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PREDICTORS OF UNMET NEED FOR FAMILY PLANNING IN LURAMBI SUB-COUNTY, KENYA

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ABSTRACT

Background: As part of ensuring health and wellbeing of all, the United Nations target universal access to sexual and reproductive healthcare services come 2030. It is at this backdrop that this study sought to establish the predictors of unmet need for family planning in Lurambi sub-County, Kenya.

Methodology: The study used cross-sectional survey data obtained from a sample of women aged 15 to 49 years in Lurambi sub-County, Kakamega County, Kenya, from December 2022 through to January 2023. Descriptive analysis involved frequencies and cross-tabulation. Inferential analysis involved correlation and regression analyses.

Findings: Results of cross-tabulation analysis indicated that geographical area of residence ($\chi2$ = 28.061; ρ = 0.000), marital status ($\chi2$ = 38.048; ρ = 0.000), work status ($\chi2$ = 9.837; ρ = 0.002), current age ($\chi2$ =10.041; ρ = 0.007), number of living children ($\chi2$ =13.600; ρ = 0.001), and number of health facilities ($\chi2$ =16.732; ρ = 0.000) present in an area were significantly related to the contraception need. Results of correlation analysis indicated that education qualifications (r = -0.760; ρ = 0.003), number of health facilities (r = -0.907; ρ = 0.047) and distance to the nearby health facility (r = 0.520; ρ = 0.030) were significantly related to unmet need in Lurambi sub-County. Results of regression analysis indicated that unmet need to delay childbearing was significantly explained by marital status (aOR = 0.305; ρ = 0.05), current age (aOR = 0.716; ρ = 0.05) and number of health facilities present in an area (aOR = 0.355; ρ = 0.01). Number of living children (aOR = 1.435; ρ = 0.05) was associated with unmet need to space childbearing while marital status (aOR = 1.129; ρ = 0.05), current age (aOR = 1.265; ρ = 0.05), and number of living children (aOR = 1.075; ρ = 0.01) were associated with unmet need to limit childbearing.

Conclusion: There exists need to invest in women education and increase the number of well-stocked health facilities so as to increase insightful knowledge on contraception and ease access to contraception services. Efforts should be made to reach out to women and their partners at multiple stages in their reproductive lives so as to satisfy the changing needs for contraception.

KEYWORDS: Unmet need for delaying; Unmet need for spacing; Unmet need for limiting; Total unmet need; Lurambi sub-County

1. BACKGROUND

Averagely, the wanted and actual fertility rates in Kakamega County stand at 3.0 and 3.7, respectively (KNBS & ICF, 2023). The about 23.33 percent gap between the wanted and the actualized points to the extent of mistimed and unintended pregnancies among the populace due to unmet need for contraception. A woman is said to have an unmet need for contraception if she is sexually active, not currently pregnant, not amenorrheic, states that she does not desire to become pregnant yet she is not using any contraception for reasons unrelated to sub-fecundity (Omedi & Nyauchi, 2015; Nyauchi & Omedi, 2014). It also includes women who are currently pregnant/ postpartum amenorrheic but their current pregnancy/ last birth was either unwanted or mistimed (Bradley et al., 2012). Such a woman may not wish to conceive, or she may wish to space or limit pregnancies yet she fails to realise her intentions of either postponing or preventing another pregnancy (Omedi & Nyauchi, 2015). Unmet need is not a one-time event but fluctuates due to shifts in fertility desires that occur in response to changing life circumstances, among them, entering a serious relationship and changes in household finances (Sennott & Yeatman, 2012). A larger majority of unplanned pregnancies in Kenya occur among women who wish to avoid pregnancy but are not using an effective contraception method (Population Reference Bureau, 2014).

