

## SOCIO-DEMOGRAPHIC FACTORS INFLUENCING MODERN CONTRACEPTIVE UTILIZATION AMONG WOMEN OF THE REPRODUCTIVE AGE IN TURKANA COUNTY, KENYA

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*Article Received: 05 May 2024 | Article Revised: 27 May 2024 | Article Accepted: 16 June 2024*

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### ABSTRACT

**Background:** Modern contraception plays a crucial role in safeguarding women's health, offering a range of methods tailored to diverse needs. On a global scale, approximately 1.1 billion women are in need of family planning, yet a significant portion, 172 million, face unmet contraceptive needs, particularly prevalent in developing nations. Despite advancements, Turkana County in Kenya trails behind with a 26.3% gap in contraceptive utilization, largely attributed to sociocultural hurdles. This research centers on socio-demographic determinants impacting contraceptive uptake in Turkana, aiming to tackle distinctive challenges prevalent in the region. **Methodology:** A descriptive cross-sectional design was used, with 360 participants selected through systematic random sampling from registered households. SPSS 21.0 made analysis easier, revealing correlations using frequencies, proportions, and Chi-squared tests. The results were visually presented. **Results:** The study revealed a modern contraceptive utilization rate of 53%. Socio-demographic factors significantly impact modern contraceptive utilization, including age category ( $p < 0.001$ ), occupational status ( $p < 0.001$ ), Monthly income ( $p < 0.001$ ), marital status ( $p < 0.001$ ) and awareness of modern contraceptive ( $p < 0.001$ ). **Conclusion and Recommendations:** The study findings revealed significant socio-demographic influences on modern contraceptive use, with younger age groups, lower-income individuals, unemployed women, married individuals, and smaller family sizes exhibiting higher adoption rates. To address disparities, Turkana County needs to emphasize prioritizing improved access to family planning services, particularly in rural areas, through initiatives like additional health centers or mobile clinics and ensuring a steady contraceptive supply.

**KEYWORDS:** Modern Contraceptive, Contraceptive utilization, Socio-demographic factors, Reproductive age, Turkana County.

## INTRODUCTION

Modern contraception has a good effect on women's health and is a vital part of reproductive health. When fertilization takes place naturally and without interruption (unprotected coitus), when the spermatozoon is capable and mature, conception can happen at any time during the fertile period. However, there are some circumstances where the prevention of unwanted pregnancies is necessary, which can have detrimental effects. Barrier methods (condoms or cervical caps), hormonal methods (the pill), intrauterine devices (IUD), and sterilizations are several types of modern contraception. The strategy is based on the woman's overall health, way of life, and interpersonal interactions.<sup>[1,2]</sup>

According to the United Nations Department of Economics and others<sup>[3]</sup>, there are 1.1 billion women who need family planning (FP), 851 million of whom use contemporary methods, 85 million of whom use traditional methods, and 172 million of whom have unmet needs for contraception. Contraception use among women of reproductive age (WRA) has increased globally in recent decades, although regional improvement has been unequal. Women in developing nations are especially impacted by the global challenge of low contraceptive use.<sup>[4]</sup> Low contraceptive use is linked to a variety of things, such as partner support, peer pressure, peer culture, ethnicity, and age; limited access to services; peer pressure; and peer culture.<sup>[1,5,6]</sup>

In Kenya, women between the ages of 15 and 49 utilized modern contraceptives in close to 44 percent of cases in 2021, whether they were traditional or modern. Implementing programs that address these factors collectively has the potential to shift the utilization rates of modern contraceptives. Kenya has experienced favorable trends in contraceptive use since its independence, with the percentage of currently married women using modern contraceptive methods increasing from 32% in 2003 to 39% in 2008–09, 53% in 2014, and 57% in 2022.<sup>[3,7]</sup> However, many women still experience unintended pregnancies, contributing to Kenya's high maternal and perinatal mortality. Inequities in access to modern contraceptives in Kenya are caused by the differences in characteristics of the population in different geographic areas, such as Turkana County, which falls behind the country's modern contraceptive use rate by 26.3%.<sup>[7]</sup> Targeted approaches need to be employed to address the unique issues that contributed to the slow progress in the utilization of modern contraceptives in the counties where use is suboptimal, such as sociocultural norms, side effects, and health concerns.

