RESEARCH PAPER

Effectiveness of Structured Teaching Programme on Knowledge Regarding Leucorrhea among Women Residing in Selected Rural Areas: A Quasi Experimental Study

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ABSTRACT

Introduction: Everybody's existence includes a female in some capacity—as a mother, wife, sister, or daughter. Throughout their post-reproductive years, they must deal with a variety of health issues. Chronic illnesses including pelvic discomfort and incontinence could affect them. These issues are more prevalent among low and middle-income girls, especially in areas where fertility is high and women lack access to high-quality health care.

Background: Leukorrhea or (leucorrhoea British English), also known as fluor albus, is a thick, whitish, yellowish or greenish vaginal discharge. It has also been referred to as "the whites" In this study, Leukorrhea or (leucorrhoea British English), also known as fluor albus, is a thick, whitish, yellowish or greenish vaginal discharge. It has also been referred to as "the whites"

Objective: To assess the effectiveness of Structured Teaching Programme on Knowledge regarding Leucorrhea among women residing in selected rural areas.

Methods: A quasi-experimental one group pre-test post-test design was employed at a selected rural area. Using non-probability convenience sampling, 60 women residing in selected rural areas were selected. Data were collected using a semi-structured demographic questionnaire, a self- administered knowledge questionnaire. The study was grounded in 'Open system theory by Ludwig Von Bertalanffy and J. W. Kenny'

Results: With regards to the assessment of level of knowledge regarding Leucorrhea among women residing in selected rural areas.Minimum knowledge score in pre-test was 7 and maximum knowledge score in pre-test was 17. Mean knowledge score in pre-test was 12.53 ± 2.67 and mean percentage of knowledge score in pre-test was 41.77 ± 8.92. Minimum knowledge score in post-test was 15 and maximum knowledge score in post-test was 26. Mean knowledge score in post-test was 19.10 ± 2.88 and mean percentage of knowledge score in post-test was 63.66 ± 9.60

Conclusion: The intervention significantly improved women knowledge levels, shifting knowledge from predominantly poor to good. Mean scores more than doubled, demonstrating the program's effectiveness.This suggests that structured teaching programme has remain an essential component of community teaching.

Key words: : Leukorrhea, women, selected rural area.

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INTRODUCTION

Women's health encompasses unique challenges tied to their reproductive and sexual wellbeing. Women face disproportion in reproductive health issues that varies based on socio-economic status, education level, age, ethnicity, religions and resources available.[1]

Leucorrhea refers to a dense, milky or yellow discharge from the vagina, typically associated with hormonal imbalances, especially involving estrogen. This discharge can increase due to infections and may alternate in presence. When persistent, it can become yellow and foul-smelling, usually indicating inflammatory conditions of the vagina or cervix. While physiological leukorrhea is common in adolescents and newborns, discharge that is yellow or green, has a bad odor, and is accompanied by irritation or pain may indicate infection.[2].

One in ten women will present with vaginal discharge in the course of a year. Almost every fourth woman in gynaecological out-patient department has the complaint of vaginal discharge.[3] Leucorrhea may occur during pregnancy and is considered normal

when the discharge is thin, white, and relatively odorless. Physiologic Leucorrhea is anormal condition occurring within several months to a year of the onset of menses in adolescent girls and is sometimes present in newborn girls, usually lasting one to two months.[4]

Most of the time, vaginal discharge is considered perfectly normal. The amount of the discharge varies, as can hue (the color ranges from transparent to milky-white) and odor, depending on the menstrual cycle timings.[5]Globally, Leucorrhoea occurs in 1-14% of all the women in the reproductive age group and is responsible for 5- 10 million OPD visits per year the prevalence of excessive vaginal discharge in India is estimated to be 30%.[6]. Loose fitting undergarments preferably cotton made should be used by the patients to keep the area aerated. Local hygiene is to be taken care of and sanitation should be maintained always.[8]

Need of the Study

Leucorrhoea is one of the common reproductive health concerns among women of reproductive age. Reproductive tract infections contribute significantly to morbidity among women and may affect their physical, psychological, and social well-being. The high proportion of women in the reproductive age group in India highlights the importance of addressing reproductive health problems through awareness, early identification, and appropriate treatment. Leucorrhoea may occur due to physiological changes or underlying reproductive tract infections and other gynecological conditions. Therefore, understanding its causes, signs and symptoms, prevention, and treatment is essential for maintaining reproductive health.

Previous studies have reported varying levels of knowledge regarding leucorrhoea among women. One study found that 60% of participants had average knowledge, 27.5% had good knowledge, and 12.5% had poor knowledge regarding the condition and its prevention. Another study reported inadequate knowledge among a majority of women. These findings highlight the need to improve awareness regarding leucorrhoea and appropriate healthcare-seeking practices.

