

## Awareness of Reproductive Health among Adolescents in Schools under the CBSE Curriculum in Kolkata

Paramita Mukherjee\*, Minara Yeasmin

---

### Abstract

*Understanding reproductive health is important to adolescents as it ensures a safe transition to adulthood. The study aims to understand adolescents' knowledge of their reproductive health, the impact of reproductive health issues on well-being of adolescents and suggest ways to promote school-based reproductive health education. Taking 185 adolescent boys and girls through simple random sampling from three PM SHRI Kendriya Vidyalayas of Kolkata under the CBSE Curriculum, the study employed two standardized questionnaires to ascertain adolescents' awareness of reproductive health and measure the impact of reproductive health issues on their well-being. The result finds that adolescents struggle to access trustworthy sources of information and lack adequate awareness of reproductive health. They are deprived of cooperation from parents, schools, and the media in understanding reproductive health. There remains a significant difference between boys and girls regarding their access to knowledge about reproductive health. Girls participate in menstrual awareness drives at school; they can talk to their mothers about it more frequently. Boys cannot talk to their mothers at home. They are excluded from reproductive health awareness drives at school. School education selectively prioritizes menstrual hygiene for girls. Irrespective of their gender, adolescents are ignorant about recognizing the impact of reproductive health issues in academic engagements. Students demand that knowledge about reproductive health be available to them in the school. School-based educational intervention in collaboration with the community appears to be effective, in which teachers are supposed to take up the responsibility to aware adolescents of the importance of reproductive health. This can equip adolescents with knowledge to make informed decisions, ensuring reproductive health well-being. .*

**Keywords:** Adolescent Reproductive Health (ARH), Adolescence, Awareness, Access to information, HIV/AIDS, Reproductive health education.

---

### Introduction

The adolescent population includes the age group of 10 to 19 years; this phase is important as puberty is attained, and it is marked by the initiation of sexual activity. Biological changes along with psychological changes and resultant impulse and recklessness make adolescents vulnerable to reproductive health risks (Majer et al., 1992). Lack of adequate knowledge and skill may cause unwanted pregnancy, unsafe abortion, sexually transmitted infection, maternal

mortality, infant mortality, and long-term morbidity. The reproductive hormone surge and mental cum physical response to that cause health challenges which intensify with the lack of toilet infrastructure both at school and home. Such challenges might prevent them from spontaneous participation in school activities. They feel embarrassed to communicate their needs to the social sphere as reproductive health is stigmatized in most underdeveloped countries like India (Ahmed et al., 2020). Adolescents suffer from reproductive health issues in silence. They

lack accurate knowledge. Many adolescent girls suffer from polycystic ovary syndrome caused by their unhealthy lifestyle. The causes, effects, and measures are hardly known to most of them, but it has a serious and long-lasting effect on their reproductive health in the future. Cultural factors create an inhibitive environment for discussion about reproductive health, and gender norms create barriers to accessing reproductive health information and services. Negative social consequences may lead to school dropouts, reducing their future employability with long-term economic implications (Alemu et al., 2017). Adolescents are curious about the process of transition to adulthood. Their concerns about reproductive health are addressed with myths and half-truths. This dissuades them from asking questions. They struggle to access trustworthy sources of information. The pessimistic feedback of elders turns them to their friends seeking answers. These sources are generally unreliable as they themselves are confused. Thus, it provokes misconceptions about the issue. Parents do not advise honestly as is expected by teenagers. School-based learning does not always equip the youth to understand reproduction, contraception, consenting adults, and the emotional aspects of relationships. The teachers lack effective training to enhance the skills of their students. So, like their parents, their schools too fail to rise to the occasion. Available information on social media is abundant, but not all is reliable. They fail to discriminate between false and authentic information (Gise et al., 2012). Though a few movies and online platforms deal with reproductive health issues but still imparting knowledge through reliable sources remains crucial.

HIV/AIDS is a fast-spreading sexually transmitted disease where the overall immunity of the human body is compromised. The worldwide spread of HIV/AIDS is attributed to unsafe sex and the absence of concrete information about how it spreads (Catalano et al., 2010). Our societal norms do not allow open and free discussions, so adolescents lack awareness of vital medical

facts of reproductive health and HIV/AIDS. There is a need of communication of effective knowledge of reproductive health through multiple channels so that adolescents can be made aware of their reproductive health issues (Bearinger et al., 2007).

Sustainable Development Goal 5 calls for the realization of human rights and gender equality. Along the same line, UNESCO has always been in favour of the recognition of sexuality as a natural part of human development (Schalet et al., 2014). It advocates for a structured learning environment in schools for comprehensive sexual education (UNESCO, 2018). The existing literature recommends the delivery of curriculum-based, age-appropriate, and culturally responsive content through multisectoral collaboration (Engel et al., 2019). Knowledge of reproductive health management firmly supports adolescent boys and girls in their successful journey to adulthood. By and large, it is considered a human right of adolescents to receive age-appropriate, culturally responsive reproductive health education (WHO, 2018). It empowers adolescents to make informed decisions (UNESCO, 2018). The Government of India in collaboration with UNFPA has drawn up a national action plan for the introduction of adolescent reproductive and sexual health education to facilitate adolescent understanding of changes, develop awareness, help them manage problems with social skills, and ultimately help them avoid vulnerability (Sahin et al., 2018).