Existing literature on contraception in Turkana County is limited, with few studies focusing specifically on the factors influencing contraceptive utilization within this context. While some research has explored sociocultural norms and barriers to healthcare access in rural settings<sup>[1,8,9]</sup>, there remains a significant gap in understanding the intricacies of modern contraceptive use and the healthcare system's role in facilitating or hindering access to these services.

This research aims to address these gaps by delving into the socio-demographic factors influencing modern contraceptive utilization in Turkana County. By identifying specific barriers and challenges within the healthcare system, this study seeks to provide actionable insights for policymakers, healthcare providers, and community stakeholders to improve access to and uptake of modern contraception, ultimately contributing to better reproductive health outcomes in Turkana County and beyond.

## METHODS

**Study design:** This research utilized a descriptive cross-sectional approach to examine modern contraceptive use among Women of Reproductive Age (WRA) in Turkana County. The descriptive cross-sectional design was selected to provide a snapshot of contraceptive utilization at a specific point in time.

**Setting:** The study took place in Turkana County, which was randomly selected from five counties with high rates of unplanned pregnancies and low contraceptive prevalence. The research focused on women who had lived in Turkana for a minimum of nine months to ensure they had sufficient exposure to the local context and health services.

**Participants and sampling technique:** The study population comprised women of reproductive age (15 to 49 years) who had lived in Turkana County for at least nine months. Participants were selected through systematic random sampling from registered households that met defined inclusion and exclusion criteria. Women within the specified age range were eligible to participate if they provided voluntary written consent and were available for an interview. Those who declined to give written consent or were unavailable for interviews during the study period were excluded.

**Inclusion and Exclusion Criteria:** The inclusion criteria targeted women of reproductive age, specifically those between 15 and 49 years old, who agreed to participate. Eligible women needed to be able to communicate independently and answer questions without assistance, except for translation or reading support. Additionally, they must have lived in Turkana for at least nine months. The exclusion criteria ruled out individuals who were unwilling to participate, seriously ill, pregnant, or had sick children.

**Variables:** The main outcome variable of interest was the socio-demographic factors influencing modern contraceptive utilization among women of reproductive age in Turkana County, Kenya.

**Data Sources/Measurement:** Well-structured questionnaires were employed for data collection. Self-administered questionnaires were provided to participants who could read and write, while those who were unable to read and write were interviewed. The questionnaire was translated into Kiswahili and designed to gather detailed information on contraceptive use (yes or no) and healthcare characteristics such as accessibility, availability, and affordability of modern contraceptives, health workers' attitudes towards WRA on modern contraceptive use, and sources of information. The perceived attitude of healthcare providers was measured using a 5-point Likert scale, with results categorized into three groups based on the score (1-2 poor, 3 fair, and 4-5 good). The reliability and validity of the questionnaire were ensured through pre-testing and subsequent adjustments.

**Bias:** To mitigate potential sources of bias, systematic random sampling was used to select participants from registered households that met the inclusion and exclusion criteria, thereby reducing selection bias. Furthermore, efforts were made to protect the privacy and confidentiality of participants' responses, which helped minimize reporting bias.

**Study Size:** The sample size was calculated using Fisher's formula<sup>[10]</sup>, considering a contraceptive prevalence rate of 30.7% from the KDHS 2022<sup>[7]</sup>, leading to a desired sample size of 360 participants.

$$n_0 = \frac{z^2(pq)}{e^2}$$

The sample size was determined using a 95% confidence level and a normal deviation ( $Z$ ) of 1.96. With Turkana's modern contraception uptake at 30.7% ( $P = 0.37$ ), the variability was measured using the proportion of individuals not using it ( $Q = 1 - P$ ). Setting an allowable error range ( $E$ ) of 5% (0.05), the initial estimated sample size was calculated as 327 participants. To accommodate potential non-response and incomplete surveys, the sample size was increased by 10%, resulting in a total of 360 participants.

**Quantitative variables:** Quantitative variables included participants' socio-demographic factors such as age, average monthly income, current marital status, number of births and living children, the highest level of education, and knowledge of modern contraceptive uptake.

**Statistical Methods:** Statistical analysis was conducted using IBM SPSS version 21.0. Descriptive statistics were employed to summarize the data, while inferential analysis utilized Chi-square tests to examine associations between variables, with a significance level established at  $p < 0.05$  and a 95% confidence interval. The analysis considered the sampling strategy, and any missing data were managed using appropriate statistical methods. Sensitivity analyses were performed to validate the reliability of the results.

