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Analysis of Adolescent Girls Health and Wellbeing Status in Rajasthan

Dr. Babita*

***Assistant Professor (Sociology) S.K. Govt.Girls College, Sikar (Raj.) INDIA**

Abstract: Based on recent research, the health and well-being of adolescent girls in Rajasthan remain a critical public health concern, with interconnected challenges stemming from socio-cultural norms and systemic issues. A prominent finding across studies is the high prevalence of child marriage, which directly correlates with early pregnancy, maternal mortality, and limited educational opportunities. Research indicates a significant proportion of young women are married before the legal age, with marriage decisions often made without their consent.

Malnutrition and anemia are also widespread, with a majority of adolescent girls suffering from iron deficiency. A study in western Rajasthan found over half of school-going adolescent girls was anemic, highlighting inadequate dietary intake and limited knowledge about nutrition. Furthermore, access to sexual and reproductive health (SRH) services is a major barrier. Despite awareness of contraception, girls often hesitate to seek services due to social stigma, shyness, and a fear of judgment. While government initiatives like Adolescent Friendly Health Clinics (AFHCs) exist, their effectiveness is hampered by issues of privacy, lack of awareness, and inconsistent quality of care. Research suggests that while there has been some progress, a comprehensive, multi-sectoral approach is needed to address the persistent challenges of child marriage, malnutrition, and limited SRH access, ultimately empowering adolescent girls to make informed decisions about their health and future.

Keywords: Adolescent, Health, Malnutrition, Anemia, Child Marriage.

Introduction - Adolescence is a transitional stage of life from puberty to adulthood which ranges between 10 to 19 years of age (WHO, 2014). A spectrum of physical, psychological, and social and development occurs during this period. There are more than 1.2 billion adolescents worldwide, constituting 18 percent of the total global population. India is home to more than 243 million adolescents, which is nearly one fifth of its total population (UNICEF, 2011) Rajasthan has 15.7 million adolescents, which is 23 percent of the state's total population (Census, 2011).

Adolescents' health can be impacted by transitional conditions and social determinants of health, even if they are not typically at risk for infectious diseases (Laski, 2015). During this stage of life, individuals may experience or worsen critical health issues such as substance misuse, depression, anxiety, mood disorders, eating disorders, and more (Sunitha and Gururaj, 2014). These health concerns can impact adolescent development, leading to increased disease rates and economic burdens for individuals, caregivers, families, and communities. While many adolescent issues are universal, some are more prevalent in developing nations. One such issue is child marriage.

Globally, over 700 million women marry before the age of 18, with the majority living in low- and middle-income countries (UNICEF, 2014). report that the number is increasing by 37,000 each day and nearly 15 million annually. Child marriage affects almost one-third of girls in poor countries, leading to various health and socioeconomic implications (UNICEF, 2014). Child marriage has a significant impact on adolescent girls' scholastic and economic chances, in addition to health concerns. Early marriage can lead to teenage pregnancy, increasing fertility and population increase (Wodon et al., 2017). It impacts maternal health outcomes to varied degrees. Adolescent females under 15 have a roughly five times higher risk of dying during childbirth than women in their 20s (IWHC, 2017). They are more likely to experience pregnancy-related injuries such as obstetric fistula, unsafe sexual practices, unsafe abortions, and sexually transmitted diseases, among other issues. Teenage pregnancies can lead to higher infant mortality and morbidity rates, posing a significant risk to public health. According to Raj A et al. (2010), children born to adolescent mothers are at risk for low birthweight, stunting, and other nutritional problems. A research by Presler-Marshall and Jones (2017) found that child marriage

causes 6.3% of under-five stunting, highlighting its long-term impact. According to Shekar, Dayton Eberwein, and Kakietek (2016), undernutrition can result in a loss of over 10% of GDP in sub-Saharan Africa and South Asia due to decreased productivity.

Child marriage has long-term effects on offspring's brain development and cognitive capacities (Wodon, 2016). Early marriage can lead to maldistribution of power and intimate partner violence, negatively impacting both the victim and their offspring and increasing the risk of violence in adulthood (UNFPA, 2014, WHO, 1997).