Data from National Family Health Survey (NFHS) 2019-20 shows that 42% of girls get married before the age of 18 years, 16% of adolescent girls get pregnant and give birth before the age of 18 years and HIV infection is prevalent among the adolescents of 15-19 years age groups in the state of West Bengal. Kolkata does not deviate much from the state statistics, with the dropout rate of adolescent girls, especially in Classes IX-XII, being alarming. Our National Education Policy 2020 also recognizes the long-pending need for reproductive health education. It has proposed the initiation of teaching-learning

on the well-being of reproductive health. The CBSE schools have already been teaching different socio-cultural aspects of adolescent reproductive health. CBSE has published the Teachers' Workbook for Student Activities under the Adolescent Education Programme, which is a reference material for teachers and heads of schools. Unfortunately, CBSE schools in Kolkata do not implement these actions in the true spirit. The percentage of adolescents experiencing their first pregnancy is increasing in the city. The literature review unfolds that adolescent reproductive health extends beyond the medical context to social, psychological, and public health perspectives. Adolescents need practical guidance in an enabling environment (Chadra-Mouli et al., 2015). There is a need to explore the efficacy of school-based reproductive health education to promote the well-being of adolescent reproductive health. The present study is an attempt to assess knowledge and awareness and measure the impact of adolescents' reproductive health on their well-being, and argue in favour of school-based reproductive health education.

## Rationale

Reproductive health-related physiological processes cause physical discomfort as well as psychological stress among adolescents. Attainment of puberty and subsequent adjustments sometimes take a toll on their academic performance. A lot of social stigma is shrouded around puberty. Poor knowledge and lack of scientific information complicate the situation further (Kotecha et al., 2009, 2012). Lack of adequate skills makes adolescents suffer from reproductive health challenges (Hall et al., 2018). A menstrual health survey by 'Anahat, an NGO', in 10 schools in Kolkata shows 37.6% of girls missed school and 15.3% preferred not to attend school during their periods. 17.6% of girls chose to skip due to unsatisfactory toilet facilities. NHFS 2019-20 found that most of the adolescent girls were using hygienic menstrual methods, but their misconceptions about their period were still present. Most of them were not prepared

for menarche as they did not know about menstruation before reaching menarche (IIPS and ICF, 2021). The conditions of boys are further depressing. Fathers never feel the need to talk about puberty or masturbation. With growing age, they become uneasy about sharing experiences with mothers, female members of the family, even with teachers and friends from the opposite gender. Most of the research on adolescent reproductive health has focused on assessing adolescent reproductive health problems and the availability of health services. A few researchers have tried to focus on how adolescents' academic involvements are affected by their reproductive health. Thus, academic management of reproductive health received little attention. Formal and non-formal ways of educating adolescents about the well-being of their reproductive health and curricular interventions in generating awareness have lacked the attention of researchers so far (Rafique & Al-Sheikh, 2018). There remains a wide research gap regarding gender-wise differences in adolescent reproductive health awareness, the impact of reproductive health on adolescent well-being, and management of adolescent reproductive health through school-based adolescent reproductive health education.

## Objectives

- To analyse the level and source of awareness regarding reproductive health among Class XI students in CBSE schools in Kolkata.
- To evaluate the impact of reproductive health on the well-being of adolescents.
- To propose evidence-based recommendations to promote adolescent reproductive health through school-based education.

## Research Questions

- Do adolescents' actual sources of knowledge about their reproductive health differ from their preferred sources of knowledge?
- How well aware are adolescents of their reproductive health?

- How does the reproductive health of adolescents affect their well-being?
- Do awareness and impact of adolescent reproductive health differ according to gender?

## Sample and Sampling

The sample consisted of 185 adolescent boys and girls of Class XI from the three PM SHRI Kendriya Vidyalayas in Kolkata city. Simple random sampling was used to choose the schools. Location-wise data offers wide spatial diversity. For data collection, students from the arts, commerce, and science streams of Class XI were selected through random sampling.

Then, from the selected sample, students who were found to be expressive and had greater involvement and interest in participating in

the study were selected for the focus group discussion.

Students of Class XI were chosen because Class XII students were unavailable on account of their ongoing board examinations. Class XI students (range of age 14-18 years) were expected to be able to express their thoughts clearly and explain the reason behind such experiences. Adolescents below 14 years of age would find it difficult to develop strong opinions about such a topic, which is shrouded in mystery. In their early adolescence, they struggle with the suddenness of transition and just begin to develop their understanding of reproductive health. In Class XI, the range of age of surveyed students was found to be 14 to 18 years.

Table 1 shows the list of selected schools along with the Class XI students (adolescent boys and girls) who participated in the study.

