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### A quasi-experimental study to evaluate the knowledge on menstrual hygiene by structured teaching programme among adolescent girls in a selected government school at Jalandhar, Punjab, India

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#### Abstract

A quasi-experimental study was undertaken to assess the knowledge on menstrual hygiene by structured teaching programme among adolescent girls in selected government school at Jalandhar, Punjab, India.

#### Objectives

1. To assess the knowledge on menstrual hygiene among adolescent girls.
2. To provide structured teaching programme on menstrual hygiene among adolescent girls.
3. To find out the association between the menstrual hygiene with selected sociodemographic variables among adolescent girls.

**Methodology:** A quantitative research approach with Quasi experimental research design was used in this study. Research setting was selected government school, Jalandhar, Punjab, India. Total 60 samples were selected with Non-probability purposive sampling technique. Verbal consent was taken from the students (adolescent girls) in selected government school. Self-structured tool was used to assess the knowledge among the adolescent girls and structured teaching programme was conducted on menstrual hygiene.

**Results and Conclusion:** The major findings of the study revealed that the analysis of comparison of pre-test and post-test level of knowledge on adolescent girls regarding menstrual hygiene depicted, pre-test result was  $18.12 \pm 1.87$  and post-test was  $33.67 \pm 3.47$ . Hence, the findings revealed a significant improvement in the knowledge level after the intervention.

**Keywords:** Menstruation, menstrual hygiene, adolescent girls and knowledge

#### Introduction

"Learning is not attained by chance, it must be sought for with ardour and attended to with diligence"

-Abigail Adams <sup>[1]</sup>

Menstruation is a natural biological process in females of reproductive age, where the uterus sheds its lining, resulting in bleeding. This cycle typically repeats every 28 days, preparing the uterus for potential pregnancy <sup>[2]</sup>. Hormonal changes regulate the menstrual cycle. Understanding menstruation is essential for reproductive health and menstrual hygiene.

In India, however, menstruation remains shrouded in taboos, myths, and misconceptions. These societal norms have significant implications for menstrual hygiene, health, and education.

- **Taboos and Challenges-Stigma and Silence:** Menstruation is often considered a "private" or "impure" topic, leading to silence and stigma around it.
- **Lack of Education:** Many girls and women lack access to accurate information about menstruation, leading to misconceptions and poor hygiene practices.
- **Limited Access to Products:** Sanitary products are

often unaffordable or inaccessible, particularly in rural areas <sup>[3]</sup>.

**According to the National Family Health Survey (NFHS-5):** Only 58% of women in India use hygienic methods of menstrual protection <sup>[4]</sup>.

**A study by the World Health Organization (WHO):** Found that approximately 1 in 5 girls in India drop out of school after reaching puberty due to lack of menstrual hygiene facilities and stigma <sup>[5]</sup>.

#### Materials and Methods

- **Research approach:** Quantitative research approach
- **Research design:** Quasi-experimental design
- **Setting of the study:** Government school, Jalandhar, Punjab, India.
- **Sampling technique:** Non-probability purposive sampling technique.
- **Sample size:** 60 students.
- **Target population:** Adolescent girls of age group 11-19 years.
- **Study population:** Adolescent girls attending government school, Jalandhar, Punjab, India.

- **Description of tool:** Self-structured tool was formed to assess the knowledge regarding menstrual hygiene among adolescent girls. The tool was developed in the following way: (consist of 2 parts).

### Part I: Sociodemographic variables

This part includes socio demographic variable of the participant. Socio demographic variables include age, socioeconomic status, family, current academic class, duration of menstrual cycle, sanitary product, sleeping pattern, physical activity.

### Part-B: Self structured tool

This scale standard rating scale to assess the knowledge on menstrual hygiene among adolescent girls. It includes 15 individual items and create 3 components: knowledge and awareness, access and availability, and social and cultural factors. The maximum score was 75 and the minimum score was 15. The level of knowledge was poor (15-35), average

(36-55) and adequate (56-75).

**Reliability of the tool:** The reliability of Self-structured tool was computed by apply Test Retest method using Karl Pearson correlational coefficient formula <sup>[6]</sup>. The reliability for the Self-structured scale was  $r=0.7$ . Hence, the tool was found to be reliable and feasible for the purpose of study.

### Results

Using both descriptive and inferential statistics, the analysis was completed.