According to NFHS-3 (2006), around 47% of married women aged 20-24 were married before the legal marriageable age in India, which is 18. A decade later, approximately 27% of women in the same age group reported getting married before the legal age (NFHS-4). Child marriage is more prevalent among rural populations. Education plays a significant role in reducing child marriages, as women with 12 or more years of schooling had a median age at first marriage of 22.7 years, compared to 17.2 years for those without. The rate of child marriage in Rajasthan is significantly higher than the national average. 35.4 percent of respondents in the same age group married before reaching the legal marriage age. In rural Rajasthan, the frequency is much greater, at 40.5% (NFHS-4).

Anemia is a significant health issue among adolescents, particularly in developing nations. Reduced hemoglobin concentration, red cell count, or packed cell volume can decrease oxygen transport in tissues. Anemia is defined by the World Health Organization as varying levels of hemoglobin in different demographic groupings. Anemia is defined as having a hemoglobin concentration of less than 12 gm/dL in children aged 12-15 years and non-pregnant women over 15 years. Children under 5 years and pregnant women have a level of less than 11 gm/dL. Men over 15 years old have a level of less than 13 gm/dL indicating anemia.

In 2015-16, 53% of women aged 15 to 49 years in India had anemia (hemoglobin level <12 gm/dl), with 40% having mild anemia (hemoglobin level between 10 to 11.9 gm/dl), 12% having moderate anemia (hemoglobin level between 7 to 9.9 gm/dl), and 1% having severe anemia (hemoglobin level less than 7 gm/dl) (NFHS-4). In India, the prevalence is significantly higher among those with lower wealth indexes (58.6 percent) than those with higher wealth indexes (48.1 percent). Rural women had a higher prevalence (54.2%) than their urban counterparts (50.8%).

In Rajasthan, 47 percent of women aged 15 to 49 are anemic as of 2015-16. This includes 35% mild anemia, 11% moderate anemia, and 1% severe anemia (NFHS-4). Anemia is more common in children aged 6 to 59 months, accounting for 60% of cases. Adolescent girls may suffer from anemia due to decreased food intake and increased blood loss during menstruation. According to the 2014 Annual Health Survey, 81.4 percent of adolescent females in Rajasthan suffer from anemia. Anemia is more prevalent in vulnerable populations, including those living in rural or tribal areas, with poor wealth and education, even within the national situation (NFHS-4:Rajasthan, 2016b).

Adolescent mental health is a major public health concern that impacts their development, quality of life, and future productivity. Neuropsychiatric diseases are a prominent cause of impairment among young people worldwide (WHO, 2018). Many mental health illnesses emerge in late childhood or early adolescence (13). According to WHO (2018), mental health disorders affect 10-20% of children and adolescents, with half developing by the age of 14 and the other three-quarters by mid-20s.

The prevalence of various psychiatric diseases has been estimated in India by a number of psychiatric epidemiology researches. Poor access to mental health care is frequently caused by a lack of knowledge about mental health and related problems in the nation. Only patients with severe mental illnesses are typically identified and treated, depriving those with less serious mental illnesses of prompt diagnosis and care (Math and Srinivasaraju, 2010). Many of these conditions start in adolescence and, if untreated, can persist into adulthood, raising the illness burden and making treatment more challenging and expensive.

Research on the precise frequency of various mental health conditions among Indian teenagers is severely lacking . Epidemiological data from nations with comparable circumstances, however, demonstrate the prevalence of mental and developmental illnesses and their effects on health-seeking behavior as well as other aspects of their lives. Previous epidemiological research, which took into account the entire range of child and adolescent age groups, i.e., 0–19 years, have shown the prevalence of mental problems in children and adolescents in the Indian context. The total prevalence from seven school-based research on 5687 children and adolescents and sixteen community-based studies on 14594 children and adolescents was obtained by a systemic review and metaanalysis (Savita Malhotra, 2014). It was shown that the frequency of mental health issues in children and adolescents was 6.7% in the general population and 23% in schools.

In addition to these studies, national research revealed that 7.3% of youth between the ages of 13 and 17 suffer from mental illnesses (MoHFW, 2016). Children in urban metro areas have a prevalence that is almost twice as high (13.5%) as children in rural areas (6.9%). Depressive disorders (2.6 percent), intellectual disability (1.7 percent), agoraphobia (2.3 percent), autism (1.6 percent), psychotic disorders (1.3 percent), and phobic anxiety disorders (1.3 percent) are among the major ailments. In a study based on the state of Himachal Pradesh, the survey also calculated the prevalence of alcohol consumption at 7.2 percent, anxiety at 15.5%, depression at 6.9 percent, and tobacco addiction at 7.6–14 percent (MoHFW, 2016). Although there

is a lack of evidence to determine the true prevalence of mental health issues among Rajasthan's teenagers, their high prevalence in other states highlights the importance of assessing and managing these diseases in the state.

