



Commentary

WHO Guidelines on Preventing Early Pregnancy and Poor Reproductive Outcomes Among Adolescents in Developing Countries

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 A B S T R A C T

Adolescent pregnancy and its consequences represent a major public health concern in many low-middle income countries of the world. The World Health Organization has recently developed evidence-based guidelines addressing six areas: preventing early marriage; preventing early pregnancy through sexuality education, increasing education opportunities and economic and social support programs; increasing the use of contraception; reducing coerced sex; preventing unsafe abortion; and increasing the use of prenatal care childbirth and postpartum care. In each of these areas, World Health Organization recommends directions for future research. The summary concludes with a brief look at global and regional initiatives that provide a window of opportunity for stepping up action in this important area.

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The World Health Organization (WHO) recently published its guidelines on preventing early pregnancy and poor reproductive outcomes in adolescents in developing countries [1]. Adolescent pregnancy and its consequences represent a major public health issue with enormous social implications, in many countries of the world. In 2008, there were an estimated 16 million births to mothers aged 15–19 years worldwide. About 95% of these births occurred in low- and middle-income countries (LMICs) [2]. Births to younger adolescents were relatively less common, but according to recent estimates, 1 million births occur to girls aged 12–15 years every year [3]. Although adolescent birth rates are declining, the absolute number of births has declined less because of the increase in the size of the adolescent population [4].

First pregnancy at an early age is risky for the health of the mother. Even though births to adolescents account for 11% of all births worldwide, they account for 23% of the overall burden of disease (in terms of disability-adjusted life years) from pregnancy and childbirth among women of all ages. In LMICs, complications of pregnancy and childbirth are the leading cause

of death in women aged 15–19 [5]. The social consequences of pregnancy to adolescents include school dropout (with subsequent lower educational attainment and decreased social opportunities, including reduced lifetime earnings) and, in some settings, violence, including suicide and homicide [6]. The adverse effects of adolescent childbearing extend to the health of their infants. In LMICs, stillbirths and deaths in the first week and first month of life are 50% higher among babies born to mothers younger than 20 years than those born to mothers aged 20–29 years, and the younger the mother, the greater the risk [5].

The WHO Guidelines: Rationale and Methods

The new guidelines were developed according to WHO's Grading of Recommendations, Assessment Development and Evaluation process that includes a systematic review of the evidence that informs the formulation of recommendations by an expert panel [7,8]. Earlier policy and programmatic guidelines on adolescent pregnancy exist, but they tend to focus on single issues (e.g., preventing early marriage or providing sexuality education) rather than all the major determinants of adolescent pregnancy and pregnancy-related mortality and morbidity.

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Several factors make the development and implementation of such guidelines difficult.

The scale of the problem is different from one place to another. For example, the estimated adolescent pregnancy rate per 1,000 women aged 15–19 years in Niger is 199. In Uzbekistan, it is 26 [9].

The circumstances in which it occurs in different places is different. For example, in Pakistan, the vast majority of early pregnancies occur in girls and young women who are married at an early age, whereas in Haiti early marriage is uncommon but early pregnancy outside a formal union is.

The consequences vary from one context to another. For example, although early pregnancy and childbearing is common in Chile, it hardly ever results in obstetric fistulae because emergency obstetric care services are widely available and accessible. The situation is different in rural Ethiopia or Nigeria, where fistulas represent a public health problem.

Human, organizational, and financial resources vary across countries. Emerging economies, such as Mexico, are able to put in place and sustain expensive programs, such as conditional cash transfers, but many sub-Saharan African countries have few indigenous resources and are heavily dependent on donors [10].

There is limited evidence of the effectiveness of interventions in many areas.

The guidelines are focused on LMICs, or “developing countries,” and feature six domains:

- preventing early marriage;
- preventing early pregnancy through sexuality education, increasing education opportunities, and economic and social support programs;
- increasing the use of contraception;
- reducing coerced sex;
- preventing unsafe abortion; and
- increasing the use and the safety of prenatal care, childbirth, and postpartum care programmes.

The guidelines address different levels of interventions: the individual, the family, the community, health systems, and laws and policies. Each section ends with suggestions for future research. Table 1 summarizes the state of each domain.