**Table 1**

The age group of the selected sample from Class XI was 14-18 years							
Name of the schools	No. of boys			No. of girls			Total
	Humanities	Commerce	Science	Humanities	Commerce	Science	
PM SHRI Kendriya Vidyalaya Ballygunge.	10	18	20	12	14	15	89
PM SHRI Kendriya Vidyalaya Command Hospital.	10	14	11	10	7	9	61
PM SHRI Kendriya Vidyalaya Fort William.	10	5	6	9	4	1	35
Total	104			81			<b>185</b>

## Methods and Tools

An explanatory sequential mixed-methods research design was adopted, where quantitative and qualitative approaches were combined. With the questionnaire survey, data were collected from the chosen sample and were analysed with statistical methods. Later, with focus group discussion, qualitative data were collected and thematically analysed. Quantitative and qualitative findings were discussed together for a comprehensive understanding.

Quantitative results were substantiated with insights gained from subsequent focus group discussions.

Two questionnaires were used as tools.

- (a) Illustrative questionnaire for interview-surveys for young people about sexual and reproductive behaviours prepared by J. Cleland et al. and published by WHO(2001) is re-standardized by researchers in 2023(validated by subject experts and found reliable through the Cronbach-alpha test with  $r=0.80$ ). From the

original tool, questions related to knowledge about reproductive health gained from parents, family and friends, media, school environment, and health facilities, knowledge of the age of marriage, parenthood, HIV/AIDS awareness, and managing reproductive health were considered for the study.

The tool contained 31 closed-ended questions. A few sample questions are given below:

- How does HIV spread?
  1. If anyone comes in physical contact with the affected ones (touch/ cough / sneezing/ exchange of blood)
  2. If anyone comes in sexual contact with the affected ones only
  3. Due to natural causes (weather issues/ habitat-specific causes)

Manual for measuring the impact of reproductive health on well-being of adolescents was prepared and standardized by the researchers in 2023. The standardization process involved a pilot study where the above-mentioned questionnaire was tried out on 85 randomly chosen adolescent boys and girls. The validity of the tool was checked by two subject experts, and their suggestions were incorporated before the trial. The reliability value by Cronbach's alpha was =0.75. This tool asks questions about the impact of adolescents' reproductive health on adolescents' well-being (psychological, curricular and co-curricular, social, and physical). The tool contains 25 items; five possible modes of choice are provided against each, such as: Strongly agree, Agree, Neutral, Disagree, and Strongly disagree. Some sample items are given below:

1. I feel mentally bothered by my bodily changes in adolescence.
2. I feel stressed because of the lack of infrastructure in school (a toilet for change/to refresh) to manage reproductive health needs.
3. I have missed school due to the issues related to my reproductive health (the bodily changes I am encountering).
4. I miss my playtime and play sessions when I pay attention to my reproductive health needs.

5. I feel embarrassed to talk about my recent bodily changes to members of my family.
6. I do not feel awkward talking about my recent bodily changes with my teacher.
7. I do not feel physically stressed as a result of recent bodily changes related to the transition process to adulthood.
8. Due to mismanagement of reproductive health, I have faced serious health problems.

### Focus Group Discussion (FGD)

With focus group discussion, explanatory qualitative data were collected from a few selected students out of the total sample of the study.

- i. As boys and girls shared experiences of sources of information and their preferences for sources of information on puberty, reproductive system, and relationships, the recurring trend of their responses was identified, and each important segment was labeled with descriptive words, i.e., codes. Patterns generated from the codes helped in summarizing the findings. These patterns were analysed as themes, and the comparison of the themes described how adolescents are deprived of reproductive health knowledge from their preferred source of information. (Table 3)
- ii. To understand how adolescents want assistance from parents, school, and media in managing their reproductive health, the respondents were asked the following questions:
  1. How do you want your parents to respond to you?
  2. What kind of assistance do you expect from your school?
  3. What role should be played by the media?

Their responses were analysed. Similarities were observed and categorized into important segments with descriptive words (by the researcher after consultation with an expert). Then themes were generated from the recurring pattern and relationship between codes. It enabled

the analysis of adolescents' expectations on how they would like to be assisted by parents, schools, and media in their understanding of reproductive health in relation to what they received from them. (Table 4)

## Findings and Analysis

Table 2 shows an analysis of the knowledge and impact of adolescent reproductive health among students of the Central Board of Secondary Education

**Table 2: Analysis of the knowledge and impact of adolescent reproductive health among students**

Variable	Subcategory	Gender	N	Mean	SD	Df	t-value	Remarks
Adolescents' Reproductive Health Knowledge	Parental guidance	Boys	104	3.51	0.86	183	2.572	0.011 S*
		Girls	81	3.90	1.21			
	Role of school	Boys	104	4.92	0.95		5.428	0.000 S**
		Girls	81	5.71	1.03			
	Medical knowledge	Boys	104	6.45	1.71		0.270	0.787 NS
		Girls	81	6.38	1.75			
Knowledge of HIV	Boys	104	15.51	2.28	0.6755	0.513 NS		
	Girls	81	15.72	1.91				
Well-being of Adolescents	Psychology	Boys	104	23.54	4.96	2.189	0.030 S*	
		Girls	81	21.90	5.15			
	Curricular and co-curricular	Boys	104	19.13	3.02	2.650	0.009 S**	
		Girls	81	17.84	3.57			
	Social	Boys	104	18.60	3.66	0.580	0.562 NS	
		Girls	81	18.96	4.94			
	Physical	Boys	104	23.18	3.71	1.476	0.142 NS	
		Girls	81	23.98	3.50			

