Adolescent Health and Sexuality

Reducing unwanted adolescent pregnancies in Kenya: A policy brief with evidence-based options

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Abstract
Adolescent pregnancy is a global health issue that affects millions of young girls and their families. According to the World Health Organization, approximately 16 million adolescents aged 15-19 years give birth annually, representing 11% of all births worldwide. Most of these pregnancies occur in low- and middle-income countries (LMICs), especially in Sub-Saharan Africa. The burden of adolescent pregnancy in Kenya is 15% of girls aged 15-19 years, with 2.7% of adolescents aged 15 years having ever been pregnant. Unintended pregnancies among adolescents in Kenya account for most maternal morbidity and mortality cases from abortions. Pregnant adolescents are at an increased risk of pregnancy and childbirth complications, unsafe abortion, violence from intimate partners, HIV/AIDS, and other sexually transmitted infections. Furthermore, infants born to adolescent mothers have higher probability of mortality and exposure to life-threatening conditions. This policy brief reviews and analyses the factors associated with unintended adolescent pregnancies in Kenya and identifies evidence-based interventions that can be applied in the local context. It argues that a multisectoral approach involving education, contraception, and incentives is needed to address adolescent pregnancies. In conclusion, more research is needed to tailor these interventions to the local Kenyan context while analyzing the availability and mobilization of resources.

Keywords: adolescent policy, adolescent pregnancies, teenage pregnancies

Introduction
Complications related to pregnancy, including unsafe abortion practices, are the leading cause of adolescent deaths among 15-19-year-olds (1,2). Every year, approximately 10 million adolescents from low- and middle-income countries (LMICs) have unintended pregnancies, with half of them ending up in unsafe abortions (1). However, statistics are likely underestimated in these countries, where access to abortion is restricted and cultural norms limit adolescents from exercising their sexual and reproductive health rights (3). Pregnancy in adolescence is associated with poor health outcomes, higher rates of pregnancy complications and childbirth, and an increased risk of maternal and child mortality compared with mothers aged >20 years (4–6). The outbreak of the COVID-19 pandemic in Kenya led to the immediate closure of all learning institutions in March 2020 (7). Four months later, media reports highlighted a surge in adolescent
pregnancies in the country, revealing the challenges faced by adolescent girls and the associated risk of unintended pregnancies (8–10).

**Situation analysis: Clarifying the problem of adolescent pregnancies**

Adolescent pregnancies affect the attainment of the Sustainable Development Goals (SDGs) 1 and 4 because they increase the vulnerability of adolescent mothers to poverty and disrupt their education, further increasing their economic dependency (11,12). East Africa has the highest prevalence of unwanted adolescent pregnancies at 21.5% compared with 18% in the rest of Africa (13). Unintended pregnancies in Kenya are associated with poor pregnancy outcomes, including preterm deliveries, abortion, or stillbirth, with a higher incidence of pregnancy loss observed in first pregnancies (14,15). Pregnant adolescents develop coping strategies, including unsafe abortion, dropping out of school, and early marriages (16). Two percent of adolescent girls have been pregnant before the age of fifteen years (14). The percentage of teenage pregnancies in Kenya remains relatively unchanged, indicating that one in every five teenage girls aged 15-19 years are pregnant with their first child or have had a live birth, thus indicating limited progress in reducing adolescent pregnancies in Kenya (14,17,18).

**Methods**

**Clarifying the problem**

This study employed the Supporting the Use of Research Evidence (SURE) guides for preparing and using evidence-based policy briefs (19). This was done by clarifying the problem in the local context, deciding on and describing the policy options, identifying barriers to implementation, clarifying uncertainties, and determining what would be monitored and evaluated and how this would be carried out (19). A systematic literature review was conducted in the PubMed and Google Scholar databases, Kenya’s Ministry of Health website, and local health networks to clarify the root causes and contributing factors to unintended adolescent pregnancies. The SURE guides were used to assess the suitability of the problem to include its importance in the community, available viable options, opportunity for change, uncertainty about the problem and potential solutions, availability of relevant global research, and interest in informed deliberation about the problem and potential solutions (19).

