

Demographic Determinants of Sexual and Reproductive Health Service Utilisation Among Young People in Elgeyo Marakwet County, Kenya

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Abstract

Despite global and national efforts to improve access through youth-friendly programmes, utilisation of sexual and reproductive health (SRH) services remains suboptimal in low-resource and rural settings. This cross-sectional mixed-methods study examined the influence of demographic characteristics on the utilisation of SRH services among young people aged 15–24 years in Elgeyo Marakwet County, Kenya. Quantitative data were collected from 455 respondents using a structured, interviewer-administered electronic questionnaire selected through multistage sampling, while qualitative data were obtained through semi-structured interviews with 12 purposively selected healthcare providers and community leaders. Quantitative data were analysed using descriptive statistics, bivariate analysis, and multivariable logistic regression in IBM SPSS Statistics version 31. Qualitative data were analysed thematically using NVivo version 14, and findings from both components were integrated during interpretation. Overall, 66.8% of respondents had utilised at least one SRH service during the previous 12 months. Relationship status and gender were the only demographic characteristics that remained significant predictors after multivariable analysis. Qualitative findings revealed that younger and unmarried adolescents faced greater barriers to SRH service access. These barriers were linked to parental control, fear of stigma, confidentiality issues, and limited autonomy. Older and married young people reported greater social acceptance in seeking SRH services. However, gender norms constrained women's decision-making even within marriage while also leaving young men significantly excluded from SRH engagement. This study established that interventions should move beyond broad demographic targeting to address the parental and spousal influences shaping younger adolescents' and married women's service-seeking. Interventions should aim at strengthening confidentiality, promoting non-judgmental service delivery, and directly engaging young men and unmarried youth.

Keywords: *Sexual and reproductive health services, demographic characteristics, young people, SRH service utilisation, Kenya*

1.0 Introduction

Sexual and reproductive health (SRH) is a fundamental aspect of health equity for young people as they transition into adulthood (MacGilleEathain et al., 2024). This is especially true as they begin to navigate complex issues linked to bodily autonomy, relationships, sexual wellbeing, identity, and future reproductive choices (MacGilleEathain et al., 2024; Mitchell et al., 2021). The World Health Organization (WHO, 2019) defines youth as young people aged between 15–24 years. From a public health perspective, young adulthood is generally regarded as a period of optimal physical health, though it also represents a critical window for preventive SRH interventions because behaviours established during this period shape lifelong health outcomes (Finlay et al., 2020; Riabroi et al., 2025). Nevertheless, the perception of young people as a relatively healthy population has contributed to the historical neglect of their SRH needs in public health research and healthcare provision (Aibangbee et al., 2024; Maheen et al., 2021).

Consequently, the utilisation of SRH services among young people has emerged as a major public health concern (Lopez, 2024). Evidence indicates that unmet SRH needs are associated with unintended pregnancies, unsafe abortions, HIV, and other sexually transmitted infections (STIs) (Solomon, 2023). In response, researchers have increasingly examined the factors that influence the utilisation of SRH services by young people across different contexts. Recent evidence indicates that the utilisation of SRH services among young people is shaped by demographic characteristics, including age, gender, educational attainment, and relationship status (Lopez, 2024; MacGilleEathain et al., 2024; Maheen et al., 2021).

Across many African countries, young people's SRH needs remain underserved despite growing recognition of their significance (Ninsiima et al., 2021). Consequently, Africa continues to experience a high burden of adverse SRH outcomes. This is especially exacerbated by weak health systems and restrictive socio-

cultural norms (Balogun, 2021). Studies from Nigeria, South Africa, and Uganda consistently report low utilisation of SRH services despite increasing awareness (Balogun, 2021; Mitchell et al., 2025; Ninsiima et al., 2021; Obiezu-Umeh et al., 2021). These studies cite cultural and religious taboos, stigma, limited youth autonomy, and judgmental attitudes among healthcare providers as barriers to utilisation. Although community-based initiatives and adolescent participation in school-based SRH education have been advocated to enhance utilisation, substantial barriers persist (Ahinkorah et al., 2021; Chilambe et al., 2023; Ninsiima et al., 2021). These studies note that the barriers are pronounced in underserved rural settings where young people remain vulnerable to HIV, STIs, sexual violence, and unintended pregnancies.

