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# Revisiting the Endogeneity of Adolescent Pregnancy and Child Marriage in Low- and Middle-Income Countries: A Review with Practical Solutions

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***Abstract***

*Adolescence is an important time for promoting health and preventing disease. The World Health Organization (WHO) defines an adolescent as an individual in the 10-19 years age group and usually uses the term young person to denote those between 10 and 24 years. Adolescent health encompasses changing transitions within multiple domains, including the physical, social, emotional, cognitive, and intellectual. These changes have important implications for health. During this period of increasing independence, adolescents face critical choices about health-related behaviors in areas such as sexuality, physical activity, diet, and use of health care services. These behaviors affect health during adolescence and young adulthood and, in the long-term, are related to many of the leading causes of adult morbidity and mortality. Therefore, the protection and promotion of health during this life stage is of great importance and has been shown to yield benefits not only for adolescents now, but also for their future adult lives and for their future children. This paper explore two key issues underpinning adolescent health, teen pregnancy, and child marriage. Trends in early marriage and early childbearing help determine national poverty levels and economic productivity. Decisions about whether to remain in school, whether to marry, or whether to engage in sexual activity have implications for education and health. The paper argues that failure to understand the interrelationship between adolescent pregnancy and child marriage may jeopardize earlier investments in maternal and child health, erodes future quality and length of life, and escalates suffering, inequality, and social instability.*

***Keywords****: Adolescent Health, Child Marriage, Teen Pregnancy.*

## Introduction

Adolescent pregnancy, child marriage and teen motherhood continue to be major adolescent health and development concerns in developing countries. Every year it is estimated that 21 million girls aged 15–19 years in low- and middle-income countries (LMICs) become pregnant, of which approximately 50% were unintended and resulted in an estimated 12 million births [1]. The prevalence of teen pregnancy, or adolescent pregnancy can be defined using adolescent birth rate. This is defined as the number of live births to women ages 15-19 per 1000 women [2]. Although global adolescent birth rates are falling, they are either stagnant or increasing in several countries in Sub Saharan Africa (SSA) and South Asia [3-5]. Huda M M et al. observed that the adolescent fertility rate (birth rate per 1000 girls and young women aged 15–19 years) over the period 2015–2020 was the highest in the sub-Saharan Africa (SSA) region at 102.8 births per 1000 person-years, far higher than the global average (44 per 1000), followed by South Asia with 26 births per 1000 girls aged 15–19 [5]. As the global population of adolescents continues to grow, projections

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indicate that the number of adolescent pregnancies will increase globally by 2030, with the greatest proportional increases in West and Central Africa and Eastern and Southern Africa [6-7]. The projected increase in adolescent pregnancies is likely to be more prevalent in sub-Saharan Africa (SSA), which already leads the world in teen pregnancies [8-9] and child marriage [10].

The prevention of teenage pregnancies and teenage motherhood should therefore be a priority for public health in developing countries. The WHO [11:1] underscore that "preventing pregnancy among adolescents and pregnancy-related mortality and morbidity are foundational to achieving positive health outcomes across the life course and imperative for achieving the Sustainable Development Goals (SDGs) related to maternal and newborn health". UNFPA argue that this is because "when a girl becomes pregnant, her life can change radically. Her education may end, and her job prospects diminish. She becomes more vulnerable to poverty and exclusion, and her health often suffers" [12:1]. It is widely recognized that adolescent girls face serious health risks when giving birth at an early age [13]. Teenage mothers, especially those under the age of 18, have been shown to be more likely to suffer from pregnancy and delivery complications than older mothers, resulting in higher morbidity and mortality for both them and their children [14, 15]. Complications during pregnancy and childbirth are the leading cause of death for 15- to 19-year-old girls globally [11]. Abortions, which are highly restricted or prohibited in many countries can be unsafe and result in illness and death. Every year, some 3.9 million girls aged 15 to 19 years undergo unsafe abortions, thereby contributing to maternal mortality, morbidity, and lifelong reproductive health problems [16].