S\*= Significant at 0.05 level, S\*\*= Significant at 0.01 level and NS= Not Significant at 0.05 level

There remains a significant difference between adolescent boys and girls:

**(a) Boys do not talk to their mothers:**

The above table indicates that girls receive more support from their parents. They have access to information related to reproductive health through parents, especially their mothers, as primary sources of knowledge. The findings of the study clearly show that it is still embarrassing to hold discussions on reproductive health issues. Adolescents primarily had conversations with their mothers, who responded to their concerns about physical health and well-being. These conversations are influenced by gender roles.

Boys cannot talk to their parents about reproductive health. Boys usually are afraid to approach their mothers in such social construct and only talk when they face reproductive health problems like genital infections, acne, sweating, etc. Mothers nurse them, comfort them but cannot explain to them the causes of development of reproductive organs and troublesome changes, ways to prevent and adjustments, i.e., practical solution to the problems. The depth of rare conversations remains shallow as sons are younger, opposite in gender. Unlike girls, boys do not know exactly when they reach puberty. They are deprived of practical knowledge or support to cope with the changes.

A silence is deliberately maintained over

reproductive health matters. This is not accidental but rooted in cultural taboos. Moreover, parents of adolescents do not know how they should talk to their children. Stereotypical social frames, gender norms prevent boys from sharing their reproductive health secrets with their mothers. Fathers are not asked out of embarrassment to answer reproductive health queries. The male members of the family deliberately remain mute about this. They leave this to the female guardian on account of social conventions. Neglecting such discussions is one of the age-old practices without any change. One of the respondents from Kendriya Vidyalaya Ballygunge said, "When I asked mom about nocturnal emission, she replied that only bad boys talk about these and forbade me to raise such topics before father and her." Sometimes parents hide facts when adolescents ask them, provide misinformation, and try to escape from the situation. One girl told, "Mother told me to stay away from the kitchen and prayer room during periods as we become dirty at that time." Both boys and girls in the study were rarely found to visit any health clinic or have listened to any doctor speaking on scientific aspects of reproductive health. Their awareness level should have been much greater, but they seem to have neglected this matter, being discouraged by family and school (Crocker et al., 2019). This negligence is the outcome of the absence of open and informative discussions across genders. Thus, the concept of reproductive health is gendered. Adolescents were not found to be aware of the general facts of HIV/AIDS. One of the girls from Kendriya Vidyalaya Fort William said, "I don't know whether men can catch HIV or whether treatment is available for this disease". Thus, reproductive health issues remain mysterious, and adolescents lack awareness about them.

**(b) Schools do not provide effective education:** Girls are found to have attended various menstrual health awareness programmes frequently organised by schools in collaboration with NGOs. Such awareness programmes are rarely designed for

male students. Boys have generally not been part of any informative sessions (Thirunavukarasu et al., 2013). Schools are mainly focused on developing healthy menstrual practices among girls; to them, this is all about reproductive health knowledge. It means they fail to understand various aspects of girls' reproductive health other than menstruation, and aspects of the reproductive health of boys together make up adolescent reproductive health. Again, an important finding of this study is that the understanding of reproductive health at school is over-generalized and gendered. Boys do not get periods and the resultant physical strain. It makes us think that boys are beyond transitional suffering. Such incomplete understanding does not encourage adolescents to share their minds; rather, they ignore their feelings and stop them from coming forward with what they go through. As there is no discussion about such issues, the communication gap forces us to overlook the unspoken problems of boys, especially their psychological changes during adolescence. Adolescent boys should know about the maturity of reproductive health, the ways of birth control, the age of parenthood, and be part of awareness campaigns, so that they understand this phase of life, the human reproduction system in totality, prepare for future roles, and be respectful to their opposite gender.

The menstrual awareness drives in schools do not impart in-depth knowledge of reproductive health. So, instead of being part of them, girls hardly develop knowledge about vital medical facts of reproductive health. Both boys and girls of CBSE schools are not found to have sound knowledge about puberty, reproductive organs, relationships, and HIV/AIDS. Schools cannot effectively address these problems because of the absence of a structured curriculum and effective policy.

Impact of adolescent reproductive health on the well-being of adolescents:

- (c) Girls suffer from mental pressure: It is clear from Table 2 that there remains a significant difference between boys and girls regarding the impact of reproductive health on their well-being. Girls encounter mood swings and feel depressed and suffer from mental stress more than boys (Ekpenyong et al., 2011). One of the girls in Kendriya Vidyalaya Ballygunge expressed, “I prefer to stay away from school as I frequently catch a urinary infection by using the school toilet during my periods.” Their spontaneous participation in curricular activities is disturbed in the turbulent transition of adolescence which, they blame, act towards lowering their performance level (Rawat et al., 2015). One of the girls said, “My performance in the exam could have been better if I had

not suffered from weeklong period of pain.” According to another girl, “I had withdrawn participation from sports due to the onset of my period”.