**Findings related to sociodemographic variables by using frequency and percentage:** Indicates that students were distributed in various categories according to age (in years), socioeconomic status, family, current academic class, duration of menstrual cycle, sanitary product, sleeping pattern, physical activity in a day.

**Table 1:** Frequency and percentage distribution of adolescent girls (students) according to socio demographic variables, N=60

Sr. No.	Socio demographic variables	Frequency (F)	Percentage (%)
1.	<b>Age ( in years )</b>		
	• 14 or younger	01	1.70
	• 15	08	13.30
	• 16	22	36.60
	• 18 or above	29	48.40
2.	<b>Academic class</b>		
	• Class VI	00	00
	• Class VII	30	50
	• Class VIII	30	50
3.	<b>Socioeconomic status</b>		
	• Below poverty line	40	66.70
	• Above poverty line	20	33.30
4.	<b>Type of family</b>		
	• Nuclear family	35	58.40
	• Joint family	25	41.60
5.	<b>Physical activity in a day</b>		
	• <30 min	38	63.40
	• 30-60 min	20	33.40
	• 60-90 min	00	00
	• >90 min	02	3.20
6.	<b>Duration of menstrual cycle</b>		
	• 28 days	05	8.40
	• 30-32 days	50	83.40
	• 34 days or above	05	8.20
7.	<b>Do you have difficulty staying asleep?</b>		
	• Never	12	20
	• Sometime	41	68.30
	• Often	07	11.70
	• Always	00	00
8.	<b>Use of sanitary products</b>		
	• Never	22	36.70
	• Sometime	30	50
	• Often	06	10
	• Always	02	33.30

**Results pertaining knowledge of adolescent girls on menstrual hygiene:** Pre-test and post-test level of

knowledge was calculated using Sturat-Maxwell test/ generalized McNamara's chi-square test <sup>[7]</sup>.

**Table 2:** Shows comparison of overall knowledge before and after the administration of standard teaching programme, N=60

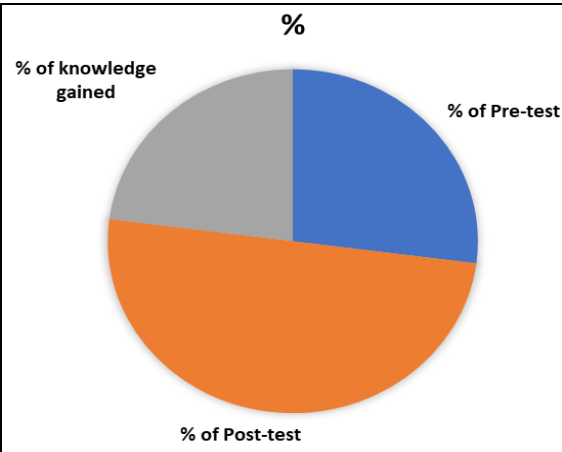
Pre-test Mean $\pm$ SD	Post-test Mean $\pm$ SD
18012 $\pm$ 1.87	33.67 $\pm$ 3.47

Significant at  $p \leq 0.05$  highly significant at  $p \leq 0.01$  very high significant at  $p \leq 0.001$

**Table 3:** Showing percentage distribution of knowledge in pre-test, post-test and the gain

% of Pre-test	% of Post-test	% of knowledge gained
45.3%	83.7%	38.4%

Prior to the implementation of STP, 71.7% of adolescent girls had average knowledge, 28.3% had poor knowledge, and none had appropriate understanding. Following the implementation of STP, 85% of adolescent girls had adequate knowledge, 15.0% had average knowledge, and none had poor understanding.



**Fig 1:** Percentage distribution of knowledge among adolescent girls

**Table 3:** Show comparison of pre-test and post-test level of knowledge

Level of knowledge	Pre-test		Post-test	
	N	%	N	%
Poor knowledge	17	28.3	0	0.0
Average knowledge	43	71.7	9	15.0
Adequate knowledge	0	0.0	51	85.0

**Conclusion**

The present study was done on 60 adolescent girls to assess the knowledge regarding menstrual hygiene in Government school, Jalandhar, Punjab, India. The major findings of the study revealed that the analysis of comparison of pre-test and post-test level of knowledge on adolescent girls regarding menstrual hygiene depicted, pre-test result was  $18.12 \pm 1.87$  and post-test was  $33.67 \pm 3.47$ . Hence, the findings revealed a significant improvement in the knowledge level after the intervention i.e. 38.4%.

**Conflict of Interest**

Not available

**Financial Support**

Not available

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