Factors Influencing Time to First Sexual Intercourse among Youths: Evidence from the 2022 Kenya Demographic and Health Survey Data

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ABSTRACT

Background

The timing of first sexual intercourse is a critical marker in adolescent development, influencing health, education, and social outcomes. Early sexual debut increases the risk of unintended pregnancy, sexually transmitted infections (STIs), and educational disruption. While several studies in sub-Saharan Africa have explored correlates of early sexual initiation, most rely on cross-sectional designs or localized samples and logistic regression to find out covariates of sex debut, few have applied survival analysis to nationally representative data in Kenya to find out factors influencing time to sex debut. The purpose of this study is to estimate the median age at first sexual intercourse and identify socio-demographic, cultural, and behavioral determinants influencing its timing among Kenyan youths, using the 2022 Kenya Demographic and Health Survey (KDHS).

Methods

This study analyzed KDHS 2022 data restricted to respondents aged 15–34 years. Survival analysis methods were applied. The Cox proportional hazards (Cox PH) model was first fitted to estimate hazard ratios, with assumptions tested using Schoenfeld residuals. Violations of proportional hazards led to the application of the Weibull Accelerated Failure Time (AFT) model, which directly assesses whether covariates accelerate or delay sexual debut.

Results:

Among 32,156 youths, 97.7% had experienced sexual debut by age 35. The median age at first sexual intercourse was 17 years, coinciding with the final years of secondary education in Kenya. Alcohol use by the first sexual partner significantly accelerated debut (Estimate = –0.040, $p < 0.001$). Higher education delayed initiation compared to no schooling, with secondary education level (Estimate = 0.024, $p < 0.05$) and higher education (Estimate = 0.079, $p < 0.001$) associated with later timing. Wealth profile has delay effect, with youths in richer and richest quintiles showing significantly delayed time to first sexual intercourse. Religion showed mixed effects: Islam and Evangelical affiliation delayed time to first sexual intercourse, while Orthodox affiliation accelerated it. Rural residence was associated with earlier initiation (Estimate = –0.015, $p < 0.05$).

Conclusion

In Kenya, sexual debut occurs at a median age of 17 years, coinciding with a critical period in formal schooling, with significant implications for both educational attainment and reproductive health trajectories among youth. Education and economic empowerment emerge as key protective factors delaying sexual initiation, whereas alcohol use and rural residence are associated with earlier transition to first sexual intercourse. Religious affiliation, a proxy for cultural and social norms, influence time to first sex intercourse. Consequently, policy interventions should prioritize strengthening access to education and economic opportunities, alongside youth-

friendly sexual and reproductive health programs that promote protective behaviours, particularly through targeted strategies to reduce alcohol use among adolescents.

Keywords: Sexual debut, survival analysis, Cox PH, KDHS 2022, youths, Kenya

BACKGROUND

Adolescence is a pivotal stage of the life course characterized by rapid physical, psychological, and social transitions that shape future health, educational, and socioeconomic outcomes. Although this period offers substantial opportunities for growth and human capital development, it is also marked by heightened vulnerability to risky behaviors with long-term consequences [1]. In Kenya, where 75% of the population is youthful, adolescents are growing up in environments profoundly shaped by rapid urbanization, expanding access to television, mobile phones, and digital media, and shifting social norms. These conditions are markedly different from those experienced by earlier generations. These changes have accelerated exposure to information and behaviors related to sexuality, influencing young people's sexual and reproductive health decision-making. Within this rapidly changing context, early sexual debut remains a critical public health concern, particularly given the persistent burden of HIV and other sexually transmitted infections in the country.

Many countries have enacted legislation establishing a legal age of sexual consent in response to the negative health and social consequences associated with early sexual debut. In Kenya, the legal age of sexual consent is eighteen years [2]. This implies that individuals below the age of eighteen are legally regarded as minors and therefore cannot provide valid consent to sexual activity. The age of consent is intended to protect minors from potential harm, exploitation, and abuse. Despite the existence of these legal protections, many children and adolescents in Kenya initiate sexual relationships at very young ages, thereby increasing their risk of adverse reproductive health outcomes[3]. Under the Children's Act of 2022, all children below the age of eighteen have the right to education regardless of race, colour, nationality, religion, sex, disability, socioeconomic status, or cultural background [4]. Survey evidence indicates that by age fifteen, approximately 22% of boys and 12% of girls have already initiated sexual activity. These proportions increase with age, with over 37% of girls and 44% of boys aged 15–19 reporting having had sex [5].