Irrespective of their gender, adolescent students were found to have undergone restlessness as they could not ventilate their feelings in the social sphere. Parents, family members, teachers, and friends avoided discussions due to the stigma attached to the topic and failed to provide social support. An adolescent student said, “I feel embarrassed to talk about my bodily changes with family members.” They did not find a respectful environment to discuss adolescent reproductive development. So, they did not have the awareness to be able to relate the cause-and-effect relationship of reproductive health and physical discomfort. They need preparation in the preadolescent phase to develop self-resilience.

Table 3 shows a comparison of actual and preferred sources of information about ARH.

**Table 3**

Topics related to Adolescent Reproductive Health	Actual source of information		Preferred source of information	
	Boys	Girls	Boys	Girls
Puberty	Friends, doodle art on the wall of the school toilet	Siblings and mother.	Parents, teachers, doctor	Mother, teachers, doctor, and elderly family members
Reproductive system	Social media, internet searches. (TV advertisement of sanitary napkin, contraceptives).	Social media, magazines, and books.	Teachers and medical practitioners.	Teachers, medical practitioners
Relationship	Friends, films (OMG2, Padman), and videos	Friends, movies, and newspapers.	Teachers, parents.	Teachers, parents.

**How actual and preferred sources of knowledge are different:** Students seek reproductive health knowledge from parents, as one of the students commented, “I would like my mom to talk to me about puberty without hide and seek.” Social taboo restricts discussion on puberty-related physical transformation between parents and their children. This makes adolescents turn to their friends. Friends are their actual source

of information about reproductive health. They do not always feel comfortable seeking information from peers. They are not always convinced by what their peers say because they suspect that those casual answers lack quality, are sometimes inaccurate, and are full of missing links. It seems friends are not considered as a trustworthy source of information, as one of them said, “Not everything can be shared with a friend, as they

may make fun of my secrets.” Adolescents are exposed to books, magazines, and media where they come across information on reproductive health. Adolescents expressed such situations when they failed to discriminate misconceptions from authentic information: “I often get confused as facts stated in one source are so contradictory to others.” Almost all the respondents clearly said this type of information is best to come from teachers because that would ensure authenticity. Future policy makers must think of the role of teachers in educating adolescents about reproductive health.

Social media serves young minds with

half-truths and superficial information; respondents of the study admitted to having misinterpreted information at times. The surveyed adolescents, irrespective of their gender, confirmed that they hardly know or use information from social media. Available information is not age-specific, so it lacks relevance, and the agenda-driven advertisements do not guarantee accurate information. They prefer to be taught by teachers with quality information regarding safe practices to discard misinformation.

Table 4 shows how parents, schools, and social media can form knowledge, attitudes, and skills among adolescents.

**Table 4 What adolescents want from parents, teachers, and media as their guides**

THEMES	KNOWLEDGE	ATTITUDE	SKILL
CODES	<b>Easy conversation Vs silence</b>	<b>Honest answers Vs moral judgment</b>	<b>Enabling environment Vs discouraging environment</b>
Parents	“I will be happy if my parents clarify my doubts, without scolding.” “I would like my mother to share her transitional journey with me.” <b>Misinformation Vs Authentic knowledge</b> “I doubted mother was wrong in saying period is discharge of dirty blood.” “Why can I not have sour...”	“I do not like mom stopping me from asking about puberty, saying these are bad topics.” “I am afraid of <b>embarrassment both</b> parents have, so I do not initiate a talk on my physical development.” “I have seen my mother scolding my sister to be talking about puberty to me.”	“I wait for my mother to initiate talks about puberty.” “I feel bad as mother says I am touched by a crow when I have my periods.” “It is okay to be friends with the opposite gender, and parents should not be <b>skeptical about that.</b> ”
Teachers	<b>Teaching-learning of scientific information VS prejudice</b> “I really want to learn <b>about the human</b> reproductive system from school teachers that would be authentic.”	<b>Abet discrimination Vs gender equality</b> “I would like to be taught lessons on respectful boundaries in relationships and practical approaches about reproductive health of both boys and girls instead of selective education.”	<b>Irresponsibility Vs Problem solving</b> “I feel the need for <b>practical lessons on management for making decisions about my reproductive health.</b> ” “Lessons should encourage thinking critically about the...”
Media	<b>Practical guidance Vs taboo</b> “Would like to watch a TV show on reproductive health awareness, as I did on covid-awareness.”	<b>Confusion Vs defying taboo</b> “A Durga puja themed as <i>Ritumati</i> put spotlight on menstrual hygiene to break taboo and mystery around puberty.”	<b>Social stigma Vs community awareness</b> “Community cycling event on World Aids Day sensitized the entire society on the well-being of reproductive health.”