WHO [11] state that adolescent mothers (ages 10 to 19 years) face higher risks of eclampsia, puerperal endometritis, and systemic infections than women aged 20 to 24 years, and babies born to adolescent mothers face higher risks of low birth weight, preterm delivery, and severe neonatal conditions than those born to women aged 20 to 24 years. In its new report UNICEF [17] point out that inadequate nutrition during adolescent pregnancy can lead to weakened immunity, poor cognitive development, and an increased risk of life-threatening complications – including during pregnancy and childbirth – with dangerous and irreversible consequences for their children's survival, growth, learning, and future earning capacity. Overall, infant mortality and morbidity among children born to mothers under the age of 18 is higher as compared to those born to older mothers [10], [18]. Teen pregnancy has large economic impacts on society. The children who are born to teen mothers have many learning problems. Teenage mothers also give birth to children who have a larger risk for health problems such as lower birth weights and reach developmental milestones slower [19]. Several studies indicate that children of adolescent mothers are also more likely to have poor nutritional status when they are born and throughout their childhood [20]. The UNICEF [17] report indicate that 51 million children under 2 years suffer stunting globally, meaning they are too short for their age due to malnutrition. The report further observes that about half of these children become stunted during pregnancy and the first six months of life, the 500-day period when a child is fully dependent on maternal nutrition [17]. These children are further disadvantaged because women married as children tend to have less spacing between births, as well as more children over their lifetimes than those married later, which can also negatively impact child health [17].

Adolescent pregnancy also has negative social and economic effects on girls, their families, and communities [21]. Unmarried pregnant adolescents may face stigma or rejection by parents and peers and threats of violence. Child sexual abuse increases the risk

of unintended pregnancies. A WHO report dated 2020 estimates that 120 million girls aged under 20 years have experienced some form of forced sexual contact. The report states that this abuse is deeply rooted in gender inequality; it affects more girls than boys, although many boys are also affected [11]. Estimates suggest that in 2020, at least 1 in 8 of the world's children had been sexually abused before reaching the age of 18, and 1 in 20 girls aged 15–19 years had experienced forced sex during their lifetime [11]. Similarly, girls who become pregnant before age 18 are more likely to experience violence within marriage or a partnership [3, 19]. The teenage mothers or fathers are often unprepared for parenthood and drop out of school, taking low-paying jobs and never completing their education [22]. With regards to education, school-leaving can be a choice when a girl perceives pregnancy to be a better option in her circumstances than continuing education or can be a direct cause of pregnancy or child marriage [10, 22].

In the meantime, Child marriage, defined as marriage of a child <18 years of age (marriage where one or both partners are under the age of 18 prevalence remains high in some countries [19]. In many cases, child marriage is a driver of early pregnancy; in others – particularly where sex outside of marriage is taboo – unintended pregnancy drives child marriage (Presler-23, 24). Every year, approximately 15 million around the world are married before their 18th birthday [19]. This equates to one out of every five girls, with over 650 million women alive today who were married as children [19]. Adolescent fertility rates are generally higher in settings where early marriage is prevalent, in rural rather than urban areas, and among girls with less educational attainment and lower socio-economic status [25, 26]. Studies show that pregnant adolescents often get married to 'save face', while arranged child marriage remains a norm in some cultural groups. UNICEF note that in South Asia and Africa, child marriage often drives early pregnancy, in East Asia and the Pacific, pregnancy may also precede marriage, and act as a trigger for child marriage or early union [19, 20].

Child marriage happens across countries, cultures, and regions, but the practice is most prevalent in developing countries where poverty, tradition, and lack of opportunity keep it alive [28, 29]. Parents want to ensure their daughters' financial security; however, daughters are considered an economic burden [22]. Nour, NM [22] notes that feeding, clothing, and educating girls is costly, and girls will eventually leave the household. According to Nour, NM [22] a family's only way to recover its investment in a daughter may be to have her married in exchange for a dowry. Mensch et al. [30] point out that in some countries, the dowry decreases as the girl gets older, which may tempt parents to have their daughters married at younger ages. UNICEF [19] stress that child marriage is a human rights violation that prevents girls from obtaining an education, enjoying optimal health, bonding with others their own age, maturing, and ultimately choosing their own life partners. Girls who marry young tend to be from poor families and to have low levels of education [28]. Child marriage has many effects on girls' health: increased risk for sexually transmitted diseases, cervical cancer, malaria, death during childbirth, and obstetric fistulas [22, 28]. Girls' offspring are at increased risk for premature birth and death as neonates, infants, or children.

