15-24 the reference category

25-34 and 35 and above

#### **Number of living children -**

None- the reference category

1-4 children

5 or more children

#### **Number of children dead -**

None - Reference

One or more children

**Desire for more children -**

Wants more - reference

Wants no more children

**Occupation -**

Not working - reference

Working

**Education level**

None - reference

Primary

Secondary or higher

**Spousal approval -**

Disapproves-reference

Approves use

**Received FP from radio**

No - reference

Yes +

**Received FP through TV**

No - reference

Yes

## **Read FP from newspapers**

No - reference

Yes

### **3.3 Methods of analysis**

#### **3.3.1 Frequency distribution**

This was the first level of analysis .It provided a description of how the dependent and independent variables are spread in the two provinces along the variables of interest. Simple percentages are made use of.

#### **3.3.2 Cross -tabulation**

Cross tabulations are used at the bivariate level of analysis. Bivariate analysis involves two variables whose relationship one seeks to establish. Cross tabulation is a contingency distribution in which two nominal scale variables are cross -classified. As cross-tabulations show the frequency distributions according to each category of the variable, they are vital tools in comparisons. Together with cross-tabulations, the chi-square statistic is incorporated as a measure of statistical significance of association between the dependent and independent variable. The chi -square ( $X^2$ ) gives the probability value by which the observed values deviate from what is expected. This gives the probability that the two variables are independent of each other.

It is especially important in testing of statistical hypothesis. In this task a set of hypotheses is formulated. The null or  $H_0$  posits that there is no statistical significance in association between the two variables while the alternative hypothesis or  $H_i$  proposes that a statistical



significance exist. It is when we are able to reject the  $H_0$  that we accept the alternative hypothesis. This is done if the probability value is lower than a certain set alpha value say  $\alpha = .05$ . On the other hand, if the p-value is greater than the set alpha value the alternative hypothesis is rejected and the null accepted.

### **3.3.3 Computation of Chi-square**

Below is how the chi-square is computed:

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where:

$\Sigma$ -Is the Greek letter sigma standing for sum of

O-Observed outcome

E- Expected outcome

The main shortcoming of the chi-square is that it only shows presence or absence of a relationship but gives neither the magnitude nor direction of the effect.

### **3.3.4 Multivariate analysis: logistic regression**

Unlike bivariate analysis that involves only two variables, multivariate analysis involves two or more independent variables simultaneously acting on the dependent variable. It gives both the magnitude as well as the direction of effect. In this study, the logistic regression method is used. Since the dependent variable is dichotomous that is current use or non-use.

The basic logistic function takes the form:

$$P_x = \frac{1}{1 + e^{-z}}$$

Where:  $p_x$  -is the probability of experiencing the event (dependent variable)

e-Base of the natural logarithms equal to 2.718

Z-Predictor (independent variable)

The equation above is used when one is dealing with only one independent variable. When more than one independent variable is involved the multivariate function which takes the form below is used :

$$P = \frac{e^{b_0 + b_1 X_1 + b_2 X_2 + \dots + b_k X_k}}{1 + e^{b_0 + b_1 X_1 + b_2 X_2 + \dots + b_k X_k}}$$

Where

$P_x$ . is the probability of experiencing the event (dependent variable)

e- Base of the natural logarithms equal to 2.718

$b_0$ - the y intercept

$b_1, b_2 \dots b_k$  -the coefficients of the explanatory variable

$X_1, X_2 \dots X_k$  -are the independent variables

The equation implies that the probability 'p' of the occurrence of the dependent event depends on the independent variables  $x_1, x_2 \dots x_k$ . Applying a logit transformation of the logistic model transforms it into a linear form. The above model is thus transformed into the form:

$$\ln \frac{p_x}{q_x} = B_0 + B_1 X_1 + B_2 X_2 + \dots + B_k X_k$$

Where:

$q_x = 1 - p_x$  and refers to the probability of the dependent event not occurring.