Parents, schools, and media can contribute to the development of knowledge, attitude, and skill among adolescents about their reproductive health. The analysis of the focus group discussion clarifies the need for doubt-clearing communication between parents and adolescents. Parents need to encourage their wards to approach them in need, answer their queries, and earn their trust. Well-structured curriculum should be there to guide adolescents about reproductive health challenges and their effective management (CREA, 2005). The schools need to implement reproductive health education in true spirit with equal concern for adolescent boys and girls. Addressing such a situation as “I am afraid to talk to girls in my class as they are so different from boys,” is important as adolescents should learn to support each other and face the challenges of this age with respect for the opposite gender (Utami et al. 2024 and Alekhya et al. 2023). To address the comments like this, “I like a boy in my society but can’t tell it to anyone as they may think I am bad in character,” students need to be accurately counselled by the teachers to understand the causes and consequences of actions, and based on that, make decisions to express themselves. The teachers are endowed with the responsibility to implement the plan of action in this regard. The objective of school-based Adolescent Reproductive Health Education (ARHE) is not only to build knowledge but also to facilitate practical solutions. Engaging the community is indispensable. In this regard media must strive for mass awareness of prejudices and create social support to prepare adolescents for solving problems skillfully and arriving at decisions by navigating through options (Majer et al. 1992).

## Discussion

Adolescents are ignorant and fail to recognize the importance of sound reproductive health. Management of reproductive health is linked with the realization of millennium development goals like achieving universal education, promoting gender equality, women

empowerment, improving maternal health, reducing child mortality, combating HIV/AIDS, and eradicating poverty (Cherenack et al., 2021). Education is considered a major tool for promoting sustainable reproductive health and well-being.

**The culture of silence on adolescent reproductive health:** Adolescent Education Programme (AEP-2013) could not be implemented in the true spirit because it did not receive spontaneous acceptance among teachers and parents. As revealed in the survey, teachers exclaimed, “talking about sexuality would increase sexual activity among adolescents, and students should talk about it once they are adults.” Such responses prove that teachers consider reproductive health to be a matter of shame. At the same time, they are also clueless about how to guide adolescents about reproductive health. Teachers avoid such discussions as the formal curriculum does not impose them strictly. Both teachers and parents suppress insightful communication and the expression of thoughts about reproductive health. This stereotypical mentality does not acknowledge the importance of communication on reproductive health, as it seems to be awkward.

That calls for a renewal of efforts in promoting adolescent reproductive health through school-based adolescent reproductive health education.

**i. Implementation of policies:** School-based, age-appropriate, and culturally responsive interventions under a structured curriculum can empower a large number of adolescents at one time with scientific knowledge. Central and state boards of education may collaborate to frame one such uniform curriculum with overlapping knowledge from different subjects for early intervention in the light of NEP 2020. Implementation of AEP (NCERT, 2013) in its true spirit has a great scope of educating adolescents about reproductive health.

**ii. Empowerment of school teachers:** Teachers must be empathetic towards the transitional phase of students. Teachers

may be adequately trained to become a trusted source of knowledge for adolescents. The exchange of ideas in recognized platforms with experts and other teachers from across the country can develop their expertise in counselling for challenges like absenteeism, poor concentration, and physical discomfort as a result of reproductive health. A student opined with conviction, "We want to know it all from teachers, we trust them the most."

**iii. Inspire the community for social support:** Schools need to engage the local communities through workshops, seminars to draw their attention. Active participation of all stakeholders in removing stigma around reproductive health will create an enabling environment. The government may collaborate with NGOs and even local clubs in organizing rallies, campaigns, and observation of special days to sensitize adolescents and their sphere of interaction to develop social support.

**iv. Improved access to reproductive health services:** Mass media need to play an important role in dissemination of information to improve access to reproductive health knowledge and services. Newspaper reporting, movies, short films, and several art forms can update adolescents on information about reproductive health and services. Based on that, informed decision can be made.

**Implications of the findings for research questions:** The present work found that adolescents are not aware of their reproductive health and its effects on their well-being. Concerns of reproductive health are shrouded in mystery. Adolescents' understanding of their reproductive health is incomplete and gendered. School-based education is selective, partial, and gendered, leaving adolescents clueless about their transition. Structured curriculum is needed to develop holistic awareness, the right

attitude, and informed decision-making skills to help adolescents navigate through the challenges of reproductive health. The situation demands the successful implementation of adolescent reproductive health education (Odo et al, 2018).

## Conclusion

The study concludes that adolescents under CBSE schools in Kolkata are yet to develop requisite knowledge about their reproductive health and its impact on their wellbeing. The understanding of reproductive health is gendered. So, adolescent boys and girls receive disproportionate attention from parents and schools. There is silence about the issues, and their sufferings go unnoticed. Adolescents have the right to know the causes, consequences, and management of their transition to adulthood. At the community level, too, there should be awareness so that reproductive health issues are not treated as a stigma. Their parents, schools, teachers, and mass media are all stakeholders in making the adolescents aware of safe practices and informed decision-making. Adolescents should be mobilized to avail services in need instead of suffering unattended. Reviewed and modified initiatives must be taken to accelerate the implementation of comprehensive reproductive health education towards adolescent reproductive health well-being.