Child marriage also has social effects on girls. Nour NM [22] point out that if they marry men outside their village, they must move away [22:2, 28] further notes that "coping with the unfamiliar inside and outside the home creates an intensely lonely and isolated life. As these girls assume their new roles as wives and mothers, they also inherit the primary job of domestic worker. These young girls are typically financially dependent on their husbands, they often lack the agency to

advocate for themselves, especially when it comes to condom use and family planning, and they are more likely to experience domestic violence [22, 28]. Nour NM [22] states that because the husband has paid a hefty dowry, the girl also has immediate pressure to prove her fertility. Girls often embrace their fate and bear children quickly to secure their identity, status, and respect as an adult [22, 28]. Girls who marry young will likely have more children than women who have their first child as an adult. One study showed that a girl who marries at 13 will have 26% more children than a girl who marries at 18 or older [31]. As a result, these young girls have high total fertility rates but have missed the opportunities to be children: to play, develop friendships, bond, become educated, and build social skills [28, 31]. Increased fertility rates contribute to overpopulation, and as the global population continues to surge, poverty, unrest, and environmental degradation will follow in tandem [22]. Unfortunately, poor mothers with large families often struggle to support their families, putting those children at increased likelihood of lifelong poverty, high fertility rates and child marriage [28, 31]. Creating these vicious cycles of poverty lay eggs and fuels intergenerational poverty.

## Problem Statement / Introduction

This white paper argues that adolescent pregnancy and child marriage in low- and middle-income countries presents a severe impediment to development and can lead to perpetuate gender inequality, school dropout, lost productivity, poor adolescent health outcomes and the intergenerational transmission of poverty. This is critical consideration within the adolescent health literature, policy, and practices especially that present adolescents are the largest population in history and adolescent girls are the most threatened and vulnerable with regards teenage pregnancy and child marriage. Considering that global population of adolescents is projected to grow with indication that the number of adolescent pregnancies and child marriage will continue to increase globally by 2030, with the greatest proportional increases in West and Central Africa and Eastern and Southern Africa. Therefore, preventing adolescent pregnancy and childbearing as well as child marriage is crucial to achieve SDG agenda as dedicated under indicators 3.7.2, “Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1000 women in that age group,” and 5.3.1, and “Proportion of women aged 20–24 years married before the age of 18 years”.

Recognizing that adolescent pregnancy and childbirth have adverse health and wellbeing consequences for mothers and their children. This paper raises serious concerns for adolescent pregnancy and child marriage that have consequences on maternal mortality and morbidity due to pregnancy complications and unsafe abortion including violation of girl’s rights. The paper points out the increasingly risks of children born to adolescent include premature birth, death, malnutrition, and low physical and mental development. Linking the endogeneity of adolescent pregnancy and child marriage compromises a girl’s development by resulting in early pregnancy and social isolation, interrupting her schooling, limiting her opportunities for career, and placing her at risk of violence. This paper suggests that the practice of child marriage is closely associated with lower educational attainment, early pregnancies, intimate partner violence, maternal and child mortality, increased rates of sexually transmitted infections, intergenerational poverty, and the disempowerment of adolescent girls.

Thus, prevention of adolescent pregnancy through improving access to sexual and health care services is crucially important as outlined in the 2030 UN SDGs and the UN Global Strategy for Women’s, Children’s, and Adolescent’s Health. However, this paper recognizes that there are huge problems for many adolescent health needs, including sexual

and reproductive health which continue to be overlooked in addressing adolescent pregnancy and child marriage. Firstly, adolescents face significant barriers that undermine their sexual and reproductive health and rights—including lack of access to comprehensive sexuality education and to essential sexual and reproductive health services. A significant proportion of adolescents in SSA and South Asia do not access nor utilize contractive services for prevention of pregnancy, which is a consequence of several individual, interpersonal, institutional, and systemic factors [32]. Mekonnen, et al. [32:1] emphases that "the utilization of mainstream maternal [and adolescent] health services have a significant impact on the reduction of death and morbidity, [prevention of teen pregnancies] through early detection of danger signs and management of potential complications [as well as provision of adolescent contraceptive services]. They note that "maternal health care encompasses a range of services including antenatal care, skilled birth delivery care, and postnatal care" [32:1]. They add that "the provision of these services by formally trained and accredited health care professionals improves adolescent pregnancy outcomes significantly" [32:1].