Adolescent girls in Rajasthan face a unique set of challenges that impact their health and overall well-being. A combination of socio-cultural factors, economic conditions, and a lack of access to information and services creates a complex web of issues that require targeted interventions.

Data: The authors gathered the necessary data for their investigation from a variety of sources. The researchers analyzed census data, government publications, and large-scale surveys like the National Family Health Survey. The authors searched Pub Med and Google Scholar for relevant keywords and reviewed published literature without a time frame. They studied published reports and documentation from development agencies in Rajasthan. They also gathered administrative data from the Department of Women and Child Development, Government of Rajasthan.

Review of Literature

Child marriage has economic and social implications that affect individuals and the population as a whole. According to Wodon et al. (2017), child marriage promotes early childbearing, negatively impacting reproductive health and raising lifelong expenses. Indirect costs of adolescent motherhood include healthcare expenditures for their children, missing educational opportunities, decreased productivity, and lower quality of life (UNFPA, 2013). According to Parsons et al. (2015), the societal costs of child marriage include intimate partner abuse, lack of autonomy and decision-making, inadequate awareness of healthcare and rights, under-utilization of services, and poverty at the household level. Child marriage has negative consequences for society, including increased childbearing, population growth, illiteracy, bad health, and poverty. Ending child marriage can provide significant benefits to the nation (UNFPA, 2012). Education benefits not just individuals, but also their family members and future generations. According to Vikram, Vanneman, and Desai (2012), children of educated mothers are more likely to obtain schooling, immunizations, and other benefits in their futures. This reduces healthcare expenditures, social expenses, and improves overall economic outcomes. Field et al. (2016) concluded that providing cooking oil to unmarried women in Bangladesh was a cost-effective intervention. It's important to understand the societal environment, as girls are generally viewed as an expense in comparison to boys who are seen as future earners.

This view contributes to higher incidence of child marriage among poor individuals.

In India, both the state and central governments have the authority to pass legislation on education. The Indian government's flagship program, Sarva Shiksha Abhiyan (SSA), aims to achieve Universal Elementary Education (UEE) in phases (NIC-RJ, 2018). The 86th amendment to the Indian Constitution mandates compulsory schooling for children aged 6-14 years. SSA prioritizes assisting vulnerable girls and boosting technical education to address the digital divide in the country.Rashtriya Madhyamik Shiksha Abhiyan, begun in 2009, aims to improve access to high-quality secondary education (GoI, 2016). The goal was to increase enrollment to 75%, up from 52.26 percent in 2005-06. This program aims to improve education standards and eliminate inequality based on gender, disability, and socioeconomic status.

In 2010-11, the centrally-sponsored 'Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) SABLA' was piloted in 205 districts across all States and UTs. The program aimed to improve the dropout rate of girl students, increase literacy rates among women, decrease the number of girls marrying before the age of 18, and promote female work participation (GoI, 2015b). Similar schemes like as Kishori Shakti Yojana, Beti Bachao Beti Padhao, and Aapki Beti Yojana aim to empower women via education and life skills training (GoI, 2015a).

Government of Rajasthan has created its own initiative called Mukhyamantri Rajshree Yojana which gives cash incentives for parenting and educating daughters who are defined as Lakshmi (goddess of prosperity) of the households (GoRJ, 2018a). This plan was launched in June 2016. From birth till class XII, parents can receive up to Rs. 50,000 in incentives to ensure their girl child's education, health, and care. Other state schemes, such as Palanhar Yojana and Mukhya Mantri Hunar Vikash Yojana, attempt to enhance the educational and economical situation of disadvantaged adolescents who are orphaned or living in institutions (GoRJ, 2018b).

The Government of India launched the Rashtriya Kishor Swasthya Karyakram (RKSK) program on January 7, 2014, with a focus on adolescent participation and leadership, equity and inclusion, and strategic partnerships with other sectors and stakeholders (NHM, 2013). This program aims to promote gender equity and empower teenagers to make educated and responsible decisions about their health and well-being. Initiatives aim to improve adolescent girls' autonomy and delay their first marriage (NHM, 2015a).