A study done in Papua New Guinea found a 32.2 percent overall unmet need for contraception (Agyekum et al. 2022). There were higher odds of unmet need for contraception among cohabiting women (aOR = 1.25, 95% CI = 1.01, 1.56), women with 1–3 births (aOR = 1.57, 95% CI = 1.18, 2.08), and women with ≥4 births (aOR = 1.06, 95% CI = 1.13, 2.27). Further, a higher probability of unmet need was found among women whose partners decided on their healthcare as compared to those who decided on their own healthcare (aOR = 1.35, 95% CI = 1.066, 1.71). There was a decrease in the likelihood of unmet contraceptive need with an increase in wealth status. With regards to region, women in the Mamose region had greater likelihood of unmet contraceptive need compared to those in Southern region (aOR = 1.33, 95% CI = 1.09, 1.63). Age, level of education, and current work status were insignificantly related to unmet need for contraception. The study, apart from using secondary data, did not investigate whether there existed any relationship between unmet need and number of living children, number of health facilities present, and distance covered to reach a health facility.

Teshale (2022) assessed factors associated with unmet need for family planning in sub-Saharan Africa. The study found the prevalence of unmet need as 15.81 percent, 7.90 percent and 23.70 percent for spacing, limiting and total, respectively. Inferential results found women's age, education, age at cohabitation, parity, number of under-five children, heard of family planning through media, knowledge about modern contraception, place of residence, community level of women illiteracy, and region to be significantly related to unmet need for family planning. Further, household size and visiting the health facility in the last calendar year were associated with unmet need for spacing, while husband education level was associated with unmet need for limiting childbearing. The study however failed to assess unmet need to delay childbearing.

A study done in East Africa found out that younger women, and those women without formal education, from the poorest households, who had ever experienced child death, whose husbands

desired more children than them, and who had no access to family planning messages were more likely to experience unmet need for contraception (Kabagenyi et al., 2024). A different study that found a 24.66 percent magnitude of unmet need for family planning identified age 40-49 years (aOR = 0.76; 95%CI = 0.58-0.99), rural residence (aOR = 1.17; 95%CI = 1.02-1.34); female household head (aOR = 0.66; 95%CI = 0.61-0.73), women having 4-6 children (aOR = 1.76; 95%CI = 1.55-1.99); and women with no desire for fertility (aOR = 1.52; 95%CI = 1.36-1.67) as the determinants of unmet need for family planning in East Africa (Alie et al., 2022). There was no significant relationship between working status of a woman and unmet need, an observation that the current study sought to investigate.

Locally, Otieno and Mwakudisa (2024) used 2022 Kenya demographic and health survey (KDHS) data to assess factors that contributed to unmet need for family planning among women in Kenya. The study established that older women had lower odds of experiencing unmet need compared to women aged 20-24 years, and that women with at least six children had higher odds of experiencing unmet need compared to their counterparts with a single child (aOR = 2.7; 95%CI = 1.9, 3.7). Further, with reference to Christians, Islam had higher odds of unmet need (aOR = 1.4; 95%CI = 1.0, 1.8), and that women who had underwent female genital cut were less likely to report unmet need. Generally, unmet need significantly reduced with increase in wealth index. Place of residence, marital status, and highest level of education were insignificantly related to unmet need for family planning. The study excluded work status, number of health facilities and their proximity from its analysis.

Clearly, studies have been done on unmet need for contraception. Besides relying on secondary data, most of these studies were country-specific (Otieno & Mwakudisa, 2024; Agyekum et al., 2022), others regional (Kabagenyi et al., 2024; Phiri et al., 2023; Alie et al., 2022). Some studies considered unmet need for modern contraception (Teshale, 2022), others unmet need among married women (Kabagenyi et al., 2024; Phiri et al., 2023), while others considered unmet need in rural areas (Lasong et al., 2020; Nyauchi & Omedi, 2014). Within-country regional studies are minimal (Uthman et al., 2022). With worldwide unmet need for family planning projected to be beyond 10 percent come 2030 (Alkema et al., 2013), studies on unmet need remain relevant today. Using primary data, this study sought to establish the predictors of unmet need for family planning in Lurambi sub-County, Kenya. Findings of the study guides in meeting the population's felt need for family planning (Cleland et al. 2006), reveals the characteristics of potential market for contraception (Omedi & Nyauchi, 2015), and allows population analysts to project how much fertility decline could be reported suppose the additional need for family planning was met (Ashford, 2003). A suppressed unmet need will contribute to reduced maternal and infant mortalities, increased opportunities for employment and education among the youths who might drop out of school due to pregnancies, increased control over women's reproductive health, and sustainable development (Otieno & Mwakudisa, 2024; Omedi & Nyauchi, 2015; Nyauchi & Omedi, 2014; Bradley et al., 2012).