However, in SSA and South Asia adolescents continue to face barriers to access contraception services due to restrictive laws and policies regarding provision of contraceptive based on age or marital status [33, 34]. Studies from several countries indicate that when adolescents approach clinics for help, they are often scolded, refused information, or turned away [33, 34]. They fear being seen by an adult family member or neighbors. Many are simply too young and inexperienced to know how to find a clinic. As a result of these barriers, adolescents often first contact a sexual and reproductive health programme when they must deal with a pregnancy or a sexually transmittable disease [33, 34]. This is further compounded by structure challenges such as inadequate and or unskilled health workers include health worker bias towards adolescents, long waiting time and lack of confidentiality at health facilities, in addition to the cost and misconceptions about contraceptives, and non-friendly adolescent reproductive services [33, 35]. These problems are elevated further due to lack of willingness to acknowledge adolescents' sexual health needs, and adolescents' own inability to access contraceptives because of knowledge, transportation, and financial constraints [33, 36]. Onukwugha (37) noted the lack of awareness and education about contraception, sexually transmitted infections, and timely safe abortion are known to be the core reasons behind teen pregnancies. Apart from these, there appears to be a taboo associated with sex-related subjects in certain societies and cultures because of which the parents fail to educate their children regarding the same [33, 37].

Additionally, adolescents face barriers that prevent use and/or consistent and correct use of contraception, even when adolescents are able to obtain contraceptives: pressure to have children; stigma surrounding non-marital sexual activity and/or contraceptive use; fear of side effects; lack of knowledge on correct use; and factors contributing to discontinuation (for example, hesitation to go back and seek contraceptives because of negative first experiences with health workers and health systems, changing reproductive needs, changing reproductive intentions [33]. The further barriers are due to a lack of sex education and family planning and a lack of the ability to put that knowledge into effect [33]. This is also attributed to lower education status, low socioeconomic class, and poverty which also increase the rates of such pregnancies [33, 37]. Sexual abuse, peer pressure to have sex, lower self-esteem, depression, lower knowledge of contraceptives, and substance abuse also increase adolescent pregnancies. [33] observed that even when adolescents can obtain contraceptives, they may lack the agency

or the resources to pay for them, knowledge on where to obtain them and how to correctly use them. They may face stigma when trying to obtain contraceptives. Further, they are often at higher risk of discontinuing use due to side effects, and due to changing life circumstances and reproductive intentions [33]. Early initiation of sexual activity and marriage at an early age with a partner of older age increases the likelihood of conception in the absence of contraception among adolescents in stable relationships, marriage, or union compared to those who are not [33].

This paper recognizes importance of ending child marriage to achieve Sustainable Development Goal (SDG) 5: Achieve gender equality and empower all women and girls. Target 5.3 which seeks to end child, early and forced marriage by 2030. The paper recognize that child marriage also hinders the realization of many other SDGs, especially those related to education and health. However, several factors that contribute to child marriage remain unresolved. First, in many societies, girls are under pressure to marry and bear children. As of 2021, the estimated global number of child brides was 650 million. The paper argues that child marriage places girls at increased risk of pregnancy because girls who are married very early typically have limited autonomy to influence decision-making about delaying child-bearing and contraceptive use [38]. Second, in many places, girls choose to become pregnant because they have limited educational and employment prospects [22, 39]. Often in such societies, motherhood – within or outside marriage/union – is valued, and marriage or union and childbearing may be the best of the limited options available to adolescent girls [33, 40]. The biggest problem is that gender norms and unequal power relations between girls and boys remain key drivers of teenage pregnancy and child marriage (Psaki et al.,2021). Norms may also be closely connected to other drivers of child marriage, such as lack of opportunity or agency and fear of pregnancy [33, 40, 41]. In some settings girls may have little control over the decision to marry, perhaps reflecting strong social norms in support of child marriage (Psaki et al.,2021. For girls, both identifying the goal of delaying marriage and acting on it may present challenges, especially in settings with limited information about the consequences of child marriage and limited availability of alternative pathways [33, 40, 41].

