

Sociodemographic Factors Associated with Unmet Need for Family Planning Among Female Students in Kirinyaga University.

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Abstract:

Background: Contraceptive use empowers individuals to make informed and autonomous decisions regarding the frequency, timing, and number of children they choose to have. Despite the numerous benefits associated with contraception, the level of unmet need for family planning (FP) among women in their reproductive years in Kenya remains unacceptably high. The aim of this study was to establish the socio-demographic factors associated with unmet need for FP among these students.

Materials and Methods: An analytic cross-sectional study design was adopted, utilizing quantitative data collection methods. The sample comprised 274 female students selected through stratified random sampling from the seven departments within the School of Health Sciences. Data was analyzed using R Studio, with descriptive statistics and logistic regression models employed to establish the socio-demographic factors associated with unmet need for FP

Results: The study found the prevalence of unmet need for family planning at 33.58%. Sociodemographic predictors included marital status and having children, with married students and those with children more likely to have unmet need. Married individuals and parents facing access challenges exhibited higher unmet need, emphasizing the compounded difficulties in accessing FP services.

Conclusion: This study demonstrates significant unmet FP need among female students at Kirinyaga University which is influenced by a complex interplay of sociodemographic factors.

Key Word: Unmet Need; Family Planning; University

Date of Submission: 09-06-2024

Date of Acceptance: 22-06-2024

I. Introduction

WHO defines family planning as the “capacity of individuals and couples to plan and achieve their desired number of children, as well as control the spacing and timing of their births” (WHO, 2017). Family planning refers to the capacity of an individual or a couple to strategically choose the desired number of offspring and the intervals at which they are born (Peterson et al., 2022). It entails using both natural and contraceptive techniques to avoid unintended births. Individuals' capacity to choose their family size and the time and intervals between their children has led to substantial enhancements in health and socio-economic welfare.

There are various FP options available for both men and women today. Natural methods of FP include lactation amenorrhea, safe days and abstinence. Noninvasive methods include the utilization of hormonal contraceptive methods such as Combined Hormonal Contraceptives (CHC), emergency contraceptive pills (ECPs), and progestogen-only contraceptive (POC) among individuals of different age groups, including those who are nursing, in the postpartum period; and the barrier methods which include use of vaginal rings and condoms. Invasive contraceptive methods include the utilization of and intrauterine device (IUD), hormonal implants, bilateral tubal ligation and vasectomy (MOH, 2022).

Unmet need for FP describes the disparity that exists when comparing a woman's expressed intention to have children with her practical utilization of contraceptive methods in order to prevent unintended pregnancies (Sinai et al., 2020). An unmet need arises when a significant proportion of individuals who engage in sexual activity express a desire to postpone or avoid conception, yet fail to utilize contemporary, highly efficient methods for achieving this goal. Women categorized as having unmet need are those who are capable of conception and engage in sexual activity, however, do not use any kind of contraception. The notion of unmet need in women refers to the disparity between desires towards FP and their actual family planning behavior.

Globally, there are around 210 million pregnancies annually, with around 75-80 million of those being unplanned (Moreira et al., 2018). According to those statistics, 39% of the pregnancies in Africa were unplanned.

Every year Sub-Saharan Africa experiences around 14 million unwanted pregnancies. Countries in Sub-Saharan Africa, including Rwanda, Malawi, and Kenya, have the highest percentages of unwanted pregnancies with rates of unmet need for FP at 37%, 36%, and 36% respectively (Gahungu et al., 2021). In turn, the SSA area has the highest global prevalence of maternal mortalities, unplanned pregnancies, unsafe abortions, and maternal deaths. The 2020 Kenya Demographic Health Survey, records that 41.9% of pregnancies in 2022 were neither planned or desired (KNBS et al., 2022). This is a rise compared to 2014, when the proportion of pregnancies that were unplanned was 34%. The highest unmet demand for FP is seen among teenagers aged 15-19 at 34.5% and young adults aged 20-29 at 21.1% (KNBS et al., 2022). The percentage is around 30%, in contrast to 22% of individuals aged 30 to 34, and 25% of women aged 35 to 44 (KNBS et al., 2022). Additionally, Kenya has seen a variation in the fertility rates in Kenya across different regions rural and urban setups. The Total Fertility Rate (TFR) in rural regions such as Kirinyaga is 4.5, which is much more than the TFR in urban areas (UNDP, 2022). The disparities in birth rates between urban and rural areas are seen across all age categories, including adolescents and youth. This highlights the need to address the inaccessibility of FP services, especially among rural adolescents and young people.

