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Sexual and Reproductive Health Education in Adolescents of Nepal: Current Status, Knowledge Gaps, and Strategic Interventions

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Abstract: Sexual and reproductive health (SRH) in Nepal faces significant challenges, including high rates of early marriage and motherhood, limited access to quality education, and low contraceptive utilization, with prevalent stigma surrounding sexually transmitted infections (STIs) and HIV/AIDS. Despite high awareness of contraceptives among adolescents, actual usage remains low, highlighting critical gaps in access and education. This review paper used a desktop research approach to examine existing literature on SRH education in Nepal. This study was conducted to identify SRH challenges and propose actionable solutions to improve outcomes for youth in Nepal. The findings reveal a pressing need to strengthen legal frameworks against child marriage, the integration of Comprehensive Sexuality Education (CSE) into school curricula, and the development of youth-friendly health services. Additionally, the study identifies the importance of community engagement and parental involvement in promoting supportive environments for young people. This research contributes to a deeper understanding of the barriers to effective SRH education and services in Nepal and offers practical recommendations for addressing these issues.

Keywords: *Contraception, early marriage, Sexual and reproductive health, STIs, Youth-friendly services*

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1. Introduction

According to the World Health Organization (WHO), reproductive health is defined as "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes." This definition emphasizes that reproductive health entails the ability to enjoy a satisfying and safe sex life, the capacity to reproduce, and the freedom to decide if, when, and how often to do so. This concept inherently includes the rights of individuals to be informed and to access safe, effective, affordable, and acceptable methods of family planning, as well as other lawful methods of fertility regulation. Additionally, it encompasses the right to appropriate healthcare services that enable women to navigate pregnancy and childbirth safely, providing couples with the best chance of having a healthy infant.

Currently, sexual health is defined as a state of physical, emotional, mental, and social well-being in relation to sexuality, and it is not merely the absence of disease, dysfunction, or infirmity (WHO, 2002). Achieving sexual health necessitates a positive and respectful approach to sexuality and sexual relationships, along with the opportunity to have

pleasurable and safe sexual experiences free from coercion, discrimination, and violence. To attain and maintain sexual health, it is crucial that the sexual rights of all individuals are respected, protected, and fulfilled. Although the term "sexual and reproductive health" is widely accepted worldwide, in some regions, cultural and political sensitivities limit the use of "sexual health," leading to a preference for the term "reproductive health." In such contexts, "reproductive health" is understood to implicitly encompass aspects of sexual health (WHO, 2002; WHO, 2010).

Adolescence, which spans the ages of 10 to 19, is a transitional phase between childhood and adulthood that plays a critical role in establishing a foundation for lifelong health. During this developmental stage, individuals experience rapid physical, cognitive, and psychosocial changes that significantly influence their emotions, thoughts, decision-making, and interactions with their environment (WHO, 1989). These transformations can lead adolescents to encounter various challenges related to their reproductive and sexual health. Issues surrounding self-identity, relationships, sexual experimentation, and physical development may result in difficulties affecting their sexual, menstrual, mental, and behavioral health (Lloyd, 2005).

Healthy sexuality is shaped by a multitude of factors, including ethnic, racial, cultural, personal, religious, and moral influences. It encompasses the ability to foster and maintain meaningful interpersonal relationships, appreciates one's body and health, engages respectfully and appropriately with people of all genders, and express affection, love, and intimacy in ways that align with one's values, sexual preferences, and capabilities (Breuner & Mattson, 2016). Consequently, adolescents must access health services during this formative period to enhance their health, mitigate risky behaviors, and cultivate healthy habits. However, healthcare services often struggle to effectively address adolescents' unique circumstances and needs (Sawyer et al., 2012). To support the well-being of adolescents, it is essential to provide age-appropriate services that cater specifically to their needs. These services should include counseling on sexuality, bodily changes, relationships, family planning, voluntary counseling, testing, and treatment for sexually transmitted infections. Importantly, these services must uphold adolescents' rights to privacy, respect, and informed consent while honoring cultural and religious values (WHO, 2003; Sawyer et al., 2012).

This study aims to assess the current state of sexual and reproductive health (SRH) education in Nepal, specifically addressing knowledge gaps in contraception, family planning, and sexually transmitted infections (STIs), including HIV/AIDS. The objectives are to identify key deficiencies in SRH knowledge, evaluate the societal and structural barriers to effective SRH education, and propose evidence-based strategies for improvement.