Poverty plays a central role in perpetuating child marriage. Poverty drives unemployed parents to regard girl-children as economic burdens, both about education costs and the practice of a dowry system [33,40, 41], which is a financial transaction entered into at the time of marriage. Child marriage is therefore often viewed as a means of reducing the financial burden for parents and as a source of income [41]. Additionally, child marriages form new alliances between tribes, clans, and villages; reinforce social ties; and stabilize vital social status [22, 41]. Parents worry about ensuring their daughters' virginity and chastity [22, 39]. Child marriage is also seen as a protective mechanism against premarital sexual activity, unintended pregnancies, and sexually transmitted diseases (STDs). The latter concern is even greater in this era of HIV/AIDS [22, 41].

The legislative framework for protecting children from early marriage is weak in SSA and South Asia with few countries categorically prohibiting marriage below the age of 18, allowing no exceptions based on sex, religion, ethnicity, or parental consent [19, 22, 41]. Cultural practices may also shape the sexual behaviour of young people. One of the common cultural practices involving young people is the initiation ceremony or puberty rite. The process of initiating a girl plays a significant role in shaping her perception of sex and sexuality [41, 42]. [42] assets that initiation rituals are mainly aimed at facilitating young people's transition into adulthood where topics such as marital roles are addressed including

information around sexuality, sexual relations, and pleasure. They point out that concerns have been raised about the values inculcated into a woman about sex and sexuality during this rite [42]. Child marriage is most common among the poorest segments of society and its prevalence is highest in low-income countries [19, 22, 41]. At the same time, high rates of child marriage negatively affect a country's economic growth and ability to eradicate poverty through their impact on fertility and population growth, maternal and child health and women's potential earnings and productivity [19, 22, 41].

## Proposed Solution(s)

### Introduction of Solution

This white paper notes that child marriage and adolescent pregnancy remain major social and public health issues in low- and middle-income countries, with far-reaching implications for the wellbeing of children and adolescents. Adolescent pregnancy, often driven by child marriage, remain urgent issues demanding urgent solutions owing to eminent risks of maternal and newborn complications and its overall impact that limit girls' opportunities to education. For adolescent girls (aged 10–19 years old), experiencing adolescent health challenges means facing harsh social sanctions and difficult choices that have life-long consequences. It could mean dropping out of school; being shamed and stigmatized by family, community members and peers; increased vulnerability to violence and abuse, increased exposure, and risk to STIs and HIV/AIDS, greater poverty, and economic hardship and at worst death. Therefore, as part of the broader solutions to comprehensively address adolescent health, adolescence needs to be recognized as an integral part of all policies at global, national, and sub-national levels. This paper has established that the enablers – policies and legislation have not fully recognized the adolescent as a unique demographic segment in society and do not offer sufficient support and protection to adolescents.

The paper, therefore, propose that the first solution as a matter of urgency, is to ensure that policies and laws are in place to protect adolescents specially when it comes to their access to sexual reproductive health services, contraceptive, and comprehensive education sexuality information. Contraceptive use is an important means of avoiding, spacing, or delaying childbearing. The prevalence of contraceptive use is typically lower among sexually active adolescents as highlighted in this paper. Therefore, there is a need to address the legal and policy barriers. Several studies document legal and policy-related barriers including laws that do not allow contraception for adolescents and lack of knowledge among providers and adolescents themselves of the legal rights of adolescents to obtain contraception [16, 33, 43, 44]. Governments and partners are urged to ensure that adolescents, both boys and girls, receive adequate education, including family life and sex education, with due consideration given to the role, rights and obligations of parents and changing individual and cultural values. Suitable and age appropriate SRH and family planning information and services be made available to adolescents within the changing sociocultural framework of each country.