The Ministry of Education, Government of India has paid attention to it, proposed changes, made provisions in the newly framed curriculum (NEP-2020) and has introduced the topic in the syllabus (in subjects like Biology, Geography, and Environmental Sciences at different standards) towards the long-awaited realization of Sustainable Development Goal 4. All these initiatives can serve no good if implementation is not strict. Now is the time to work towards stronger institution-led quality education in the direction of a peaceful and just society.

## References

- Ahmed, F., Ahmad, G., Brand, T., & Zeeb, H. (2020). Key indicators for appraising adolescent sexual and reproductive health in South Asia: international expert consensus exercise using the Delphi technique. *Global Health Action*, 13(1), 1830555. <https://doi.org/10.1080/16549716.2020.1830555>
- Alekhyia, G., Parida, S.P., Giri, P.P., Begum, J., Patra, S., & Sahu, D.P. (2023). Effectiveness of school-based sexual and reproductive health education among adolescent girls in Urban areas of Odisha, India: A cluster randomized trial. *Reproductive Health*, 20(1), 105. <https://doi.org/10.1186/s12978-023-01643-7>
- Alemu, S.M., Habtewold, T.D., Haile, Y.G. (2017). Mental and reproductive health correlates of academic performance among Debre Berhan University female students, Ethiopia: The case of Premenstrual Dysphoric Disorder. *Bio Medical Research International*, Vol. 2017: 9348159. doi:10.1155/2017/9348159
- Bandyopadhyay, K. (2023, May 29). Periods force girls to skip school, reveals survey. *The Times of India*. Retrieved from <https://timesofindia.indiatimes.com/city/kolkata/periods-force-girls-to-skip-school-reveals-survey/articleshow/100579249.cms>
- Bearinger, L., Sieving, R.E., Ferguson, J., & Sharma, V. (2007). Global perspectives on the sexual and reproductive health of adolescents: Patterns, prevention and potential. *The Lancet*, 369(9568), pp.1220-1231. [https://doi.org/10.1016/s0140-6736\(07\)60367-5](https://doi.org/10.1016/s0140-6736(07)60367-5)
- Catalano, R. F., Gavin, L. E., & Markham, C. M. (2010). Future Directions for Positive Youth Development as a Strategy to Promote Adolescent Sexual and Reproductive Health. *Journal of Adolescent Health*, 46(3), pp.92-96. <https://doi.org/10.1016/j.jadohealth.2009.12.026>
- Chandra-Mouli, V., Lane, C., & Wong, S. (2015). What Does Not Work in adolescent sexual and reproductive health: A review of evidence on interventions commonly accepted as best practices. *Global Health, Science and Practice*, 3(3), 333-340. <https://doi.org/10.9745/GHSP-D-15-00126>
- Cherenack, E.M., Sikkama, K.J. (2021). Puberty and menstruation related stressors are associated with depression, anxiety and reproductive tract infection symptoms among adolescent girls in Tanzania. *International Journal of Behavioural Medicine*, 29(2), pp. 1-15. <https://doi.org/10.1007/s12529-021-10005-1>
- CREA (Creating Resources for Empowerment in Action). (2005). *Adolescent Sexual and Reproductive Health and Rights in India*. CREA: New Delhi.
- Crocker, B. C. S., Pit, S. W., Hansen, V., John-Leader, F., & Wright, M. L. (2019). A positive approach to adolescent sexual health promotion: a qualitative evaluation of key stakeholder perceptions of the Australian Positive Adolescent Sexual Health (PASH) Conference. *BMC Public Health*, 19(1), pp.6993-6999. ISSN: 1471-2458 <https://doi.org/10.1186/s12889-019-6993-9>
- Ekpenyong, C.E., Davis, K.J., Akpan, U.P., & Daniel, N.E. (2011). Academic stress and menstrual disorders among female undergraduates in Uyo, South Eastern Nigeria- the need for health education. *Nigerian Journal of Physiological Science*, 26(2), pp.193-198.
- Engel, D.M.C., Paul, M., Chalaseni, S., Gonsalves, L., Ross, D.A., Chandra-Mouli, V., Cole, C.B., Ericksson, C.C., Hayes, B., Philipose, A., Beadle, S., Ferguson, B.J. (2019). A package of sexual and reproductive health and rights interventions- what does it mean for adolescents? *Journal of Adolescent Health*, 65(6S), pp.41-50. <https://doi.org/10.1016/j.jadohealth.2019.09.014>
- Gise, K., Leine, D., Martins, S., Lira, A., Gaarde, J., Westmorland, W., & Gilium, M. (2012). Interventions using new digital media to improve adolescent sexual health: A systematic review. *Journal of Adolescent Health*, 51(6), pp.535-543.
- Hall, K.S., Morhe, E., Manu, A., Harris, L.H., Ela, E., & Loll, D. (2018). Factors associated with sexual and reproductive health stigma among adolescent girls in Ghana. *PLOS ONE*, 13(4). e0195163. <https://doi.org/10.1371/journal.pone0195163>
- International Institute for Population Sciences and ICF. (2021). National Family Health Survey (Nfhs-5), 2019-21: India. March 2022. Mumbai: IIPS. [3].
- Cleland, J. Ingham, R. and Stone, N. (2001). Asking Young People about Sexual and Reproductive Behaviors: Illustrative Core Instruments. Occasional Report No 13. Human Reproduction, World Health Organization, Geneva.

