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Original Research Article

Health and hygiene in pubertal girls of Chhattisgarh: Knowledge, attitude, and practices

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ABSTRACT

Background: Menstruation is an important physiological process in females of the reproductive age group. Society needs to be educated by competent person time to time. The study was aimed to determine the knowledge of reproductive tract anatomy and pubertal changes in young adolescent girls and to create awareness about pubertal changes and health and hygiene among adolescent girls.

Materials and Methods: The questionnaire-based study in which the participants were adolescent girls. After filling in basic socio-demographic information, the first questionnaire (pre-test) was to be filled which assessed their existing knowledge regarding the reproductive tract anatomy and pubertal changes. This was followed by a health education talk using audio-visual aids (PowerPoint presentation). Post-tests were organized to know the response.

Result: From a total of 480 adolescent school girls, more than half of the girls (57.08%) do not know the normal anatomy of the female genital tract. Knowledge of signs of pubertal changes was known by 2.29% which was improved to 80% after the talk ie in the post-test. Mother was the main source of information about the menstrual cycle 76%. Many had poor knowledge of menstrual hygiene.

Conclusion: Awareness programs improve knowledge as well as behaviors. So this program, society needs from time to time. Certain facts each girl in society should know for a better understanding of her health.

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1. Introduction

Adolescence is a period of transition from childhood to adulthood. The World Health Organization (WHO) has defined adolescence as a period ranging from 10-19 years of age.¹ It is classified as Early adolescence (10-14 years) and late adolescence (15-19 years). This phase of adolescence constitutes a very critical and vulnerable period of an individual's life as it includes overall physical, mental, and social growth and development. India has a large adolescent population, estimated to be greater than 200 million.²

However, these adolescents are not educated and sufficiently aware of the various physiological changes

that take place during puberty. Aggravating this problem is the absence of knowledge of the importance of sexual and reproductive health. This lack of knowledge puts their health in jeopardy. Hygiene during menstruation is very critical for an adolescent girl. Especially at risk is a large fraction of the girls belonging to low socio-economic status, as they are unaware of the relevance of health and hygiene. Several misconceptions and health-jeopardizing practices exist among these sections of society. For instance, menstruation is a "curse of God" and menstruating females are deemed 'impure' by the elderly. They are banned from entry to the temples and kitchens. These girls are forced to miss school and are shunned to a room. The community fails to understand that menstruation is a normal biological

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process indicating the sexual maturity of the female.

Most schoolgirls lack awareness regarding menstruation and pubertal changes. This leads to unhygienic practices like using pieces of cloth instead of sterilized sanitary napkins. Adding to their woes is the lack of access to proper and clean toilets. All these factors contribute to endangering their reproductive health, making them susceptible to Reproductive Tract Infections (RTIs).

The aim of the study was to determine the knowledge of reproductive tract anatomy and pubertal changes in young adolescent girls and to create awareness about pubertal changes and health and hygiene among adolescent girls.

2. Materials and Methods

This cross-sectional study was conducted among 480 adolescent schoolgirls of government higher secondary schools in an urban area in Raipur, Chhattisgarh. The girls aged 10-19 years are natives of Chhattisgarh state. Preliminary consent from the student and parent was taken before the study. A questionnaire is provided in which the participants are initially required to fill in their basic socio-demographic information. The first questionnaire (pre-test) was to be filled which assessed their existing knowledge regarding the reproductive tract anatomy and pubertal changes. This was followed by a health education talk using audio-visual aids (PowerPoint presentation) (Figure 1). After this, they were provided with a questionnaire (post-test) to assess their updated knowledge regarding the topics.



Fig. 1: Photograph during the presentation/ awareness program

3. Result

Collected Data were compiled and tabulated (Tables 1 and 2). Of the total 480 girls, more than half of the girls (57.14%) did not know the normal anatomy of the female genital tract and 21.45% did not answer the same.

Knowledge of signs of pubertal changes was known by 2.29% which was improved to 80% after the talk i.e in the post-test. Mother was the main source of information about the menstrual cycle 70%. Knowledge of the normal duration of the menstrual cycle was known by 20% (pre-test) and 60% unanswered. After a session of the awareness program, it was improved by 74%. On questioned about knowledge of the menstrual cycle, many of them not answered (32%) and many don't know (58%). On asking questions that cause the occurrence of menses, it was not known and unanswered by 91%. Only 30% of girls know that the menstrual cycle makes women capable of childbearing. Seventy-three percent didn't know vaginal discharge is part of the menstrual cycle. The 43% of students were using sanitary pads and 35% were washing external genitalia daily. Eighty-six percent have a toilet facility at home.

4. Discussion

In the adolescent girl, significant hormonal and emotional changes that occur during this period result in menstruation, and this physiological process of menstruation is surrounded by taboos and supernatural perceptions.³ However, Indian studies conducted by many physicians reported poor practices in health and hygiene. In the lack of knowledge, many girls could have poor academic performance and neglect their health.

Now the practices in Chhattisgarh among adolescent girls have improved by various schemes made available for students of this age group, sanitary pads made available to students, Sauchalay in school, and rural and urban areas. So, they are aware of hygienic practices.

