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# The Effectiveness of Structured Teaching Programme on Knowledge Regarding Endometriosis Among Adolescent Girls in Selected Schools of Gurgaon, Haryana

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## ABSTRACT

**Background & Aim:** Endometriosis is a long-term, frequently crippling disorder in which tissue that resembles the endometrium (the lining of the uterus) begins to proliferate outside the uterus, the other organs like ovaries, fallopian tubes, uterine exterior, and other pelvic cavity organs may also get infected with this ectopic tissue. According to WHO endometriosis affects roughly 10% (190 million) of reproductive age women and girls globally, It is a very common health problem occurring in adolescents and girls as young as 8 years of age and affecting an estimated 176 million women and teens. The study aimed to assess the knowledge regarding endometriosis among adolescent girls of selected school.
**Materials and Methods:** A pre-experimental one group pre-test post-test method was used to assess the effectiveness of structured teaching program on knowledge regarding endometriosis among 50 adolescent girls of age group between 16-19 years from selected school of Gurgaon, Haryana.
**Result:** Analysis revealed that a mean percentage score of 11.60**%** which suggests that most participants had poor knowledge prior to the educational program, The post-test knowledge scores of 50 participants showed the mean percentage was 83.85%, reflecting a high level of knowledge achieved after the intervention.
**Conclusion:** The result of the study implies that most of the adolescent girls were unaware of endometriosis, and after receiving information through structured teaching program there was significant improvement in their knowledge.

***Keywords:*** Endometriosis, Knowledge, Adolescent girls.

## INTRODUCTION

Every woman has been highly concerned about her reproductive health; it is an essential component of human development. As maternal mortality and morbidity are so high in developing nations, many stakeholders have been concerned about reproductive illness. Although it is a universal issue, women, especially those in their reproductive years and adolescent, should pay particular attention to it, numerous abnormalities of the female reproductive system at different stages of their lives can impact their general health and

quality of life.[1] Endometriosis is a long-term, frequently crippling disorder in which tissue that resembles the endometrium (the lining of the uterus) begins to proliferate outside the uterus, the other organs like ovaries, fallopian tubes, uterine exterior, and other pelvic cavity organs may also get infected with this ectopic tissue. Hormonal fluctuations cause this tissue to swell, degrade, and bleed once a month, but this blood cannot leave the body like the endometrial tissue in the uterus can, which causes pain, inflammation, and the development of adhesions, or scar tissue.[2]

This condition is most prevalent among women of reproductive age, typically between 15 and 49 years, while endometriosis can begin at a person's first menstrual period and persist until menopause, its progression varies among individuals.[3]

The prevalence of endometriosis in women of reproductive age is approximately 10% about 42 million women in India alone are impacted by this public health issue, which affects about 247 million women globally.[4]

The symptoms of endometriosis can vary widely but commonly include dysmenorrhea (painful periods), chronic pelvic pain, dyspareunia (pain during intercourse), dyschezia (painful bowel movements), dysuria (painful urination), fatigue, nausea, bloating and infertility, the severity of symptoms does not always correlate with the extent of the disease. Some individuals with minimal endometriosis may experience severe symptoms, while others with extensive disease may have mild symptoms.[5]

In both young girls and teens, endometriosis can cause serious illness, it has a major effect on women who are fertile and frequently leads to primary infertility, it's difficult to predict the endometriosis stages in relation to the age of afflicted women, early treatment initiation may lessen the chance of adhesions, minimize harm to the ovaries and surrounding structures, and hence lessen the effect on fertility.[6]

Patients and healthcare professionals' ignorance towards endometriosis is one factor contributing to this underdiagnosis and secondary many women are unaware that their symptoms are unusual or suggest a more serious problem, another factor contributing may be lack of skills or training required to identify and diagnose endometriosis to medical professionals. Menstruation and women health issues are stigmatized, which is another reason why endometriosis is underdiagnosed in India. Due to hesitation and ashamed feeling about discussing their symptoms with family members or medical professionals, women and adolescent girls may suffer in silence and put off seeking medical attention.[7]

Endometriosis impacts entire families and relationships, in order to support and enhance the quality of life for individuals impacted by this chronic illness, it is essential to comprehend its effects, in terms of psychological, financial, and diagnostic delays as well as intimate partner relationships. Delays in identification and treatment result from a lack of awareness about the illness and the normalization of symptoms. Family planning and financial stability are impacted by the uncertainty that both men and women experience over the disease's progression and course of treatment.[8]

Improving the quality of life and preventing complications are two benefits of early diagnosis and treatment. Support groups and online communities can be helpful for women and adolescents with endometriosis in addition to obtaining medical assistance, these services can offer information, emotional support, and management advices.