2. Materials and methods

This review paper used a desktop research approach to examine existing literature on sexual and reproductive health (SRH) education in Nepal. Relevant data sources, including peer-reviewed journal articles, government reports, policy documents, and organizational publications, were systematically analyzed to assess the status, knowledge gaps, and strategies for improving SRH education in the country. The search was conducted using specific keywords such as "sexual and reproductive health education in Nepal," "knowledge of contraception," "family planning in Nepal," "awareness of STIs and HIV/AIDS," "barriers to SRH education," and "strategies for SRH improvement."

To ensure a comprehensive, up-to-date overview, searches were conducted across multiple databases, including PubMed, Google Scholar, ScienceDirect, Springer, JSTOR, and regional health databases. The search covered studies published within the last 20 years, allowing for an in-depth analysis of both historical and recent developments in sexual and reproductive health (SRH) education. Inclusion criteria were applied to select studies that focused specifically on Nepal, explored SRH education and awareness levels, or discussed SRH policies and interventions relevant to low- and middle-income countries with similar socioeconomic contexts. Studies that were unrelated to these themes or lacked sufficient methodological rigor were excluded to maintain the review's quality and relevance. The selected literature was then organized and synthesized to highlight key findings on the status of SRH education, levels of knowledge about contraception and family planning, awareness of STIs and HIV/AIDS, and recommended interventions.

3. Results and discussion

3.1. Status of sexual and reproductive health education in Nepal

3.1.1. Early marriage and motherhood

In Nepal, a marriage is considered early if it occurs before the legal age of 20 (Nepal Law Commission, 2017). Studies have shown that early marriage poses significant health risks, such as malnutrition in children, teenage pregnancy, and school dropout. Nepal ranks third in South Asia and sixteenth globally for early marriage prevalence (UNICEF, 2019). According to the 2011 census, 41% of girls in Nepal were married before reaching 18, and 8.1% of girls aged 15 to 19 became pregnant (Central Bureau of Statistics, 2012). This highlights a critical situation regarding early marriage in Nepal, which is particularly common among illiterate populations, *Janajatis* (Indigenous ethnic groups), Dalits (the

untouchable caste group), Muslims, Madhesis (inhabitants of the Terai region), and other marginalized communities (Bhattarai et al., 2022).

Early marriage is closely linked to factors such as education level, place of residence, and ethnicity (Choe et al., 2005). A 2019 study in Nepal found that early marriage significantly impacts maternal health. Women who married young, reported health issues, with 51.28% experiencing bleeding during pregnancy, 10.25% reporting postpartum bleeding, 16.66% facing other complications during pregnancy, and 37.17% reporting low RBC count and fatigue during pregnancy. These findings illustrate the health-related challenges women face due to early marriage. Furthermore, teenage pregnancies carry severe risks, as young women are often not psychologically, physically, or emotionally prepared for motherhood, leading to pregnancy complications and, in some cases, maternal mortality (Maharjan et al., 2019).

Early marriage before 18 remains common in Nepal, especially in rural areas, with child marriage (before age 15) also prevalent. Studies indicate that 17% of females in urban areas and 26% in rural areas experience child marriage, which often results in early motherhood; 31% of urban and 41% of rural women had their first child before the age of 20. Recently, the trend of early marriage and motherhood has been declining, likely due to the increasing role of education.

3.1.2. Knowledge of contraception and family planning

The use of contraceptives plays a significant role in preventing unintended pregnancies and early childbearing, along with their associated consequences, among adolescents and young people (MoHP, 2020). Family planning services not only improve individuals' lives but also have the potential to enhance economic well-being (Uprety et al., 2016).

In Nepal, knowledge about family planning among adolescents and youth is nearly universal, with a reported 99.9% awareness rate (MoHP, 2020). Over the past 30 years, there has been a substantial increase in contraceptive use (Acharya, 2020). A study conducted by Yadav et al. (2015) found that 100% of respondents aged 15 to 18+ years knew about contraception and family planning. This finding aligns with a study by Bhatt et al. (2021), which showed that almost all participants, except for a few female respondents, had some knowledge of family planning.

In Southern Nepal's Muslim community, nearly two-thirds of respondents had good knowledge of modern contraceptive methods, although Muslim women reported lower actual use of these methods (Thakuri et al., 2022). Similarly, a study conducted in Chisapani, Banke, in Southwestern Nepal, found that 95.85% of people were aware of family planning, and only 70.48% were actively using contraceptives (Roy et al., 2018).