Kenya has a markedly youthful population, with approximately 40% of its population under the age of 15, indicating a large cohort transitioning into adolescence and youth, according to the 2022 Kenya Demographic and Health Survey (KDHS) [6].. Broader demographic estimates further suggest that about 73% of Kenyans are below the age of 30, while youth, commonly defined in policy contexts as individuals aged 18–35 years, constitute roughly 36% of the total population. Given that Kenya's total population exceeded 50 million according to the 2022 population census, these proportions imply that between 17 and 23 million individuals fall within the youth demographic and younger cohorts. This substantial youth population is central to Kenya's socioeconomic development, as it represents both the current and future workforce and consumer base. Consequently, investments aimed at delaying sexual debut through education and access to comprehensive reproductive health services have the potential to enhance educational attainment, reduce adolescent pregnancy, and strengthen long-term economic participation[7,8].

The topic on sexuality and related field is critical for development and has drawn interest among researchers have been quite insightful. These studies have shown that sexual debut among youths is shaped by a range of socio-demographic, cultural, and behavioral factors. In particular, a number of the studies cite peer pressure and curiosity that often push adolescents to initiate sex in order to fit in with friends or explore new experiences[9,10]. Romantic relationships and emotional attachment also contribute, as many view sex as an expression or confirmation of true love[11]. For others, economic pressures and poverty create vulnerability to transactional or survival sex[12–14] . In addition, these studies shows that alcohol use, gender, education level [8,15] religiosity[16,17] and wealth[17] influence timing to first sex intercourse.

Though these studied are insightful, those from outside Kenya lack the Kenyan context. Moreover, the few studies undertaken in Kenyan contexts lack the national representativeness such as the regional-specific studies[18,19]. Moreover, most of these on time to first sex debut studies[18–21]. relied on logistic regression analyses that only establish associations and indicate whether sex has occurred, without capturing when initiation

takes. There is a need for survival analysis using recent, nationally representative data from Kenya to better understand factors influencing the age at first sex. An application of time-to-event models estimates the timing of sexual debut but also identifies how socio-demographic, cultural, and behavioral factors accelerate or delay initiation. This is critical because it offers dynamic insights for policy and programming. Using the latest KDHS 2022 data, the study addresses this gap and answers two key questions: What is the median age at first sexual intercourse among Kenyan youths? And, which factors significantly influence the timing of sexual debut among the youths in Kenya?

METHODOLOGY

Design

This study adopted a cross-sectional research design using secondary data from the 2022 Kenya Demographic and Health Survey (KDHS). The KDHS is part of the international Demographic and Health Surveys (DHS) Program, which provides nationally representative data on population, health, and nutrition indicators. The survey employed a two-stage stratified cluster sampling design. In the first stage, enumeration areas (EAs) were selected from the Kenya National Bureau of Statistics (KNBS) master sampling frame. In the second stage, a systematic sample of households was drawn within each selected EA. All women aged 15–49 years and men aged 15–54 years in sampled households were eligible to participate.

Population

The target population for the KDHS 2022 consisted of youth aged 15–49 years living in sampled households across Kenya. The study population was restricted to 32, 156 youths aged between 18-35 years.

Data and study variables

The 2022 KDHS data was obtained from the KNBS website upon registration and agreeing to the terms of us. Religion, residence, wealth index, alcohol usage, and education were chosen as key explanatory variables because of their established impact on adolescent sexual behavior[22–24]. Religion affects cultural norms and moral expectations about premarital sex, whereas residency represents urban-rural variations in exposure, supervision, and access to services. Wealth indicates a household's socioeconomic level, which influences sensitivity to early or transactional sex versus school retention and delayed commencement. Alcohol consumption is strongly associated to risk-taking and decreased inhibition, which frequently accelerates time to first sexual intercourse especially among the youths. Education, largely considered as protective, delays initiation by increasing knowledge, ambitions, and structured supervision.