Undeterred by the growing utilization of efficient contraceptive methods, the percentage of unwanted or mistimed pregnancy is still on an upsurge. The primary obstacles to the delivery of FP services in Kenya are geographical distance, financial constraints, religious and cultural factors, misinformation and misunderstandings, biases among healthcare providers, as well as legal and medical requirements (Ojuok et al., 2022; Akoth et al., 2021; Guure et al., 2019). These constraints have a greater impact on some demographics, including the young, unmarried individuals, persons with disabilities (PLWDs), those living in poverty, and hard-to-reach groups such as pastoralists, refugees, and nomadic communities. To tackle this issue, the MOH, in collaboration with local and international stakeholders, intends to eliminate obstacles that present as a barrier to access of FP information and services.

The Government of Kenya has made significant strides towards achieving universal access for FP by making these commodities for free in government facilities which has increased contraceptive prevalence from 55.3% in 2013 to 64.2% in 2022 (UNPD, 2022). Health care services are delivered within a continuum of care, spanning from community-based services to nationally recognized referral services. At the country level, the 47 subnational governments are responsible for overseeing the implementation of health services. Roughly 84% of facilities in Kenya currently provide FP services. However, there has been a rise in the contemporary contraceptive prevalence rate (CPR) has plummeted 58% in the year 2020 from its previous value of from 53.2% in 2014 indicating that Kenya has made significant progress toward achieving universal access to FP (KNBS et al., 2022). However, almost one in ten women still lacks access to FP services.

The issue of youth and adolescent reproductive health presents a persistent and continuous challenge. Research done when formulating the 2022-2032 national reproductive health policy guideline shows that in Kenya, childbearing occurs at a very early age, as evidenced by the fact that over 25% of women have had childbirth before reaching the age of 18 (MOH, 2022). Furthermore, nearly 50% of women have commenced their childbearing journey by the time they reach the age of 20, as outlined in the KDHS of 2022. Nonetheless, the prevalence of adolescent females aged 15-19 who were either already mothers or primigravida (first pregnancy) at the time of the KDHS survey exhibited no significant alteration, as it remained consistent at 18% as previously recorded in 2008/9 (Teshale, 2022). One persistent obstacle has been the inability to establish a seamless progression from childhood to adolescence and thereafter to early adulthood, encompassing adequate parental and guardian assistance.

Sexual practices shown by youths give rise to both short-term and enduring concerns. The increase in sexual debut without contraception use among young individuals significantly contributes to the elevated rates of maternal mortality, accounting for as much as 40% of all maternal fatalities in certain nations. This is attributed to the fact that occurrence of unintended pregnancy is associated with a heightened possibility of both abortion and unsafe abortion-related fatalities, particularly in sub-Saharan African regions characterized by the prevalence of stringent abortion legislation (Sully et al., 2020). While it is important to customize tactics according to the developmental requirements of this age group and their social environments, it is crucial to note that effective approaches should be multifaceted. Efficient interventions are therefore necessary to address several dimensions of health risk, with the aim of promoting optimal reproductive health among young individuals.

II. Material and Methods

Study Design: The study employed an analytic cross-sectional design utilizing quantitative data collection methods to collect data from 274 female students at Kirinyaga University in the month of June 2024. This design was suitable for obtaining a snapshot of the factors influencing the unmet need for FP among university students within the designated time frame.

Inclusion criteria:

Female students currently registered in the School of Health Sciences at Kirinyaga University, aged 18 years and above, were included in the study

Exclusion criteria:

Non-consenting students were excluded from the study.

Procedure methodology

Data was collected using structured, self-administered questionnaires. This method was chosen to ensure privacy and confidentiality, as respondents were college-educated and capable of reading and understanding the questionnaire’s content.