### 3.3.5 Interpretation of the logistic regression results

The most straightforward way of interpreting the results is in terms of the odds of an event occurring which is computed as:

$$\text{Odds} = (\text{Probability of event} / \text{Probability of no event}) \\ = \text{Exp} (\beta_0 + \beta_1 X_1 + \dots + \beta_k X_k)$$

Where;

$\beta_i$  is the factor by which the odds change when the  $i^{\text{th}}$  independent variable changes by one unit. The odds will remain unchanged if  $\beta_i$  is '0'. If the factor is negative, the change will be less than 1 and if  $\beta_j$  is '0' the odds remain unchanged. A one unit change, in the predictor variable  $X_i$  holding other factors constant multiplies the odds of experiencing the event by the factor  $e^{\beta_i}$ . In a situation where the independent variable is categorical, the interpretation of the results is done relative to the reference category. The odds of experiencing the event therefore are the exponentiated beta times less or more than the reference category.

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## **CHAPTER FOUR: DISTRIBUTION OF STUDY POPULATION BY SELECTED CHARACTERISTICS IN COAST AND CENTRAL PROVINCES**

### **4.0 Introduction**

This chapter presents the results of descriptive statistics, that is frequencies in the two study regions as a basic level of analysis. This is presented in section 4.1. Subsequently, associations between the dependent and demographic variables, Socio-economic variables and finally the family planning variables are presented in section 4.2. The chi-square statistic is used as a measure of statistical significance of association between the dependent and independent variables. An association is considered significant if it meets the 5 percent level of confidence hence a p value not more than 0.05.

### **4.1 Characteristics of the study population in Central and Coast provinces**

Table 4.0 below gives the distribution of the dependent and independent variables in the study region of central and Coast provinces. The Central sample had 405 respondents while the Coastal one had 601 as earlier indicated. Sixty five percent of central respondents were using contraception while in coast the corresponding proportion was only 27 percent.

The distribution of respondent by grouped ages doesn't show much difference in the two regions. It's noteworthy however that the coastal sample is relatively younger. While only 21 percent of central respondents are 24 years and below, 30 percent of coastal respondent fall into this bracket. Those aged 25-34 and 35 or over are, 43.2 percent and 35.8 percent while in coast they are 37 percent and 33 percent respectively. Concentration of central respondents is hence within age range associated with highest contraceptive need.

Higher percentages of central respondent have living children in the range of 1-4 while only 5 percent had no children. Those with 5 or more children accounted for 24 percent of the sample. In coast, higher percentages of respondents were child-less or had five and above children at 8 percent and 27 percent respectively. This gives the impression of the small family norm having been more established in central than at the coast.

Child deaths appear more prevalent in coast than in central. While 88 percent of central province respondents had had no child loss and 12 percent had lost 1-2 children, in coast the percentage with no child loss was 74 percent while those who had experienced 1 or more child losses was 26 percent.

Desire for more children is appreciably higher in coast than central province. Thirty seven percent of respondents in central reportedly desired additional children, while in Coast this was 53 percent. Similarly, 59 percent of respondent in central didn't want any additional children compared to 43 percent in Coast.

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**Table 4.0 Percentage distribution of the study population by selected characteristics**

VARIABLE	CENTRAL		COAST	
		%		%
Current use				
Use		64.9		26.6
Non use		35.1		73.4
<b>(1) Demographic factors</b>				
<b>(a) Grouped ages</b>				
15-24		21		30.1
25-34		43.2		36.9
35-49		35.8		32.9
<b>(b) No of living children</b>				
0		5.2		7.8
1-4		71.1		65.2
>5		23.7		27.0
<b>(c) No of dead children</b>				
0		88.4		74.4
1 or more		11.6		25.6
<b>(d) Desire for more children</b>				
Wants more		37.3		52.7
Undecided		4.0		4.7
Wants no more		58.8		42.6
<b>(2) Socio-economic factors</b>				
<b>(a) Respondents Occupation</b>				
Not working		53.6		60.6
Working		46.4		39.4
<b>(b) Education attainment^</b>				
None		4.4		32.8
Primary		63.5		43.8
Secondary/higher		32.1		23.5
<b>3) Family planning factors</b>				
<b>(a) Spousal approval</b>				
Disapproves		16.0		51.4
Approves		84.0		48.6

