

Contraceptive Continuation Among Adolescent Girls in Kenya: A Prospective Longitudinal Observational Study

Short Abstract

Reducing unintended pregnancies among adolescent girls requires the initiation and continued use of contraception by those at risk. Currently, there is limited evidence about the strategies that work to promote contraceptive continuation among adolescent girls. This prospective longitudinal study tracked contraceptive continuation among adolescent girls participating in a reproductive health program in Kenya. Data collection spanned 12 months, with follow-up assessments conducted every 3 months. In addition to estimating continuation rates at each timepoint, univariable logistic regression was performed to establish associations between selected covariates and contraceptive continuation for the initiation method at the 12 –months' timepoint. Study participants were 670 adolescent girls aged 15-19 years who initiated or restarted modern contraceptive use. We observed a decline in contraceptive method continuation over the 12-month follow-up period, with rates decreasing from 98.1% at three months to 88.0% at twelve months. Contraceptive continuation was positively associated with being married and negatively associated with ongoing school attendance. We demonstrated high 12-month contraceptive continuation rates among adolescent girls compared to the national average for all reproductive age women. Further research is needed to elucidate the specific components of the program responsible for the high continuation rates and to assess the generalizability of these findings.

Introduction

Childbearing among adolescent girls remains high in sub-Saharan Africa, with 124 out of every 1000 girls aged 15-19 giving birth each year. Childbearing at a young age negatively impacts these girls' health, social, and economic well-being (Charbit and Omrane, 2023). An evidenced approach to preventing the high rates of adolescent pregnancies is by consistently using contraception. Despite the progress made in adolescent sexual and reproductive health (ASRH), a substantial number of adolescent girls discontinue contraceptive use when they are still at risk of unintended pregnancy (Amjad et al.2022). In Kenya, a diverse range of contraceptive methods is accessible to adolescent girls. Despite this availability, a substantial unmet need for contraception persists among this population, characterised by high discontinuation rates following initiation. Adolescent girls frequently cite concerns about contraceptive side effects, particularly menstrual irregularities, as a primary reason for discontinuation (Kungu et al., 2020). Literature on contraceptive continuation among adults identifies several factors relevant to adolescents, including information quality, method choice, privacy, side effect concerns, partner influence, and sociocultural norms. Adolescent-specific barriers such as fertility concerns, parental and partner disapproval, limited access to youth-friendly services, and confidentiality needs further complicate contraceptive use (Hlongwa et al.2020). Even if adolescents want to avoid, delay, space, or limit pregnancy and childbearing, they may not have the self-assurance or the independence to do so. Reluctancy in admitting that they are sexually active or embarrassment to seek contraception is another

challenge. To effectively address these challenges, research should prioritize the identification of key factors influencing adolescent contraceptive continuation, explore the interplay between individual, interpersonal, and structural barriers, and inform the development of tailored interventions for this population.

Current recommendations promote a multifaceted approach to enhancing adolescent contraceptive adherence, however evidence regarding the effectiveness of these interventions remains limited (Ouédraogo et al., 2021). The Binti Shupavu intervention in Kenya, employs a girl-centered approach focussing to address the unique needs of adolescent girls, engaging influencers, and strengthening the health system, offering a promising model for improving contraceptive uptake and continuation (Njoki et al., 2023). However, further research is necessary to elucidate the effectiveness of the intervention components in achieving the desired outcomes. To address this knowledge gap, we designed a longitudinal study to track contraceptive use and continuation among adolescent girls enrolled in the Binti Shupavu program.