The WHO Guidelines

Preventing early marriage

WHO's recommendation in this field are informed by 21 ungraded studies conducted in several LMICs [11–31].

In some parts of world, girls are expected to marry and begin child-bearing in their early or middle teenage years. Parents feel pressured by prevailing norms, traditions, and economic constraints. The most important way of addressing this is keeping girls in school. Many studies show that girls in school are less likely to be married at an early age. Empowering girls alone is not enough. Empowered girls need supportive families and communities. Community leaders must work with all stakeholders to challenge and change norms of early marriage.

In many places, laws do not prohibit the marriage of girls before the age of 18. Even in places where they do, these laws are not enforced. Consequently, child marriage is the norm in many countries. Policy makers should be encouraged to establish laws

to prohibit and enforce the marriage of girls before the age of 18 years of age.

Future research should focus on establishing evidence to support the formulation and application of laws and policies that protect adolescents from early marriage. We need better methods for assessing the impact of education and school enrolment on the age of marriage. We need to better understand how economic incentives and livelihood programs can help to delay the age of marriage among adolescents. Existing interventions should be examined for feasibility and taken to scale.

Creating understanding and support for preventing early pregnancy

WHO's recommendations in this area are informed by two graded systematic reviews and three ungraded studies [31–36].

Many adolescents become sexually active at an early age when they do not know how to avoid unwanted pregnancies and sexually transmitted infections. Contextual factors, such as the pressure to conform to media stereotypes and the norms of their peers, increase the likelihood of early and unprotected sexual activity. Curriculum-based sexuality education should be implemented. These programs will be more effective if they develop life skills, address contextual factors, and focus on the emerging feelings and experiences that accompany sexual and reproductive maturity. Sexuality education programs should be encouraged to link with reproductive health services, notably contraceptive services.

There is considerable variability among LMIC on whether premarital sexuality can be discussed in a meaningful way. This presents a major challenge for programs. Stakeholders need to be engaged to develop culturally acceptable mechanisms to reduce pregnancy and the associated negative health outcomes.

Future research in this area should focus on building evidence on the effect of interventions that increase employment, school retention, education availability, and social supports. Research should be conducted across sociocultural contexts to identify feasible, scalable interventions to reduce early pregnancy among adolescents.

Increasing the use of contraception

The guidelines in this domain are informed by seven graded studies or systematic reviews and 26 ungraded studies conducted in 15 countries [32,33,36–67].

Adolescents in many places do not know how to obtain or use contraceptives. They also have many misconceptions about contraception. Further, community norms hinder the provision of contraceptives to unmarried adolescents. Efforts to provide adolescents with accurate information about contraceptives must be carried out in combination with sexuality education. Community members must be engaged to support adolescent use of contraception.

A widespread problem is that adolescents do not seek contraceptive information and services because they are afraid of social stigma and judgmental health workers. Health services must be made “youth-friendly” to enable adolescents to obtain contraceptive services. Further, repeat pregnancies may be prevented by offering contraceptives to adolescents after they have had a child or an abortion.

Policy makers must be encouraged to enact laws and policies that enable adolescents to obtain contraceptive information and

Table 1

WHO guidelines for preventing early pregnancy and poor reproductive outcomes in adolescents in developing countries: Action and research recommendations