**Creating an evidence base**

Systematic reviews were collated to address the research question by searching selected databases and screening all identified articles. Initial screening of the literature was performed to determine relevance to the research question. To determine the applicability and quality of systematic review articles, an adapted checklist by Lavis et al. for assessing the applicability of systematic reviews and the AMSTAR (A MeaSurement Tool to Assess Systematic Reviews) checklist were used (20,21). To build an evidence base and identify relevant articles to address the review question, a literature search was performed in PubMed and the Cochrane Library for systematic review databases using a prespecified strategy. An adapted version of the population, intervention, control, and outcomes (PICO) framework was used to describe the inclusion and exclusion criteria targeting the reviews on adolescent pregnancies. 91 studies were retrieved and imported into the Covidence systematic review software. The literature search results were summarized using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow chart and the remaining four articles that qualified for the final analysis were assessed for applicability and quality. Using SUPPORT Tools for assessing the applicability of systematic reviews, the four remaining articles were further assessed to determine if they were applicable to the setting of the review question and therefore appropriate to be included in the evidence base (21–25). Ethical approval was obtained from the MPH Ethics Group, Usher Institute, University of Edinburgh.

**Developing and evaluating policy-based options**

Using the adapted Buffet framework, the applicability and transferability of the evidence extracted in systematic reviews was assessed for applicability and transferability to the Kenyan context (26). Political acceptability, social acceptability, availability of essential resources, and institutional capacity were assessed. The magnitude of the health problem in the local setting, the potential reach and cost-effectiveness of the characteristics of the intervention, and the target population were determined while recognizing locally existing policies and how they can be incorporated.

**Developing an implementation strategy**

Using the SURE guides, potential barriers and enablers to the implementation of policies were systematically identified and assessed.

**Approach and Results**

In the local context, 22 articles were obtained. Local evidence revealed several key factors as the root causes of adolescent pregnancy in Kenya, including structural and systemic factors leading to
lack of access to contraceptives, lack of education on sexuality, negative media influence, poverty, and lack of parental guidance (27–33).

To create an evidence base, the research question sought interventions and strategies that have been used in LMICs to reduce unintended pregnancies. Therefore, reviews reporting on interventions carried out in LMICs were considered due to similarities with the Kenyan context. These include resource constraints, health system arrangements, and general contextual factors such as policy spaces and sociopolitical situations that may undermine or facilitate the success of interventions compared with those carried out in high-income countries. The four articles measured pregnancy and contraceptive use as outcomes, with educational strategies appearing universally as the primary intervention. These articles identified four forms of interventions that were also evaluated for their effectiveness in addressing adolescent pregnancies. Interventions were classified into four categories: incentive-based, educational, contraceptive-promoting, and combined. Incentive-based interventions involve providing incentives such as cash or in-kind benefits and encouraging school attendance (22,23). Educational interventions aim to promote knowledge and awareness of sexual and reproductive health among adolescents, and to change attitudes and behaviors related to it (22,24,25). Contraceptive-promoting interventions offered education and access to contraceptives for adolescents (23,24). Combined interventions integrated two or more of the above approaches. The review article found that all types of interventions had some positive effects on preventing adolescent pregnancy. Engagement of stakeholders including adolescents, parents or guardians, and the Ministries of Health and Education representatives at both the national and devolved units of governments is key in considering the feasibility and acceptability of these options in the local context.