In 2011, WHO issued Guidelines on preventing early pregnancy and poor reproductive outcomes in adolescents in developing countries. To accelerate progress towards attainment of international development goals and targets in sexual and reproductive health, and to contribute to meeting unmet need for contraceptive information and services among adolescents. There is urgent need to ensure that these laws are in line with WHO Guideline and ensure that are adolescent friendly and recognize the unmet needs of adolescent to access contraceptive services. This critical investments for building

an enabling environment should reflect adolescent legal rights in laws, policies, and guidelines that respect, protect, and fulfill adolescents' human rights to contraceptive information, products, and services regardless of age, sex, marital status, or parity. Governments and partners must address the supply side of services – that is limited health service delivery points for adolescents at health facilities and a lack of comprehensive sexuality education in communities and schools, an inadequate number of suitably trained health workers and a weak supply chain. The immediate solution for this is also to ensure that have primary health care services is well resourced and equipped to meet the needs of adolescent health including investment in skilled health workforce, so that services respond to adolescents' needs that are often context specific. These can be reinforced with clear guidelines that support health professionals to provide services and information to adolescents [32, 36, 42]. For legal rights and adolescent-related health policies to be operationalized at the service delivery level, the facility should have copies of relevant service delivery policies and standards (e.g., adolescent-friendly service provision standards) and providers should be well oriented on their use as part of adolescent health professional training or staff updates [39, 40]. In addition, supervision checklists should reflect key provisions of these policies, and supervisors should reinforce their application during supervision visits [39, 40].

Studies have shown that while adolescent friendly centers may serve the useful purpose of providing a venue to bring adolescent together and to conduct small group learning and sharing experiences, they do not lead to increases in contraceptive uptake and SHR including family planning services [33, 36]. In delivering SRH, contraceptive and family planning information and services programme and intervention need to use multiple service modalities to reach a wider range of adolescents [33]. Such approaches can include community-based distribution, mobile outreach services, drug shops, informal settings, schools, or workplace-based services. This entails creating safe spaces and community-based intervention for encouraging adolescents to participate and attend. Emphases should be placed on linking service delivery with activities that build support within communities. Interventions directed at influencing the sexual and reproductive health behaviors of adolescents are significantly enhanced where there are complementary interventions for parents, providers, religious leaders, and other influential adults who can foster a supportive environment in health facilities, schools, religious places of worship, and in homes [45]. Successful adolescent programmes that address teen pregnancy and child marriage are those which tend to involve male adolescents through dialogue about sexual health, risky behaviors, and STIs. Thus, investment that encourages adolescent boys to use condoms to prevent pregnancies and diseases play a critical role especially if it focuses on educating them about other methods of contraception and postcoital contraception including helping them to create positive relationship with girls and address power, violence and masculinity all help teenage boys understand their responsibilities as a partner.

Secondly, shifting social norms and fostering support among communities and parents for adolescents to access contraceptive information and services; and addressing gender norms. Gender ideologies influence how adolescent boys and girls behave and decide about contraception. According to social beliefs, adolescent girls are often discouraged from being open about any sexual activity; however, adolescent boys are encouraged to do the opposite. The same ideologies come forward when it comes to the use of contraception and SRH [41, 45]. These gender gaps often suppress adolescent girls' desires and views, leading to increased teenage

pregnancies. In practice, practical solutions ought to support adolescents to talk openly about their feelings and experiences related to sexuality. Educate them on topics, such as HIV, STDs, and contraception including spread awareness in the field of effective contraceptive usage and shedding social stigma including educating them on contraception use. Interventions and programmes should endeavor to bring families and communities together through community dialogues/discussions to address topics on sexuality without any socio-cultural resistance. These community dialogues ought to be open about health risks of unprotected sex and teenage pregnancies. Adolescents' perceptions of feeling loved, and of feeling supported, are very important. Creating awareness and enabling an environment where parents are prepared for raising an adolescent with a positive approach and support as well as being their friends.

