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Research Article

Hygiene

Assessment of knowledge and practice of menstrual hygiene among adolescent girls of government school of Jabalpur and impact of health education on menstrual hygiene

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Introduction: India is a developing country, it has made advancements in every field, but still menstruation is a topic of social taboo in many rural and suburban parts of the country, as people feel shy and difficult to discuss it openly, even mothers, sisters and teachers are not able to provide correct information regarding menstruation physiology and its hygiene. **Objective:** To educate adolescent girls and assess the impact of health education on them. **Methods:** About 400 adolescent girls aged 11-19 years from 3 government schools of Jabalpur were interviewed using a pretested and predesigned questionnaire in the local language. Health education regarding hygienic practices during menstruation was given through audiovisual aids after filling out the questionnaire. **Results:** out of 400 girls,291(72%) girls already knew that menstruation is a physiological process which increased significantly to 307(76.8%). Knowledge was poor about the source and type of bleed; only 99 (24.8%) knew that the original was the uterus. Only 59(14.8%)girls were using sanitary napkins. In contrast, most of them were using old cloth265(66.3%)of which 86.3% were washing it with soap and water, and 67.3% used to dry them inside their houses, which increased significantly after imparting health education to 99%and decreased to 6% respectively. **Conclusion:** The result of this study indicates that there is a need for the establishment of a comprehensive school health education programme with solid familial input. Teachers should be trained to provide health education about menstruation, its physiology and correct hygienic practices, as the adolescent girls will turn into mothers one day.

Keywords: Adolescence, Menstruation, Health education, Menstrual hygiene, Reproductive tract infection

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Introduction

Adolescence, the age group of 10-19 years as defined by WHO and a period of transition from childhood to adulthood [1]. Menstruation is the process of shedding of endometrial layer of the uterus through the vagina under the influence of hormones. The onset of menstruation, an important milestone and a natural phenomenon unique to females, is one of the most critical changes is termed menarche [2]. Until now, menstruation has been regarded as unclean or dirty in rural and uneducated parts of Indian society.[3]. There are various myths, misconceptions and restrictions related to menstruation, because of which adolescent girls develop a negative attitude towards this natural physiological phenomenon [4,5]. Although Adolescence is a healthy period of life, the bitter truth is that despite sex and health education in the school curriculum, many adolescents are less informed, experienced & not comfortable in accessing reproductive health information & services compared to adults [6,7,8]. In many rural parts of the developing countries, a culture of silence surrounds the topic of menstruation & related issues as a result of which many young adolescent girls lack appropriate & sufficient information regarding menstrual hygiene and develop a negative attitude towards this physiology, the impact of which may result in incorrect & unhealthy behaviour and practices during their menstrual period leading to acquiring various reproductive tract infections like PID and STI of which infertility may be the worst consequence[9]. This is a common scenario in rural areas as many uneducated mothers/informants themselves lack correct information & skills to communicate about menstrual hygiene, which they pass on as unscientific knowledge to their children leading to false attitudes, beliefs & practices in this regard. Therefore interventional studies are needed to break the silence, as there are very few studies done in Madhya Pradesh regarding this issue of menstruation and its hygiene.

Materials and Methods

Study Design: Cross-sectional & Prospective interventional study

Study Period: March 2018 - August 2019

Study Area: Govt. Schools of Jabalpur

Inclusion Criteria:

- Adolescent girls of Govt. Schools Class 6th, 7th, 8th, 9th, 10th, 11th and 12th between age 11-19 years.

Exclusion Criteria :

- Those who were not willing
- Girls >19 years &<11 years of age
- Those who haven't attained menarche yet

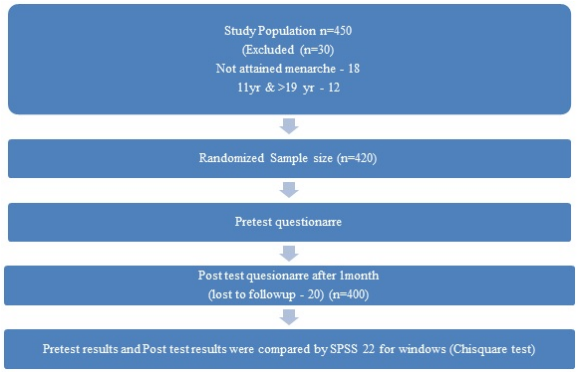
Study group:

- Adolescent girls age group 11 – 19 years of Govt. Schools

Sample Size: About 450 minimum required sample size for the proposed study. Three government schools of different areas of Jabalpur were taken. About 100 students of the various class were made to sit in a hall; pretested questionnaires were given to them in the presence of the investigator and class teachers. Twenty minutes were given to them for filling the questionnaire.