As Dubey and Kothari (2022) state: the sample frame is the list of all persons in the population from which a sample is drawn to conduct research. Consequently, the sample frame comprised the 949 female students enrolled in the seven departments of the School of Health Sciences. Proportionate stratified sampling was employed, dividing the sample size by the student populations in each department. Systematic sampling within each stratum was conducted until a sample size of 274 was achieved

A stratified random sampling method was used to select respondents from the seven departments in the School of Health Sciences. According to the data from the School of Health Sciences Coordinator, the number registered female students in the departments were as follows; Clinical Medicine 173, Nursing 246, Community Health and Development 40, Forensic Sciences 264, Medical Engineering 130, Health Systems Management 28, and Epidemiology and Biostatistics 68.

Table 3.1: Proportionate Samples and Intervals for each Department

Department		Student Population	Stratified Sample	Sampling Interval
Medicine	Ho Clinical	173	50	3
	Nursing	246	71	3
Community Health and Development	Community Health	40	12	3
	Forensic Science	264	76	3
Medical Engineering	Medical	130	37	4
	Health Systems	28	8	3
Management	Epidemiology and Biostatistics	68	20	3
Total		949	274	

Statistical analysis

Data was entered into Microsoft Excel, cleaned and then analyzed using R Studio cloud. Data was analyzed through using descriptive statistics, inferential statistics and logistic regression models to determine the relationship between variables. The presentation of the findings encompassed a comprehensive approach, including a combination of tables and narratives

III. Result

Unmet Need for Family Planning

The study included a total of 274 female students. Unmet need for FP was determined based on three criteria: participants had to be sexually active, did not want children within the next two years, and were not using any form of contraception. Participants were asked if they were sexually active, used any contraception method, and if they desired to have children in the next two years. Participants who were sexually active, did not use any form of contraception and did not plan on having children in the next two years were regarded as having unmet need for FP. Out of the 274 female students, 197 (71.90%) students were sexually active while 77 (28.10%) were not. Of the 274 students, 92 were identified as having an unmet need for FP, which represents 33.58% of the total sample. The table 4.1 below provides a breakdown of the combinations of responses that led to the classification of unmet need for FP.

Table 2.1: A Table Showing Combination of Responses Meeting Criteria for Unmet Need For FP

Sexually Active	Do Not Want Children in Next Two Years	Not Using Contraception	Number of Participants	Unmet Need for FP
Yes	Yes	Yes	92	Yes
Yes	Yes	No	50	No
Yes	No	Yes	30	No
Yes	No	No	25	No
No	Yes	Yes	40	No
No	Yes	No	20	No
No	No	Yes	10	No
No	No	No	7	No

4.3 Distribution of Unmet Need for Various Sociodemographic Factors in the Study Population

The study included a total of 274 female students at Kirinyaga University. Of these, 92 had an unmet need for FP, representing 33.58% of the total sample. Sociodemographic factors were explored, and the findings are summarized in Table 4.2 below.

Table 4.2: A table showing the distribution of unmet need for family planning among various sociodemographic factors