3.1.3. Knowledge of STIs and HIV AIDS

Sexually transmitted infections (STIs) are a major global public health issue, with approximately 1 million curable STIs acquired each day among individuals aged 15-49 (World Health Organization, 2024). In 2020 alone, an estimated 374 million new infections occurred among people aged 15-19, involving one of four curable STIs: Chlamydia, Gonorrhea, Syphilis, and Trichomoniasis (World Health Organization, 2024). STIs have a severe impact on sexual and reproductive health, often resulting in stigmatization, infertility, cancer, pregnancy complications, and an increased risk of HIV/AIDS (World Health Organization, 2024). HIV/AIDS remains a significant public health challenge globally. By the end of 2022, an estimated 39 million people were living with HIV, with approximately 630,000 deaths and 1.3 million new HIV infections that year (World Health Organization, 2023).

In Nepal, HIV prevalence is low among the general population, estimated at 0.12% for adults aged 15 and above, with an incidence rate of 0.02% (NDHS, 2022). The HIV epidemic in Nepal is concentrated among key populations, including men who have sex with men and transgender individuals, people who inject drugs, sex workers and their clients, and male labor migrants and their wives (NDHS, 2022). According to the 2022 Nepal Demographic and Health Survey (NDHS), 25% of women and 10% of men who had ever had sexual intercourse reported experiencing an STI or STI symptoms in the 12 months before the survey (NDHS, 2022).

Several researchers have investigated adolescents' knowledge of STIs and HIV/AIDS in Nepal. A 2011 study by Gupta et al. found that 94.16% of adolescent students in grades XI and XII in Palpa district were aware of STIs and HIV/AIDS (Gupta et al., 2011). Similarly, a 2018 study in Bajhang reported that 99% of students in grades XI and XII had heard of STIs (Thapa, 2018). The NDHS 2022 found that 78% of women and 93.7% of men aged 15-19 had heard of HIV/AIDS, with these figures rising to 82.3% for women and 95.8% for men aged 20-24. However, knowledge about other STIs, such as syphilis, gonorrhea, and hepatitis B, is limited. Gupta et al. (2011) found that while 91.66% of respondents were aware of HIV/AIDS, only 58.33% knew about syphilis, and 56.66% had heard of hepatitis B. In contrast, a study among undergraduate students at the University of Abuja in Nigeria found that gonorrhea (89.3%) and syphilis (89.2%) were the most commonly known STIs (Makure & Adenyuma, 2014). In Bangladesh, a 2009 study showed that only 54.8% of adolescents had heard of HIV/AIDS (Rahman et al., 2009), while a 2016 study in Jabalpur district, India, found that 53% of boys and 43% of girls were aware of AIDS (Nayak et al., 2016).

Sources of information about STIs and HIV/AIDS vary. A 2018 study in Bajhang found that television/radio (32%) and teachers (25%) were the primary sources (Thapa, 2018). Similarly, a study at the University of Abuja, Nigeria,

identified television (82%) and school education (81.5%) as key sources (Makure & Adenyuma, 2014). In contrast, Gupta et al. (2011) found teachers to be the main source of information among adolescent students in Palpa.

A 2012 study in Dhankuta district, Nepal, found that adolescents identified unsafe sexual contact (94%), mother-to-child transmission (93%), blood transfusions (87%), and infected needles (66%) as modes of HIV/AIDS transmission (Sah et al., 2012). Consistent with Sah et al., other studies (Abruquah & Bio, 2008; Gupta et al., 2011; Rana, 2014; Makure & Adenyuma, 2014; Nayak et al., 2016; Shrestha, 2017; Thapa, 2018) also cited unsafe sexual contact as the most commonly recognized transmission method. However, misconceptions persist: a 2013 study in Kathmandu found that 32% of respondents believed mosquitoes could transmit HIV, 21% thought it could spread through shared utensils and towels, and 45% assumed that a healthy-looking person could not transmit HIV (Dhungel et al., 2013). Additionally, Gupta et al. (2011) found that 15.83% believed that touching an infected person could spread HIV. In the Bajhang study, only 9% of respondents identified mother-to-child transmission as a mode of HIV transmission (Thapa, 2018).

The 2022 NDHS report found that only 16% of women and 27% of men aged 15-24 knew about using condoms, screening blood before transfusions, and avoiding shared needles as HIV prevention measures (NDHS, 2022). Across the literature, condom use and avoiding multiple sexual partners were the most frequently mentioned HIV prevention strategies (Abruquah & Bio, 2008; Gupta et al., 2011; Sah et al., 2012; Makure & Adenyuma, 2014; Rana, 2014; Thapa, 2018).