**Objectives:** The study statement was to assess the effectiveness of structured teaching programme on knowledge regarding endometriosis among adolescent girls of selected schools of Gurgaon, Haryana.

The s objectives of study were:

1. To assess the pretest knowledge regarding endometriosis among adolescent girls.

2. To assess the post-test knowledge regarding endometriosis among adolescent girls.
3. To compare the pre-test and post-test knowledge scores regarding endometriosis among adolescent girls.
4. To find out the significant association between the pretest level of knowledge scores regarding endometriosis among adolescent girls with their selected demographic variables.

## MATERIALS & METHODS

The study was conducted in month of February-April of 2025 at Government Senior Secondary School Panchgaon and Basai, Gurgaon, Haryana. Ethical clearance was obtained from the schools and informed consent was obtained from the participants. A quantitative approach with pre-experimental one group pre-test post-test design and purposive sampling technique was used. Structured knowledge questionnaire was used to assess the knowledge regarding endometriosis.

Structured teaching programme was conducted for 45 minutes with the help of power point slides and chart on aspect of Endometriosis including Reproductive system and its functions, Causes and risk factors, Stages of endometriosis, Sign and symptoms, Diagnosis, Management and Education and awareness. Pre-test data was collected followed by structured teaching programme and post-test was taken on 7$^{th}$ day of structured teaching program.

## STATISTICAL ANALYSIS

Data was analysed using SPSS. Frequency and percentage distribution was used to assess demographic data and knowledge scores. Paired t-test was used to compare the pre-test and post-test level of knowledge. Chi-square test was used to assess the association of knowledge score with demographic variables.

## RESULT

Analysis revealed that the mean pre-test knowledge score was 4.64 with a standard deviation of 3.729, indicating low and varied knowledge levels among participants before the intervention. The median score was 4, with scores ranging from 1 to 15, and a mean percentage score of 11.60**%**. This suggests that most participants had poor knowledge prior to the educational program, The post-test knowledge scores of 50 participants showed a mean score of 33.54 with a standard deviation of 3.593, indicating relatively consistent scores among participants. The median score was 34, with scores ranging from a minimum of 25 to a maximum of 38, giving a total range of 13 points. The mean percentage was 83.85%, reflecting a high level of knowledge achieved after the intervention (Table No1).

**Table No.1: Comparison between the mean, S.D, paired t test, table value at 0.05 of the pre-test and post-test level of Knowledge score. N=50**

| Paired T Test | Mean± S.D. | Mean% | Range | Mean Diff. | Paired t Test | P value | Table Value at 0.05 |
|---|---|---|---|---|---|---|---|
| Pretest knowledge | 4.64±3.729 | 11.60 | 1-15 | 28.900 | 46.744 *Sig | <0.001 | 2.01 |
| Posttest knowledge | 33.54±3.593 | 83.85 | 25-38 | | | | |
| ** Significance Level 0.05 Maximum=40 | | | | | | | |