<b>(b) Received FP from radio</b>		
No	40.3	46.3
Yes	59.7	53.7
<b>(c) Received FP from TV</b>		
No	85.1	76.0
Yes	14.9	24.0
<b>(b) Received FP from newspaper</b>		
No	73.1	71.7
Yes	26.9	28.3
	Total %=100	Total %=100
	N=405	N=601

Forty six percent of central respondents were working compared to 39 percent in coast.

Comparison of the education attainment of respondents in the two provinces show that, in Central, 4.0 percent of respondents had no education while those with primary level accounted for 64 percent of the sample and 31 percent had secondary or higher level of education. On the other hand, Coast province had 33 percent of the respondents with no education, while 44 percent and 24 percent had primary and secondary level respectively. This is consistent with the expectation whereby education is supposedly positively associated with contraceptive use and Central respondents would be expected to be more educated proportionately.

Spousal approval of family planning is higher in central than in Coast province. Eighty four percent of the respondent had spouses who approved use of FP in central compared to only 49 percent in Coast. Disapproval was at 16 percent in central against 51 percent in coast.

Respondents who reported having received family planning messages through the radio accounted for 60 percent of the respondents in central while corresponding percentage for

coast was 54 percent. Television as a source of family planning information, more respondents relied on this medium in coast than central with percentage of 15 and 24 for the respective regions. Finally, almost equal percentage reported newspapers as their source at 27 percent and 28 percent for Central and Coast respectively.

#### **4.2 Differentials in contraceptive use in Central and Coast provinces**

As table 4.1 below shows, the association between age and current contraceptive use is statistically significant at 5 percent level of confidence in Coast but not in Central province. As expected, user rates are highest in the age category 25-34 in both regions. In Central 67.4 percent of respondents aged 25-34 were using contraception compared to 67.1 percent and 60.7 percent among those aged 15-24 and 35-49 respectively. Similarly in Coast those aged 25-34 had user percentages of 34.2 compared to 23.2 percent and 21.2 percent for those aged 15-24 and 35-49 respectively. The percentages of use among those aged 15-24 may be due to the fact that they haven't as yet attained their family size desires. Similarly, those who were aged 35 years and above, are associated with greater adoption of traditional practices which are less receptive to contraceptive use.

In both regions, respondents with one to four (1-4) surviving children had the highest percentages of current contraceptive use. This is relative to those who were childless and those who had five or more children. Number of surviving children is significantly associated to current contraceptive use in both regions at 5 percent level of confidence. Seventy three percent of respondents who had 1-4 surviving children were using contraception in central compared to 14.3 percent and 52.1 percent for those who were childless and those with five



or more children. Similarly, in Coast 31.9 percent of those who had 1-4 children were using contraception compared to 4.3 percent and 20.4 percent among those who were childless and those with five or more children respectively. This is consistent with expectation whereby those who had at least a child would be in need of either spacing or limiting their child bearing while those with 5 or more children might be faced with diminished fecundity or shun family planning altogether

Contraceptive use varies with number of children dead in both regions. The association is statistically significant only in Coast. In both regions the associations are in the expected direction where child loss lowers contraception usage. In Central province 66 percent of respondents who had not lost any child were using contraceptives compared to 55 percent among those who had experienced at least one child loss. In Coast province, 30 percent of respondents with no child dead were using contraceptives compared to 17 percent among those who had at least one child dead. Child death experience is much less prevalent in Central that may explain the lower likelihood of the need to replace and or insure against future child loss.