The utilisation of SRH services is influenced by factors that extend beyond availability of and access to these services. Demographic characteristics such as age, education, gender, and marital status have previously been linked to variations in SRH service utilisation (Mutua et al., 2020; Villalobos et al., 2024). Younger adolescents often experience reduced autonomy and apprehension when seeking SRH services (Villalobos et al., 2024). Conversely, higher educational attainment enhances health literacy and confidence in accessing SRH services. Moreover, marital status may either facilitate or hinder service utilisation depending on prevailing social and cultural norms (Arredondo et al., 2024). These arguments postulate that demographic characteristics influence young people's utilisation of SRH services.

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The Kenyan context mirrors some of the global and regional challenges affecting young people's access to SRH services. Despite policy

efforts, the utilisation of SRH services among young people remains suboptimal, especially in rural and peri-urban areas (Machoka et al., 2024; Mutea et al., 2023). Common barriers include stigma, inadequate confidentiality, judgmental attitudes among healthcare practitioners, and limited availability of youth-friendly services. Consequently, many sexually active young people continue to experience unmet SRH needs, especially in relation to limited access to contraception and HIV testing (Machoka et al., 2024; Mutea et al., 2023). In response, Kenya has adopted several youth-centred initiatives to promote age-appropriate, rights-based SRH services and enhance young people's access to care (MoH, 2016). These initiatives include the National Adolescent Sexual and Reproductive Health (ASRH) Policy and the Youth-Friendly Services Programme (YFSP) (MoH, 2016; Odero et al., 2022). Despite these policy and programmatic efforts, substantial disparities in SRH service utilisation persist. This is true for resource-constrained counties where implementation is hindered by inadequate financing and health system constraints (Akwara & Idele, 2020; MoH, 2016).

Statement of the Problem

SRH services are essential for preventing unintended pregnancies, unsafe abortions, sexually transmitted infections, and maternal morbidity among young people (Aibangbee et al., 2024; Machoka et al., 2024). Despite global and national efforts to improve access through youth-friendly programmes, utilisation of SRH services remains suboptimal in low-resource and rural settings such as Elgeyo Marakwet. Persistent stigma and restrictive socio-cultural norms continue to hinder young people's utilisation of SRH services (Abdurahman et al., 2022; Embleton et al., 2023; Ninsiima et al., 2021).

In Kenya, adolescent pregnancy remains a significant public health concern despite the implementation of the National Adolescent Sexual and Reproductive Health Policy (Kenya National Bureau of Statistics [KNBS] & ICF, 2023; MoH, 2016). These challenges are particularly evident in Elgeyo Marakwet

County, where the adolescent fertility rate (23%) exceeds the national average (18%) (KNBS & ICF, 2023). Limited access to modern contraceptive services also continues to expose many young people to adverse SRH outcomes such as unintended pregnancies and unsafe abortions (KNBS & ICF, 2023; MoH, 2021).

Although previous studies in Kenya have examined various determinants of SRH service utilisation (Embleton et al., 2023; Godia et al., 2013; Kemoi et al., 2020; Mutua et al., 2020), limited evidence exists on the influence of demographic characteristics on the utilisation of SRH services among young people in rural settings such as Elgeyo Marakwet County. This evidence gap constrains the development of targeted, context-specific interventions to improve SRH service utilisation. Therefore, this study examined the influence of demographic factors on the utilisation of SRH services among young people aged 15–24 years in Elgeyo Marakwet County, Kenya.

Theoretical Framework

This study is guided by the Health Belief Model (HBM). The theory explains health-seeking behaviour through individuals' perceptions of susceptibility to health risks, the severity of health conditions, the benefits of preventive action, perceived barriers, cues to action, and self-efficacy (Raheli et al., 2020). HBM provides an appropriate theoretical lens because demographic characteristics shape perceived barriers and self-efficacy related to accessing care (Villalobos et al., 2024). Consequently, the HBM offers a useful framework for explaining variations in the utilisation of SRH services among young people.

Literature Review

Demographic characteristics such as age, sex, educational attainment, and marital status influence healthcare-seeking behaviour (Finlay et al., 2020; Tilahun et al., 2021; Villalobos et al., 2024). Older adolescents, more educated young people, and female adolescents exhibit higher SRH services utilisation behaviours compared to their counterparts (Villalobos et al., 2024). In Sub-Saharan Africa, Finlay et al. (2020) reported that older age, school

attendance, and higher socio-economic status were associated with greater SRH knowledge among adolescents across several countries, including Kenya. Further in Kenya, Mutua et al. (2020) established that age and gender significantly influenced the utilisation of youth-friendly SRH services among university students in Nairobi. These studies indicate that demographic characteristics shape young people's capacity and opportunity to access and utilise SRH services (Finlay et al., 2020; Mutua et al., 2020; Villalobos et al., 2024). However, the existing Kenyan evidence is derived largely from urban, school-going populations. Consequently, it may not adequately reflect the realities of rural counties such as Elgeyo Marakwet, a gap this study addressed.