In the current study, on accessing knowledge of the anatomy of the female genital tract, only 21% were known and this was significantly improved to 88% in the post-test. Upashe et al found 61% of high school girls have good knowledge of menstruation and they follow hygienic practices.⁴

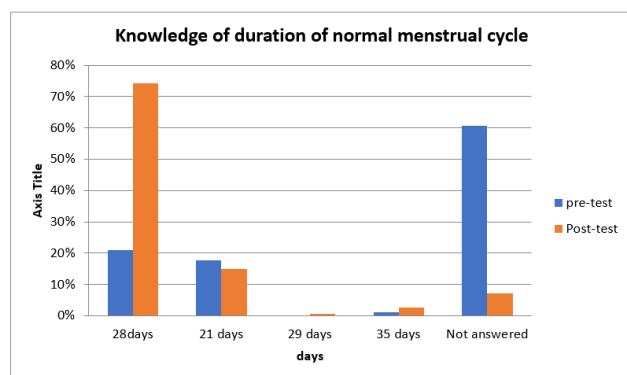
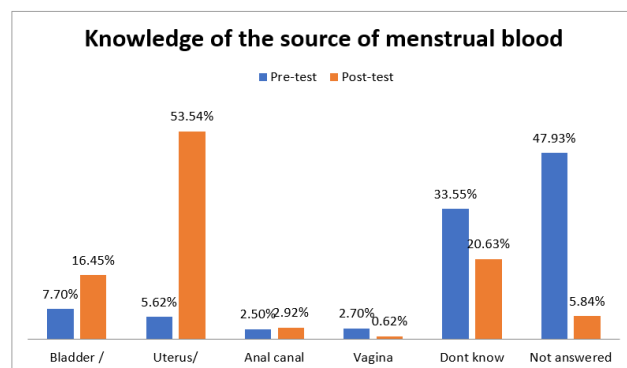
In a study by Upashe et al., 61% of high school girls had good knowledge that the cause of menstruation was hormone changes.⁴ In the current study, only 9% had good knowledge that the cause of menstruation was hormone changes. Only 31% of girls knew that the menstrual cycle makes women capable of child bearing. Only 26% of girls knew the fact that vaginal discharge is part of the menstrual cycle

Mother was the main source of information about periods (76.42%) (Figure 2). A few other studies in India showed the main source of information was the mother.⁵⁻⁷ Other sources were very less. Knowledge about the source of menstrual blood (Figure 3) was showing a big difference in the pretest and post-test.

In the current study, 43% of girls use sanitary pads during menses and new clothes 16% and old clothes 9%. According to teachers of the school, one machine installed by the

Table 1: Showing the knowledge of the source of information and information of hygiene

S. No.	Questions	Options	Percentage
1	What is the source of information related to menstruation?	Friends/	2.14%
		Relatives/	1.43%
		Mother	76.42%
		Sister	2.14%
		Teacher	3.58%
2	What do you use during menstruation?	Not answered	14.29%
		Sanitary pad	42.86%
		New cloth	15.71%
		Old cloth	9.29%
		Not answered	31.43%
3	How often do you clean the external genitalia?	Daily	35.71%
		Only during menses	13.57%
		Not answered	50.71%
4	How many cloths /pads do you use during menses?	1-6 cloth/	20.71%
		>7 cloth/	4.29%
		1-6 pads/	21.43%
		>7 pads	14.29%
		Not answered	39.28%
5	What is your method of disposal?	Burn /	42.86%
		Throw in waste/	22.14%
		Reuse it	15%
		Not answered	20%
6	Is toilet facility available at home or not?	Yes	85.86%
		No	6.42%
		Not answered	5.71%

**Fig. 2:** Knowledge of the duration of normal menstrual cycle (in pretest and post test)**Fig. 3:** Knowledge of the source of menstrual blood (in pretest and post test)

government has sanitary pads in which students get one pad after poring a coin. Teachers repeatedly insist on using clean clothes or sanitary pads. In Nemade et al study,⁸ 15.74% of girls used only clothes while 40.61% of girls used only sanitary pads during menses. Ade et al,⁶ found 65% of girls use sanitary pads during menses and 35% of girls use them.

In the current study, 35.71% of girls were found to do daily cleaning of external genitalia. After the post-test, 73% of girls knew that unhygienic practices may cause infection.

Vaginal discharge is a part of the menstrual cycle and was known to be 26.46% in the pre-test and significantly

improved in the post-test at 74.29%. The teacher also felt that this knowledge would be a great help.

The "Menstrual cycle makes women mothers later in life" statement gives a feeling of security that all is well. A few students inquired about how long they should wait before consulting a physician if they are not having menstruation or are having irregular menstruation.

