

Impact of a Structured Teaching Programme on Knowledge Regarding Leukorrhea among Female Teenagers

Tage Pinky¹, Rikynti Nongkynrih², Laldinpuii Sailo³

¹M.Sc. Nursing (Obstetrics and Gynaecological Nursing), College of Nursing, Regional Institute of Paramedical and Nursing Sciences (RIPANS), Zemapaw, Aizawl, Mizoram, India
Email: Nanatage5[at]gmail.com

²Assistant Professor, Asian Institute of Nursing Education, Guwahati, Assam, India
Email: rikyntinongkynrih[at]gmail.com

³Tutor, College of Nursing, Regional Institute of Paramedical and Nursing Sciences (RIPANS), Zemapaw, Aizawl, Mizoram, India
Email: laldinpuiisailo09[at]gmail.com

Abstract: Background: The teenage period is characterized by significant physical, hormonal, and reproductive changes. Leukorrhea is a common condition among teenagers and it may be physiological or pathological. Insufficient knowledge regarding leukorrhea, reproductive health, and genital hygiene can lead to misconceptions, delayed treatment-seeking behaviour, and an increased risk of reproductive tract infections. School-based health education programmes play an important role in improving awareness and promoting healthy reproductive health practices among female teenagers. Objective: To assess the pre-test and post-test level of knowledge regarding leukorrhea among teenagers in a selected school, Aizawl. To determine the impact of a Structured Teaching Programme on knowledge regarding leukorrhea among female teenagers in a selected school, Aizawl. Methods: A quantitative quasi-experimental one-group pre-test and post-test design was adopted among 138 female teenagers aged 13–18 years studying at PM Shri Kendriya Vidyalaya School, Zemapaw, Aizawl. Participants were selected using a non-probability purposive sampling technique. Data were collected using a structured knowledge questionnaire. A Structured Teaching Programme on leukorrhea was administered after the pre-test, followed by a post-test. Data were analysed using descriptive and inferential statistics. Results: The mean post-test knowledge score (17.02 ± 2.18) was significantly higher than the mean pre-test score (10.54 ± 4.14). The calculated paired t-test value was 17.59 ($p=0.001$), indicating a statistically significant improvement in knowledge regarding leukorrhea among the participants. Conclusion: The Structured Teaching Programme was effective in improving knowledge regarding leukorrhea among female teenagers. A structured teaching programme can enhance reproductive health awareness and promote healthy practices among female teenagers.

Keywords: Leukorrhea, Structured Teaching Programme, Knowledge, Female Teenagers, Reproductive Health, Health Education

1. Introduction

Teenage is a period of significant physical, hormonal, and emotional changes, marked by the onset of puberty and the development of sexual maturity. During this stage, young individuals experience the maturation of the reproductive system, including the onset of menstruation (menarche) in females, and various other physiological changes. [1]

Leukorrhea is one of the most common gynecological complaints among teenage girls and women of reproductive age. It refers to an increase in vaginal discharge, typically clear or white in color. Although physiological leukorrhea is a normal occurrence during adolescence, distinguishing it from pathological vaginal discharge is essential for early recognition and appropriate management. Reproductive health is a cornerstone of women's overall well-being; however, it is often overlooked or inadequately addressed in many societies. [2,3]

In India, the prevalence of leukorrhea ranges from 24.6% to 66.9%, indicating that it remains a significant reproductive health concern among women. [4] Despite its high prevalence, awareness regarding leukorrhea is often neglected because many girls feel embarrassed to discuss reproductive health due to cultural beliefs, social stigma, misconceptions,

and limited access to accurate health information. [3,5]

Inadequate knowledge regarding genital hygiene and reproductive health increases the risk of reproductive tract infections, delays timely treatment-seeking behaviour, and negatively impacts overall well-being. Previous studies have shown that teenagers possessing sufficient reproductive health awareness are more inclined to engage in healthy hygiene behaviours and pursue prompt medical attention. [6,7] Therefore, improving knowledge regarding leukorrhea through educational interventions is essential to promote appropriate health-seeking behaviour among teenagers. [8]