2.0 Materials and Methods

Study Design

This study employed a cross-sectional mixed-methods design. Quantitative data were collected from young people using structured questionnaires. Qualitative data were obtained through semi-structured interviews with healthcare providers and community leaders to provide contextual insights into the demographic factors influencing SRH service utilisation. Findings from both components were integrated during interpretation to provide a comprehensive understanding of the phenomenon under investigation.

Study Setting

The study was conducted in Elgeyo Marakwet County, Kenya. The target population comprised young people aged 15–24 years residing in the county. According to the 2019 Kenya Population and Housing Census, this age group comprised 97,783 individuals (KNBS, 2019). Healthcare providers involved in adolescent SRH service delivery and community leaders were also recruited to provide contextual perspectives.

Sample Size Determination

The minimum quantitative sample size was determined using Yamane's formula for finite populations $n = N / (1 + N(e)^2)$ (Yamane, 1967).

The study assumed a 95% confidence level and a 5% margin of error. The calculated minimum sample of 398 participants was increased by 10% to account for potential non-response. This resulted in an adjusted minimum sample size of 442 respondents: $n_{adj} = 398 / (1 - 0.10) = 442$. Although the adjusted minimum sample size was 442 respondents, a total of 455 eligible respondents were recruited and retained in the analysis. This slight exceedance resulted from concurrent field recruitment, where data collection activities already in progress when the minimum sample was reached were completed. Following data cleaning and verification, all 455 responses met the study inclusion criteria and were retained for analysis.

Sampling Procedure

A multistage sampling procedure was employed. First, six wards were randomly selected from the 20 wards in Elgeyo Marakwet County. The quantitative sample was proportionally distributed across the six selected wards. A listing exercise was subsequently undertaken within the selected wards to develop a sampling frame of eligible young people aged 15–24 years, from which participants were selected using simple random sampling. The sample-size calculation did not incorporate a design-effect adjustment for possible clustering within the selected wards. This is acknowledged as a limitation when interpreting the precision of the estimates. For the qualitative component, purposive sampling was used to recruit healthcare providers and community leaders with experience in adolescent SRH programmes. Twelve key informants were selected based on their roles in SRH service delivery, community leadership, and youth engagement.

Data Collection

Quantitative data were collected using a structured interviewer-administered electronic questionnaire implemented through Computer-Assisted Personal Interviewing (CAPI). The instrument collected information on respondents' socio-demographic characteristics, utilisation of SRH services, and other variables considered potential determinants or

confounders of SRH service utilisation. The questionnaire was pretested among approximately 10% of the intended sample in non-selected wards. Feedback obtained informed revisions before the parent survey. Qualitative interviews were audio-recorded with participants' consent and transcribed for analysis.

Data Analysis

Quantitative data were analysed using IBM SPSS Statistics version 31. Descriptive statistics were used to summarise respondents' study variables. Bivariate analyses were performed to examine associations between the independent variables and SRH service utilisation. Variables that were significantly associated with SRH service utilisation at the bivariate level were included in a multivariable logistic regression model. This was to determine the independent influence of demographic characteristics while controlling for potential confounding variables. Adjusted odds ratios (AORs) and 95% confidence intervals (CIs) were reported. Statistical significance was set at $p < 0.05$. Multicollinearity was assessed using tolerance and variance inflation factor (VIF) statistics. VIF values ranged from 1.03 to 1.66, while tolerance values ranged from 0.60 to 0.97. This indicated no problematic multicollinearity. Model fit was assessed using the Hosmer–Lemeshow goodness-of-fit test, the omnibus model chi-square, Nagelkerke R^2 , and classification accuracy. Statistical significance was set at $p < 0.05$.

Qualitative data were analysed thematically using NVivo version 14. Codes were generated inductively. These were then grouped into categories and synthesised into themes that offered a contextual explanation of the quantitative findings. As such, findings were integrated during interpretation to provide a comprehensive understanding of factors influencing SRH service utilisation.