2. METHODOLOGY

2.1 Study design and setting

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This was a cross-sectional survey that established the predictors of unmet need for family planning in Lurambi sub-County, Kenya. Structured questionnaires were administered through face-to-face interviews to obtain primary data from the respondents between December 2022 and January 2023. The inclusion criteria were women of reproductive ages (15-49 years) who had an experience of a childbirth in the ten-year period that preceded the survey: 2013-2022. The design allowed the use of a minimum sample size of 384, guided by Fisher (1983) formula, and this enhanced the validity and generalizability of the study findings. Principal researcher trained bilingual research assistants on: seeking informed consent from the study participants, administration of structured questionnaire, and ensuring completeness and reliability of collected data. Ethical considerations of informed consent and confidentiality were observed throughout the survey period.

2.2 Study variables

The outcome variable was unmet need for contraception measured as: unmet need to delay childbearing; unmet need to space childbearing; and unmet need to limit childbearing. Each of these was coded as a binary variable: no=0; yes=1. The explanatory variables were: geographical area of residence (rural, urban); marital status (single, married, widowed/divorced/separated); education qualification (no education, primary education, secondary^{+} education); work status (not working, working); current age (<20; 20-39; ≥40); number of living children (0, 1-3, ≥4); number of health facilities (few, moderate, many); and distance to the health facility (short, moderate, long).

2.3 Data validity and reliability

Data validity was measured by computing Content Validity Ratio (CVR), whose value is in the range: $^{+}1 \leq r \leq ^{-}1$. Positive values show that no less than 50 percent of the subject matter expert raters (SME) rated the data collection tool as necessary (Lawshe, 1975). The procedure used to obtain the CVR was as follows:

$CVR = (ne - {}^{N}/_{2}) \div {}^{N}/_{2}$, where: CVR – Content Validity Ratio; ne – number of subject matter expert panellists indicating the tool as essential; N – total number of subject matter expert panellists.

11 out of 13 SMEs engaged indicated the questionnaire tool as essential. Thus,

$$CVR = (11 - {}^{13}/_{2}) \div {}^{13}/_{2} = 0.7$$

Data reliability was measured using Cronbach's alpha coefficient of internal consistency. Study variables considered in the inter-item correlation matrix were: total unmet need; geographical area of residence; marital status, education qualifications; work status; current age; number of living children; number of health facilities present in an area; and distance to the health facility. The gauge yielded a Cronbach's alpha value of 0.844 with a Cochran's Q value of 77.36 at $\rho = 0.000$, a coefficient that was good to allow data analysis (George & Mallery, 2003). The results were as tabulated in Table 1.

Table 1 ANOVA with Cochran's Reliability Test

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		Sum of Squares	df	Mean Square	Cochran's Q	Sig
Between People		132.378	160	0.827		
Within People	Between Items	271.806	9	30.20	77.36	0.000
	Residual	292.194	640	0.457		
	Total	564	644	0.876		
Total		696.378	804	0.866		
Grand Mean = 1.4671						
Cronbach's Alpha = 0.844						

2.4 Data analysis and presentation

Data were analysed descriptively and inferentially on the Statistical Package for Social Sciences (SPSS) computer software programme. Descriptive analyses involved frequencies and cross-tabulation. Inferential analyses involved Pearson's product moment correlation and multinomial logistic regression. Analysed data were presented in tables and figures.

3. FINDINGS

3.1 Background information of the study population

Frequencies were run to establish the background information of the study population. The results were as indicated in Table 2.