Key Health and Wellbeing Indicators

Child Marriage and Early Pregnancy: Rajasthan has historically had a high prevalence of child marriage. The National Family Health Survey (NFHS) data indicates a significant percentage of women in the 20-24 age group were married before the legal age of 18. This has severe consequences, including a higher risk of maternal mortality, which is three to five times higher for adolescent mothers than for women in their twenties. Early marriage also often leads to early and repeated pregnancies, posing significant health risks to both the mother and the child.

Offering incentives to Rajasthan in order to postpone

child marriage: State governments use conditional cash transfers to prevent child marriage among girls at all stages of their lives, from institutional delivery to marriage at the legal age of 18. These projects try to break the idea that girls are a burden to the household.

1. In 1994, the Haryana government launched Apni Beti Apna Dhan (ABAD), often known as "Our Daughter, Our Wealth." The project aimed to promote girls' education and increase their marriage age by changing family attitudes towards girls.
2. In a research on the cycle distribution program in Bihar to close the gender gap in secondary education, females' enrollment increased by 30%. The cycle distribution program increased females' enrollment more than other conditional cash transfer schemes in similar situations. transferring non-cash items or consumables generates externalities that outweigh the cash value of similar initiatives, making them more likely to succeed.

The suggested intervention aims to improve the effectiveness and efficiency of incentives for girls to delay marriage by applying lessons learned from previous schemes.

Analysis of data: The child marriage rate is typically measured as the percentage of women aged 20-24 who were married before the age of 18. The baseline child marriage rate in Rajasthan is 35.4% (NFHS-4). The number of females marrying before the age of 18 is expected to be around 2.4 lakh over the next four years, or approximately 60,000 per year. According to data from the National Family Health Survey (NFHS), the child marriage rate in Rajasthan has shown a decline between NFHS-4 and NFHS-5.

Here are the specific figures for Rajasthan:

NFHS-4 (2015-16): The percentage of women aged 20-24 who were married before the age of 18 was 35.4%.

NFHS-5 (2019-21): The percentage of women aged 20-24 who were married before the age of 18 decreased to 25.4%.

This represents a significant decrease of 10 percentage points over the period. Despite this reduction, Rajasthan's child marriage rate remains higher than the national average.

Malnutrition and Anemia: Anemia is a widespread problem among adolescent girls in Rajasthan and India as a whole. Studies have shown that a large proportion of girls in the 15-19 age group are anemic. This is often linked to inadequate dietary choices, lack of access to nutritious food, and a need for better iron and folic acid supplementation.

NFHS-4 (2015-16): The prevalence of anemia among adolescent girls was 54.1%.

NFHS-5 (2019-21): The prevalence of anemia among adolescent girls increased to 59.1%.

This indicates a concerning rise of 5 percentage points in a short period. Anemia is a significant public health issue in India, and adolescent girls are particularly vulnerable due to factors like menstruation, poor nutrition, and early marriage and pregnancy. The data highlights the need for more effective public health interventions to address this issue.

Adolescent girls are more prone to anemia for many reasons. Adolescent girls endure chronic blood loss from monthly menstrual cycles (NHLBI, 2014). Adolescent girls, especially those who marry before 18 and reside in rural regions, typically begin having children in late adolescence and frequently have several pregnancies. According to Masukume et al. (2015), moms who have had multiple pregnancies and births are more likely to acquire chronic anemia. Adolescent females are more likely to suffer from chronic iron deficiency anemia due to hormonal changes during pregnancy and lactation (WHO, 2006). According to MoHFW (2013), adolescent females often neglect nutrition, which is crucial for their growth and development. Adolescent girls are more likely to experience recurring infections, including urinary tract infections, which can lead to anemia. Adolescent girls tend to contribute more to home tasks than boys. Iron-deficiency anemia is a risk for those who work hard and eat poorly. The proposed intervention will specifically target adolescent females due to their increased prevalence and severity of anemia. The intervention can be scaled up with design tweaks to include all adolescents, regardless of gender.