Nurses play an important role in reproductive health education, early identification of symptoms, and prevention of complications through community-based health programmes. Therefore, the present study is undertaken to assess the effectiveness of a structured teaching programme on knowledge regarding leucorrhoea among women in selected rural areas. The findings may help identify knowledge gaps and strengthen reproductive health education.

Scholar's View

The scholar believes that leucorrhoea is an important reproductive health concern requiring adequate awareness and timely healthcare-seeking behaviour among women. Limited knowledge regarding its causes, manifestations, prevention, and treatment may delay appropriate medical consultation and increase the risk of complications when an underlying infection is present. The findings of previous studies indicate that many women possess average or inadequate knowledge regarding leucorrhoea. Therefore, a structured teaching programme may be useful in improving women's understanding of the condition and encouraging appropriate preventive practices. The present study aims to evaluate changes in knowledge following the educational intervention among women residing in selected rural areas.

Aim of the Study

To assess the effectiveness of a Structured Teaching Programme on knowledge regarding leucorrhoea among women residing in selected rural areas.

RESEARCH METHODOLOGY

Research Objectives

1. To assess the pre-test level of knowledge regarding leucorrhoea among women residing in selected rural areas.
2. To assess the post-test level of knowledge regarding leucorrhoea among women residing in selected rural areas.
3. To evaluate the effectiveness of the Structured Teaching Programme by comparing pre-test and post-test knowledge scores.
4. To determine the association between post-test knowledge scores and selected demographic variables.

Research Approach and Type: Quantitative evaluative research approach.

Research Design: Quasi-experimental, one-group pre-test–post-test design.

Study Setting: Selected rural areas.

Sample and Sample Size: 60 women residing in selected rural areas.

Sampling Technique: Non-probability convenience sampling technique.

Tool Description: The data collection tool consisted of two sections: Section I included a semi-structured demographic questionnaire, and Section II included a self-administered structured knowledge questionnaire on leucorrhoea. The knowledge questionnaire contained 30 items covering the meaning, causes,

signs and symptoms, prevention, and management of leucorrhoea.

Validity: The questionnaire and Structured Teaching Programme were reviewed by 30 experts, of whom 21 submitted completed validation responses. These included 18 Medical-Surgical Nursing specialists, two statisticians, and one physician.

Reliability: The knowledge questionnaire was tested among 16 adults using Karl Pearson's correlation coefficient, yielding a reliability coefficient of r = 0.9674, indicating high reliability.

Pilot Study: The document does not specify the details of a pilot study; therefore, its conduct cannot be confirmed from the available information.

Data Collection Procedure: Pre-test knowledge was assessed, followed by administration of the Structured Teaching Programme. A post-test was conducted using the same questionnaire to assess changes in knowledge.

Statistical Analysis: Frequency, percentage, mean, standard deviation, paired t-test, independent-samples t-test, and one-way ANOVA were specified for data analysis, as appropriate

RESULTS

The results of the study titled "Effectiveness of Structured Teaching Programme on Knowledge Regarding Leucorrhea Among Women Residing in Selected Rural Areas: A Quasi-Experimental Study" are presented below. A total of 60 women participated in the study. The findings are organized into three parts: pre-test knowledge, comparison of pre-test and post-test knowledge scores, and the effectiveness of the Structured Teaching Programme. Demographic and association tables are excluded, as requested.

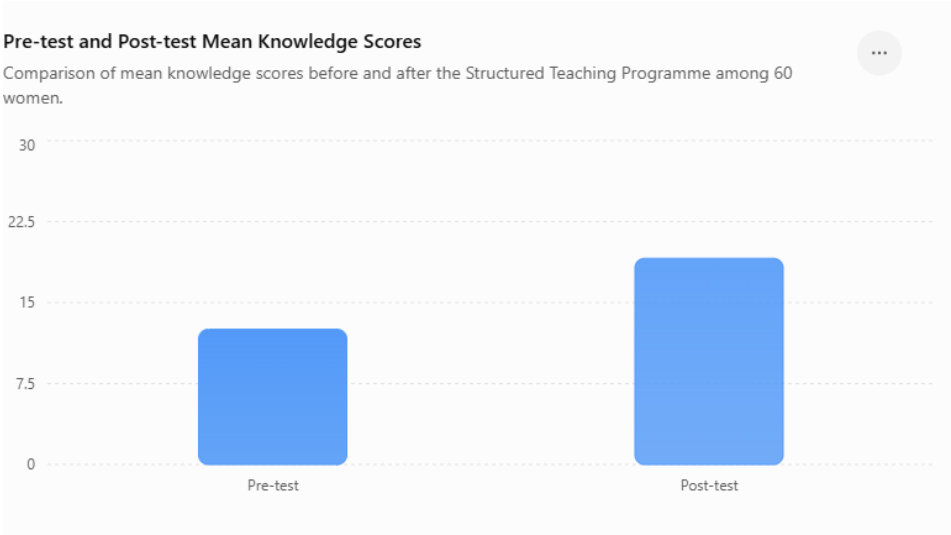
Table 1. Distribution of participants according to pre-test and post-test knowledge levels