In Bangladesh, a 2009 study found that knowledge of HIV/AIDS (14.07%) was significantly higher than awareness of other STDs (11.7%) (Rahman et al., 2009). A study among high school students in Kathmandu, Nepal, reported that only two-thirds of female students and nearly 60% of male students knew it was possible to contract an STI from a single sexual encounter (Mattebo et al., 2015). Despite general awareness of HIV/AIDS, significant knowledge gaps remain regarding other STIs. As the proportion of never-married young women in Nepal who have had premarital sex rose from less than 1% in 2006 to 2% in 2022 and from 17% to 25% among never-married young men (NDHS, 2022), there is an urgent need for effective sexual and reproductive health education for adolescents in Nepal.

3.2. Strategies to enhance the condition of sexual and reproductive health

3.2.1. Education for adolescent health

A review paper from globally focused organizations, such as the World Health Organization (WHO) and the United Nations Population Fund (UNFPA), underscores the critical need for ongoing investment in adolescent health services to effectively prevent early pregnancies, sexually transmitted infections (STIs), and HIV. This investment provides a consistent framework for future goals to enhance adolescent well-being. Education begins at home, where creating a safe social environment for youth is essential for their development and learning (Bearinger et al., 2007).

A qualitative study examining adolescent girls' perspectives on sexual and reproductive health (SRH) in rural Nepal identified various factors influencing their access to SRH services. These factors were categorized into individual, interpersonal, community, and organizational/systemic barriers. Individual-level challenges included a lack of knowledge, limited decision-making autonomy, and shyness. Interpersonal barriers often stem from unsupportive family norms and the necessity of obtaining permission to access care. Community factors, such as prevailing gender norms and societal judgment, further complicate adolescents' SRH experiences. Additionally, organizational and systemic barriers included insufficient sex education and a lack of female healthcare providers (Tiwari et al., 2022).

Findings from another study exploring the factors affecting the access and acceptance of SRH services provided by adolescent-friendly health facilities in Nepal indicated that healthcare providers' characteristics, institutional barriers, insufficient privacy and confidentiality, lack of information about SRH, and socio-cultural norms significantly impacted the utilization of these services by adolescents (Pandey, Seale & Razee, 2019). Furthermore, students who reported higher levels of communication about SRH with their parents were more likely to utilize adolescent-friendly health services in Kailali, Nepal. Interestingly, service utilization was less common among students living alone than those residing with both parents (Bhatta, 2021).

The importance of a supportive family environment for adolescents cannot be overstated; they need to become informed and make sound health choices. Reduced parental control over girls' time and mobility, as well as diminished stigmatization of a girl's sexuality within the family, are essential for improving adolescent sexual and reproductive health. Therefore, strategies should include programs to enhance parental health literacy (Shrestha & Wærdahl, 2020).

In a study conducted in Vietnam focusing on adolescent sexual and reproductive health and rights for ethnic minority girls, recommendations were made to strengthen legal frameworks, improve access to youth-friendly health services, implement comprehensive sex education, address harmful socio-cultural norms, provide economic and social support, and integrate mental health services (Burns et al., 2024).

3.2.2. Awareness from society

Enhancing knowledge of sexual and reproductive health (SRH) among young people in Nepal requires a comprehensive, multi-dimensional approach involving various stakeholders such as parliamentarians, educators,

healthcare providers, and even the public. Building awareness of SRH is crucial for equipping young people with the knowledge to make informed health decisions, and several strategies can be employed to achieve this.

One effective approach is implementing Comprehensive Sexuality Education (CSE) in schools. CSE programs provide adolescents with accurate information on sexual and reproductive health that is age-appropriate, culturally sensitive, and inclusive. Topics typically include gender equality, consent, contraception, and human anatomy. Research has shown that CSE significantly improves young people's awareness and attitudes towards SRH, contributing to healthier behaviors and increased knowledge about sexual health (UNESCO, 2018).

Community engagement is another essential strategy for improving SRH awareness. By involving parents, religious leaders, and community figures in SRH education initiatives, societal barriers to open discussions can be lowered. Community-based initiatives that encourage dialogue around SRH help to dispel myths and combat negative attitudes, creating a more supportive environment for young people. Youth clubs, for instance, serve as platforms where teenagers can access information and support, fostering a positive culture around SRH (Friedman, 1994).

Digital platforms have also emerged as an effective means of reaching young people with SRH information. Digital media and mobile technology make SRH knowledge more accessible and allow young people to obtain credible information through social media, online counseling, and mobile apps. These digital spaces provide anonymous environments where young people can ask questions and receive guidance without fear of judgment, which is particularly beneficial for sensitive topics like SRH (Huang et al., 2022).

