

Knowledge and Practices Regarding Menstrual Hygiene among Adolescent Girls of B. Sc. Nursing Students at Selected Nursing College in Indore, Madhya Pradesh: A Descriptive Study

Mrs. Jenitha T

Research Scholar, Malwanchal University, Indore, Madhya Pradesh, India

Abstract:

Adolescence is a critical period of physical, cognitive, and psychological development. Proper menstrual hygiene is essential for adolescent girls' health, yet misconceptions and taboos often hinder effective practices. This descriptive study aimed to assess the knowledge of menstrual hygiene, evaluate the effectiveness of a self-instructional module (SIM), and examine associations between knowledge and demographic variables among adolescent girls at a selected nursing college in Indore, Madhya Pradesh. Fifty participants were assessed using a self-structured questionnaire in pre-test and post-test designs. The results showed significant improvement in knowledge post-intervention, indicating the effectiveness of the SIM. Age and father's occupation were significantly associated with knowledge levels, while religion, family type, and food habits showed no significant association. The study underscores the importance of targeted educational interventions to promote menstrual health in adolescents.

Keywords: Menstrual hygiene, Adolescents, Knowledge, Self-instructional module, India

Date of Submission: 12-10-2025

Date of acceptance: 26-10-2025

The word adolescent is derived from the Latin word "adolescere", it means to grow into maturity⁽¹⁾. WHO has defined Adolescence as the period between 10 – 19 years of life⁽²⁾. Adolescence has been classified by UNICEF into early adolescence comprising of children belonging to the age group of 10-14 years and late adolescence including those aged 15-19 years⁽³⁾. It is a stressful time and leads to the distinctive stage of human development where a child experiences rapid physical, cognitive, and psychological growth which will affect how they feel, think, make decisions, and interact with the world around them⁽⁴⁾. India has one of the fastest-growing youth populations in the world, with an estimated 190 million adolescent girls below 19 years of age comprise one-quarter of India's rapidly growing population⁽⁵⁾. In India, the adolescent population is 242 million comprising 18% of the total population out of which 116 million are girls⁽⁶⁾. Adolescents have not been told about menstruation and sexually transmitted diseases, due to the factors like cultural background, religion, family pattern, parent's education etc., these factors makes the adolescents to acquire incorrect and inadequate information, led with wrong beliefs and taboos⁽⁷⁾. In rural as well as urban region menstrual hygiene has become a very big problem mainly due to taboos and social stigma around it. Due to lack of knowledge and awareness about menstruation among the females in rural area many of them maintain poor hygienic conditions. Practicing poor hygienic condition during menstrual cycle can leads to various urinary tract infections. As a care taker of girl child parents should always discuss the factors about the menstrual cycle. Due to decrease in level of educational status in rural area parents often face the problem to discuss openly with their child about the menstruation^(8,9).

Menstruation is a physiological phenomenon unique to females that begin in adolescence. It is monthly uterine bleeding for 4-5 days, regularly every 28 days. Usually, females get 13 menses in a year and around 400 menses in their reproductive life. The first menstruation is termed "menarche." The Age of menarche is between 10- 16 years in India. Though menstruation is a natural and normal physiological process for all healthy adult women as ever, it has been surrounded by secrecy, negativity, and myths in much of society^(10,11). Personal Hygiene to be followed during menstruation is to use sterile pads during the early period of heavy flow, bath daily for comfort and feel fresh, keep perineal area clean from anterior to posterior, cotton undergarments preferred. Hygiene-related practices of women during menstruation are of considerable importance, as it has a long-lasting impact on health, and if it is a negative impact, then it can cause increased vulnerability to reproductive tract infections [RTI]. The interplay of socio-economic status, menstrual hygiene practices, and

RTI are noticeable. Today millions of women are suffering from RTI, and its complications and infections are often transmitted to the offspring of the pregnant mother.