Data Collection: The pretested questionnaire was administered under the supervision of the Investigator to prevent sharing of responses. Following data collection, queries from the participants relating to menstrual hygiene & reproductive health were clarified by the Investigator. Health education was given through audiovisual Aids in 2 stages one month apart. The post-test questionnaire was filled after one month of imparting health education to adolescents by another author who was unaware that adolescents were educated about menstrual hygiene. Calculations were done using SPSS version 22 for windows in which the following tests were used :

01. The chi-square test to test the statistical significance of the prevalent KAP related to adolescent health.
02. The test of significance of difference was applied for differences between KAP, pre and post-education.



Results

Fallowing tables depict results.

Table 1: Socio-demographic characteristics of adolescent school girls of government schools of Jabalpur

Age	11 - 13	265 (66.3%)
	13 - 16	84 (21.0%)
	17 - 19	51 (12.8%)
Education status of Mother	Illiterate	65(16.3%)
	Primary	282 (70.5%)
	Secondary	53 (13.3%)
Residence	Urban	60 (15.0%)
	Rural	340 (85.0%)
Monthly Family Income	<2000	83 (20.8%)
	2000-4000	283 (70.8%)
	>4000	34 (8.5%)

Table 1shows that the majority of girls interviewed are of age group 11-13 years are the residence of rural area and of lower socioeconomic status with mothers having education up to primary school in 70.5% cases and most of them had family income 2000-4000 per month.

Table No 2: Knowledge about menstruation physiology

		Pre Test	Post Test	p-value
What is Menstruation	Physiological process	291 (72.8%)	307 (76.8%)	0.003
	Disease	70 (17.5%)	60 (15.5%)	
	Curse	32 (8%)	20 (4%)	
	Others	7 (1.8%)	0 (0%)	
Source of blood	Uterus	99 (24.8%)	295 (73.8%)	0.0001
	Vagina	241 (60.3%)	97 (24.3%)	
	fallopian tube	60 (15%)	8 (2%)	
Type of blood in menstruation	Pure	118 (29.5%)	291 (72.8%)	0.000
	Impure	282 (70.5%)	109 (27.3%)	

Table 2 shows that most girls have known that menstruation is a physiological process 72.8% in the pretest, but their count increases to 76% further after health education. They have poor knowledge about the source and type of blood, only 24.8% of girls knew that source of blood is the uterus, and 29.5% of girls knew that bleed coming is pure, both of which increased significantly after Imparting health education through audiovisual aids.

Table 3: Knowledge about menstrual hygiene and practice

		Pre Test	Post Test	p-value
What you use during menstruation	Old Cloth	265 (66.3%)	166 (41.5%)	<0.001
	New Cloth	76 (19.0%)	84 (21.0%)	
	Sanitary Napkin	59 (14.8%)	150 (37.5%)	
How you wash your cloths	With soap and water	294 (86.3%)	247 (99.0%)	<0.001
	With water only	47 (13.8%)	3 (1.0%)	
How you dry your cloths	Sun dry	111 (32.8%)	235 (94.0%)	<0.001
	Inside home	229 (67.3%)	15 (6.0%)	
How many times do you change absorbent during menstruation	Once	43 (10.8%)	3 (0.8%)	0.000
	Twice	157 (39.3%)	62 (15.5%)	
	Thrice	161 (40.3%)	222 (55.5%)	
	Quadruple	39 (9.8%)	113 (28.3%)	
How you dispose of your sanitary napkin	Burn	78 (19.5%)	91 (22.8%)	0.001
	In dustbin	276 (69.0%)	296 (74.0%)	
	In Sewage	46 (11.5%)	13 (3.3%)	

Table 3. shows that most girls use old cloth, and only 15 % used sanitary napkins in the pretest. Of those who used cloth, 86.3%washed it with soap and water, but they used to dry clothes inside their homes due to social stigma. Ideally, absorbent has to be changed every eight hourly at least. 40.3%girls used to change thrice, which increased to 222, i.e. 55% after imparting health education. When it came to disposal69%of girls used threw used absorbent or sanitary napkins in dustbins which are increased to 74% after imparting health education.