Evidence-based interventions to reduce adolescent pregnancies in Kenya

Incentive-based interventions

Incentive-based interventions include providing school uniforms and cash transfers to promote school attendance, either conditioned on attendance or unconditioned but determined by poverty levels (22,23). These require a financial commitment to achieve success and have been shown to reduce the rates of pregnancy among intervention groups compared to control groups, and are generally accepted by primary stakeholders, that is, parents and adolescents. There is a need to define and report objective measures of target group identification to ensure equitable engagement of vulnerable groups, such as adolescents living with HIV and those with disabilities, and to mitigate stigmatization toward identified beneficiaries (34). Existing evidence from trials conducted in Kenya that used both cash transfers and education subsidies suggests that these interventions reduced the probability of pregnancy among young women by 5% points (35,36). However, a roll-out at the national level may be expensive for the government, highlighting the need for stakeholder engagement and input, including adolescents and implementers as primary and secondary stakeholders, respectively. Stakeholders should engage on budgetary implications. Existing evidence shows that policy options promoting school attendance can have positive sexual and reproductive health effects, such as avoiding early sexual debut and pregnancy among girls. In low-resource settings, these incentives may be critical to support girls and their families, especially when girls engage in transactional sex due to menstrual needs (37,38). However, concerns have been raised about the potential harm of incentive-based programs (39). Despite these concerns, none of the reviews included in the study reported an increase in pregnancy rates (22,24).

Educational interventions

All four studies included in this study found that implementing sexual and reproductive health education interventions for adolescents in schools, including social cognitive behavior change training, life skills programs, education on sexuality, risk reduction sessions, and education sessions promoting contraceptive use have the potential to reduce adolescent pregnancies and sexually transmitted infections (STIs) (22–25). Implementation of education interventions has the potential to reduce the rates of unintended pregnancies. However, implementing education-based strategies alone did not demonstrate strong evidence to reduce the rates of unintended pregnancies (22–25). This intervention is aligned with the Kenya National Adolescent Sexual and Reproductive Health Policy, which prioritizes strengthening comprehensive sexuality education for both in-school and out-of-school adolescents (39). Comprehensive sexuality education (CSE) improves attitudes related to sexual and reproductive health among adolescent boys and girls (40). In Kenya, consensus has not been reached on issues considered sensitive in different cultural backgrounds (41). Decentralization of CSE and stakeholder participation is an asset in the implementation of CSE (41). Gender-based programs that challenge cultural and gender norms may be more effective in reducing unintended pregnancies (42). However, reviewed studies did
not report on conducting sex education for girls and boys separately.

Innovative delivery models and trained personnel are needed to implement them in the local context in consultation with stakeholders, including adolescents, teachers, parents, and the public. Educational interventions for sexual and reproductive health among adolescents increase awareness, knowledge, and attitudes about STIs, contraception, and pregnancies and thus promote safe sexual behaviors, including abstinence, delayed sexual debut, and contraceptive use for sexually active individuals. However, one study included in Hindin et al.'s review reported a decrease in contraceptive and condom use following life skills training and sexual reproductive health education. This was attributed to the shift from more casual sex partners at baseline to a more regular partner(s) in the follow-up period with perceived lower risk among partners (23,43).

**Contraceptive interventions**

Contraceptive-promoting interventions for adolescents can reduce unintended pregnancies and the risk of STIs and HIV/AIDS. Studies have reported that providing contraceptives to those seeking them at health facilities may be effective (23,24). In contrast, two trials did not find any statistically significant differences in the risk of unintended pregnancy between the intervention and control groups (24,44,45). A combination of educational strategies and contraceptive-promoting interventions can lower the risk of unintended adolescent pregnancy (46). However, hesitancy among some religious groups toward the use of contraceptives highlights the need for extensive awareness campaigns and engagement with stakeholders (47). Access to youth-friendly health services is key to the success of this intervention, and negative attitudes from parents and health workers toward contraceptive use can increase the unmet need for contraception among adolescents (28,48). Reviews included in this study did not report any harm. However, stigmatization of adolescents using contraceptives has been observed in the LMICs (49). A knowledgeable community on the use of contraception has also been shown to have a positive influence; therefore, there is a need to engage the community through education programs (49).