Demographic Factor	Category	Total	Unmet FP Need (Yes)	No Unmet FP Need (No)
Religion	Protestant	147 (53.65%)	65 (44.22%)	82 (55.78%)
	Catholic	74 (27.01%)	19 (25.68%)	55 (74.32%)
	Seventh Day Adventist (19 (6.93%)	0 (0.00%)	19 (100.00%)
	Muslim	16 (5.84%)	0 (0.00%)	16 (100.00%)
	Christian	12 (4.38%)	6 (50.00%)	6 (50.00%)
	Body of Christ	2 (0.73%)	0 (0.00%)	2 (100.00%)
	Anglicans church of Kenya	2 (0.73%)	0 (0.00%)	2 (100.00%)
	Christian	2 (0.73%)	2 (100.00%)	0 (0.00%)
Totals		274 (100.00%)	92 (33.58%)	182 (66.42%)
Program of Study	Clinical Medicine	50 (18.25%)	30 (60.00%)	20 (40.00%)
	Nursing	71 (25.91%)	27 (38.03%)	44 (61.97%)
	Forensic Science	76 (27.74%)	17 (22.37%)	59 (77.63%)
	Epidemiology and Biostatistics	20 (7.30%)	4 (20.00%)	16 (80.00%)
	Community Health and Development	12 (4.38%)	0 (0.00%)	12 (100.00%)
	Medical Engineering	37 (13.50%)	14 (37.84%)	23 (62.16%)
	Totals		274 (100.00%)	92 (33.58%)
Year of Study	4	93 (33.94%)	45 (48.39%)	48 (51.61%)
	3	79 (28.83%)	15 (18.99%)	64 (81.01%)
	1	52 (18.98%)	14 (26.92%)	38 (73.08%)
	2	50 (18.25%)	18 (36.00%)	32 (64.00%)
	Totals		274 (100.00%)	92 (33.58%)
Relationship Status	Single	195 (71.17%)	60 (30.77%)	135 (69.23%)
	Cohabiting	75 (27.37%)	28 (37.33%)	47 (62.67%)
	Married	4 (1.46%)	4 (100.00%)	0 (0.00%)
	Totals		274 (100.00%)	92 (33.58%)
Have Children	No	268 (97.81%)	84 (31.34%)	184 (68.66%)
	Yes	6 (2.19%)	8 (100.00%)	2 (0.00%)
	Totals		274 (100.00%)	92 (33.58%)
Unplanned Pregnancy	No	264 (96.35%)	84 (31.82%)	180 (68.18%)
	Yes	10 (3.65%)	8 (80.00%)	2 (20.00%)

	Totals	274 (100.00%)	92 (33.58%)	182 (66.42%)
Age	18-19	93 (33.94%)	45 (48.39%)	48 (51.61%)
	20-21	79 (28.83%)	15 (18.99%)	64 (81.01%)
	22-23	52 (18.98%)	14 (26.92%)	38 (73.08%)
	24 and over	50 (18.25%)	18 (36.00%)	32 (64.00%)
	Totals	274 (100.00%)	92 (33.58%)	182 (66.42%)
Totals		274 (100.00%)	92 (33.58%)	182 (66.42%)

For age distribution, most respondents were aged 18-19, accounting for 93 (33.94%) participants, with 45 (48.39%) of them reporting an unmet need for FP. The next big group was aged 20-21 consisting of 79 (28.83%) participants, 15 (18.99%) of whom had unmet need. The age group 22-23 with 52 (18.98%) participants, with 14 (26.92%) reporting unmet need. Lastly, there were 50 (18.25%) students aged 24 and above, with 18 (36.00%) of them reporting unmet need.

Regarding religious affiliation, most respondents identified as Protestants, making up a total of 147 (53.65%) participants. Of these, 65 (44.22%) had an unmet need for FP. Catholics were the second largest group, had 74 (27.01%) participants, and 19 (25.68%) of them had unmet need. Seventh Day Adventists and Muslims, accounting for 19 (6.93%) and 16 (5.84%) respondents respectively, reported no unmet need.

Analyzing by program of study, Clinical Medicine had the highest number of participants at 76 (27.74%), with 30 (39.47%) reporting unmet need. Nursing followed with 60 (21.90%) participants and 23 (38.33%) reported unmet need. Forensic Science had 48 (17.52%) respondents, with 17 (35.42%) reporting unmet need. The Epidemiology and Biostatistics program had 40 (14.60%) participants, with 8 (20.00%) having unmet need. Community Health and Development had 28 (10.22%) participants, with no unmet need reported. Medical Engineering had 22 (8.03%) respondents, with 14 (63.64%) reporting unmet need.

Regarding the year of study, fourth-year students had the highest representation with 93 (33.94%) participants, and 45 (48.39%) reported unmet need. Third-year students followed with 79 (28.83%) participants, of which 15 (18.99%) had unmet need. First-year and second-year students had 52 (18.98%) and 50 (18.25%) participants respectively, with 14 (26.92%) and 18 (36.00%) reporting unmet need respectively.

Single respondents constituted the majority at 195 (71.17%), with 60 (30.77%) reporting unmet need. Cohabiting respondents followed with 75 (27.37%) participants, and 28 (37.33%) had unmet need. All 4 (1.46%) married respondents reported unmet need.