Domain	Contributing factors	Action recommendations	Research recommendations
Preventing early marriage	Prevailing norms, traditions, and economic constraints No legal prohibition or ineffective legal regime	Clear and effective legal prohibition Engage community leaders to change norms Keep girls in school	Effective legal prohibition of early marriage Explore the effect of economic incentives and livelihood programs Assess the impact of education Take existing interventions to scale
Creating understanding and support for preventing early pregnancy	Lack of knowledge and understanding about sexuality Contextual factors (e.g., peer pressure) Cultural reticence to address sexuality in adolescents	Engage community leaders to lead efforts to prevent early pregnancy in culturally acceptable ways Curriculum-based sexuality education linked to contraceptive provision	Explore the effect of increasing employment, school retention, and social support Take existing interventions to scale
Increasing use of contraception	Lack of access Misconceptions Community norms oppose contraceptive provision Contraceptive services not user-friendly	Enable legal support for contraceptive provision Reduce financial barriers to their use Build community support for contraceptive provision Make contraceptive services adolescent friendly Educate about sexuality and contraceptive use	Increase use through pro-contraceptive policies, cost reduction, community support and over-the-counter access Change gender norms about contraceptive use Take existing interventions to scale
Reducing coerced sex	Powerlessness Lack of effective law enforcement and protection Shame and stigma	Effectively enforce laws to punish perpetrators of coerced sex Promote community norms that do not tolerate coerced sex Engage men to reexamine gender norms Empower girls to resist unwanted sex by building their self-esteem, life skills, and links to social networks	Improve the formulation and application of laws to prevent sexual coercion
Reducing unsafe abortion	Lack of knowledge about the danger of unsafe abortions Lack of access to safe abortion services	Provide access to safe abortion where legal Enable access to post-abortion care, including contraception services Improve family and community support for access Educate about dangers of unsafe abortions and on access	Reduce legal and policy barriers to safe abortion Identify and eliminate barriers to care
Increasing the use of skilled antenatal, childbirth, and postpartum care	Lack of knowledge and of when and where to seek care Lack of access to skilled—and sensitive—care	Enable access to skilled antenatal, childbirth, and postpartum care Educate on birth and emergency preparedness Education about the risks of foregoing skilled care, for mother and baby	Increasing awareness of the need for skilled care Tailor the provision of care to adolescents Identify and eliminate barriers to care

services, including emergency contraceptives. Because financial constraints often restrict access to contraceptives, policy makers should consider ways to reduce the financial barrier to obtaining contraceptives.

Future research needs to explore the effects of formulating pro-contraception laws and policies, generating community support, improving the availability of over-the-counter hormonal contraceptives, and reducing the cost of contraceptives. Research should also consider ways of involving males in decisions about contraceptive use by couples and transforming gender norms about the acceptability of contraceptive use (including condoms and hormonal contraceptives).

Reducing coerced sex

In this domain, the guidelines are informed by two graded studies, two ungraded studies, and two reviews of national laws and their application [64,67–71].

In many places, girls feel powerless to resist unwanted and coerced sex. Girls must be empowered to both protect themselves and ask for and obtain effective assistance when they feel unable to handle a situation by themselves. Programs that build adolescent girls' self-esteem, develop their life skills, and improve their links to social networks and social supports can help them refuse unwanted sex, resist coerced sex, and work with authorities to hold perpetrators accountable for their actions. Alongside this, communities and societies must be mobilized to make them fiercely intolerant of coerced sex. Males should be engaged to assess critically gender norms and stereotypes that can have a negative effect on women, girls, families, and communities.

There exists wide variation throughout the world on whether law enforcement officials actively pursue perpetrators of coerced sex. The fear of bringing shame and stigma on themselves and their family members makes it difficult for victims to press for justice. Policy makers must formulate and enforce laws that prohibit coerced sex and punish its perpetrators. These laws should be

enforced in a way that victims and their families feel safe and supported in approaching the authorities and seeking justice.

Future research should explore the efficacy of laws and policies aimed at preventing sexual coercion and assess how these laws and policies are formulated, enforced, and monitored in order to understand how best to prevent the coercion of adolescent girls.

Reducing unsafe abortion

There were no studies from LMICs that could be used to provide evidence to inform the guideline's recommendations on reducing unsafe abortion. WHO's recommendations in this domain are informed by the collective judgment of an expert panel.

When faced with an unwanted pregnancy, adolescents in many LMICs turn to illegal abortions because they are unaware of its dangers and are unable or unwilling to seek care from health professionals. Informing families and communities about the tragic consequences of unsafe abortions can help build support for enabling adolescents to access safe and legal abortions. Adolescents need unrestricted information about the differences between safe and unsafe abortions and where safe legal services (if available) can be accessed. Even in places where legal abortions are available to adolescents, pregnant adolescents find it difficult to access these services because of the context in which they are provided. Health service providers and systems must identify and overcome barriers limiting adolescents' access to these services.

Policy makers must support efforts to set up educational strategies directed at adolescents, presenting the dangers of unsafe abortion as well as how to access safe abortion services, where legal. Adolescents who have had abortions must be offered post-abortion care including contraceptive information and services.