Table 2 Background information of the study population

Variable	Count	Percent
Geographical area of residence		
Rural	156	36.97
Urban	266	63.03
Marital status*		
Single	70	16.71
Married	314	74.94
Widowed/Separated/Divorced	35	8.35
Education qualification		
No education	49	11.61
Primary education	190	45.02
Secondary+ education	183	43.36
Work status		
Not working	172	40.76
Working	250	59.24
Current age		

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Under - 20 years	14	3.32
20 - 39 years	352	83.41
40+ years	56	13.27
Number of living children		
None	48	11.37
1 - 3 children	295	69.91
4+ children	79	18.72
Number of health facilities		
Few	120	28.44
Moderate	60	14.22
Many	242	57.35
Distance to the health facility*		
Short	162	38.57
Moderate	164	39.05
Long	94	22.38
TOTAL	**422**	**100**

*values not adding up to 422 due to some unreported cases

Findings in Table 2 indicated that majority of the respondents were of urban residence (63.03%), married (74.94%), of primary education qualifications (45.02%), working (59.24%), aged 20 to 39 years (83.41%), mothers with 1 to 3 living children (69.91%), in areas with many health facilities (57.35%) and who covered a moderate distance to reach the nearby health facility (39.05%). A scatter gram was used to present the current age of the respondents in single years as shown in Figure 1.

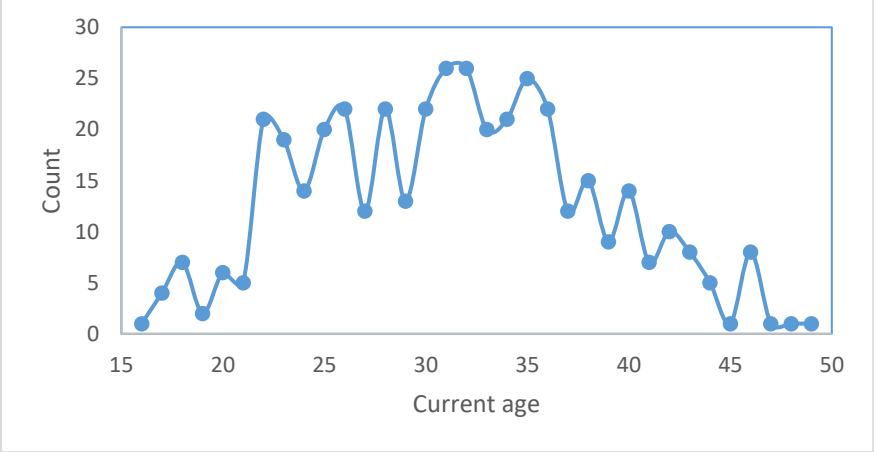


Figure 1 A scatter gram showing current age of respondents in single years

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Clearly, respondents were aged 16 to 49 years. The peak ages were 18, 20, 22, 26, 28, 31, 32, 35, 40, 42, and 46. Majority of the respondents, about 6.1 percent, were aged 31 and 32 years, while the least number of respondents were aged 16, 45, 47, 48, and 49 years (0.2%).

A doughnut was used to present the need for contraception in Lurambi sub-County as shown in Figure 2.

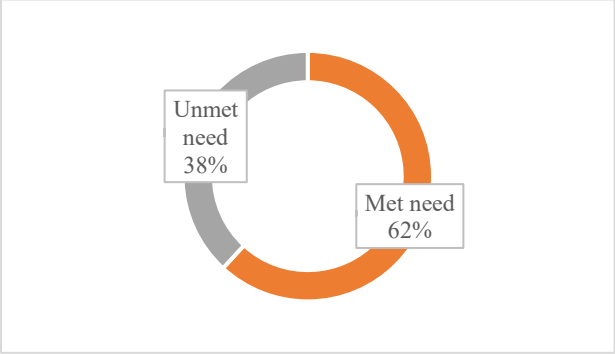


Figure 2 A doughnut showing the need for contraception

From Figure 2, about 38 in every 100 reproductive women reported having an unmet need for contraception. Such unmet needs contribute to unsafe abortions, sexually transmitted infections, increased fertility rates connected to poverty, high maternal and infant mortality rates, and low opportunities for education and employment (Omedi & Nyauchi, 2015; Bradley et al., 2012). However, this prevalence was higher than what has been reported elsewhere: 33% - Burundi; 32.2% - Papua New Guinea; 24.6% - East Africa; 18% - Northern Nigeria; 17% - Indonesia; 16.2% - Ethiopia; 12.7% - Egypt; and 11.5% - Mexico (Kabagenyi et al., 2024; Agyekum et al., 2022; Alie et al., 2022; Solanke et al., 2019; Tadele et al., 2019; Juarez et al., 2018; Hassan et al., 2017; Ayuningtyas & Oktaviana, 2015). KNBS and ICF (2023) reported a total unmet need for contraception as 9.9 percent for all women, 13.9 percent for currently married women, and 19.2 percent for sexually active unmarried women. Counterintuitively, higher prevalence of 58.2 percent and 51 percent have been reported in Ilesha-Southwest Nigeria, and West and Middle Africa, respectively (Uthman et al., 2022; Westoff, 2012). The variation in prevalence relative to earlier studies is explained by varied target groups, sample size, data collection time, and social, cultural and economic norms surrounding contraception. There is also the possibility of varied policies and programmes focusing on access to family planning.