The Cox proportional hazards fit data by not specifying the baseline hazard. The Weibull survival models were estimated. Studies on survival analysis argue that fitting both models allows researchers to evaluate whether covariate effects are robust across specifications and whether the data support a specific hazard shape, in which case parametric models such as Weibull may be preferred. In applied demographic and health research, demonstrate that estimating both Cox and Weibull models is good practice, particularly when the research interest extends beyond relative risks to understanding how hazards evolve over time[25,26]. The Cox proportional hazards model, specified in Equation (1), provides a flexible semi-parametric framework that does not require prior specification of the baseline hazard function. Instead of making assumptions about whether the "risk" of the event increases or decreases as a person ages, the model leaves the baseline hazard unspecified and focuses on the relative effect of covariates on the hazard ratio. This makes it highly flexible but provides less information about the absolute timing of the event. The cox PH model is specified as;

$$h(t \mid X) = h_0(t)exp(\beta X) \quad [1]$$

where; $h(t \mid X)$ = hazard at time t given covariates vector of X, $h_0(t)$ = unspecified baseline hazard function, β = vector of coefficients and exp(β) is the Hazard Ratio (HR).

On the other hand, the Weibull model specified in equation (2) is a fully parametric approach that explicitly captures the time-dependency of the hazard through its shape parameter, allowing direct assessment of how risk evolves over time. Weibull model explicitly defines the baseline hazard function using a specific mathematical distribution. In the context of first sexual intercourse, a Weibull model can describe whether the "failure rate" increases, decreases, or remains constant over time.

In addition, the Weibull model demonstrated superior model fit and offered more efficient parameter estimates under its parametric assumptions, while still preserving the proportional hazards structure for covariate interpretation [25,26]. Consequently, the Weibull model was deemed more an alternative model for characterizing both the determinants and the temporal dynamics of the event of interest. The specified structure of the Weibull is specified as;

$$h(t \mid X) = \lambda p t^{p-1} \exp(\beta X) \quad [2]$$

where; h(t) = hazard rate at time t, λ = scale parameter, p = shape parameter, which determines the behavior of the hazard rate over time, t = time (e.g., age at first sexual debut), β = vector of coefficients and X =vector of covariates (e.g., education, residence, alcohol use). It is important to note that, covariate coefficients (β) are typically interpreted through their hazard ratios, obtained by exponentiating the coefficients (exp(β)). A hazard ratio greater than one indicates an increased risk of the event occurring sooner (e.g., earlier sexual debut), while a hazard ratio less than one suggests a reduced risk or delayed occurrence of the event, holding other factors constant. In addition to covariate effects, the Weibull model estimates a shape parameter (p), which describes how the hazard changes over time. When p>1, the hazard increases with time, indicating that the risk of the event rises as individuals age; when p<1, the hazard decreases over time, suggesting that the risk is highest at younger ages and declines thereafter; and when p=1, the hazard is constant over time, reducing the model to an exponential form. The model simultaneously explains who is at higher or lower risk and how the risk evolves over time.

In selection of predictors, the study leaned towards a parsimonious approach by utilizing limited number of key predictors. Parsimonious models maintain model stability and interpretability, reduce the risk of overfitting [27–29]. The independent variables included sociodemographic factors such as place of residence (urban or rural), household wealth index (poorest, poorer, middle, richer, and richest), and educational attainment (no education, primary, secondary, and higher education). Religious affiliation was categorized into Catholic, Protestant, Evangelical churches, African instituted churches, Orthodox, Other Christian, Islam, Hindu, Traditionists, No religion/atheists, and Other. Behavioral factors were assessed through alcohol use by first sexual partner, measured as a binary variable (yes or no). Categorical variables were modeled as factor covariates to allow for category-specific effects and to prevent the imposition of spurious linear trends[30].