A good parent-child relationship can make children happy and confident. They will understand their responsibilities and social values. There is need to encourage having counseling and free spaces for adolescents in schools and apprising teachers about how to handle adolescents who need support outside their homes and making sure that early childhood development programs are linked with adolescent health programs too. Taken together, these elements of adolescent-friendly contraceptive services, encompassing service delivery, community-based approach and enabling environment aspects, need to be considered to increase adolescent uptake of contraception, SRH and family planning service and information.

Further, governments that have not yet heeded the call to set the legal minimum age for marriage, must set the legal age of marriage to 18 for both girls and boys and enforce these laws to protect children in line with international commitments such as the Convention on the Rights of the Child. Ensure that policies for education promote free and universal education. Education of girls is critical to ending child marriage. Child marriage is intricately linked to issues of value, power, and control [23]. Educated girls are less likely to marry early and are more employable, allowing them to have more control over their lives. Education not only delays marriage, pregnancy, and childbearing, but school-based sex education can be effective in changing the awareness, attitudes, and practices leading to risky sexual behavior in marriage [19, 33]. Education helps them take care of their families in a better way and positively impact society. Empowerment programs, which aim to increase girls' agencies and equip them with knowledge and skills to avoid child marriage [19]. Several studies indicate that community engagement programs, which aim to address social norms by sensitizing parents and community members to the risks of child marriage; encourage support for girls continued education as an alternative to marriage including economic support programs and soft conditional cash transfer which aim to alleviate economic pressures and offer financial incentives for certain behaviors (e.g., delaying marriage, keeping girls in school have proved to be more effective in addressing child marriage. It is well recognized that girl's empowerment by offering them support and protection together with effective strategies that teach life skills, build self-esteem, and improve social networks [19, 33].

Many girls marry early because of their poor economic conditions and sexual violence contribute to child marriage. Government must make efforts to change social norms and attitudes towards forced sex and sexual violence prevailing in society and promote gender equality.

## Application of Solution

Several studies have shown effectiveness and reduction of adolescent pregnancy where contraceptive uptake among adolescents was high [43]. According to WHO studies

conducted in China, India, Kenya, Thailand, and other countries, adopting effective contraceptive methods (condoms, hormonal, and emergency contraceptives) can help prevent teenage pregnancies. Studies have shown that adolescent girls with access to contraception in settings where gender norms have been transformed to allow girls to know about sexual and reproductive health and to feel empowered to access services (24). Adolescent boys have higher uptake where access to contraception in settings where boys feel some sense of responsibility to plan pregnancies [24].

Studies have shown that countries that set their legal minimum age of marriage, their legal minimum age of marriage with parental consent, and their legal minimum age of sexual consent at 18 or older have rates of child marriage 40% lower than countries that haven't. Girl as Bride [46:1] state that "looking at the effects of child marriage laws in 12 sub-Saharan African countries, we found that countries that consistently protect the rights of girls by setting their legal minimum age of marriage, their legal minimum age of marriage with parental consent, and their legal minimum age of sexual consent at 18 or older had rates of child marriage and adolescent birth that were 40 per cent and 25 per cent lower than countries where these laws contradicted one another".

**Future Direction / Long-Term Focus**

The literature indicates that there is a gap in understanding the experiences of teen mothers in relation to childcare and their nutritional health. The gap in knowledge demands that more analysis is needed for adolescent mothers and their children.

This paper proposes further research on adolescent mothers and childcare including their nutritional health of both the mother and the child. Adequate nutrition is essential to maintain health at every stage of life. Nutritional needs differ across various age groups and with certain health conditions. Adolescent childbearing is on such instance in which nutritional needs differ. The growing adolescent and child also has distinct nutritional needs.