Contraceptive use varies in the expected direction with respondent's desire for more children. The association is however significant only in Coast province. Sixty percent of respondents in central province who desired to have more children were using contraception compared to 69 percent of those who wanted to have no more children

In coast, 23 percent of those who wanted to have more children were using a form of contraception method compared to 31 percent among those who wanted no more children.

Those desiring to have more children would not be expected to use contraception, as this would be inconsistent with their intentions.

**Table 4.1: Differentials in contraceptive use in Coast and Central Provinces**

VARIABLE	%	CENTRAL		%	COAST	
		d.f	Sig		d.f	Sig
<b>(1) Demographic factors</b>						
<b>(a) Grouped ages</b>						
15-24	67.1			23.2		
25-34	67.4	2	.408	34.2	2	.005
35-49	60.7			21.2		
<b>(b) No of living children</b>						
0	14.3			4.3		
1-4	72.9	2	.000	31.9	2	.000
>5	52.1			20.4		
<b>(c) No of dead children</b>						
0	66.2			30.0		
>1	55.3	1	.142	16.9	2	.002
<b>(d) Desire for more children</b>						
Wants more	59.9			23.3		
Wants no more	68.5	2	.074	31.3	2	.027
<b>(2) Socio-economic factors</b>						
<b>(a) Respondents occupation</b>						
Not working	62.7	1	.305	23.9	1	.061
Working	67.6			30.8		
<b>(b) Education attainment</b>						
None	33.3			8.6		
Primary	61.5	2	.000	29.3	2	.000
Secondary/higher	76.2			46.8		

**Family-planning factors**

**(a) Spousal approval**

Disapproves	23.1	2	.000	7.1	2	.000
Approves	72.9			47.4		

**(b) Received FP from radio**

No	54.6			17.3		
Yes	71.8	1	.000	34.7	1	.000

**(c) Received FP from TV**

No	62.4	1	.017	20.8	1	.000
Yes	78.3			44.1		

**(b) Received FP from newspaper**

No	61.9	1	.055	19.2	1	.000
Yes	72.2			44.6		

**Note:**

Sig - Significance

d.f - degree of freedom

Contraceptive use is associated with work status of a respondent in the expected direction in both regions that is working respondents have higher user percentages than their non-working counterparts. In neither of the regions however is the association statistically significant. Sixty-three percent of Central province respondents who were not working were currently using contraception compared to 68 percent of their working counterparts. In Coast there were 24 percent and 31 percent contraceptive users among those who weren't working and those who were working respectively.

Education attainment is significantly associated with contraceptive use in both regions at 5 percent level of confidence. The direction of association is as expected with percentage of use highest among those with secondary or higher level of education. In Central, 33.3 percent of those with no education were using contraception and 62 percent of those with primary education while 76 percent of those with secondary or higher levels were practicing contraception. In Coast province, user percentages range from 8.6 percent among those with no education, 29 percent among those with primary level of education to 47 percent among those with secondary or higher level of education.

Spousal approval was a statistically significant variable in both regions. Seventy three percent of respondents whose spouses approved use of contraception were using contraception compared to only 23 percent among those whose spouses disapproved in Central. The variable is significantly associated with contraceptive use at 5 percent level of confidence.

In Coast, 7.1 percent and 47.4 percent were the proportions using contraception among respondents whose spouses disapproved and whose spouse's approved respectively.

Reliance on radio for family planning messages was significantly associated with contraceptive use in both regions. The associations are in the expected direction with those who had received family planning reporting higher user proportions. In central, 72 percent of the respondents who had received family planning messages from radio were using contraception compared to 55 percent among those who hadn't. In coast on the other hand,

more or less the same is observed. Seventeen percent of those who hadn't received family planning information from the radio were using contraception compared to 35 percent among those who had.