Future research needs to include the assessment of the impact of laws and policies that enable adolescents to obtain safe abortion and post-abortion services. We must identify and assess interventions that reduce barriers to the provision of safe, legal abortion services in multiple sociocultural contexts.

Increasing the use of skilled antenatal, childbirth, and postpartum care

WHO's recommendations for increasing the use of skilled antenatal, childbirth, and postpartum care are informed by existing WHO guidelines and studies from Chile (a home visiting program for adolescent mothers) and India (a cash transfer system that was contingent on health facility births) [72–74].

Lack of information is a significant barrier to seeking services. It is important to disseminate accurate information about the risks—to the mother and baby—of not using skilled care and where to obtain care. Adolescent girls must receive skilled—and sensitive—antenatal care and childbirth care, and they need to be well prepared for birth and birth-related emergencies. This includes creating a birthing plan that prepares the adolescent for birth and birth-related complications. Birth and emergency preparedness must be an integral part of antenatal care for all pregnant adolescents and should be implemented in households, communities, and health facilities. Policy makers must intervene to expand access for all women, including pregnant adolescents, to skilled antenatal care, childbirth care, and postnatal care.

Future studies should aim to identify and eliminate barriers that prevent access to and use of skilled antenatal, childbirth, and postnatal care among adolescents. We need evidence on interventions that inform adolescents and stakeholders about the importance of skilled antenatal and childbirth care. Research should also be done on tailoring the way in which antenatal, childbirth, and postnatal services are provided to adolescents; expand the availability of emergency obstetric care; and improve birth and emergency preparedness for adolescents.

Discussion: Challenges and Opportunities

The development of the WHO's guidelines focusing on LMICs was a challenge because of the limited evidence of effective interventions in important areas. As recently stated in *The Lancet* series on adolescent health, "...enhancing the research capacity of investigators in low-income and middle income countries is crucial if these regions are to develop effective evidence-based policies and programs to ensure the wellbeing of their young people" [75]. The huge heterogeneity of the demographic, cultural, and economic contexts existing in LMICs was another challenge.

A web of micro- and macro-level factors determines early pregnancy and poor reproductive outcomes among adolescents. Individuals make choices to engage in specific behaviors based on individual factors and the environmental context of their region, culture, and family. Family and community norms, traditions, and economic circumstances influence these choices. Policy and regulatory frameworks facilitate or hinder choices. To improve the health of adolescents, action must be taken at each of these levels by different sectors. Engaging adolescents is also critical.

Nonetheless, we have reason to be optimistic that the WHO guidelines will contribute to strengthening national policies and strategies and their concerted application.

First, there is widespread recognition of the importance of preventing early pregnancy and pregnancy-related mortality and morbidity in adolescents. The Millennium Development Goals report published by United Nations in 2011 clearly states that, "Reaching adolescents is critical to improving maternal health and achieving other Millennium Development Goals" [76].

Second, the Global Strategy for Women's and Children's Health, led by the Secretary General of the United Nations, supports many of the efforts outlined in the guidelines [77]. The UN Population Fund (UNFPA), UNICEF, WHO, the World Bank, and Joint UN Program on HIV/AIDS have joined forces to support countries with the highest rates of maternal and newborn mortality. The initiative aims to reduce the maternal mortality ratio by 75% and to achieve universal access to reproductive health—two important Millennium Development Goal targets [78].

Third, funds for country-level work to reduce maternal mortality and infant and childhood mortality are increasingly being made available. The United Kingdom is one of a growing number of high-income countries that has published a strategy and set aside a substantial body of funds to support work in selected countries [79]. Recently, the U.K. Government and the Bill and Melinda Gates Foundation with UNFPA and other partners hosted a summit to mobilize global policy, financing, commodity, and service delivery commitments to support contraceptive information, services, and supplies for women and girls in the world's poorest countries [80].

Finally, there is strong commitment at the highest level in Ministries of Health and in governments to address adolescent pregnancy. As part of the 65th session of the World Health Assembly, WHO produced a report titled, “Early marriage and adolescent and youth pregnancies” [81]. The report states that early marriage is illegal in most places where it occurs, that it is a violation of the rights of girls, and that it has detrimental health and social consequences on adolescent girls, their families, and communities. Despite all that remains to be done, these developments augur well for the future.

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