**Combined interventions**

Two main combinations have been reported, both of which include education with or without incentive-based interventions (22,24). There is a need for further context-specific trials to determine the impacts of these combinations since the quality of existing evidence is quite low and may not be a good ground for drawing conclusive recommendations (22,24). The GRADE framework was used to assess the quality of evidence available for each policy option. Overall, these reported interventions were of low to high quality, and further trials within the local context may be useful in testing these interventions, thus providing strong evidence-based support and confidence ascribed to each of the identified policy options (50). The policy options presented here are suitable and appropriate interventions. However, due to limited resources in the local context, the adoption of educational strategies and contraceptive-promoting interventions at the national level and combining these with occasional incentive-based interventions in selected special sites such as in informal settlements may be more feasible and practical, especially, considering cost implications (22–25).

**Developing an implementation strategy**

Successful implementation of these policies must include an analysis of the barriers and enablers of all three levels of interventions. Addressing these barriers in conjunction with strengthening available enablers and relying on evidence-based policy options alone or in unison is key to effective policies and programs aimed at reducing unintended adolescent pregnancies.

**Barriers**

1. Fear-inducing education strategies (51).
2. Lack of access to education due to poverty (11).
3. Negative community influence on contraceptive uptake and negative health care attitudes among young women (49,52).
4. Cultural and religious norms that prevent the delivery of contraceptives to adolescents, including laws that limit access to married women (49).
5. Infrastructural limitations such as physical inaccessibility of health facilities due to long distances and contraceptive stockouts (53).
6. Limited resources in the Kenyan context with a lack of support from the current adolescent health policy (39).

**Enablers**

1. Involvement of stakeholders in community and religious organizations
through education, policy implementation, and comprehensive sexuality education (39).

2. Community participation through education programs on contraceptive use (54).

3. Enhancing existing service provision channels to include the needs of adolescents and ensure their availability (55).

4. Cash transfers and nonmonetary incentives can promote school attendance and reduce the rates of unintended pregnancies (55).

Implementation strategies

1. Institute policies that provide an enabling environment for adolescents to exercise their sexual and reproductive health rights (28).

2. Deliberations on whom incentive-based interventions should target, the duration of the intervention, and potential integration into policy are needed for this policy option to be viable. This includes budgetary needs and allocations that also ensure that vulnerable groups are included (52).

3. Need to establish a coordinated multisectoral input that includes experts from the ministries of health and education, to develop evidence-based age-appropriate, religious, and culturally sensitive education content (56).

4. Need to engage all stakeholders to attain buy to encourage ownership and participation (39).

These multisectoral and multidisciplinary approaches to tackling adolescent pregnancies should be supported by evidence that caters to the different needs of adolescents namely those living with disability, HIV/AIDS, and other chronic illnesses (57-59) The monitoring and evaluation process for this policy involves setting valid and acceptable inputs, including finances, human resources, and material resources. Activities involve adjusting budgetary allocations and instituting guidelines, establishing intended outputs, which are gains or losses from policy implementation, and impact, which encompasses assessing desirable and undesirable effects. Evaluation should be built into the policy implementation program and involve comparing the proportion of unwanted adolescent pregnancies before and after implementation, measuring potential secondary outcomes such as the prevalence of STIs, and conducting surveys to assess whether the key concerns of adolescents have been met.

Conclusion

Existing evidence indicates that one in five teenage girls in Kenya is either pregnant with their first child or has had a live birth. This suggests that while strategies may have been initiated to reduce rates of unintended adolescent pregnancies in Kenya, progress has been slow. This policy brief presents a thorough analysis of the issue of adolescent pregnancy in Kenya and proposes evidence-based solutions, including incentive-based, educational, contraceptive, and combined interventions. These options were evaluated on basis of their cost-effectiveness, feasibility, acceptability, equity, and sustainability. The policy brief highlights the significant implications of these findings for policy and practice. There is a need for a multisectoral approach that involves different stakeholders from health and education and emphasizes the need for a rights-based approach that upholds and safeguards the sexual and reproductive rights of adolescent girls. It underscores the importance of formulation, implementation, monitoring, and evaluation systems in policies aimed at reducing adolescent pregnancies in Kenya.

Declarations

Conflict of interest

The authors declare no conflicts of interest.

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References