Television as a source of family planning information is also significantly associated with contraceptive use in both regions. Seventy eight percent of respondents who had received family planning information through the television in Central province were using contraception compared to 62 percent among those who hadn't. In coast 44 percent of those who had television as the source of family planning information were using contraception compared to 21 percent of those who hadn't.

Lastly, newspaper as the source of family planning information was significantly associated to contraceptive only in Coast Province. Seventy two percent of the respondents who reported this medium were using contraception in central compared to 62 percent of those who weren't. In Coast, 45 percent of those who had read family planning messages on the print media over the six months prior to the survey were using contraception compared to 19 percent among those who hadn't.

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The above bivariate results show that apart from the work status variable, all the other variables are statistically significant in Coast province. These would therefore be expected to be significant at the multivariate level. In Central province however only level of education, number of living children, spousal approval and the communication variables were found to

be significant. Similarly these are the ones expected to emerge significant at the multivariate level.

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## **CHAPTER 5: DETERMINANTS OF CURRENT USE OF CONTRACEPTIVES**

### **5.0 Introduction**

This chapter gives a presentation of the logistic regression results by province. The results of central province are given first in section 5.1 followed by results of coast in section 5.2. The table 5.0 gives a summary of the regression model for the two regions. Interpretation of the logistic results is by use of exponentiated beta values whereby, respondents in a certain category of a variable will be a number of times as likely to use contraceptive as the reference category. The category that has the least probability of using contraception according to the literature is chosen as the reference category. At the end of the chapter a comparison of the determinants in the two regions is provided.

### **5.1 Determinants of current contraceptive use in Central province**

As table 5.0 below shows, in central province, age is not a significant determinant of contraceptive use. Respondents aged between 25-35 years and those aged 35 and above are both 0.6 times as likely as those in the 15-24-age category to use contraception.

The number of living children that a respondent has is a significant determinant of contraceptive use in central province. Respondents who had between one and four children, were thirteen (13) times as likely to use contraception as their counterparts who had no children. Those with five or more children were six times as likely to use contraception as were women who had no children. This finding concurs with studies undertaken elsewhere. Mamlouk (1982) found that in Korea, women with two children were twice as likely, as were

women with only one child to be using contraceptives. Likewise, in Bangladesh and Fiji, contraceptive use increased with the number of living children.

Converse results have however also been obtained. In Thailand, Colombia and Dominican Republic, use levels tended to decline somewhat as the number of children increased. The possible explanation for this is greater embrace of traditional attitudes among higher parity, older women who might be more conservative and shun contraceptive use altogether.

Child loss experience is not a significant determinant of contraceptive use in central. Those who hadn't experienced any child death were 0.89 times as likely to use contraceptives as those who had experienced at least one child loss. This finding is inconsistent with literature and studies conducted by others. The lack of significance of this determinant might be due to the fact that child mortality in central is quite low. Secondly desired family size is also low and as such the otherwise expected replacement effect that would be expected to lower contraceptive usage occurs in very low levels.

Desire for more children is a significant determinant in central province. Those who wanted no more children were 1.80 times as likely to be using contraceptive as those who desired to have more children. This is consistent with what Lutalo et al (2000) found in Rukai district of Uganda where use was highest amongst those who desired to have no more children relative to those who desired more. Njogu (1991) found use to be significantly inversely related to contraceptive use in Kenya.



Work status is not a significant determinant of contraceptive use in central province. The working respondents were however 1.5 times as likely to be current contraceptive users as the respondents who were not working. The direction of effect is in the anticipated direction. Ikamari (1985) also found the variable insignificant.

The level of education of the respondent is not a significant determinant of current contraceptive use as a composite variable. Having primary level of education is not significant either. However, having attained secondary or higher level of education is a significant determinant. Respondents with primary level of education are 2.4 times as likely to use contraception as were those with no education. The category with secondary or higher level of education is 3.7 times as likely as that with no education to be using contraceptives.