The strategy aims to provide weekly iron and folic acid supplements, as well as biannual deworming, to all females aged 10-19 in Rajasthan. Beneficiaries will participate in a monthly one-hour awareness building exercise to improve their compliance with timely drinking. This initiative will involve trained instructors in schools and community healthcare providers, with an emphasis on out-of-school adolescent girls. To ensure timely delivery of supplements and materials, providers both within and outside the school will create a demand chart at least two months before distribution.

Sexual and Reproductive Health (SRH): Adolescent girls often have limited knowledge and access to sexual and reproductive health information and services. Surveys have found that while a majority of adolescent girls may be aware of methods to delay pregnancy, many are hesitant to seek services due to social stigma, shyness, and fear of judgment. This can lead to a high unmet need for contraception and a lack of agency in making decisions about their own bodies.

Menstrual Hygiene: Menstruation is often surrounded by stigma, taboos, and misconceptions. A significant number of adolescent girls, especially in rural areas, do not have access to or use hygienic menstrual products. This can lead to health problems, including reproductive tract infections (RTIs).

Mental Health: The mental health of adolescents is an emerging concern. While data is limited, studies suggest that mental health problems, such as depression, are present among adolescent populations in the state. Factors

like gender discrimination, pressure to marry early, and lack of opportunities contribute to this issue.

Education and Opportunities: Child marriage and early motherhood often force girls to drop out of school, limiting their educational and economic opportunities. This perpetuates a cycle of poverty and vulnerability, as girls with less education are more likely to have less agency and decision-making power in their lives.

Government Initiatives and Interventions: The Government of Rajasthan, along with the central government, has implemented various schemes and programs to address these challenges:

Rashtriya Kishor Swasthya Karyakram (RKSK): This is a national program aimed at improving the health and well-being of adolescents. It focuses on nutrition, sexual and reproductive health, mental health, injuries and violence, and substance abuse. Initiatives under this program include Adolescent Friendly Health Clinics (AFHCs) and "Adolescent Health and Wellness Days."

Scheme for Adolescent Girls (SAG): This centrally sponsored scheme targets out-of-school adolescent girls in the 11-14 age group. It provides supplementary nutrition, health check-ups, and life skills education, with the goal of mainstreaming these girls back into formal schooling or skill training.

Mukhyamantri Rajshri Yojana: This state-level scheme provides financial assistance to families on the birth of a girl child to improve her health and educational status and encourage a positive mindset towards girls. The assistance is provided in installments from birth until she completes her higher secondary education.

Mukhya Mantri Hamari Betiyan Yojana: This scheme provides financial assistance to meritorious girl students to pursue their studies up to the postgraduate level, with the aim of promoting girls' education.

Challenges to Implementation: Despite these initiatives, several challenges hinder the effective implementation of these programs:

Societal Barriers: Deep-rooted socio-cultural norms, such as gender discrimination and the pressure for early marriage, are significant obstacles.

Lack of Awareness: Many adolescents and their parents are unaware of the available health services, resources, and government schemes, which limits their utilization.

Limited Access to Services: While initiatives like AFHCs exist, there can be a lack of privacy, limited availability of female providers, and inadequate infrastructure, which discourages adolescents from seeking help, especially for sensitive issues.

Geographic and Economic Disparities: The challenges are often more pronounced in rural and tribal areas, where poverty, limited infrastructure, and cultural practices further exacerbate the issues.

Decision and conclusion: Adolescence allows youngsters to become responsible and productive citizens, leading to meaningful lives in the future. To address health concerns for millions of adolescents in Rajasthan, families, communities, cultures, and the nation must work together. Child marriage and anemia are major barriers to adolescent females' growth.

Adolescents, regardless of gender, have mental health challenges due to many risk factors, including their age and sociobehavioral characteristics.

This analysis shows that child marriage, anemia in adolescent girls, and juvenile mental diseases have significant economic and social implications for both individuals and the economy. The indirect costs of disease on families and the state's economy often outweigh the direct expenses to the affected adolescent. Policymakers must prioritize ensuring the health of adolescents and the general community.

Incentives for child marriage prevention, both conditional and unconditional, have been demonstrated to reduce rates, improve educational attainment, and lead to increased production. Transferring incentives to households can delay the marriage age for girls in Rajasthan, but it's crucial to shift societal attitudes towards girl children. Efforts are underway at both the state and national levels to address gender disparities, but there is still more work to be done.

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