**Table No. 2: Association of pre-scores knowledge on endometriosis and demographic variables. N=50**

| **ASSOCIATION OF PRETEST KNOWLEDGE SCORES WITH SELECTED SOCIO-DEMOGRAPHIC VARIABLES.** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Options** | **ADEQUATE KNOWLEDGE** | **MODERATELY ADEQUATE KNOELEDGE** | **POOR KNOWLEDGE** | **$\chi^2$** | **p Value** | **df** | **Table Value** | **Result** |
| Age | 16-17 years | 0 | 2 | 25 | | | | | |
| | 18-19 years | 0 | 3 | 20 | | | | | |
| Religion | Hindu | 0 | 5 | 38 | 0.904 | 0.824 | 3 | 7.815 | Not Significant |
| | Muslim | 0 | 0 | 4 | | | | | |
| | Christian | 0 | 0 | 1 | | | | | |
| | Others | 0 | 0 | 2 | | | | | |
| Type of Residence | Urban | 0 | 5 | 41 | 0.483 | 0.487 | 1 | 3.841 | Not Significant |
| | Rural | 0 | 0 | 4 | | | | | |
| Total family income/month | ≤10,000 | 0 | 1 | 28 | 6.633 | 0.085 | 3 | 7.815 | Not Significant |
| | 10,001-30,000 | 0 | 3 | 13 | | | | | |
| | 30,001-50,000 | 0 | 1 | 1 | | | | | |
| | >50,001 | 0 | 0 | 3 | | | | | |
| Age of menarche | 9-10 years | 0 | 0 | 1 | 3.704 | 0.157 | 2 | 5.991 | Not Significant |
| | 11-12 years | 0 | 0 | 19 | | | | | |
| | 13-14 years | 0 | 5 | 25 | | | | | |
| | 15 years or above | 0 | 0 | 0 | | | | | |
| Average duration of the menstrual cycle | 1-2 days | 0 | 0 | 0 | 5.882 | 0.053 | 2 | 5.991 | Not Significant |
| | 3-4 days | 0 | 3 | 14 | | | | | |
| | 5-6 days | 0 | 0 | 25 | | | | | |
| | 7-8 days | 0 | 2 | 6 | | | | | |
| Frequency of changing sanitary pads | 2-4 | 0 | 4 | 29 | 0.572 | 0.751 | 2 | 5.991 | Not Significant |
| | 4-6 | 0 | 1 | 14 | | | | | |
| | 6-8 | 0 | 0 | 2 | | | | | |
| | More then 8 | 0 | 0 | 0 | | | | | |
| Regularity of menstrual cycle | Very regular | 0 | 1 | 5 | 5.078 | 0.166 | 3 | 7.815 | Not Significant |
| | Somewhat regular | 0 | 3 | 28 | | | | | |
| | Irregular | 0 | 0 | 11 | | | | | |
| | Very irregular | 0 | 1 | 1 | | | | | |
| Product preferred during menstruation | Sanitary pads | 0 | 5 | 44 | 0.113 | 0.736 | 1 | 3.841 | Not Significant |
| | Clothes | 0 | 0 | 1 | | | | | |
| | Tampons | 0 | 0 | 0 | | | | | |
| | Menstrual cups | 0 | 0 | 0 | | | | | |
| history of any medical illness | None | 0 | 5 | 42 | 0.355 | 0.552 | 1 | 3.841 | Not Significant |
| | Thyroid abnormality | 0 | 0 | 0 | | | | | |
| | Endometriosis | 0 | 0 | 0 | | | | | |
| | Anaemia | 0 | 0 | 3 | | | | | |