School-based health education programmes provide an ideal platform to deliver accurate reproductive health information to a large number of female teenagers during a critical developmental period. Such programmes facilitate the delivery of essential reproductive health information in a systematic and accessible manner. [9,10]

Educational interventions are commonly acknowledged as cost-effective methods for enhancing health knowledge among teenagers in school. Considering the increasing necessity for reproductive health education among teenagers, this study was conducted to evaluate the impact of a Structured Teaching Programme on knowledge regarding

leukorrhea among female teenagers in a selected school in Aizawl.

2. Objectives

- To assess the pre-test and post-test level of knowledge regarding leukorrhea among teenagers in a selected school, Aizawl.
- To determine the impact of a structured teaching programme on knowledge regarding leukorrhea among female teenagers in a selected school, Aizawl.

3. Materials and Methods

A quantitative quasi-experimental one-group pre-test and post-test design was adopted. The study was conducted among 138 female teenagers aged 13–18 years studying at PM Shri Kendriya Vidyalaya School, Aizawl. Participants were selected using a non-probability purposive sampling technique. Data collection was conducted from 13 April 2026 to 21 April 2026. The pre-test was administered on 13 April 2026 using a structured knowledge questionnaire, followed by the structured teaching programme. Eight days after the intervention, the post-test was conducted on 21 April 2026 using the same structured questionnaire to evaluate the impact of structured teaching programme on knowledge regarding leukorrhea. Data were analysed using descriptive and inferential statistics.

Ethical approval was obtained from the Institutional Ethics Committee of RIPANS, Aizawl. Written informed consent was obtained from parents/guardians and permission was secured from the school authorities.

The content validity of the structured knowledge questionnaire and lesson plan on Structured Teaching Programme was established by experts in Obstetrics and Gynaecological Nursing. The reliability of the structured knowledge questionnaire was assessed using the Split-Half method. The Spearman-Brown coefficient was 0.753, and the Guttman Split-Half coefficient was 0.738, indicating acceptable reliability of the tool.

Sampling Criteria

Inclusion Criteria

- Teenagers aged between 13-18 years.
- Female students studying in PM Shri Kendriya Vidyalaya School, Zemabawk, Aizawl.
- Students who are willing to participate and whose parents/guardian gave consent.

Exclusion Criteria

- Students who were unavailable during the study period.

Variables

Independent variables- Structured teaching programme regarding leukorrhea

Dependent variables- Knowledge regarding leukorrhea

4. Results

Data were collected from 138 female teenagers aged 13-18 years in order to assess the impact of a structured teaching program on knowledge regarding leukorrhea among female teenagers studying in PM Shri Kendriya Vidyalaya School, Zemabawk, Aizawl.

Table 1: Frequency and percentage distribution of demographic variables of female teenagers, n =138

Sl. No.	Demographic Variables	Frequency	Percentage
1	Age in years		
	a. 13-14	43	31.2
	b. 15-16	64	46.4
	c. 17-18	31	22.4
2	Religion		
	a. Hindu	12	8.7
	b. Muslim	2	1.4
	c. Christian	123	89.2
	d. Buddhism	1	0.7
3	Educational level		
	a. 8 th std	35	25.4
	b. 9 th std	34	24.6
	c. 10 th std	35	25.4
	d. 11 th std	-	-
	e. 12 th std	34	24.6
4	Monthly Family Income		
	a) ≤ ₹7,988	10	7.2
	b) ₹7,989 – ₹23,869	23	16.7
	c) ₹23,870 – ₹39,829	38	27.5
	d) ₹39,830 – ₹79,755	48	34.8
	e) ≥ ₹79,756	19	13.8
5	Source of information		
	a) Mass media (TV, Newspaper, Social media, Internet, etc.)	77	55.8
	b) Through friend	9	6.5
	c) Through family	21	15.2
	d) No information	24	17.4
	e) Other source	7	5.1

Table 1 shows the frequency and percentage distribution of demographic variables of female teenagers. Among the 138 female teenagers, the majority (46.4%) were aged 15–16 years. Most participants were Christians (89.2%). The educational level was nearly uniformly distributed among grades 8, 9, 10, and 12. The highest percentage (34.8%) was attributed to the monthly family income of ₹39,830–₹79,755. The majority of participants (55.8%) reported that their main source of information about leukorrhea was the mass media.