To enable a clear understanding of the subject of study, the researcher presented unmet need for contraception on a divided circle as shown in Figure 3.

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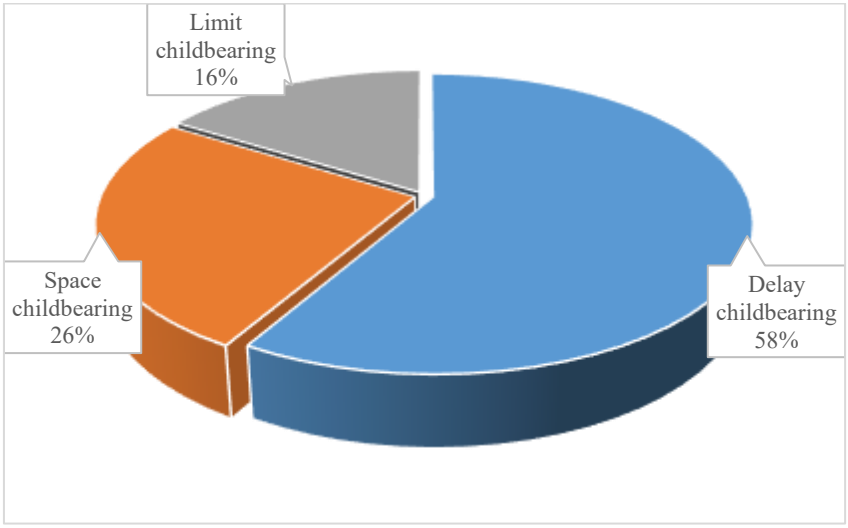


Figure 3 A divided circle showing unmet need for contraception

From Figure 3, the study concluded that unmet need to delay childbearing (58%) was the leading, followed by unmet need to space childbearing (26%), with unmet need to limit childbearing being the least (16%). As much as most studies have excluded unmet need to delay childbearing (Phiri et al., 2023; Teshale, 2022), a significant number of studies have agreed that unmet need to space outweighs unmet need to limit childbearing (Kabagenyi et al., 2024; Phiri et al., 2023; Teshale, 2022). With an overall prevalence of 23.70 percent, the prevalence for spacing and limiting were 15.81 percent and 7.90 percent, respectively (Teshale, 2022). Analysis of unmet need should incorporate all the three levels of unmet need: delay, space, and limit childbearing.

3.2 Prevalence of the need for contraception

Cross-tabulation analysis was conducted to bring out the prevalence of the need for contraception in Lurambi sub-County. Pearson's chi-square statistic was used to determine the magnitude of the relationship between the outcome variable and the exposure variables, and show the strength of the observed relationship at statistical significance levels of 0.05, 0.01 and 0.001. The results were as presented in Table 3.

Table 3 Prevalence of the need for contraception in Lurambi sub-County

	Met need		Unmet need		
Variable	**Count**	**Percent**	**Count**	**Percent**	**χ^2; ρ**
Geographical area of residence					
Rural	122	78.21	34	21.79	χ^2 - 28.061
Urban	139	52.26	127	47.74	ρ - 0.000
Marital status*					