Ethical Considerations

Ethical approval was obtained from the Kenya Methodist University Ethics Review Committee (Ref. No. KEMU/ISERC/PHT/02/2026). Research authorisation was subsequently granted by the National Commission for Science, Technology and Innovation (Licence/Ref. No. 366884) and the Elgeyo Marakwet County health authorities. Written informed consent was obtained from participants aged 18 years and above. Written assent and parental or guardian consent were obtained for participants younger than 18 years. Participation was voluntary, and confidentiality was maintained throughout the study.

3.0 Results and Discussion

Sample Characteristics

The final analytic sample comprised 455 young people aged 15–24 years from Elgeyo Marakwet County. Overall, 304 (66.8%) respondents reported having utilised at least one SRH service during the 12 months preceding the survey, while 151 (33.2%) had not. Valid sample sizes varied for some demographic variables because of item non-response.

Bivariate Associations

Demographic characteristics were significantly associated with SRH service utilisation at the bivariate level (Table 1). Utilisation was higher among females (74.2%) than males (59.7%) ($\chi^2(1) = 8.57$, $p = 0.003$). Moreover, it increased progressively with age, from 43.5% among respondents aged 15–16 years to 88.5% among those aged 23–24 years ($\chi^2(4) = 35.44$, $p < 0.001$). Utilisation also increased with educational attainment. Results show that it rose from 57.8% among respondents with primary education to 81.6% among those with university education ($\chi^2(3) = 14.77$, $p = 0.002$). Lastly, utilisation varied significantly by settlement type, with the highest utilisation observed among rural respondents (73.4%), followed by urban (64.8%), and peri-urban (51.1%) respondents ($\chi^2(2) = 8.82$, $p = 0.012$).

Table 1

Bivariate Associations Between Study Variables

Variable	Did not use SRH n (%)	Used SRH n (%)	χ^2 (df), p
Gender			
Male	83 (40.3)	123 (59.7)	$\chi^2(1) = 8.57, p = 0.003$
Female	63 (25.8)	181 (74.2)	
Total	146 (32.4)	304 (67.6)	
Age Group (years)			
15–16	26 (56.5)	20 (43.5)	$\chi^2(4) = 35.44, p < 0.001$
17–18	42 (40.4)	62 (59.6)	
19–20	50 (38.2)	81 (61.8)	
21–22	23 (26.4)	64 (73.6)	
23–24	10 (11.5)	77 (88.5)	
Total	151 (33.2)	304 (66.8)	
Education Level			
Primary	70 (42.2)	96 (57.8)	$\chi^2(3) = 14.77, p = 0.002$
Secondary	46 (31.9)	98 (68.1)	
College	19 (23.2)	63 (76.8)	
University	9 (18.4)	40 (81.6)	
Total	144 (32.7)	297 (67.3)	
Settlement Type			
Peri-urban	22 (48.9)	23 (51.1)	$\chi^2(2) = 8.82, p = 0.012$
Rural	46 (26.6)	127 (73.4)	
Urban	80 (35.2)	147 (64.8)	
Total	148 (33.3)	297 (66.7)	

Note. Valid sample sizes varied across some variables because of missing or non-response data. Gender information was available for 450 respondents; four respondents had missing Gender information and one selected "Prefer not to say." Education level had 441 valid responses and 14 missing responses, while settlement type had 445 valid responses and 10 missing responses. Percentages and chi-square tests for these variables are based on the respective valid responses.

Multivariable Logistic Regression

In the multivariable model, only relationship status and gender remained statistically significant demographic predictors after adjustment for other variables (Table 2). Respondents who were currently in a relationship had substantially higher odds of utilising SRH services than those not in a relationship (AOR = 9.213, 95% CI 4.702–18.053, $p < 0.001$). Female respondents were also more likely than males to utilise SRH

services (AOR = 1.858, 95% CI 1.142–3.022, $p = 0.013$). SRH knowledge and awareness was also independently associated with utilisation (AOR = 1.421, 95% CI 1.064–1.899, $p = 0.017$). However, SRH knowledge and awareness was included in the model as a covariate rather than as one of the focal demographic characteristics. Age, education, and settlement type lost statistical significance after adjustment. This suggests that their observed bivariate associations with SRH service utilisation may operate through other factors included in the model rather than acting as independent predictors. Age may influence utilisation through changes in autonomy and decision-making capacity as young people grow older (Mutua et al., 2020; Villalobos et al., 2024). Similarly, the influence of education may partly operate through improved SRH knowledge and confidence in seeking services (Finlay et al., 2020). Differences by settlement type may also reflect variations in these individual and

relational factors rather than an independent effect of residence. As such, demographic characteristics may interact with knowledge,

gender, and relationship dynamics in shaping SRH service utilisation.