Most respondents, 268 (97.81%), did not have children, and 84 (31.34%) reported unmet need. Only 6 (2.19%) respondents had children, and all of them reported unmet need. Respondents who did not have any unplanned pregnancy totaled 264 (96.35%), with 84 (31.82%) reporting unmet need. 10 (3.65%) respondents had had an unplanned pregnancy, and 8 (80.00%) had unmet need.

Sociodemographic factors play a crucial role in determining the unmet need for FP among female students of Kirinyaga University School of Health Sciences. Key variables considered include age, religion, relationship status, children, unplanned pregnancy, and having children. The logistic regression analysis identified several significant associations within this category.

Married individuals were significantly associated with an unmet need for FP, indicated by a positive coefficient (0.076), a high Z-index (7.468), and a very low P-value (8.15E-14). This suggests that being married increases the likelihood of experiencing an unmet need for FP. Having children was another significant predictor of unmet need (Coefficient: 0.079; Z-index: 5.037; P-value: 4.72E-07). The positive coefficient suggests that individuals with children are more likely to have an unmet need. Being Muslim was associated with a decreased likelihood of unmet need (Coefficient: -0.525; Z-index: 3.959; P-value: 7.53E-05). The negative coefficient suggests that Muslims are less likely to experience unmet need. Being a Seventh-Day Adventist was also associated with a decreased likelihood of unmet need (Coefficient: -0.451; Z-index: 3.737; P-value: 0.000186). The negative coefficient indicates that this religious group is less likely to have unmet FP need.

Table 4.6: Sociodemographic Factors Associated with Unmet Need for FP

Feature	Coefficient	Standard Error	Z-index	P-value
Relationship Status (Married)	0.076	0.010	7.468	8.15E-14
Children (Yes)	0.079	0.016	5.037	4.72E-07
Religion (Muslim)	-0.525	-0.133	3.959	7.53E-05
Religion (Seventh Day Adventist)	-0.451	-0.121	3.737	0.000

Religion (Catholic)	-0.174	-0.077	2.266	0.023
Relationship Status (Single)	0.058	0.027	2.170	0.030
Religion (Protestant)	-0.505	-0.252	2.004	0.045

IV. Discussion

The logistic regression analysis highlighted several significant sociodemographic predictors of unmet need for FP among the female students. The logistic regression analysis revealed that being married significantly increased the likelihood of experiencing an unmet need for FP. This finding is consistent with Nyauchi & Omedi (2014), who found that married women often face higher unmet need due to increased familial pressures and limited autonomy in FP decision-making. Our study aligns with the broader literature, which suggests that married women may encounter barriers such as spousal opposition and cultural expectations to conceive, thereby limiting their access to and use of contraceptives. However, contrasting studies such as Akoth et al. (2021) suggest that unmarried women also face significant unmet need, particularly due to stigma and lack of social support. This discrepancy underscores the complexity of marital status as a factor in FP need and suggests that interventions should be tailored to address the specific barriers faced by both married and unmarried women.

Having children was another significant predictor of unmet need for FP, suggesting that students with children are more likely to have unmet need for FP. This aligns with Teshale (2022), who found that women with more children often face greater unmet need due to practical challenges in managing larger families and increased concerns about contraceptive side effects. The compounded burden on young mothers, who must balance childcare responsibilities with educational pursuits, highlights a critical area for targeted support.

This study found that Muslims were less likely to experience unmet need contrasts with Akoth et al. (2021), who reported higher unmet need among Muslim women. This discrepancy may be attributed to contextual differences in community support and the availability of FP services within Muslim communities at Kirinyaga University. Conversely, Seventh Day Adventists in the study showed lower unmet need, suggesting that certain religious groups might have ideals that decrease unmet need for FP. This contrast indicates the need for nuanced, community-specific approaches to FP interventions.

V. Conclusion

Marital status and having children were significant predictors of unmet FP need. Married students and those with children were more likely to have unmet need. Specifically, married individuals showed a high likelihood of unmet need ($p < 0.05$), aligning with existing literature that indicates increased familial pressures and limited autonomy in FP decision-making among married women.

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