The dedicated survival analysis packages in R aided in the analysis because for their comprehensive and rigorously validated implementations of semiparametric and parametric time-to-event models. The Cox model was used to evaluate how covariates affect the risk of experiencing first sexual intercourse at any given age without assuming a specific baseline hazard distribution. The Weibull model, as a parametric alternative, was applied to assess the monotonic nature of the hazard function, determining whether the risk of sexual debut increases, decreases, or remains constant with age. The Weibull is qquit informative of the possible temporal pattern of sexual initiation among Kenyan youths via its shape parameter. The Kaplan-Meier survival estimates were computed to generate step functions, providing a definitive visualization of the probability of survival over time. Statistical significance was assessed at the common threshold value of 5% level ($\alpha = 0.05$).

Ethical concerns

At data collection level, ethical concerns were well adhered to. The 2022 KDHS protocol was reviewed and approved by the Kenya Medical Research Institute (KEMRI) Scientific and Ethics Review Unit (SERU) and the Institutional Review Board of ICF International. Informed consent was obtained from all respondents prior to participation in the survey. At data usage level, the secondary data was obtained with permission from the DHS Program website. No further ethical approval was required, as the analysis involved de-identified data with no direct contact with respondents.

RESULTS

Table 1 shows that, out of the total sample of 32,156 youths in the KDHS, 97.7% had experienced first sexual intercourse and 2.3% had not by age of 35 years. In terms of religion, the majority were Protestant (33.5%), followed by Evangelical churches (21.7%) and Catholic (17.6%), with smaller proportions identifying as Muslim (15.1%), African instituted churches (7.9%), Orthodox (0.3%), Hindu (0.1%), Traditionists (0.3%), or with no religion (1.1%). Most respondents reside in rural areas (61.5%) compared to urban (38.5%). Wealth distribution was fairly balanced, with the largest groups in the richer (22.3%) and poorest (22.0%) quintiles. Regarding alcohol use, 27.0% reported consumption, while 73.0% did not. Education levels varied, with 36.7% having primary education, 36.2% secondary, 15.2% higher education, and 11.9% reporting no formal education.

Table 1 Descriptive Results of study variables

Variable	Category	n	%
Event	Censored (0)	735	2.3%
	Uncensored (1)	31,421	97.7%
Religion	Catholic	5,665	17.6%
	Protestant	10,777	33.5%
	Evangelical churches	6,981	21.7%
	African instituted churches	2,542	7.9%
	Orthodox	81	0.3%
	Other Christian	0	0.0%
	Islam	4,852	15.1%
	Hindu	24	0.1%
	Traditionists	93	0.3%
	No religion/atheists	357	1.1%
	Other	784	2.4%
Residence	Urban	12,386	38.5%
	Rural	19,770	61.5%
Wealth	Poorest	7,073	22.0%
	Poorer	5,742	17.9%
	Middle	6,345	19.7%
	Richer	7,160	22.3%
	Richest	5,836	18.1%

Alcohol Use	No	11,046	73.0%
	Yes	4,081	27.0%
Education	No education	3,836	11.9%
	Primary	11,807	36.7%
	Secondary	11,634	36.2%
	Higher	4,879	15.2%

Figure 1 is a plot of the Kaplan Meir survival function. It shows a median age is 17 years representing the time point at which the estimated survival function equals 0.5. This suggests that, 50% of the study cohort of Kenyan youths have experienced sexual debut while 50% have not.