- Kotecha, P.V., Patel, S., Baxi, R.K., Majumder, V.S., Mishra, S., Modi, E., & Diwanji, M.(2009). Reproductive health awareness among rural school going adolescents of Vadodara district. *Indian Journal of Sexually Transmitted Diseases and AIDS*, 30(2), pp. 94-99.
- Kotecha, P.V., Patel, S., Majumder, V.S., Baxi, R.K., Mishra, S., Diwanji, M., Baxi, H., Modi, E., Shah, S., & Shringarpore, K. (2012). Reproductive health awareness among urban school going adolescents in Vadodara city. *Indian Journal of Psychiatry*, 54(4), pp. 344-348. <https://doi.org/10.4103/0019-5545.104821>
- Majer, L.S., Santelli, J.S., & Coyle, K. (1992). Adolescent reproductive health: roles for school personnel in prevention and early intervention. *The Journal of School Health*, 62(7). pp. 294-297. <https://doi.org/10.1111/j.1746-1561.1992.tb01246.x>.
- Mckay, A. (2001). Adolescent sexual health education does it work? Can it work better? An analysis of recent research and media reports. *Canadian Journal of Human Sexuality*. 10(3) pp. 127-135.
- Ministry of Human Resource Development. (2020). National Education Policy 2020. Government of India. New Delhi, India. [https://www.education.gov.in/sites/upload\\_files/mhrd/files/NEP\\_Final\\_English0.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English0.pdf)
- National Council of Educational Research and Training. (2013). Adolescence Education Programme -Teachers Workbook for Student Activities. <https://www.cbse.gov.in/cbsenew/documents//TEACHERS%20BOOK%201-50.pdf>
- National Council of Educational Research and Training. (2018). *Curriculum on Health and Wellbeing of School-going Adolescents - Scheme of Content Document of the School Health Programme under Ayushman Bharat*, New Delhi: [https://ncert.nic.in/pdf/announcement/Training\\_Resource\\_Material\\_english.pdf](https://ncert.nic.in/pdf/announcement/Training_Resource_Material_english.pdf)
- Odo, S. N., Samuel, E.S., &Nwagu, E.N. (2018). Sexual and reproductive health services (SRHS) for adolescents in Enugu state, Nigeria: A mixed methods approach. *BMC Health Services Research*, 18(92). <https://doi.org/10.1186/s12913-017-2779-x>
- Rafique, N., Al-Sheikh, M.H. (2018). Prevalence of menstrual problems and their association with psychological stress in young female students studying health sciences. *Saudi Medical Journal*, 39(1), pp. 67-73. <https://doi.org/10.15537/smj.2018.1.21438>
- Rawat, R. Sagar, R. Khakha, D.C. (2015). Puberty: A stressful stage of transition for girls. *IOSR Journal of Nursing and Health Science*, 4(5), pp. 7-12. <https://doi.org/10.9790/1959-04530712>
- Schalet, A.T., Santelli, J.S., Russell, S.T., Halpern, C.T., Miller, S.A., Pickering, S.S., Goldberg S.K., & Hoeing, J.M. (2014). Invited commentary: Broadening the evidence for adolescent sexual and reproductive health and education in the United States. *Journal of Youth and Adolescence*, 43(10), pp.1595-1610. <https://doi.org/10.1007/s10964-014-0178-8>
- Thirunavukarasu, A., Simkiss, D. (2013). Developments in reproductive health education in India. *Journal of Tropical Pediatrics*, 59(4), pp.255-257.
- United Nations Educational, Scientific and Cultural Organisation. (2018). International Technical Guidelines on Sexuality Education: An Evidence Informed Approach., 7, place de Fontenoy. <https://unesdoc.unesco.org/ark:/48223/pf0000260770>
- United Nations Population Fund. (2023). Ensuring rights and choices for all. Retrieved from <https://india.unfpa.org/en>
- Utami, D.R.R.B., Nurwati, I., Lestari, A. (2024). School based sexual and reproductive health education among adolescents in developed countries. *International Journal of Public Health*. 13(1), pp.141-145. Doi: 10.1159/ijphs.v.13i1.23267.
- World Health Organisation. (2018), WHO recommendations on adolescent sexual and reproductive health and rights. Geneva: World Health Organisation.
- World Health Organisation. (2011). WHO guidelines on preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries. Geneva: World Health Organisation Press.
- Yadav, N., Kumar, D. (2023). The Impact of Reproductive and Sexual Health Education among School Going Adolescents in Andaman and Nicobar Islands. *Clinical Epidemiology and Global Health*, 24(3):101416 .<https://doi.org/10.1016/j.cegh.2023.101416>