## Results/Conclusion

This white paper argues that adolescent pregnancy and child marriage in low- and middle-income countries presents a severe impediment to development and can lead to perpetuate gender inequality, school dropout, lost productivity, poor adolescent health outcomes and the intergenerational transmission of poverty. Every year it is estimated that 21 million girls aged 15–19 years in low- and middle-income countries (LMICs) become pregnant, of which approximately 50% were unintended and resulted in an estimated 12 million births. In the meantime, Child marriage, defined as marriage of a child <18 years of age (marriage where one or both partners are under the age of 18 prevalence remains high in some countries. In many cases, child marriage is a driver of early pregnancy; in others – particularly where sex outside of marriage is taboo –unintended pregnancy drives child marriage. Every year, approximately 15 million people around the world are married before their 18th birthday. This equates to one out of every five girls, with over 650 million women alive today who were married as children. This is critical consideration within the adolescent health literature, policy, and practices especially that present adolescents are the largest population in history and adolescent girls are the most threatened and vulnerable with regards teenage pregnancy and child marriage. Considering that global population of adolescents is projected to grow with indication that the number of adolescent pregnancies and child marriage will continue to increase globally by 2030, with the greatest proportional increases in West and Central Africa and Eastern and Southern Africa. Therefore, preventing adolescent

pregnancy and childbearing as well as child marriage is crucial to achieve SDG agenda as dedicated under indicators 3.7.2, "Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1000 women in that age group," and 5.3.1, and "Proportion of women aged 20–24 years married before the age of 18 years."

This paper has highlighted that adolescent pregnancy, often driven by child marriage, remain an urgent issues recuring urgent solution owing to eminent risks of maternal and newborn complications and its overall impact that limit girls' opportunities to education. The paper argues that for adolescent girls (aged 10–19 years old), experiencing adolescent health challenges means facing harsh social sanctions and difficult choices that have life-long consequences. It could mean dropping out of school; being shamed and stigmatized by family, community members and peers; increased vulnerability to violence and abuse, increased exposure, and risk to STIs and HIV/AIDS, greater poverty, and economic hardship and at worst death. The paper notes that adolescent pregnancy tends to be higher among those with less education or of low economic status. Further, there is slower progress in reducing adolescent first births amongst these and other vulnerable groups, leading to increasing inequity. Child marriage and child sexual abuse place girls at increased risk of pregnancy, often unintended. The paper assets that in many places, barriers to obtaining and using contraceptives prevent adolescents from avoiding unintended pregnancies. It further states that there is growing attention to improving access to address adolescent pregnancy and child marriage. Therefore, as part of the broader solutions to comprehensively address adolescent health, adolescence needs to be recognized as an integral part of all policies at global, national, and sub-national levels. This paper has established that the enablers – policies and legislation have not fully recognized the adolescent as a unique demographic segment in society and do not offer sufficient support and protection to adolescents.

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Secondly, shifting social norms and fostering support among communities and parents for adolescents to access contraceptive information and services; and addressing gender norms. In practice, practical solutions ought to support adolescents to talk openly about their feelings and experiences related to sexuality. Educate them on topics, such as HIV, STDs, and contraception including spread awareness in the field of effective contraceptive usage and shedding social stigma including educating them on contraception use. Interventions and programmes should endeavor to bring families and communities together through community dialogues/discussions to address topics on sexuality without any socio-cultural resistance. These community dialogues ought to be open about health risks of unprotected sex and teenage pregnancies.

Further, governments that have not yet heeded the call to set the legal minimum age

for marriage, must set the legal age of marriage to 18 for both girls and boys and enforce these laws to protect children in line with international commitments such as the Convention on the Rights of the Child. Ensure that policies for education promote free and universal education. Education of girls are critical to ending child marriage. Child marriage is intricately linked to issues of value, power, and control. Educated girls are less likely to marry early and are more employable, allowing them to have more control over their lives. Education not only delays marriage, pregnancy, and childbearing, but school-based sex education can be effective in changing the awareness, attitudes, and practices leading to risky sexual behavior in marriage. Education helps them take care of their families in a better way and positively impact society. Empowerment programs, which aim to increase girls' agencies and equip them with knowledge and skills to avoid child marriage. Several studies indicate that community engagement programs, which aim to address social norms by sensitizing parents and community members to the risks of child marriage; encourage support for girls continued education as an alternative to marriage including economic support programs and soft conditional cash transfer which aim to alleviate economic pressures and offer financial incentives for certain behaviors (e.g., delaying marriage, keeping girls in school have proved to be more effective in addressing child marriage.

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