Knowledge level	Score range	Pre-test, n (%)	Post-test, n (%)
Poor	0–6	0 (0%)	0 (0%)
Average	7–12	28 (46.67%)	0 (0%)
Good	13–18	32 (53.33%)	29 (48.33%)
Very good	19–24	0 (0%)	28 (46.67%)
Excellent	25–30	0 (0%)	3 (5.00%)
Total		60 (100%)	60 (100%)

Source: Study data.

Interpretation: During the pre-test, 32 (53.33%) women had good knowledge and 28 (46.67%) had average knowledge regarding leucorrhoea. In the post-test, 29 (48.33%) women had good knowledge, 28 (46.67%) had very good knowledge, and 3 (5%) had excellent knowledge. No participants remained in the average or poor knowledge categories after the intervention. These findings indicate an improvement in knowledge following the Structured Teaching Programme.

Figure 1. Comparison of pre-test and post-test mean knowledge scores



Pre-test and Post-test Mean Knowledge Scores

Comparison of mean knowledge scores before and after the Structured Teaching Programme among 60 women.

Interpretation: The mean knowledge score increased from 12.53 in the pre-test to 19.10 in the post-test, showing an improvement of 6.57 points based on the reported means. The figure demonstrates an increase in knowledge following the teaching intervention.

Table 2. Comparison of pre-test and post-test mean knowledge scores to evaluate the effectiveness of the Structured Teaching Programme

Assessment	Mean	SD	Mean difference	t value	df	p value
Pre-test	12.53	2.67				
Post-test	19.10	2.88	6.56 ± 4.09*	12.41	59	0.0001

The reported mean difference is 6.56 ± 4.09. The difference between the displayed rounded means is 6.57. Source: Study data.

Interpretation: The paired t-test revealed a statistically significant difference between pre-test and post-test knowledge scores (t = 12.41, df = 59, p = 0.0001). The post-test mean score (19.10 ± 2.88) was higher than the pre-test mean score (12.53 ± 2.67). Since the p value was below 0.05, the improvement was statistically significant. Therefore, the findings support the effectiveness of the Structured Teaching Programme in improving knowledge regarding leucorrhoea among women residing in selected rural areas.

The study findings indicate that knowledge regarding leucorrhoea improved following the Structured Teaching Programme. Before the intervention, 46.67% of participants had average knowledge and 53.33% had good knowledge. After the intervention, 48.33% had good knowledge, 46.67% had very good knowledge, and 5% had excellent knowledge. The mean knowledge score increased from 12.53 to 19.10, with a statistically significant difference (t = 12.41, p = 0.0001). These findings support the effectiveness of the educational intervention.

Note: The source document contains a discrepancy between the reported mean difference (6.56) and the difference calculated from the displayed means (6.57). Verify the original statistical output before final journal submission.

DISCUSSION

The present study was conducted to assess the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding leucorrhea among women residing in selected rural areas. A total of 60 women participated in the study. A quantitative evaluative approach was adopted, using a quasi-experimental one-group pre-test and post-test research design to evaluate the change in knowledge following the structured teaching programme.

The findings revealed an improvement in the knowledge level of women after the implementation of the STP. In the pre-test, 28 (46.67%) women had an average level of knowledge, while 32 (53.33%) women had a good level of knowledge. No participants were classified in the poor, very good, or excellent knowledge categories. These findings indicated that, before the intervention, most participants had average or good knowledge regarding leucorrhea.

Following the structured teaching programme, the post-test results demonstrated a positive shift in knowledge levels. Among the 60 participants, 29 (48.33%) achieved a good level of knowledge, 28 (46.67%) achieved a very good level, and 3 (5%) achieved an excellent level. No participants remained in the poor or average knowledge categories. This improvement suggests that the teaching programme helped participants gain a better understanding of leucorrhea.

The comparison of mean knowledge scores further supported these findings. The pre-test mean score was 12.53, with a standard deviation of 2.67, whereas the post-test mean score increased to 19.10, with a standard deviation of 2.88. The reported paired *t*-value was 12.41 with 59 degrees of freedom, and the *p*-value was 0.0001, indicating a statistically significant difference between pre-test and post-test knowledge scores.