Shapiro and Tambashe (1991) argue that better educated women demand fewer children, as they desire higher levels of education for their children, which is costly. However, increased schooling leads to shorter breastfeeding duration and reduced post-partum abstinence, a combination of which leads to greater motivation for fertility regulation. Education, through its contribution to literacy, arguably influence access to information that brings about a broader perspective, Furthermore, socialization associated with education may change attitudes and ultimately behavior patterns. Jonawitz (1987) found in Honduras, women with six or more years of schooling were more likely to be using contraceptives.

Spousal approval is a significant determinant of contraceptive use in central with direction of effect consistent with expectation. Those respondents whose spouses approved contraceptive

use were 6.4 times as likely as those whose spouse disapproved use, to be using contraceptives. This shows, men still influence contraceptive use within marital unions.

Access to family planning information from the radio is a significant determinant of contraceptive use. Respondents who had received such information were 1.7 times as likely as those who hadn't received the information over the six months preceding the survey to be using contraceptives.

Television as the source of family planning information is not a significant determinant of contraceptive use. Those who had received family planning message from this medium however were twice as likely to be using contraceptives as those who hadn't received family planning information through the television.

Newspapers as the source of family planning information are not a significant determinant. The direction of effect is inconsistent with expectation. Respondents who had read family planning information from the print media were 0.93 times as likely as those who hadn't read from the papers to be using contraceptive.

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**Table 5.0: Odds ratios giving the probability of using contraceptives in Central and Coast provinces**

VARIABLE	CENTRAL			COAST		
	B	e <sup>B</sup>	Sig.	B	e <sup>6</sup>	Sig.
<b>(I) Demographic factors</b>						
<b>(a) Grouped ages</b>						
<b>(15-24)</b>						
25-34	.5162 (.3603)	.5968	n.s	.3992 (.2836)	.4906	n.s
35-49	-.5901 (.4514)	.5543	n.s	.2321 (.3832)	1.2613	n.s
<b>(b) No of living children</b>						
<b>(0)</b>						
1-4	2.5915 (.7134)	13.3501	**	2.1034 (.7812)	8.1941	**
>5	1.8425 (.7823)	6.3122	**	1.7947 (.8471)	6.0179	**
<b>(c) No of dead children</b>						
<b>£ 1)</b>						
None	.0881 (.3844)	.8976	n.s	.0690 (.2971)	1.0714	n.s
<b>(d) Desire for more children</b>						
<b>(Wants more)</b>						
Wants no more	.5902 (.3082)	1.8043	**	0.1433 (.2540)	1.1541	n.s
<b>^ Socio-economic</b>						
<b>(a) Respondents occupation</b>						
<b>(Not working)</b>						
Working	.3856 (.2538)	1.4706	n.s	.0843 (.2291)	1.0879	n.s

**(b) Education attainment**

(None)						
Primary	.8780 (.5778)	2.4061	n.s	0.9551 (.3328)	2.5989	**
Secondary/higher	1.3009 (.6223)	3.6727	**	1.1265 (.3824)	3.0850	**

**3)Family planning factors**

**(a)Spousal approval**

(Disapproves)						
Approves	1.8636 (.3463)	6.4470	**	2.0895 (.2698)	8.0808	**

**(b) Received FP from radio**

(No)						
Yes	.5300 (.2534)	1.6989	**	.1328 (.2530)	1.1421	n.s

**(c) Received FP from TV**

(No)						
Yes	.6841 (.4457)	1.9820	n.s	.2453 (.2672)	1.2780	n.s

**(b) Received FP from newspaper**

	-.0718 (.3220)	.9307	n.s	.5217 (.2617)	1.6849	**
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**Notes**

(1) Given at the top of the variable column in parenthesis is the reference category..

(2) In the beta column, in parenthesis are the standard errors of beta.