Women with adequate knowledge about menstrual hygiene and safe menstrual practices are less prone to have reproductive tract infections. Menstrual hygiene management plays an important role in women's health. However, improving the knowledge about menstruation even before menarche can improve menstrual hygiene⁽¹²⁾. Menstrual Hygiene deals with a woman's special health care needs and requirements during her monthly menstruation or menstrual cycle. These areas of special concern include choosing the best "Period Protection" or feminine hygiene products, how often and when to change her feminine hygiene products bathing, care of her vulva and vagina as well as the supposed benefit of vaginal douching at the end of each menstrual period⁽¹³⁾.

Therefore, a descriptive study was planned to assess the knowledge on menstruation and practices regarding menstruation hygiene.

I. Objectives

1. To assess the knowledge regarding menstrual hygiene among adolescent girls at a selected nursing college, Indore.
2. To evaluate the effectiveness of a self-instructional module (SIM) regarding menstrual hygiene among adolescent girls.
3. To determine the association between knowledge of menstrual hygiene and selected demographic variables.

II. Materials and Methods

A descriptive study was conducted at a nursing college in Indore, Madhya Pradesh, among 50 adolescent girls. A self-structured questionnaire in Hindi and English was used, consisting of:

- **Section 1:** Bio-demographic data (Age, Religion, Father's Occupation, Family Type, Food Habit)
- **Section 2:** Knowledge on menstrual hygiene (20 questions, scored 0–20: Inadequate 0–10, Moderate 11–15, Adequate 16–20)

Purposive sampling was used. Pre-test scores were collected, followed by administration of the SIM. Post-test was conducted after 7 days. Data analysis included mean, standard deviation, paired t-test, and chi-square test for associations.

III. Result

The data obtained were analysed and presented under following headings.

Section A: Distribution of Demographic characters of Adolescent Girls.

Section B: Analysis and interpretation of data regarding knowledge of Menstrual hygiene among Adolescent girls

Section C: Overall comparison of Pre-test and Post-test knowledge level of Adolescent girls regarding Menstrual hygiene

Section D: Association between knowledge of Adolescent girls with their selected demographic variables.

Table 1: Distribution of Demographic characters of Adolescent Girls.

S.No	Demographic Variables	Categories	Frequency	Percentage
1	Age	18	45	90
		19	4	8
		20	1	2
2	Religion	Hindu	43	86
		Christian	2	4
		Muslim	4	8
		Other	1	2
3	Type of Family	Nuclear	38	76
		Joined	12	24
4	Food Habit	Vegetarian	35	70
		Vegetarian with egg	2	4
		Non Vegetarian	13	26
5	Occupation of Father	Government	13	26
		Private	31	64
		Coolie	6	12

The demographic profile of the respondents shows that the majority (90%) were aged 18 years, followed by 8% aged 19 years, and only 2% were 20 years old. With respect to religion, the highest proportion of respondents was Hindus (86%), while Muslims (8%), Christians (4%), and others (2%) constituted the minority.

Regarding family type, 76% of the respondents belonged to nuclear families, whereas 24% were from joint families. In terms of food habits, the majority were vegetarians (70%), followed by non-vegetarians (26%), and a small proportion (4%) reported being vegetarians with egg.

With respect to the father's occupation, 64% were engaged in private jobs, 26% in government employment, and 12% worked as coolies.

Table 2 : Analysis and interpretation of data regarding knowledge of Menstrual hygiene among Adolescent girls.

Level of Knowledge	Pre Test		Post Test	
	Frequency	Percentage	Frequency	Percentage
Inadequate	34	68	2	4
Moderate	8	16	4	8
Adequate	8	16	44	88

The findings of the study revealed that, in the pre-test, a majority of the participants (68%) had inadequate knowledge, 16% had moderate knowledge, and only 16% had adequate knowledge. In contrast, during the post-test, only 4% of participants remained in the inadequate category, 8% demonstrated moderate knowledge, while a significantly higher proportion of 88% attained an adequate level of knowledge. This clearly indicates that the intervention was effective in improving the knowledge level of the participants.

Table 3: Overall comparison of Pre-test and Post-test knowledge level of Adolescent girls regarding Menstrual hygiene

Variables	Mean	Mean difference	SD	't' Value	df
Pre-test	9.88	7.28	4.38	9.3071	98
Post-test	17.16		2.85		

The findings of the study showed that the mean pre-test score was 9.88 (SD = 4.38), whereas the mean post-test score increased to 17.16 (SD = 2.85). The calculated mean difference between pre-test and post-test scores was 7.28. The obtained *t*-value of 9.3071 at *df* = 98 was statistically significant, indicating that there was a highly significant improvement in the knowledge level of participants after the intervention.