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Single	21	30.00	49	70.00	χ^2 - 38.048
Married	218	69.43	96	30.57	ρ - 0.000
Widowed/Separated/Divorced	20	57.14	15	42.86	
Education qualification					
No education	28	57.14	21	42.86	χ^2 - 2.553
Primary education	112	58.95	78	41.05	ρ - 0.279
Secondary+ education	121	66.12	62	33.88	
Work status					
Not working	91	52.91	81	47.09	χ^2 - 9.837
Working	170	68.00	80	32.00	ρ - 0.002
Current age					
Under - 20 years	3	21.43	11	78.57	χ^2 - 10.041
20 - 39 years	223	63.35	129	36.65	ρ - 0.007
40+ years	35	62.50	21	37.50	
Number of living children					
None	20	41.67	28	58.33	χ^2 - 13.600
1 - 3 children	198	67.12	97	32.88	ρ - 0.001
4+ children	43	54.43	36	45.57	
Number of health facilities					
Few	92	76.67	28	23.33	χ^2 - 16.732
Moderate	30	50.00	30	50.00	ρ - 0.000
Many	139	57.44	103	42.56	
Distance to the health facility*					
Short	103	63.58	59	36.42	χ^2 - 0.416
Moderate	101	61.59	63	38.41	ρ - 0.812
Long	56	59.57	38	40.43	
TOTAL	**261**	**57.70**	**161**	**42.30**	

*values not adding up to 261 and 161, respectively, due to some unreported cases

Findings in Table 3 showed higher prevalence of unmet need for family planning among urban (47.74%) and single (70%) women, those with no education level (42.86%), non-working women (47.09%), those aged ≤19 years (78.57%), with no living children (58.33%), in areas with moderate health facilities (50%), and who covered long distance to reach the nearest health facility (40.43%). This prevalence was statistically significant for geographical area of residence, marital status, work status, current age, number of living children, and number of health facilities present in an area.

These findings are consistent with findings of other studies that found higher unmet need for family planning among urban women (Omedi & Nyauchi, 2015), unmarried women (Nigeria demographic

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and health survey, 2018), young women and those with low levels of education (Otieno & Mwakudisa, 2024; Wemakor et al., 2020). Some urban areas, perceived to have many health facilities than their rural counterparts, suffer healthcare gaps in the delivery of critical contraceptive services. Some health facilities experience frequent contraceptive stock-outs as a result of imbalanced demand-supply curve. Thus, urbanization does not universally guarantee better access to contraception. Reduced proportion of rural women experiencing unmet need could be due to diffusion of contraceptive knowledge through media (Kabagenyi et al., 2024) and the implementation of devolved governance in the country. Teshale (2022) explained that media assisted women in learning about and understanding available and accessible family planning options. Devolution, that followed the implementation of Kenya's 2010 Constitution, has promoted the physical and structural establishment of rural health facilities (McCollum et al., 2018; Mugo et al., 2018) through which contraceptives and contraception knowledge are dispensed.

Non-working women generally have reduced contact with contraception because of their inability to afford the cost of contraception. Otieno and Mwakudisa (2024) found obtaining money for treatment as the leading challenge in accessing contraception healthcare. It is therefore imperative to address economic disparities among the populace so as to reduce unmet need for family planning. The higher unmet need among younger than older women could be explained by younger women being highly productive (Pradhan & Dwivedi, 2015), and less likely to have achieved their fertility goals (Teshale, 2022). They are also less likely to possess deeper understanding of contraceptive needs. The significantly higher unmet need among women with no surviving child might be contributed to by the sexually active unmarried women who are unready for childbearing.

3.3 Predictors of unmet need for contraception

Inferential analysis was done at two levels (correlation and regression) to bring out factors that were associated with unmet need for contraception in Lurambi sub-County of Kakamega County in Kenya.

3.3.1 Results of correlation analysis

Pearson product moment correlation analysis was used to investigate the relationship between unmet need for contraception and education qualification, current age, number of living children, number of health facilities, and distance to the nearby health facility. The results were as presented in Table 4.

Table 4 Correlation analytical results

		Exposure variable				
		Education qualification	Current age	No. of living children	No. of health facilities	Distance to the health facility
Total unmet need	r	-0.760**	-0.068	0.027	-0.907*	0.520*
	ρ	0.003	0.158	0.565	0.047	0.030

**ρ<0.01; *ρ<0.05

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Results in Table 4 showed the existence of significant negative linear relationships between education qualification (r = -0.760; ρ = 0.003) and number of health facilities (r = -0.907; ρ = 0.047), and unmet need for contraception. Moreover, there existed a significant positive linear relationship between distance covered to reach a health facility and unmet need for contraception (r = 0.520; ρ = 0.030). There was no linear relationship between current age and number of living children a woman had, and unmet need for family planning.