(3) n.s -not significant

(4) \*\* Significant at 95 %

## **5.2 Determinants of current contraceptive use in coast province**

As has already been stated, this section presents the determinants of contraceptive use in Coast province.

The respondents grouped age is not a significant determinant of contraceptive use. The direction of effect is also inconsistent with expectation. Respondents aged between 25 and 34 years were 0.5 times as likely as those aged 15-24 to be using contraceptives. This could be a function of desire for large families at the same time; respondents in this age group would not have attained their fertility desires. Similarly, respondents aged 35 years and above were 1.3 times as likely to be using contraception, which would be expected. This finding is consistent with what Njogu (1991) Jonawitz (1987) and UNECA (1992) had come to.

The number of living children is a statistically significant determinant of current contraceptive use. The direction of effect is as expected. Respondents with 1 to 4 living children were 8.2 times as likely to be using contraceptives compared to those with no living children. The respondents with 5 or more surviving children were 6 times as likely to be using contraception as those with no child.

The number of children dead is not a significant determinant of contraceptive use in Coast. The direction of effect is however consistent with expectations i.e. an inverse relationship. The respondents who had experienced no child deaths were 1.10 times as likely to be using contraception as those who had had at least one child death.

The respondents' desire for more children is not a significant determinant of contraceptive usage. As expected however, an inverse relationship exists. Those who desired to have no more children were 1.15 times as likely as those who desire to have more children to be using contraception.

Respondents work status is not a significant determinant of contraceptive use in coast Province. Consistent with expectation however is the result that, those respondents who were working were 1.09 times as likely as those who weren't working to be using contraception.

Both levels of education are statistically significant determinants of current contraceptive use. Having primary level of education makes one 2.6 times as likely as those with no education to be using contraception. Similarly, being in the category of secondary and above makes one 3.10 times as likely as one with no education to be using contraception.

Spousal approval is a significant determinant of contraceptive use. The category whose spouses approve contraceptive use is 8.10 times as likely as that whose spouses' doesn't approve to be current contraceptive users.

Having received family planning information through the radio in the six months preceding the survey is not a significant determinant of contraceptive use. However, those respondents

who had received family planning information through the radio were 1.14 times as likely as those who had not been using contraception.

Reliance on television for family planning messages is not a significant determinant either. A positive relationship however does exist with those who had received FP information through this medium being 1.3 times as likely as those who had not to be using contraception.

Relying on the print media for family planning information is a statistically significant determinant of contraceptive use. Those who read from the newspaper information on contraceptive use were 1.7 times as likely as those who hadn't to be using contraction.

### **5.3 Comparison of determinants in the two provinces**

The significant determinants are almost similar in both regions. There are however a few determinants that are significant in one region but not in the other.

The number of living children is a significant determinant in both regions. Desire for more children however is only significant in central province but not in coast. While being in the primary level of education as well as being in secondary or above category is significant determinants in Coast only the secondary and above level of education is a significant determinant in central.

Spousal approval is a significant determinant in both regions but having heard family planning information from the radio is only significant in central while newspaper, as the source is only significant in coast.

The other variables, which include, grouped ages, number of children dead, respondents' occupation, and television as a source of family planning information though significant in at least one region at the bivariate level, are insignificant at the multivariate level.

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## CHAPTER: SUMMARY CONCLUSION AND RECOMMENDATIONS

### 6.0 Introduction

This chapter gives a summary of the study. Subsequently, a conclusion of the findings is given. Finally recommendations for policy and further research are suggested.