Methodology

A prospective longitudinal observational study was conducted to observe contraceptive continuation among adolescent girls aged 15-19 years who initiated or restarted modern contraceptive use within implementing health facilities in four purposively selected Kenyan counties: Narok, Homabay, Migori, and Kilifi. Facilities were selected based on their participation in Binti Shupavu and capacity to recruit a minimum of 15 eligible participants over 3 months. A consecutive sampling approach was employed to enroll participants until target sample sizes were reached in each facility. Recruitment was conducted by healthcare providers, primarily nurses at FP clinics, after obtaining the girls' consent and explaining the study's purpose, risks, and benefits. Data collection spanned 12 months, with follow-up assessments conducted at baseline, three, six, nine and twelve months. A standardized data collection tool, adapted from the DHIS2 event capture form, was utilized to gather participant information including demographic characteristics, contraceptive method initiated, and contraceptive use status at each assessment. To enhance data quality, rigorous training was provided on data collection procedures and protocols. A robust participant retention strategy was implemented to minimize loss to follow-up. This included the use of mobile phone reminders, scheduled follow-up visits, and physical tracing with the assistance of community health volunteers. Participants who could not be reached within one month of the scheduled follow-up date were classified as lost to follow-up. To assess continuation rates, four scenarios were analysed. The first scenario included all the recruited participants, assessing the proportion of participants who retained the use of the method initiated during recruitment. The second scenario employed scenario one but participants who switched to a different method of contraception during the study period were included in the numerator, implying that switching to a different method was treated as continuation. The last two scenarios also looked at dynamics of contraceptive use as per scenario 1 and 2 but excluded participants who were lost-to-follow-up (the “optimistic” scenario) as their contraceptive use status could not be established because they were unreachable. Excluding lost-to-follow-up participants and treating method switching as a form of contraceptive continuation generally resulted in higher estimated continuation rates.

Univariable logistic regression was performed to establish whether there was an association between selected covariates and the status of contraceptive continuation for the initiation method at the 12-month follow-up.

Results

The study encompassed a cohort of 670 adolescent girls aged 15-19 years who initiated or restarted modern contraceptive use after a pause of six months or more within the Binti Shupavu program across four Kenyan counties. The sample predominantly comprised older adolescents (88.9%, n = 595) aged 18-19 years with around half (52.1%, n = 349) reporting marital or cohabiting status. Educational attainment varied, with just over a third (33.8%, n = 162) having completed secondary education. Over four-fifths of participants had at least one child. At study entry, 73.7% (n = 494) of participants were new contraceptive users, while the remaining had restarted a new cycle of contraceptive use. Implants and injectables were the predominant contraceptive choices at 50% and 46% respectively. Overall, 42 clients (6.3%) were lost to follow-up during the study period, with eight lost at each of the first and second follow-ups, 14 at the third follow-up, and 12 at the fourth follow-up. Fifty-nine (8.8%) clients switched their methods during the 12 months, 19 at the 3-month and 6-month follow-up each, 12 at the 9-month follow-up and nine at the 12-month follow-up. Despite high initial continuation rates (98.1% at three months), a gradual decline was observed over the study period, culminating to a 88.0% continuation rate at 12 months. See Figure 1.