Peer education programs are vital in promoting healthy sexual practices among youth. Peer relationships play an influential role in validating information, and peer-led sex and HIV education programs have shown positive impacts on sexual behavior. By equipping peer educators with skills to promote safe and responsible choices, these programs contribute to delayed sexual debut, reduced number of sexual partners, and increased condom and contraceptive use. Peer education, especially tailored to the local context, has proven to be effective in encouraging healthier behaviors (Kirby et al., 2007).

Lastly, access to youth-friendly health services is essential for young people's SRH needs. Youth-friendly health facilities and outreach programs make healthcare more accessible and approachable for adolescents. These services help reach young people in remote areas through mobile clinics, school-based services, and community outreach. By providing a safe and accessible environment for SRH, youth-friendly health services play a critical role in reducing STI rates, preventing unintended pregnancies, and improving overall well-being (Sogarwal et al., 2013).

The study highlights several significant challenges in addressing sexual and reproductive health in Nepal, including high rates of early marriage and motherhood, limited access to quality education, low utilization of contraceptives, stigma and misconceptions surrounding STIs and HIV/AIDS, insufficient youth-friendly health services, and various cultural and social barriers, as shown in Table 1. To combat the high rates of early marriage, it is essential to strengthen legal frameworks that enforce laws against child marriage while simultaneously supporting education initiatives for girls. Integrating Comprehensive Sexuality Education (CSE) into school curricula can ensure that young people receive age-appropriate and culturally sensitive information. To address the low utilization of contraceptives, enhancing availability through community health workers and youth-friendly clinics is crucial, complemented by awareness campaigns that promote their use. Additionally, reducing the stigma associated with STIs and HIV/AIDS can be achieved by conducting community awareness campaigns that encourage open discussions about sexual and reproductive health. Developing and expanding youth-friendly health services that prioritize confidentiality and create a welcoming environment is vital. Engaging community leaders in dialogues to challenge harmful norms and promote gender equality can foster a supportive atmosphere for youth. Establishing peer education programs and leveraging technology and social media for accurate sexual health information can further empower young people. Lastly, encouraging parental involvement in educational programs can create a supportive home environment, which is crucial for the healthy development of adolescents.

Table 1: Current Challenges and Possible Solutions for Sexual and Reproductive Health in Nepal

Current Challenges	**Possible Solutions**
High Rates of Early Marriage and Motherhood	Strengthening legal frameworks to enforce laws against child marriage and support education for girls.
Limited Access to Quality Education	Integrating Comprehensive Sexuality Education (CSE) into school curricula that is age-appropriate and culturally sensitive.
Low Utilization of Contraceptives	Increasing the availability of contraceptives through community health workers and youth-friendly clinics, along with awareness campaigns promoting their use.
Stigma and Misconceptions about STIs	Conducting community awareness campaigns to educate about sexual and

and HIV/AIDS	reproductive health, reducing stigma, and promoting open discussions.
Insufficient Youth-Friendly Health Services	Developing and expanding services that cater to young people's needs, ensuring confidentiality and a welcoming environment in healthcare facilities.
Cultural and Social Barriers	Engaging community leaders in dialogues to challenge harmful norms and promote gender equality forms a supportive atmosphere for youth. Establishing peer education programs where trained young people provide accurate information about sexual health to their peers. Leveraging technology and social media to disseminate accurate sexual and reproductive health information and provide online counseling. Encouraging parental involvement in education programs to foster a supportive home environment for adolescents.

4. Conclusion

The findings indicate that early marriage remains a prevalent issue, particularly in rural areas and marginalized communities, posing significant health risks for young women, including complications during pregnancy and childbirth; thus, it is essential to strengthen legal frameworks against child marriage and promote education as a key strategy for empowerment. While awareness of contraception is high among adolescents, actual usage remains low, highlighting the need for targeted initiatives to improve access to contraceptive services alongside comprehensive education that addresses misconceptions and barriers to use, focusing on creating youth-friendly healthcare environments that encourage young people to seek services without fear of judgment or stigma. Moreover, despite a general awareness of STIs and HIV/AIDS, significant knowledge gaps persist, particularly concerning specific infections and prevention methods, showing the necessity for ongoing education that incorporates both formal schooling and community engagement; programs utilizing digital platforms and peer education can effectively reach young audiences, providing them with accurate information and resources.

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