Overall, the findings demonstrate that the Structured Teaching Programme was effective in improving knowledge regarding leucorrhea among women in the selected rural areas. Health education may therefore be a useful strategy for increasing awareness and promoting appropriate health practices related to leucorrhea among rural women.

CONCLUSION

Interpretation of the Effectiveness of the Structured Teaching Programme

This section deals with the assessment of the effectiveness of the Structured Teaching Programme (STP) on knowledge regarding leucorrhea among women residing in selected rural areas. The participants' knowledge levels were categorized as poor, average, good, very good, and excellent.

The findings revealed that the minimum and maximum pre-test knowledge scores were 7 and 17, respectively. The mean pre-test knowledge score was

12.53 ± 2.67, with a mean percentage score of 41.77 ± 8.92. These findings indicated the participants' level of knowledge before the implementation of the Structured Teaching Programme.

In the post-test, the minimum knowledge score increased to 15, while the maximum score increased to 26. The mean post-test knowledge score was 19.10 ± 2.88, with a mean percentage score of 63.66 ± 9.60. The increase in the mean knowledge score from 12.53 to 19.10 indicates an improvement in knowledge following the educational intervention.

The statistical analysis showed a paired t-value of 12.41 with 59 degrees of freedom and a p-value of 0.0001, demonstrating a statistically significant difference between the pre-test and post-test knowledge scores. Therefore, the findings indicate that the Structured Teaching Programme was effective in improving knowledge regarding leucorrhea among women residing in selected rural areas.

Hence, the research hypothesis (H_1) is accepted, and the null hypothesis (H_0) is rejected, supporting the effectiveness of the Structured Teaching Programme.

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Conflict of interest: There are no conflicts of interest.

REFERENCES

1. Sharma A. A pre-experimental study to assess the effectiveness of structured teaching program on leucorrhoea among nursing students in HGPI KalaAmb. International Journal of Advanced Nursing Management. 2017;5(4):331-335. doi:10.5958/2454-2652.2017.00070.1
2. Gardia T, Rajput V, Bhatt P, Menon SA. Effectiveness of planned teaching programme on knowledge regarding leucorrhoea and its prevention among B.Sc nursing students studying in selected nursing college Bhilai, Chhattisgarh. International Journal of Nursing Education and Research. 2021:434-440. doi:10.52711/2454-2660.2021.00100.
3. Bhatia, BhatiaJC, Cleland Bhagavan L, Rao NS. Levels and determinants of gynecological morbidity in a district of south India. Stud Fam Plann. 19997; 28:95-103.
4. Leucorrhea (online) 2012 (cited 14 Oct 2012). Available from http://en.wikipedia.org/wiki/leucorrhoea.
5. Leucorrhea introduction retrieved on 4 December 2020]. Available from: https://en.wikipedia.org/wiki/Leukorrhea.
6. Sivakumar K, Ajay RS, Sujatha KA. Comparative interventional study on the efficacy of single and multiple-dose combination drug regimen of leucorrhea among women in the reproductive age group. InternationalJournalofCommunityMedicineandPublicHealth.2017 Apr;4(4):1230-7.
7. Leucorrhoea: Causes, symptoms, diagnosis, treatment and prevention [Internet]. Updated: 2019 December 24 [cited 2020 March 30]. Available from: https://www.thehealthsite.com/diseasesconditions/diseases-conditions-womens-health/leucorrhoea-causes-symptoms-diagnosis-treatment-and-prevention238988/
8. Ambler DR, Bieber EJ, Diamond MP. Sexual function inelderlywomen: a review of current literature. Reviews in Obstetrics and Gynecology. 2012;5(1):16.
9. Female population India. [online]2010[cited 21st Aug, 2010]. Available from: http//wikigender.org/index.php/women_andmen_india_2010.
10. Kulkarni RN. A study of leucorrhoea in reproductive age group women of Nagpur City. IJ PH (internet);[2005 Oct-Dec]; [cited 27];49(4):238-9.
11. Lal V, Sumathi M. A Descriptive Study to Assess The Level of Knowledge Regarding Leucorrhoea and Its Prevention Among Women at a Selected Community of New Delhi. Int J Nurs Midwife Res. 2025;12(3&4):6-9.
12. Gunasekaran, Sathiyabama. (2020). A study to assess the knowledge regarding leucorrhea among womens residing at Kondancheri Thiruvallur.
13. Selvaraj, Kalabarathi & K, Jayabharathi. (2019). Assess the prevalence of leucorrhoea among women in reproductive age group. International Journal of Research in Pharmaceutical Sciences. 10. 2742-2744. 10.26452/ijrps.v10i4.1540