These findings indicated that the higher the education qualification of a woman, and the more the health facilities in an area, the lower the unmet need for family planning. Again, the longer the distance covered to reach a health facility (for family planning services) the higher the unmet need for family planning. Generally, about 58 percent, 82 percent and 27 percent of variation in unmet need for family planning could be explained by education qualification of a woman, number of health facilities present, and distance covered to reach a health facility in Lurambi sub-County.

Education has been documented as a significant explainer of unmet need (Otieno & Mwakudisa, 2024; Getaneh et al., 2020), with higher educational attainment correlating with reduced likelihood of unmet needs (Kabagenyi et al., 2024, Asif & Pervaize, 2019; Nzokirishaka & Itua, 2018). Otieno and Mwakudisa (2024) and Lasong et al. (2020) concluded that it was important to improve female access to education so as to empower women to make informed decisions about their sexual and reproductive health and increase contraceptive knowledge and use. Other studies have reported lack of access to contraception due to long distance to reach health facilities and insufficient health facilities as explainers for contraceptive non-use (Khoury & Salameh, 2019; Population Reference Bureau, 2014). About 23.8 percent of the respondents indicated that they could not access contraception healthcare due to the overwhelming distance to the health facility (Otieno & Mwakudisa, 2024).

3.3.2 Results of regression analysis

Multinomial logistic regression analysis was done to establish the effect of explanatory variables on unmet need in Lurambi sub-County. The odds of a woman experiencing unmet need for family planning were estimated for delaying, spacing, and limiting childbearing, respectively. The results were as shown in Table 5.

Table 5 Results of multinomial logistic regression analysis

	Delay childbearing		Space childbearing		Limit childbearing	
Variable	**Exp(β)**	**95%CI**	**Exp(β)**	**95%CI**	**Exp(β)**	**95%CI**
Geographical area of residence						
Rural	1.000		1.000		1.000	
Urban	1.270	0.05-11.22	1.371	0.09-21.08	1.341	0.08-23.46
Marital status						
Single	1.000		1.000		1.000	
Married	0.305*	0.26-6.48	0.766	0.15-3.81	0.333	0.06-1.92

Widowed/Separated/Divorced	3.171	0.50-20.28	0.315	0.05-2.02	1.129*	0.01-1.38
Education qualification						
No education	1.000		1.000		1.000	
Primary education	1.200	0.44-3.25	0.834	0.31-2.26	0.638	0.17-2.39
Secondary+ education	0.952	0.20-4.46	1.05	0.22-4.92	0.479	0.06-3.58
Work status						
Not working	1.000		1.000		1.000	
Working	0.236	0.47-3.23	0.809	0.31-2.12	1.047	0.29-3.80
Current age						
Under - 20 years	1.000		1.000		1.000	
20 - 39 years	0.716*	0.13-5.67	0.368	0.02-7.55	0.000	0
40+ years	0.297	0.53-10.03	0.435	0.10-1.90	1.265*	0.06-1.22
Number of living children						
None	-		-		1.000	
1 - 3 children	-		1.000		0.000	
4+ children	-		1.435*	0.12-1.60	1.075**	0.02-0.35
Number of health facilities						
Few	1.000		1.000		1.000	
Moderate	0.355**	0.36-5.09	0.738	0.20-2.77	0.738	0.11-4.95
Many	0.939	0.06-4.91	1.065	0.07-16.92	0.213	0.01-4.99
Distance to the health facility						
Short	1.000		1.000		1.000	
Moderate	0.932	0.22-3.88	1.073	0.26-4.47	2.874	0.42-19.68
Long	1.011	0.30-3.40	0.989	0.30-3.32	0.684	0.11-4.16

**ρ<0.01; *ρ<0.05

Results in Table 5 indicated that unmet need for delaying childbearing was explained by marital status (aOR = 0.305; 95%CI = 0.263-6.484), current age (aOR = 0.716; 95%CI = 0.132-5.671), and number of health facilities present in an area (aOR = 0.355; 95%CI = 0.361-5.087). Unmet need for spacing childbearing was due to number of living children (aOR = 1.435; 95%CI = 0.118-1.601). Unmet need to limit childbearing was as a result of marital status (aOR = 1.129; 95%CI = 0.012-1.378), current age (aOR = 1.265; 95%CI = 0.058-1.218), and number of living children (aOR = 1.075; 95%CI = 0.016-0.354). Geographical area of residence, education qualification, work status, and distance covered to reach a health facility were insignificantly related to unmet need for family planning.