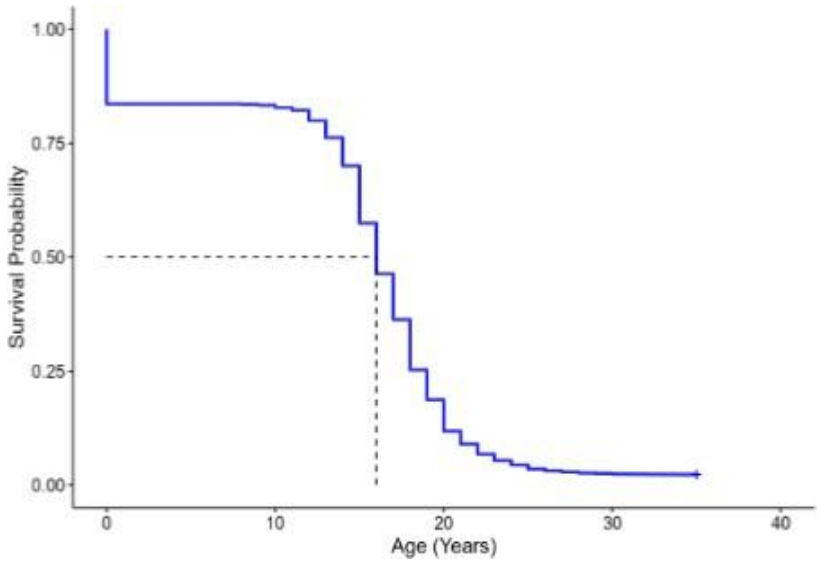

Figure 1; Overall Survival Curve

Factors Influencing Time To First Sexual Intercourse

Table 2 results shows that alcohol use is significant predictor of age at first sex (HR = 1.059, p=0.003). This suggests that individuals who use alcohol have a higher hazard of time to first sexual intercourse compared to their non-using counterparts, indicating an earlier initiation. Education level is strong predictor sex debut. While primary education was associated with a higher HR of 1.069 ($p<0.05$), both secondary (HR = 0.849, $p<0.001$) and especially higher education (HR = 0.603, $p<0.001$) are linked to a significantly lower hazard suggesting educational attainment is protective against sex debut. Wealth status also had a consistent and significant inverse relationship with the hazard of time to first sexual intercourse. Compared to the poorest group, all higher wealth categories—poorer (HR = 0.944, $p<0.05$), middle (HR = 0.802, $p<0.001$), richer (HR = 0.772, $p<0.001$), and richest (HR = 0.679, $p<0.001$), had a significantly lower hazard. The hazard ratio progressively decreases as wealth increases, with the richest group showing the lowest hazard ratio of sex debut.

Religious affiliation demonstrated a significant effect. Protestants (HR = 1.017, $p<0.05$) and individuals belonging to the Orthodox group (HR = 1.518, $p<0.05$) had a significantly higher hazard of time to first sexual intercourse. In contrast, adherence to Islam was associated with a significantly lower hazard (HR=0.795 ($p<0.001$). Other religious groups, including Evangelicals, African Instituted churches, Traditionists, and those with no religion, did not show a significant association ($p>0.05$). place of residence in rural areas did not emerge as a significant predictor.

Table 2 Cox PH Model Results for Time to First Sexual Intercourse

Variable	**HR**	**SE**	**p-value**	**95% LCI**	**95% UCI**
Protestant	1.017	0.024	0.471	0.971	1.066
Evangelical churches	0.943	0.026	0.026	0.896	0.993
African instituted churches	1.059	0.035	0.101	0.989	1.135
Orthodox	1.518	0.161	0.010	1.106	2.082
Other Christian	--	--	--	--	--
Islam	0.795	0.033	0.000	0.745	0.848
Hindu	0.890	0.317	0.714	0.478	1.658
Traditionists	1.238	0.140	0.126	0.942	1.627
No religion/atheists	1.120	0.079	0.150	0.960	1.307
Other	0.976	0.056	0.663	0.874	1.089
Alcohol use Yes	1.059	0.019	0.003	1.020	1.099
Education: Primary	1.069	0.032	0.035	1.005	1.137
Education: Secondary	0.849	0.034	0.000	0.794	0.908
Education: Higher	0.603	0.040	0.000	0.558	0.653
Poorer	0.944	0.028	0.041	0.892	0.998
Middle	0.802	0.028	0.000	0.759	0.848
Richer	0.772	0.031	0.000	0.726	0.821
Richest	0.679	0.039	0.000	0.630	0.733
Residence: Rural	0.999	0.023	0.960	0.955	1.045

Note: LCI; Lower 95% confidence Interval. UCI; Upper 95% confidence interval

Table 3 shows the proportional hazards assumption evaluated using Schoenfeld residuals. Results indicated significant violations for respondent's age ($p = .008$), religion ($p < .001$), wealth index ($p < .001$), residence ($p < .001$), and marital status ($p < .001$). Partner's alcohol use did not violate the assumption ($p = .226$). The global test was also statistically significant ($p < .001$), suggesting that the proportional hazards assumption was not fully met for the overall model justifying the Weibull regression estimation instead [31,32].