Table 2

Multivariable Logistic Regression Results

Variable	AOR	95% CI	p
Age	1.146	0.893–1.471	0.284
Gender (Female vs Male)	1.858	1.142–3.022	0.013*
Education level	1.030	0.759–1.398	0.850
Settlement type	1.226	0.854–1.758	0.269
Perceived discrimination	1.316	0.969–1.787	0.079
Relationship status	9.213	4.702–18.053	<0.001***
SRH knowledge and awareness	1.421	1.064–1.899	0.017*
Accessibility to SRH services	1.082	0.811–1.444	0.590
Socioeconomic factors	1.130	0.723–1.767	0.591

* $p < 0.05$. *** $p < 0.001$.

The final logistic regression model was statistically significant, $\chi^2(9) = 112.623$, $p < 0.001$. This was with a Nagelkerke R^2 of 0.335 and an overall classification accuracy of 75.1%. The Hosmer–Lemeshow goodness-of-fit test was non-significant, $\chi^2(8) = 5.284$, $p = 0.727$, indicating adequate model fit.

Qualitative Findings

Key informant accounts helped explain these patterns. Younger adolescents were described as constrained by limited autonomy, fear of parental disapproval, and anxiety about being seen at health facilities. On the other hand, older youth were seen as more confident and self-directed in seeking care. These findings are consistent with the HBM construct of perceived severity strengthening with age (Bechard et al., 2021). Likewise, marital status shaped social acceptance. Married youth were described as facing comparatively little stigma when accessing family planning or antenatal services. By contrast, unmarried youth encountered judgment and, for those under 18, additional barriers linked to parental or guardian consent. Yet, qualitative findings established that marriage did not straightforwardly empower young women. Informants described husbands as frequently controlling contraceptive decisions, with gender norms constraining women's reproductive autonomy while also excluding young men from SRH conversations. Findings further revealed that decisions about contraceptive use often required a woman to

seek her partner's consent or resources. This underscores that higher utilisation among females should not be viewed as evidence of gender equity in SRH access.

Discussion

These findings align with Mutua et al. (2020) and Villalobos et al. (2024), who linked age to autonomy and decision-making capacity in health-seeking. The findings also concur with Finlay et al. (2020) and Tilahun et al. (2021), who noted comparable age effects among sub-Saharan African and Ethiopian youth, respectively. The gender differential corroborates a consistent pattern in the regional literature of higher reproductive health service use among young women than men (Finlay et al., 2020; Villalobos et al., 2024). The qualitative findings that this reflects reproductive necessity rather than empowerment support Arredondo et al. (2024) argument that gender norms continue to shape reproductive decision-making despite access to SRH services enhancements.

These findings suggest that SRH service utilisation among young people in Elgeyo Marakwet County is influenced more by relationship status and gender than by other demographic characteristics. From HBM's perspective, these factors shape young people's perceived need for care as well as the barriers they encounter when accessing SRH services. Accordingly, interventions should strengthen

gender-responsive and youth-friendly SRH services while tailoring outreach to young people at different relationship stages. This is to encourage timely and appropriate service utilisation.

4.0 Conclusion

This study found that, among the demographic characteristics examined, only gender and relationship status independently influenced SRH service utilisation among young people in Elgeyo Marakwet County. Although age, educational attainment, and settlement type were associated with SRH service utilisation at the bivariate level, these associations remained statistically insignificant after adjustment for other variables. These findings suggest that gender and relationship status are the most important demographic determinants of SRH service utilisation among young people in Elgeyo Marakwet County. Therefore, the study highlights a need for interventions that are

responsive to gender and relationship dynamics to improve SRH service utilisation among young people in rural settings.

5.0 Recommendations

Efforts to improve SRH service utilisation among young people should prioritise interventions that respond to gender and relationship dynamics. County governments and healthcare providers should improve youth-friendly SRH services by focused outreach and age-appropriate service delivery. They should also design and adopt approaches that consider the unique needs of young men, young women, and young people at various stages of their relationships. These results offer context-specific evidence to guide youth-responsive SRH policies and initiatives in Elgeyo Marakwet County and other contexts with comparable sociocultural and demographic traits.

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