Table4: Association between knowledge of Adolescent girls with their selected demographic variables.

S.No	Demographic Variables	Categories	P value	Chi square	Significant/ no significant
1	Age	18	0.009	18.68	significant
		19			
		20			
2	Religion	Hindu	0.235	8.04	No significant
		Christian			
		Muslim			
		Other			
3	Type of Family	Nuclear	0.152	3.76	No significant
		Joined			
4	Food Habit	Vegetarian	0.3131	4.757	No significant
		Vegetarian with egg			
		Non Vegetarian			
5	Occupation of Father	Government	0.0482	9.488	significant
		Private			
		Coolie			

The association between selected demographic variables and nutritional adequacy of adolescents was analyzed using the Chi-square test. The findings revealed that age was significantly associated with nutritional adequacy ($\chi^2 = 18.68$, $p = 0.009$), indicating that nutritional adequacy varied across different age groups. Similarly, the father's occupation showed a significant association with nutritional adequacy ($\chi^2 = 9.488$, $p = 0.048$), suggesting that adolescents' nutritional status was influenced by the type of occupation of their father.

However, no significant association was found between nutritional adequacy and religion ($\chi^2 = 8.04$, $p = 0.235$), type of family ($\chi^2 = 3.76$, $p = 0.152$), or food habits ($\chi^2 = 4.757$, $p = 0.313$). This indicates that these

variables did not have a statistically significant influence on the nutritional adequacy of the adolescents in the study.

IV. Discussion

This study aimed to assess the knowledge and practices regarding menstrual hygiene among adolescent girls in a selected nursing college in Indore, Madhya Pradesh, and to evaluate the effectiveness of a self-instructional module (SIM) on improving their understanding. The findings revealed a significant improvement in the participants' knowledge levels post-intervention, highlighting the effectiveness of the SIM as an educational tool.

Demographic Profile

The majority of participants were 18 years old (90%), predominantly Hindu (86%), from nuclear families (76%), and had fathers employed in private sectors (64%). These demographic factors provide context to the study population and may influence the generalizability of the findings to other regions or populations.

Knowledge Assessment

Pre-test results indicated that 68% of participants had inadequate knowledge about menstrual hygiene, while only 16% had adequate knowledge. Post-test results showed a significant improvement, with 88% achieving adequate knowledge. This aligns with findings from other studies, such as one conducted among adolescent girls in a tribal area of Nagpur District, which also reported an increase in knowledge following an educational intervention ⁽¹⁴⁾

Effectiveness of the Self-Instructional Module

The mean pre-test score was 9.88 (SD = 4.38), and the post-test score increased to 17.16 (SD = 2.85), with a mean difference of 7.28. The calculated t-value of 9.3071 at df = 98 was statistically significant, indicating a highly significant improvement in knowledge. Similar results were observed in studies evaluating the effectiveness of SIMs on menstrual hygiene knowledge among adolescent girls ⁽¹⁵⁾

Association with Demographic Variables

Chi-square analysis revealed a significant association between knowledge levels and age ($\chi^2 = 18.68$, $p = 0.009$), suggesting that older adolescents had better knowledge. Additionally, father's occupation showed a significant association ($\chi^2 = 9.488$, $p = 0.048$), indicating that participants whose fathers were employed in government sectors had higher knowledge levels. However, no significant associations were found with religion, type of family, or food habits.

V. Conclusion

The study concludes that the self-instructional module was effective in enhancing the menstrual hygiene knowledge among adolescent girls. The significant improvement in knowledge underscores the importance of targeted educational interventions in promoting menstrual health. Given the cultural taboos and stigma surrounding menstruation in India, such educational programs are crucial in empowering young girls with the necessary knowledge to manage their menstrual health effectively. Future studies could explore the long-term impact of such interventions and their influence on actual menstrual hygiene practices.

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