Table 3 Proportional Hazards Assumption

Variable	Chi-square (χ^2)	df	p-value
Current Age	7.04	1	0.008

Religion	39.85	9	0.081
Partner drink alcohol	1.47	1	0.226
Wealth Index	469.42	4	0.000
Residence	153.86	1	0.000
Marriage Status	42.46	5	0.000
GLOBAL	521.01	21	0.000

Table 4 is the Weibull model estimation results to evaluate the determinants of time to first sex intercourse among the youths in Kenya. A first-time sexual partner's alcohol use significantly accelerates the time to first sexual debut, as evidenced by a negative and highly significant estimate (Estimate = -0.040, $p < 0.001$). Religious beliefs show mixed effects. Being part of Evangelical churches (Estimate = 0.026, $p < 0.001$) or Islam (Estimate = 0.049, $p < 0.001$) significantly decelerates the time to the event. Conversely, belonging to the Orthodox group significantly accelerates the time to first sex (Estimate = -0.117, $p < 0.01$). Higher educational attainment is associated with a delayed time to first sexual intercourse. Both secondary (Estimate = 0.024, $p < 0.05$) and higher education (Estimate = 0.079, $p < 0.001$) significantly decelerate the event. Similarly, increasing wealth status consistently decelerates the time to first sex, with the middle (Estimate = 0.037, $p < 0.001$), richer (Estimate = 0.035, $p < 0.001$), and richest (Estimate = 0.056, $p < 0.001$) categories all showing significant positive estimates. A youth living in a rural area is at higher risk of engaging in first time sex compared to one in urban (Estimate = -0.015, $p < 0.05$). Finally, the log(scale) parameter, with a highly significant negative estimate (Estimate = -1.32, $p < 0.001$), confirms that the Weibull distribution is a good fit for the survival data. Therefore, the substantive conclusions of this study are based on the Weibull model results [32].

Table 4 Weibull AFT Model Results for Time to First Sexual Intercourse

Variable	Estimate	Std. Error	z	p-value
(Intercept)	2.741460	0.014349	191.05	0.000
Protestant	-0.000636	0.006478	-0.10	0.922
Evangelical churches	0.025854	0.007088	3.65	0.000
African instituted churches	-0.015770	0.009482	-1.66	0.096
Orthodox	-0.117330	0.043650	-2.69	0.007
Other Christian	NA	0.000000	NA	NA
Islam	0.049063	0.009087	5.40	0.000
Hindu	-0.057434	0.084720	-0.68	0.498
Traditionists	-0.052487	0.037275	-1.41	0.159
No religion/atheists	0.010172	0.021036	0.48	0.629
Other	0.008570	0.015160	0.57	0.572
Partner drink alcohol (Yes)	-0.039907	0.005280	-7.56	0.000

Education: Primary	-0.014993	0.008466	-1.77	0.077
Education: Secondary	0.024147	0.009396	2.57	0.010
Education: Higher	0.078885	0.010868	7.26	0.000
Wealth index: Poorer	0.007565	0.007652	0.99	0.323
Wealth index: Middle	0.036605	0.007724	4.74	0.000
Wealth index: Richer	0.035425	0.008499	4.17	0.000
Wealth index: Richest	0.056326	0.010524	5.35	0.000
Residence: Rural	-0.015371	0.006290	-2.44	0.014
Log(scale)	-1.320498	0.005464	-241.65	0.0000

Note: The Weibull model was applied as the Cox PH assumption was violated, providing a better fit for the survival data. NA; Not Applicable.

DISCUSSION

Youths face strong pressure to initiate sexual activity driven by internal biological changes, including hormonal maturation, as well as external environmental influences, during a critical period when they are simultaneously shaping their educational pathways and future life prospects. Over 50% of youths have had their first sex intercourse by the 17th birthday coincides with crucial secondary education period. This percentage of the youth is at heightened risk of interrupted schooling, early pregnancy, and exposure to sexually transmitted infections. This timing reflects a critical transition where many adolescents live away from parents or close caretakers due to boarding school or school-related commitments, which reduces direct supervision. In this context, increased peer influence, curiosity, and exposure to new social environments can heighten vulnerability to early sexual debut. Comparable evidence from parts of African countries shows time to first sexual intercourse commonly occurs between ages 16 and 18 years[1,33]. It is a regional challenge rather than a country-specific issue. Policies that integrate comprehensive sexuality education, strengthen school retention initiatives, and expand adolescent-friendly health services during this transition period are therefore crucial to safeguarding both educational and reproductive health outcomes.