The finding that married women were 69.5% less likely to experience unmet need to delay childbearing is acceptable. Childbearing is generally an acceptable preserve for the married. The society anticipates a childbirth in the early years of a couple's marriage. A study by Taghizadeh et al. (2015) documented that women wanted to have children right after their marriage so as to strengthen their relationship. The lower likelihood of unmet need among married women was however inconsistent with findings

of a study done in Hungary (Klinzing, 2012). Moreover, the widowed/separated/divorced women were 0.129 times more likely to report unmet need to limit childbearing. Being out of formal marriage makes such women not to want an extra birth.

Current age showed mixed patterns with unmet need: older women were 28.4 percent less likely to report unmet need to delay childbearing while they were 26.5 percent more likely to report unmet need to limit childbearing. The less likelihood of unmet need to delay childbearing among women aged 20 to 39 years is because it is at such ages that women are ripe for childbearing, most likely, new in marriage and wants to prove their fertilities. The findings for limiting childbearing were consistent with findings of a study done in sub-Saharan Africa (Teshale, 2022). The study by Teshale (2022) found women aged 40-44 and 45-49 years to be 2.27 and 1.43 times, respectively, more likely to experience unmet need for limiting childbearing. Such women are more likely to have attained their desired family sizes and currently in no need of an extra birth.

The higher likelihood of unmet need among women with beyond-3 surviving children is consistent with other studies (Agyekum et al. 2022; Alie et al., 2022; Teshale, 2022; Barrow et al., 2021). Hailemariam and Haddis (2011) explained that as the number of children upsurges, people's craving to have more children decreases. Also, having beyond-3 surviving children might point to a woman having attained her desired number of children and hence more likely to experience higher unmet need to space or limit childbirth (Teshale, 2022). The positive association between unmet need and number of living children is further explained by increased women's exposure to family planning and getting more information about family planning among parous women.

Consistent with findings of this study, other studies have failed to establish any significant association between geographical area of residence (Otieno & Mwakudisa, 2024), education qualification (Otieno & Mwakudisa, 2024), and work status (Agyekum et al., 2022; Alie et al., 2022) and unmet need for family planning. The insignificant association between distance to the nearby health facility and unmet need for family planning might be as a result of improved means of transportation that ensures quick access to health facilities for family planning services. A study by Omedi (2024) found approximate distance to a healthcare facility to be unrelated to the uptake of antenatal care services in Kakamega Central sub-County of Kenya.

4. CONCLUSION

This study sought to establish the predictors of unmet need for family planning in Lurambi sub-County, Kakamega County, Kenya. Unlike most of the existing studies that gave focus on currently married women, this study considered all women: single, married, widowed/divorced/separated who were within the reproductive ages and had an experience of a childbirth in the period 2013-2022. Results of correlation analysis indicated that education qualifications, number of health facilities and distance to the nearby health facility were significantly related to unmet need in Lurambi sub-County. Results of regression analysis indicated that unmet need to delay childbearing was significantly explained by marital status, current age and number of health facilities present in an area. Number of living children

was associated with unmet need to space childbearing while marital status, current age, and number of living children were associated with unmet need to limit childbearing.

The study findings point to the need to invest in women education and increase the number of well-stocked health facilities so as to increase insightful knowledge on contraception and ease access to contraception services. Efforts should be made to reach out to women and their partners at multiple stages in their reproductive lives so as to satisfy the changing needs for contraception. Reducing unmet need is important in reducing maternal and infant mortalities, increasing opportunities for employment and education, increasing control over women's reproductive health, and sustainable development.

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