Table 2: Frequency and percentage distribution of the female teenagers according to their pre-test and post-test level of knowledge regarding leukorrhea, n=138

Level of Knowledge	Pre-Test		Post-Test	
	f	%	f	%
Low Knowledge	72	52.2	0	0
Moderate knowledge	66	47.8	29	21
High Knowledge	0	0	109	79

Table 2 depicts the frequency and percentage distribution of female teenagers according to their pre-test and post-test level of knowledge regarding leukorrhea. In the pre-test, 52.2% of participants exhibited limited knowledge, while 47.8% had

moderate understanding of leukorrhea. After the implementation of the structured teaching programme, 79.0% showed higher-level knowledge, whereas 21.0% displayed moderate knowledge, indicating a significant enhancement in knowledge levels among the female teenagers

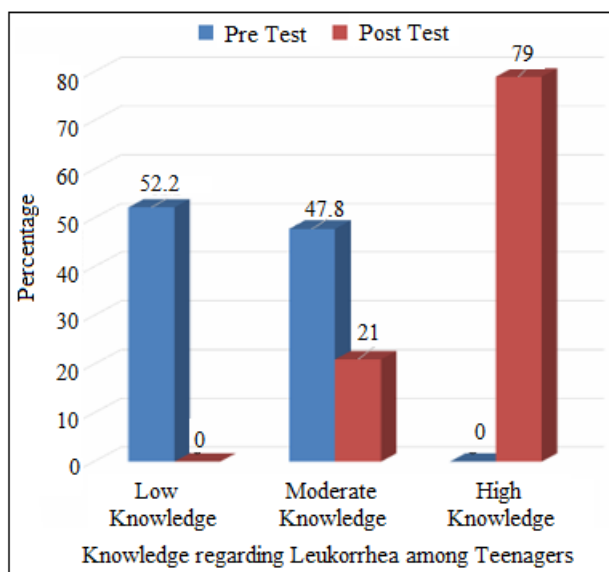


Figure 2: Diagram showing Pre-test and post-test level of knowledge regarding Leukorrhea among teenagers

Table 3: Comparison of mean pre-test and post-test knowledge score regarding leukorrhea among female teenagers, n = 138

Impact	Pre-test Mean (SD)	Post-test Mean (SD)	Mean D	t value	df	P value
Knowledge	10.54 (4.14)	17.02 (2.18)	6.47	17.59	137	0.001*

* $p < 0.05$ level of significance

Table 3 reveals the comparison of mean pre-test and post-test knowledge scores regarding leukorrhea among female teenagers. The findings reveal that mean post-test knowledge score (17.02 ± 2.18) was significantly greater than the mean pre-test score (10.54 ± 4.14), resulting in a mean difference of 6.47. The paired t-test indicated a statistically significant enhancement in knowledge after the Structured Teaching Programme ($t = 17.59$, $df = 137$, $p = 0.001$), confirming that the structured teaching programme was effective in improving the knowledge among the female teenagers.