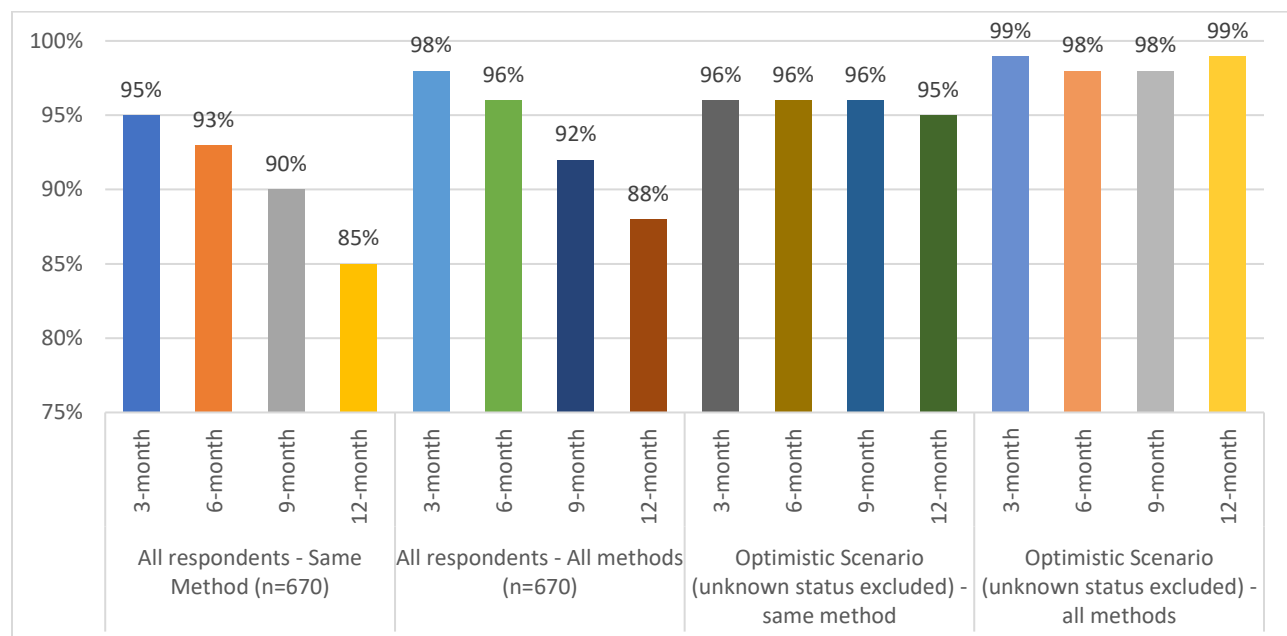


Figure 1: Contraceptive continuation rates (four scenarios)

The study observed a gradual decline in the continuation of the same contraceptive method over the 12-month follow-up period, with rates dropping from 95.2% at three months to 85.0% at twelve months in the first scenario, which accounted for clients lost to follow-up. While complete discontinuation was observed among some participants, method switching was also a contributing factor. The study found that short-term method users were more likely to switch methods than LARC users, and overall discontinuation rates were higher among pills and condom users compared to injection users. A few factors influenced contraceptive continuation. Notably, educational status and marital status were significantly associated with continuation outcomes. Participants who were in school were 64% less likely to be continuing with the same method while married participants were almost three times more likely to be continuing. See Table 1.

Variable	Variable Categories	Univariate model estimates
Age category	Below 17	[Reference]
	18	0.329[0.041 - 2.613]
	19	0.316[0.041 - 2.444]
Are you currently in school	No	[Reference]
	Yes	0.361[0.166 - 0.784]*
Marital Status	Not Married	[Reference]
	Married	2.829[1.222 - 6.570]*
Method taken	Implants and IUCD	[Reference]
	Injections	0.715[0.319 -1.603]
	Others (pills & condoms)	0.341[0.070 - 1.657]
Adopter type	New to FP	[Reference]
	Restarting FP	1.266[0.501 - 3.197]
County	Homabay	[Reference]
	Kilifi	0.496[0.094 - 2.608]
	Migori	0.244[0.056 - 1.069]
	Narok	1.463[0.130 - 16.418]
Ever given birth	No	[Reference]
	Yes	1.271[0.501 - 3.226]

Table 1: Regression analysis of contraceptive use status at 12-month FU

Discussion

The study demonstrated high contraceptive continuation rates among adolescent girls over the 12 months, especially when compared to the national average of 65.3% inclusive of switching and 57.2% when switching was excluded for all women of reproductive age based on the 2022 Kenya demographic health survey. The authors speculate that this can be attributed to several factors, including the program's comprehensive approach that addresses key drivers to contraceptive discontinuation, the predominance of long-acting reversible contraceptives in the method mix, and effective client follow-up mechanisms. However, the study design may have overestimated continuation rates due to the alignment of follow-up visits with method refill schedules. Method switching was common, suggesting a degree of contraceptive choice among participants. Factors such as educational status and marital status influenced continuation outcomes aligning with from a study by Singh et al (Singh et al., 2020) on the determinants of modern contraceptive use among young married women in Indonesia. These differences point to the need to target interventions to specific sub-populations of girls and ensure that approaches to not just promote method uptake, but support for continuation, including switching, meets girls' distinctive needs. Further research is needed to elucidate which of the specific components of the program are responsible for the high continuation rates and to assess the generalizability of these findings.

Conclusion

The study demonstrated notably high contraceptive continuation rates among adolescent girls participating in Kenya's Binti Shupavu program, surpassing the relatively low continuation rates typically reported for this demographic in Kenya and the surrounding region. These elevated rates may be linked to the program's health system strengthening efforts and the predominance of long-acting methods, specifically implants and injectables, which were used by 96% of participants. Provider involvement, including regular follow-up reminders and the synchronization of refills with scheduled follow-ups, likely contributed to these outcomes, particularly for injectable users who require quarterly dosing.

The study also observed method switching among approximately 10% of participants, indicating that informed choice was being effectively promoted in health facilities implementing the Binti Shupavu program. Those who switched methods tended to continue with their new method at the 12-month follow-up.

Recommendations

The study recommends sustaining efforts to promote autonomy in contraceptive decision-making and enhancing provider counseling on expected side effects and their management. The study further suggests that additional research is needed to identify the specific components of the program that contributed to the observed high continuation rates.