The government of India has started a scheme called "Kishori Shakti Yojana". In Kishori Sakti Yojna, the government is concerned about the nutritional and health status of girls in the age group of 11-18 years. They promote

Table 2: Showing knowledge regarding reproductive tract anatomy and menstruation cycle

S.No.	Question		Pretest N=480	Post test	Chi square value/ pvalue
1	Do you know the anatomy of female genital tract?	Yes	103 (21.46%)	418 (87.08%)	87/ <0.00001
		No	274 (57.083%)	62 (12.92%)	
2	Do you know about pubertal changes?	Not answered	103 (21.458%)	0	53.54/
		Yes	134 (27.91%)	351 (73.12%)	
		No	336 (70.00%)	81 (16.87%)	
3	What are the signs of pubertal changes?	Not answered	110 (22.916%)	48 (10%)	136/ <0.00001
		Pubic / Axillary Hair growth	10 (2.08%)	11 (2.28%)	
		Breast enlargement	135 (28.12%)	12(2.5%)	
		Menstruation	99 (20.625%)	59(11.14%)	
		All	11 (2.291%)	386 (80.01%)	
		Not answered	225 (46.87%)	22 (4.07%)	
		Yes	153 (31.14%)	394 (82.08%)	
4	Do you know about menstrual cycle?	No	201(41.87%)	27 (5.62%)	54.09/<0.00001
		Not answered	126 (26.25%)	12.14%)	
		Yes	153 (31.14%)	394 (82.08%)	
		No	201(41.87%)	27 (5.62%)	
5	If yes, what is the duration of normal menstrual cycle?	28 days	99 (20.62%)	357(74.37%)	74.21/<0.00001
		21 days	85(17.70%)	72 (15.00%)	
		29 days	0	3(0.62%)	
		35 days	5 (1.04%)	13 (2.70%)	
		Not answered	291 (60.62%)	35 (7.29%)	
6	Do you know the menstrual cycle is because of hormonal changes?	Yes	45 (9.38%)	375 (78.13%)	102.66/<0.00001
		No	281 (58.54%)	92 (19.16%)	
		Not answered	154 (32.08%)	10 (2.08%)	
7	Do you know menstrual cycle makes women capable of child bearing?	Yes	147 (30.62%)	391 (81.46%)	52.54 /<0.00001
		No	123 (25.62%)	48 (10.00%)	
		Not answered	210 (43.75%)	41 (8.54%)	
8	What is the source of menstrual blood?	Bladder /	37 (7.70%)	79 (16.45%)	/<0.00001
		Uterus/	27 (5.62%)	257 (53.54%)	
		Anal canal	12 (2.5%)	14 (2.92%)	
		Vagina	13 (2.70%)	3 (0.62%)	
		Don't know	161 (33.54%)	99 (20.62%)	
		Not answered	230 (47.92%)	28 (5.83%)	
9	Do you know vaginal discharge is part of menstrual cycle?	Yes	127 (26.46%)	358 (74.29%)	48.64/<0.00001
		No	157 (32.70%)	80 (16.43%)	
		Not answered	196 (40.83%)	42 (9.29%)	
10	Do you know in case of increased frequency of menstruation/ heavy menstruation, increase in iron & Folic acid supplementation is required?	Yes	88 (18.33%)	342 (74.58%)	62.09 /<0.00001
		No	140 (29.17%)	96 (20.00%)	
		Not answered	252 (52.50%)	42 (8.75%)	
11	Do you know it may infect genital tract in lack of hygiene?	Yes	180 (37.50%)	350 (72.91%)	/<0.00001
		No	120 (25.00%)	58 (12.08%)	
		Not answered	180 (37.50%)	72 (15.00%)	

awareness of health, hygiene, nutrition, and family welfare, “iron” and “folic acid” supplementation, deworming interventions, and nutrition and health education. In the current study, we insisted on our presentation of iron supplementation during activity. This knowledge improved from pre-test 18% to post-test 75%. The "Mukhyamantri Suposhan Abhiyan" by the Chhattisgarh government was initiated to tackle the threat of anemia and malnutrition after observing the burden.⁹

Burn was the most used method of disposal (42.86%). In the current study Fifteen percent of girls reuse the cloth after washing, and 22.14% dispose of it as waste. The total 65% girls disposed of was after a single use. In other studies, 64%, and 57.5% of girls were properly disposed of after use.^{5,6}

Toilet facilities were available at home in 86% of houses. That gives excellent improvement to the lives of living standers in society. The government is making decent progress in this direction. It strives to raise the living standards of the poor and needy.

Authors see the enthusiasm of a student to know about his physical changes. They have a lot of questions to ask.

"I have pain before the start of menstruation. Is it normal?"

"I have severe pain before the start of menstruation. What medicine should I take? Is taking medicine good, or OK?"

"I have irregular menses. Does it come under normal?"

Study of menstrual hygiene practices significantly associated with knowledge of menstruation.^{4,10} In the current study, we tried to suffice the knowledge of hygienic practices.

5. Conclusion

The study aimed to inculcate ideal hygienic practices in premenstrual as well as menstrual girls of all social backgrounds. The pre and post-test results showed that this awareness improved their hygiene practices, social fear, and emotional well-being. This will prevent the incidence of reproductive tract infections (RTIs) and will improve the overall reproductive health of society. A man's education is the education of one person, but a woman's education ensures a family's education. This is why creating awareness among girls is all the more important.

6. Source of Funding

None.

7. Conflict of Interest

None.


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