The specific objective of this study was comparative examination of the determinants of current contraceptive use in Central and Coast provinces. Choice of the two provinces was due to the fact that they are at the two extreme ends of CPR in Kenya. Central province has a CPR for both modern and traditional methods of 65 percent while coast has CPR of 27 percent

At the univariate level, the frequency distribution of independent variables in proportional terms was in favour of central on variables associated with high probabilities of contraceptive usage. Regarding grouped ages, more respondents in central than in coast were within the age bracket 25-34 years of age. As table 4.10 showed, higher percentages of respondents had 1-4 children, had no child death experiences and desired no more children all attributes associated with higher likelihood of contraceptive usage. Also there were higher proportions of respondents who were working, had at least primary education and whose spouses approved contraceptive use in central than coast province. Similarly, there were higher proportions of respondents who had received family planning information from the radio in central than in coast. The only parameters on which Coast fared better than Central, province in proportional terms were television listener-ship and newspaper reader-ship as sources of family planning information.

At the bivariate level cross-tabulations were used and the chi-square statistic used as a measure of statistical significance. More independent variables were significantly associated with the dependent variable in coast province than in central. In coast, only the occupational status variable was statistically insignificant at  $\alpha = 0.05$ . In central however, the respondents' grouped ages, number of children dead, and reliance on newspapers for family planning information were statistically insignificant besides the occupational variable.

To examine the determinants of contraceptive use in the two regions, logistic regression was used at the multi-variate level. Two logistic regression models were fitted one for each region. All the ten independent variables used at the bivariate level of analysis were included into each model. The enter method of model fitting was used.

Though some variables emerged as significant determinants in one region and not in the other, in most cases, a determinant was significant or insignificant in both regions. The number of living children, respondents' level of education, and spousal approval were significant determinants in both regions. Desire for more children and reliance on radio for family planning information were significant determinants only in central province. Similarly it was only in coast province that reliance on television for family planning information was a statistically significant determinant.

## **6.1 Conclusion**

This study has shown empirically that the two provinces have more in common with regard to determinants of current contraceptive use than they differ in. It has also shown that central

province has a higher concentration of her respondents within those categories that literature credits with higher probabilities of contraceptive use. The significant determinants of current contraceptive use have emerged as number of living children, level of education and spousal approval in both provinces. Additionally, desire for more children and, radio listener-ship, as a source of FP information are significant determinants only in Central while newspapers as a source of FP information is only significant in Coast

## **6.2 Recommendations**

This study has shown that although the two regions studied share determinants of contraceptive use, the impact of each determinant varies by region. It would therefore be advisable for family planning policy formulators to consider regional i.e. micro level population policies each focusing on the different provinces or even districts.

Another recommendation for policy makers has to do with the obvious inter-linkage between contraceptive use and child mortality. Coast province has a higher proportion of its respondents with experience of child loss and this has markedly lowered the contraceptive usage. It is therefore imperative that any attempt at raising contraceptive use not accompanied by or preceded by a drastic decline in child mortality will not work. As such networking among the key players in the realm of population is called for.

A third recommendation is on education attainment of women. Though primary education is an important determinant, the attainment of secondary or higher education comes out as a much more important determinant. Emphasis should therefore be put in bringing up the progression and completion rates of women in secondary education.

Fourthly, focusing on the Coast province, age appears to be a significant determinant. It is noteworthy that higher proportions of coastal women get married fairly early compared to central province. The category of women aged (15-24 years) also happens to have the least probability of contraceptive use. Ways should therefore be explored of encouraging this significant proportion of the sample and by extension the population to be more receptive to contraceptive use. For instance program that are cohort specific can be formulated.

Finally, it has emerged that in both regions spousal approval plays a key role in contraceptive usage. Men should therefore be aggressively targeted in any family planning program, in contraceptive practice.

This study used cross-sectional data that gives a point in time, state of affairs. While this gives a fairly reliable picture of phenomena, it is not wholly accurate where one is dealing with matters as dynamic as contraception. It would therefore be beneficial to carry out a similar study using panel data and see whether these findings can be collaborated.

It is also recommended that studies be done at much smaller levels. As it has been shown that wide variation does exist at the provincial level, so are there bound to be pockets of failure amongst success regions. By focusing at increasingly smaller geographical units, strategies of reaching the hard to reach can be devised.

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