**Ethical Consideration:** The study received ethical approval from the Kenyatta National Hospital-University of Nairobi Ethics and Research Committee (KNH-UoN ERC) under reference number UP387/04/2023. Furthermore, authorization was obtained from the National Commission for Science, Technology, and Innovation (NACOSTI) with license number NACOSTI/P/23/27693. Prior to data collection, permissions were sought from the County Commissioner of Turkana County and local authorities. Written informed consent was obtained from all participants, and their confidentiality was strictly maintained throughout the study.

## RESULTS

### Distribution of socio-demographic factors (n=360)

The aim of this investigation was to show how respondents' social-demographic characteristics were distributed. Results indicated that the majority fall within the age category of 20-29 years 76 (42.5%), followed by those aged 30-39 years 77 (21.4%). When it comes to occupational status, the highest proportion of respondents are categorized as "Not employed" 231 (64.2%), with "Employed" 65 (18%). Concerning monthly income, the largest group earns " $\leq 1000$  Kshs" 238 (66.1%), while those earning "5000 Kshs and above" make up the second-highest proportion 60 (16.7%). In terms of marital status, "Single" individuals constitute the highest 163 (45.3%), while "Married" participants make up the second-largest group 147 (40.8%). Regarding the number of children, " $\leq 2$ " is the most common category 201 (55.8%), while "3-5" comes next 89 (24.7%). In the education level category, the majority have "Secondary" education 111 (30.8%), followed closely by "Tertiary" education 100 (27.8%). In terms of religious affiliation, "Christian/protestant" is the most prevalent 217 (60.3%), and "Catholic" is the second-highest 118 (32.8%). Finally, in the awareness of modern contraceptives, the majority of respondents are "Aware" 277 (76.9%), while a smaller percentage indicated they were "Not aware" 83 (23.1%). The outcomes are presented in table 1 below.

**Table 1: Participant social-demographic factors (n=360).**

Variables	Respondents	Frequency	Percent
Age Category	≤ 19yrs	76	21.1
	20-29yrs	153	42.5
	30-39yrs	77	21.4
	40-49yrs	54	15.0
Occupational Status	Employed	65	18.1
	Self-employed	64	17.8
	Not employed	231	64.2
Monthly Income	≤ 1000kshs	238	66.1
	1000 – 3000kshs	41	11.4
	3001 – 5000kshs	21	5.8
	5000kshs and above	60	16.7
Marital status	Single	163	45.3
	Married	147	40.8
	Divorced/widowed	50	13.9
Number of Children	≤ 2	201	55.8
	3 -5	89	24.7
	>5	70	19.4
Education Level	Non-formal education	60	16.7
	Primary	89	24.7
	Secondary	111	30.8
	Tertiary	100	27.8
Religion Affiliated	Catholic	118	32.8
	Christian/protestant	217	60.3
	Muslim	17	4.7
	Any other (Hindu, Buddhism, Atheist)	8	2.2
Awareness of Modern Contraceptives	Yes	277	76.9
	No	83	23.1

#### Association between social-demographic factors and uptake of modern contraceptive

The study aimed to assess whether socio-demographic characteristics and the use of modern contraception are associated. Notably, among different age categories, participants aged 20-29 years had the highest contraceptive use (84 participants), followed by those aged 30-39 years (57 participants). A highly significant relationship was found between age category and contraceptive use ( $p=0.001$ ). In terms of occupational status, not employed individuals showed the highest contraceptive use (105 participants), with a significant association between occupation and contraceptive use ( $p=0.001$ ). Participants with a monthly income of  $\leq 1000$  Kshs had the highest contraceptive use (106 participants), and a significant relationship was identified between income level and contraceptive use ( $p=0.001$ ). Marital status revealed a significant association, with the highest contraceptive use among married individuals (112 participants) compared to singles and divorced/widowed respondents ( $p=0.001$ ). However, the number of children did not show a significant relationship with contraceptive use despite those  $\leq 2$  children showing the highest uptake (94) compared to others. Regarding education level and religious affiliation, no significant relationship was found, although participants with tertiary education (60 participants) and Christian/Protestants (112) had the highest contraceptive uptake respectively. Finally, awareness of modern contraceptives had a significant impact on use, with a substantial difference between those aware (176 participants) and those not aware (14 participants) ( $\chi^2=55.814$ ,  $df=1$ ,  $p=0.001$ ). The outcomes are presented in table 2 below.