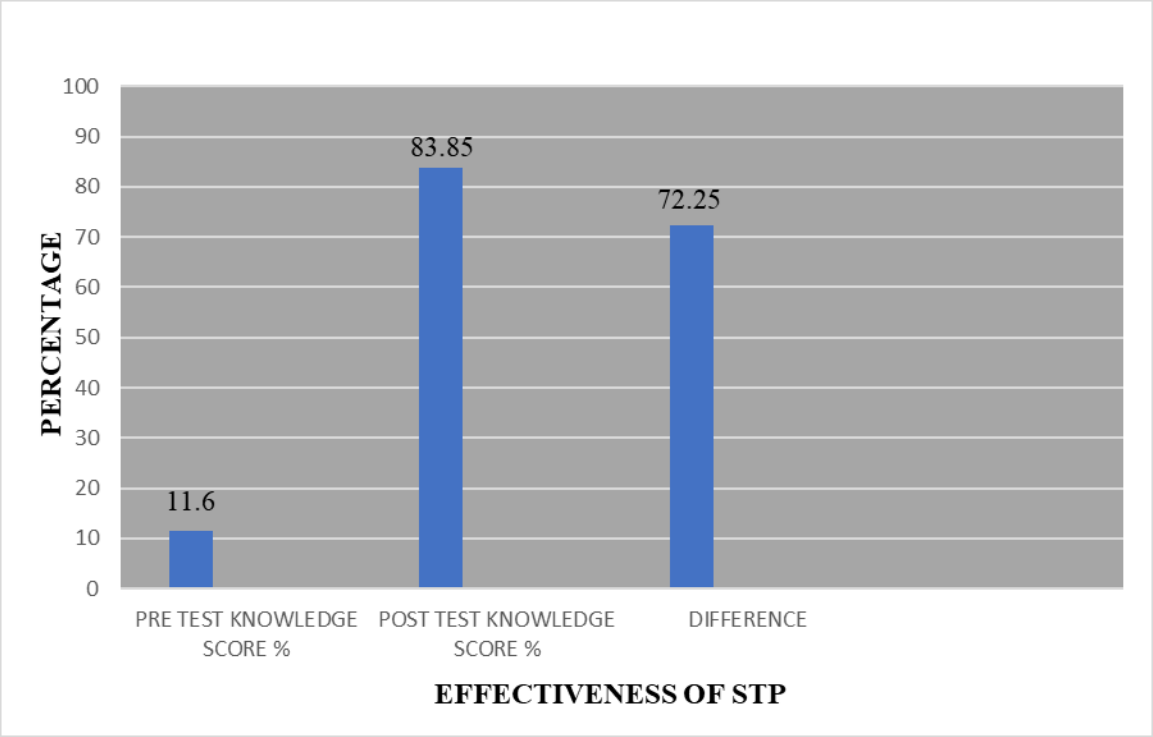


**Figure No.1: Bar diagram showing comparison of pre-test and post-test level of knowledge representing effectiveness.**

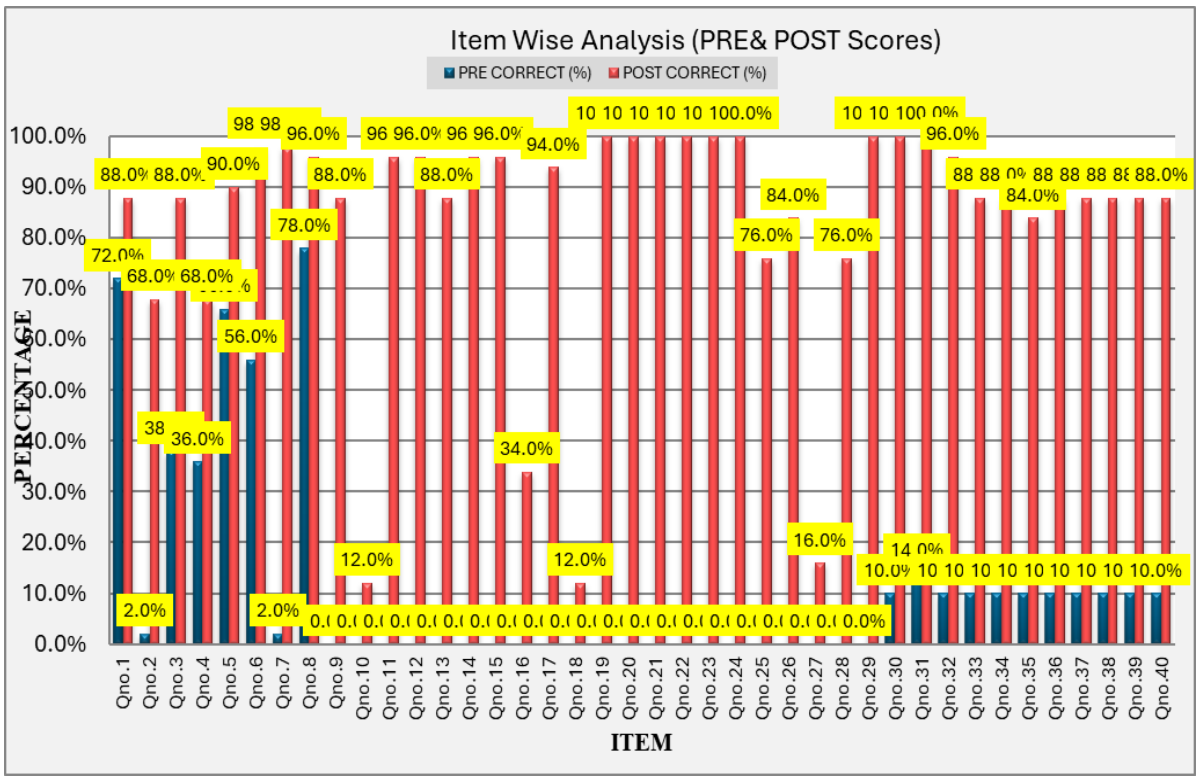


**Figure No.2: Bar diagram representing Item wise analysis representing comparison of pretest and post-test level of knowledge.**

## DISCUSSION

A similar quantitative pre-test post-test study was conducted by Mathew, et al. (2022) on 100 female students between the age group of 18 and 20 years and are studying in first year degree course by using convenient sampling technique using structured knowledge questionnaire and structured

teaching program on endometriosis. The results shows that among the 100 samples, 3% had good knowledge and 45% had average knowledge, 54% had poor knowledge before the educational intervention and after intervention 50% of the samples had excellent knowledge ,45% have good knowledge and rest 5% have average knowledge. The study indicates that the structured teaching program was effective in improving knowledge on endometriosis.[9] These findings are supporting the present study.