The individual behaviour choices of the modern youth play great role on the timing to first sex debut in Kenya. Alcohol use by first-time sexual partner is an accelerator of time to sex debut. This aligns with multiple studies and broader evidence linking alcohol exposure to increased adolescent sexual risk-taking and earlier initiation[34,35]. Alcohol use is associated with weak supervision, increase risky encounters, and with permissive norms. Religiousity has a delay effect on timing to first sexual intercourse because it is an institution of social control and encourages only marital sex among youths and its followers. The findings of this study aligns with observed preventive effect to sex debut among religious youth[36,37].

Education attained by an individual has slowing effect of time to first sex debut of that individual. Secondary (Estimate = +0.024, $p < .05$) and Higher (Estimate = +0.079, $p < .001$) are associated with later time to first sexual intercourse relative to know education. This is consistent with recent Kenyan and regional analyses that report schooling as a protective factor, higher educational attainment delays sexual initiation, likely through increased future orientation, greater knowledge of sexual health, and more time spent in supervised academic environments[38,39]. Rural based youths showed shorten debut to rural areas as compared residing in urban areas. Many Kenyan studies note earlier sexual initiation in rural settings, often linked to lower schooling continuation, earlier marriage norms, and different socioeconomic pressures.

This study has some limitations worthy to note. First the assumption on the reported time of first sex is assumed is voluntary choice and not coercive. However, studies shows that, incidents of early sex is coercive and under forced or arranged marriage[40,41] Second, The information used is self-reported which may not be free from social desirability bias [33,42]. Some respondents had not yet had their first sexual experience by the time of the survey. Such cases were censored, assuming they are similar to those who have already debuted and therefore are exposed to the same risks[43]. However, this may not always be true, since those who delay debut may differ in ways not captured by the data, such as parental supervision or cultural influences. This could affect the accuracy of the results.

CONCLUSION

The research concludes that policy interventions aimed at delaying sexual debut beyond the median age of 17 a key schooling period) are those focusing on strengthening education and economic empowerment initiatives, as these factors are consistently linked to a later timing of the event increasing the likelihood that the first sex occur within marriage rather than premarital. Campaigns in rural communities and programs addressing first sexual partner alcohol use by public health strategies are critical in potentially pushing the event past the median age and therefore to appropriate time. Furthermore, different religious affiliation shapes timing to sexual behavior in diverse ways that influence the timing of debut.

To delay a later median age for first time to first sexual intercourse, policymakers should prioritize a three-part strategy. First, strengthen youth education and economic empowerment by investing in programs that increase educational attainment and income generating opportunities. Second, launch targeted public health campaigns in rural communities and develop programs to address implications of alcohol use, as these factors accelerate time to first sexual intercourse. Also, foster community-based partnerships with religious and community leaders to create and deliver culturally sensitive programs that encourage delayed sexual initiation.

While this study provides nationally representative evidence based on the KDHS 2022 data, several avenues remain for future research. First, longitudinal studies are needed to go beyond cross-sectional DHS data and establish causal pathways in the timing of time to first sexual intercourse. Second, qualitative or mixed-methods approaches could complement DHS findings by capturing contextual influences such as coercion, peer pressure, or cultural expectations that are not directly measured in the survey. More focused studies are required to examine the mechanisms through which religion, alcohol use, and socioeconomic status influence the timing of sexual initiation.

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Data Availability

The data used in this study are from the 2022 Kenya Demographic and Health Survey (KDHS). The KDHS dataset is freely available upon registration and approval through the DHS Program's website. https://dhsprogram.com/data/available-datasets.cfm

Conflict Of Interest

The authors declare no conflict of interest.

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