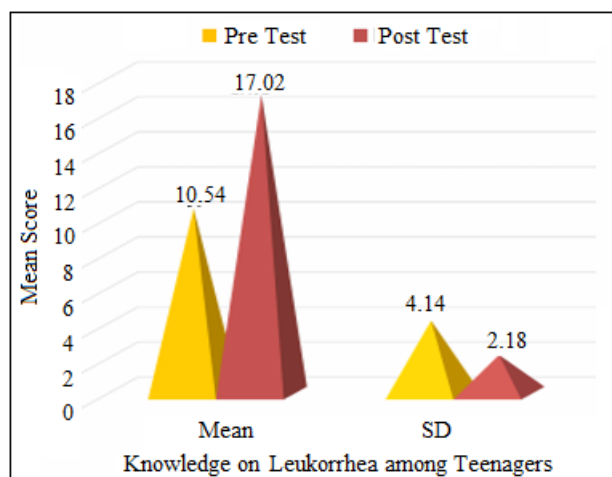


Figure 3: Diagram showing Mean and SD of pre-test and post-test Knowledge on Leukorrhea among teenagers

5. Discussion

The present study was conducted to assess the impact of a Structured Teaching Programme on knowledge regarding leukorrhea among female teenagers in a selected school, Aizawl. The findings revealed that the majority of participants had inadequate knowledge regarding leukorrhea before the intervention. In the pre-test assessment, 72 (52.2%) participants had low knowledge and 66 (47.8%) had moderate knowledge regarding leukorrhea, while none of the participants demonstrated high knowledge. These findings suggest that female teenagers possessed limited awareness regarding reproductive health issues, particularly leukorrhea, highlighting the need for appropriate structured teaching programmes. Following the Structured Teaching Programme, a substantial improvement in knowledge was observed. The post-test findings showed that 109 (79.0%) participants attained high knowledge and 29 (21.0%) demonstrated moderate knowledge regarding leukorrhea. The effectiveness of the intervention was further confirmed by the paired t-test analysis. The mean post-test knowledge score (17.02 ± 2.18) was significantly higher than the mean pre-test score (10.54 ± 4.14), with a mean difference of 6.47. The obtained t-value of 17.59 was statistically significant at $p = 0.001$. These findings indicate that the Structured Teaching Programme was effective in improving knowledge regarding leukorrhea among female teenagers.

The findings of the present study are consistent with those reported by Chauhan et al. (2020), who conducted a quasi-experimental study among 100 school girls and found that the mean knowledge score increased from 17.30 in the pre-test to 29.74 in the post-test, showing a mean percentage increase of 43.30%. The study also reported that 73% of participants achieved good knowledge after the intervention.

Likewise, Gardia et al. (2021) conducted a pre-experimental study among 60 students and reported that the mean post-test knowledge score (25.83 ± 1.65) was significantly higher than the mean pre-test score (15.50 ± 5.70), with a statistically significant t-value of 3.04.

Similarly, Mohan MM (2025) conducted a study among 150 adolescent girls in selected schools in Mumbai and reported a significant improvement in knowledge regarding leukorrhea following a Structured Health Programme ($t = 13.48$, $p < 0.05$). These findings are consistent with the present study and further support the effectiveness of school-based health education in improving knowledge regarding leukorrhea.

5. Limitation

- The study did not evaluate the retention of knowledge improvements over a longer period of time.
- The study lacked a control group, potentially introducing the risk of bias in the results.

6. Conclusion

The present study concluded that female teenagers had inadequate knowledge regarding leukorrhea before the implementation of the Structured Teaching Programme.

Following the intervention, a significant improvement in knowledge was observed among the participants. The mean post-test knowledge score was considerably higher than the mean pre-test knowledge score, indicating the effectiveness of the Structured Teaching Programme. The findings demonstrate that structured health education is an effective strategy for improving knowledge regarding leukorrhea among female teenagers. Therefore, structured teaching programmes should be encouraged to promote healthy personal hygiene practices and prevent reproductive health problems among teenagers. The study emphasizes the importance of providing accurate reproductive health information during teenage period to foster positive health-seeking behaviour and improve overall reproductive health outcomes.

7. Future scope

Further studies involving larger sample size are recommended to improve the generalizability of the findings on the impact of structured teaching programme on knowledge regarding leukorrhea among female teenagers.

Conflict of interest

The authors declare that there is no conflict of interest.

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