Table 4: Response to myths related to menstrual hygiene

		Pre Test	Post Test	p-value
Myths Related to Menstruation which you believe	Do not take Bath	11 (2.8%)	2 (2.5%)	<0.0001
	Do not visit holy places	314 (78.5%)	274 (68.5%)	
	Do not enter kitchen	24 (6%)	17 (4.2%)	
	All / None	51 (12.8%)	107 (26.8%)	
Exercise During Menstruation	Yes	124 (31.0%)	295 (73.8%)	<0.0001
	No	151 (37.8%)	105 (26.3%)	
	Don't Know	125 (31.3%)	0 (0%)	
Diet During Menstruation	Light	188 (47.0%)	79 (19.8%)	<0.0001
	Balanced Diet	185 (46.3%)	309 (77.3%)	
	Fatty Rich Diet	26 (6.5%)	12 (3.0%)	

Table 4 shows that the most prevalent myth is not to visit the temple during menstruation is 78.5% which decreased to 68.55 % in the post-test. When talking about diet and exercise, mixed views came,31% said yes to exercise whereas 31.3% don't know what to do precisely whereas most of the girls were confused about for balanced and light diet, these misconceptions were cleared after training. Similarly for diet also there were mixed views,47% were on a soft diet, and 46.3% were on a balanced diet, this notion about diet was also corrected after health education.

Discussion

In my study, in the pretest, only 24.8% knew that uterus was the source of blood; 73.8% of the girls started understanding that the uterus is the primary source of blood after education was imparted to them. This study is similar to a survey done by DipaliNemade, Seema Anjenaya in Navi Mumbai in 2009, Organ from where the blood comes correctly was reported as uterus by 33.64% [4]. In a study conducted by Adhikari P et al., 25.3% of girls reported the uterus as an organ of bleeding [6].In a study done by SP Singh et al. among adolescent girls of Varanasi, 43.5% said the uterus is an organ for menstruation[7]. A more significant proportion (72.8%) of respondents knew that menstruation is a normal body phenomenon.

In contrast, in a study done by Shivaleela & Upashe in western Ethiopia, 76.9% knew that it is a Physiological process & 9.7% of girls believed that it is a curse from God [8]. This shows that most girls were taught that it is a physiological process. It is happening with all reproductive age girls, but they were also made to follow various restrictions and myths. In the pretest majority, 70.5% of respondents considered menstrual blood is impure; in the post-test, 72.8% started believing menstrual blood was normal and pure. Similarly, in a Study done in Navi Mumbai in 2009 by DipaliNemade et al. l, 72.35% of girls felt that menstrual blood is impure [4]. Also, in a study conducted by Adina E &Adinma J, in 2008, among Nigerian secondary schools girls, 73.1% reported menstrual blood as the release of bad blood [9]. This shows that girls have thought of menstrual blood as bad blood for many years, whether in India or other developing countries. In my study, 78.5% of girls were using cloth in the pretest, which decreased to 62.5 % in the post-test following health education which is similar to a survey done by Vijay Agrawal et al. in 2018 among adolescent girls of rural Sabarkunth district of Gujarat; 50% of the girls were using cloth during menstruation [10]. Also in a study done by P.B. Verma et al. in Bhavnagar reported that in most girls, 87.3% use old cloth during menstruation & only 10.6% used commercially available napkins [11]. In the pre-intervention phase majority of girls, 67.3%, dry their washed clothes inside the home, which improved drastically, i.e. 94% started sun-drying their clothes in the post-intervention phase. Drying in the shade may be due to stigma, shyness and embarrassment they feel while drying clothes out in the sun, which can be done by proper counselling and education about hygiene and infections related to poor menstrual hygiene. In the study done in western Ethiopia, 45.2% of girls dried their washed clothes in sunlight [8]. In my research, 69% of girls disposed of their absorbent in dustbins which increased to 74 % post-education.

Similarly a study done by Reem bassinouy in adolescent girls of Egypt found that 74.2% of girls threw it in house dustbin & 16.5% of girls threw it on the roadside. Whereas post-intervention, all the girls reported that they threw the sanitary pad in the dustbin [12]. Similarly, in a study done in adolescent school girls of kalambolinavi Mumbai, 96.3% of adolescent girls use dustbins for disposal. In my research, not visiting the temple is the most prevalent myth, approximately 78.5 % did not see the temple in the pretest.

Several other restrictions are also followed, like in Studies done by Ray Sudeshna and Dasgupta, Aparajita in rural secondary schools of West Bengal restricting sour food 80% & not visiting temple have been most common restriction observed by girls[13]. And in some countries, myths are of different types. In a study done in Alexandria, Egypt, about 25% of girls avoided bathing during menstruation because cold shower causes retention of blood & hot shower leads to an increase in bleeding.

Conclusion

While the supposedly civilized, educated and progressive urban India is still debating the topic of menstruation and the associated stigma, breaking the mould in rural and urban underprivileged areas is far more challenging. This resistance has to be braked by providing health education regarding menstrual physiology and hygienic practices in adolescent school girls. The policymakers and stakeholders should include it in the school curriculum.

What does this study add to existing knowledge?

Education about menstrual hygiene through audiovisual aids, when imparted in school going adolescent girls, has shown significant improvement in knowledge.

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