**Table 2: Association between socio-demographic factors and uptake of modern contraceptives (n=360).**

Variables	Respondents	Current Contraceptive Use		Chi-Value Df P-value
		Yes (n=190=52.8%)	No (n=170=47.2%)	
Age Category	≤19yrs	26 (13.7%)	50 (29.4%)	$\chi^2=26.986^a$ df=3 p=0.001
	20-29yrs	84 (44.2%)	69 (40.6%)	
	30-39yrs	57 (30%)	20 (11.8%)	
	40-49yrs	23 (12.1%)	31 (18.2%)	
Occupational Status	Employed	43 (22.6%)	22 (12.9%)	$\chi^2=213.875^a$ df=3 P=0.001
	Self-employed	42 (22.1%)	22 (12.9%)	
	Not employed	105 (55.3%)	126 (74.1%)	
Monthly Income	≤ 1000kshs	106 (55.8%)	132 (77.6%)	$\chi^2=20.281^a$ Df=3 P=0.001
	1000 – 3000kshs	31 (16.3%)	10 (5.9%)	
	3001 – 5000kshs	14 (7.4%)	7 (4.1%)	
	5000kshs and above	39 (20.5%)	21 (12.4%)	
Marital status	Single	64 (33.7%)	99 (58.2%)	$\chi^2=56.592^a$ Df=2 P=0.001
	Married	112 (58.9%)	35 (20.6%)	
	Divorced/widowed	14 (7.4%)	36 (21.2%)	
Number of Children	≤2	94 (49.5%)	107 (62.9%)	$\chi^2=6.908^a$ Df=2 P=0.32
	3 -5	52 (27.4%)	37 (21.8%)	
	>5	44 (23.1%)	26 (15.3%)	
Education Level	Non-formal education	24 (12.6%)	36 (21.2%)	$\chi^2=6.083^a$ df=3 p=0.108
	Primary	48 (25.3%)	41 (24.1%)	
	Secondary	58 (30.5%)	53 (31.2%)	
	Tertiary	60 (31.6%)	40 (23.5%)	
Religion Affiliated	Catholic	62 (32.6%)	56 (32.9%)	$\chi^2=2.309^a$ df=3 p=0.511
	Christian/protestant	112 (58.9%)	105 (61.8%)	
	Muslim	12 (27.4%)	5 (2.9%)	
	Any other (Hindu, Buddhism, Atheist)	4 (2.1%)	4 (2.4%)	
Awareness of Modern Contraceptives	Yes	176 (92.6%)	101 (59.4%)	$\chi^2=55.814^a$ df=1 p=0.001
	No	14 (7.4%)	69 (40.6%)	

**Modern contraceptive uptake**

The study aimed to identify the current rate of uptake of modern contraceptives among the respondents. The findings showed that more than half, 190 (53%), of the respondents were currently using modern contraceptives, while the rest, 170 (47%), were not using any modern contraceptive method. The findings are depicted in Figure 1 as illustrated below:

**Figure 1: Current contraceptive use (n=360).**

## DISCUSSION

The majority of participants were unemployed and single, and a sizeable portion of them were in the 20- to 29-year-old age range. Additionally, a sizeable percentage of these participants identified as Protestants/Christians, had two or less children, made less than Kshs 1000 per month, had completed their secondary or higher education, and knew about current contraceptive techniques.

The 20-29 age range had a sizeable percentage of participants who used modern contraceptives, and this link was statistically significant. This implies that women between the ages of 30-39 were less likely to take contraceptives than those between the ages of 20 and 29. This propensity may be explained by the idea that many women between the ages of 20 and 29 are in the prime of their reproductive lives, engage in increased sexual activity, and are thus more likely to use modern contraceptives for a variety of reasons, such as avoiding unintended pregnancies and spacing out their births. They might have also been worried about becoming parents too soon or not having a reliable employment to provide for a child.<sup>[11]</sup>

In terms of occupation and the uptake of modern contraceptives, it was discovered that those who were unemployed had a higher likelihood of doing so than those who were working. This may be explained by the fact that women who are unemployed and have low incomes may rely more on contraceptives because it may be difficult for them to sustain a kid without a reliable source of income. They may have used modern contraceptives to reduce their family size or space out their deliveries due to this economic concern.<sup>[12]</sup>