A similar cross-sectional study was conducted by Kazan, et al. (2024) on Lebanese females regarding knowledge and concern about endometriosis, and the survey revealed that there was low knowledge (25.9%) about endometriosis origin, symptoms, and treatment. Over 60% were unaware of endometriosis symptoms, while 9.9% mistakenly believed menstrual cramps indicated the disease. Lebanese women's knowledge of endometriosis was limited, greater awareness of endometriosis will encourage Lebanese women to seek medical advice and consultation, resulting in earlier detection and treatment.[10]

These findings are supporting the present study on level of knowledge.

## CONCLUSION

The study is helpful to assess knowledge regarding endometriosis among adolescent girls of Government Senior Sececondary School Basai, Gurgaon, Haryana. The overall study finding reveals that out of 50 adolescent girls have highest percentage (88%) found with adequate knowledge, respondents (12%) noticed with moderately adequate knowledge. The mean percentage observed was 83.85% for overall knowledge with SD±3.593. The mean post score of adolescent girls' knowledge was 33.54±3.593. Hence, it was concluded that adolescent girls have mostly adequate knowledge regarding endometriosis. The findings indicate that changes in knowledge occurred due to the intervention. The structured teaching program observed to be an effective strategy in increasing the knowledge of adolescent girls. Thus, it was suggested that the structured teaching program was beneficial to the adolescent girls of in enhancing their knowledge regarding endometriosis, and the present study has no significant association between the level of knowledge scores and the demographic variables.

### *Declaration by Authors*

**Ethical Approval:** Approved by Institutional Ethical Committee

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**Conflict of Interest:** None

## REFERENCES

1. Haque, M., Hossain, S., Ahmed, K. R., Sultana, T., Chowdhury, H. A., & Akter, J. (2015). A comparative study on knowledge about reproductive health among urban and rural women of Bangladesh. *J Family Reproductive Health, 9*(1), 35-40. PMCID: PMC4405515. PMID: 25904966.
2. World Health Organization. (2023, March 16). *Endometriosis*. World Health Organization.
3. The Sun. (2024, July 10). *HSE issue warning over 'long-term' health condition that can go undiagnosed for YEARS as they urge women to get checked*. The Irish Sun.
4. Statista. (2024, February 27). *Key figures on endometriosis*
5. Angélica, M., Echevarría, G., Rosario, E., Acevedo, S., and Flores, I., (2020): Impact of Coping Strategies on Quality of Life of Adolescents and Young Women with Endometriosis. J Psychosom Obstet Gynaecol. Author manuscript; available
6. Nisenblat, V., Bossuyt, P. M. M., Farquhar, C., Johnson, N., & Hull, M. L. (2016). Imaging modalities for the non-invasive diagnosis of endometriosis. *Cochrane Database of Systematic Reviews, 2016*(2), CD009591.
7. India Today. (2024, March 8). Women's day: The underdiagnosis of endometriosis in India.
8. George Institute for Global Health. (n.d.). Breaking the silence: Understanding the

impact of endometriosis on women and their partners. Retrieved March 2, 2025.
9. Mathew, A., Renny, A., Thomas, A., Sebastian, A., Eldhose, A., & Sunny, A. (2024). Evaluating the Impact of a Structured Teaching Programme on Knowledge About Endometriosis Among First-Year Degree Students in a Chosen College in Wayanad District. *Volume 02, Issue 01*, 20-24.
10. Kazan, Z., Mroueh, F., Hazime, Z., Joumaa, S., Hamze, K., Husseini, A., Mansour, S., Hoballah, A., & El Haidari, R. (2024). Knowledge and concern towards endometriosis among Lebanese women: A cross-sectional study. *BMC Women's Health, 24*, Article 609.

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