In terms of income, there was a significant relationship between income level and modern contraceptive uptake. The results indicated that individuals earning less than Kshs 1000 were more inclined to engage in contraceptive uptake compared to those earning Kshs  $\geq$  3000. This could be attributed to the fact that individuals with lower incomes may have been more cautious about expanding their families beyond their financial means, while those with better incomes may have desired more children. This observation corresponds with the findings from a study in resource-limited settings in Northwest Ethiopia.<sup>[13]</sup>

The use of modern contraceptives and marital status were strongly correlated. When compared to singles, divorced/widowed people, and married women, the highest uptake of modern contraceptives was shown in married women. This tendency may be explained by the married women in the sample using modern contraceptives more frequently, either to avoid unintended pregnancies or to space out or reduce the number of births, especially in light of the difficult economic circumstances in the nation.<sup>[13,14]</sup>

Concerning the number of children, the results showed that those with  $\leq$  2 children had the highest uptake of modern contraceptives compared to those with 3-5 children. This study found that there was more use of modern contraceptives among young women who did not want more children, possibly because they were concerned about getting pregnant due to the current economic conditions of the country. However, there was no significant relationship with contraceptive uptake. This study contradicts a study conducted by Kungu and others.<sup>[15]</sup>

According to the study, women who had completed higher education were more likely to use contemporary contraceptives than women who had not received any formal education. This might be as a result of the fact that educated women are more likely to understand the financial and personal advantages of family planning, such as

increased independence and marital confidence. It's important to note, though, that education did not show a statistically significant correlation with the usage of modern contraceptives. In contrast, a study on the socio-demographic characteristics and uptake of family planning practices was done in Kakamega County, Kenya.<sup>[16]</sup>

Regarding religion, a majority of the participants identified as Christians or Protestants. Interestingly, despite this large percentage, there was no statistically significant correlation between this and a larger use of contemporary contraception. It's possible that these women found ways to reconcile their religious beliefs with the practical need to manage their family size and well-being. This contrasts with a study conducted in Kakamega County, Kenya, on Socio-Demographic Characteristics and Uptake of Family Planning Practices, which highlighted significant associations between religion, particularly the Catholic Church, and modern contraceptive use.<sup>[16]</sup>

Furthermore, the study also found a strong link between awareness and contraceptives uptake. Participants who were aware of contemporary contraceptives were more likely to use modern contraceptives than participants who were unaware. This is consistent with findings from a study on Factors impacting contraception choice and usage globally<sup>[17]</sup> and implies that reproductive-age women with better knowledge tended to use family planning techniques more effectively.

#### **STUDY LIMITATIONS**

The study's focus was restricted to Turkana Central Sub-County due to security concerns, potentially compromising the broader applicability of its findings across Turkana County.

#### **CONCLUSION**

The results of the study led to the conclusion that a number of socio-demographic parameters, such as age, occupation, income, marital status, and awareness of modern contraceptives, had a substantial impact on the uptake of modern contraceptives. The findings showed that women in the 20–29 age bracket, those with lower incomes, and those without jobs had higher rates of adoption of modern contraceptives. Women who were married and had families of two or fewer members were also more likely to use contemporary contraceptives.

#### **RECOMMENDATIONS**

In addressing socio-demographic factors, it is imperative for both national and counties should prioritize increasing access to family planning services to enhance the adoption of contraceptives. This is especially critical in rural areas where the distance to healthcare facilities poses a substantial barrier. Implementing initiatives such as the establishment of additional health centers or mobile clinics, along with ensuring a consistent supply of contraceptives, becomes indispensable in this context.

#### **ACKNOWLEDGEMENT**

We express our gratitude to Christ the Lord for guiding us during the creation of this report. We extend heartfelt thanks to all those who provided substantial support and contributed significantly to the successful completion of this research endeavor, as your assistance was invaluable.

#### **DECLARATIONS**

*Funding: This was student self-funded project*

*Conflict of interest: None declared*



**Ethical approval:** The study was approved by the Scientific Ethics and Review Committee (SERC) of the University of Nairobi/Kenyatta National Hospital (KNH) number UP387/04/2023., and also, by the National Commission for Science, Technology, and Innovation (NACOSTI) license No. NACOSTI/P/23/27693.

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