

“A study to evaluate the effectiveness of a structured teaching program on knowledge regarding polycystic ovarian syndrome among teenage girls in DRIEMS Higher Secondary School of Science, Cuttack”.

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Abstract

This study utilized a pre-experimental study using a single-group pre-test post-test design to evaluate the effectiveness of a structured teaching program (STP) on knowledge regarding polycystic ovarian syndrome (PCOS) in the population of teenage female students at DRIEMS Higher Secondary School of Science, Tangi, Cuttack, Odisha. A total of 30 participants were selected using non-probability sampling techniques. Information was gathered using a pre-designed questionnaire. Findings indicated that prior to the intervention, 98% of participants demonstrated poor knowledge while only 2% showed average knowledge. After the STP, 75% of students achieved average knowledge, 6% reached good knowledge, and 19% remained with poor knowledge. The average score before the interventions was 14.37(SD=2.646) furthermore the post-test mean was 6.83(SD= 15.99), revealing a mean score difference of 7.54. The computed t-value from the paired t-test was 12.355 (df= 29), indicating a statistically significant improvement. Duration of menstrual cycle was notably associated with post-test outcome. The findings is an effective affirm that STP is an effective and safe educational intervention.

Keywords: Structured teaching program, knowledge, polycystic ovarian syndrome, teenage girls, and effectiveness.

How to Cite this Article?

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Introduction: Polycystic ovary syndrome (PCOD) is a common hormonal disorder that affects women during their reproductive years .it is marked by elevated androgen levels

irregular menstrual cycles and the presence of multiple ovarian cyst. Studies report a prevalence of 4% to 8% globally, but recent research applying Rotterdam criteria suggests it may be as high as 18%.

Indian studies have shown significant metabolic complications linked to PCOS, including abnormal waist circumference, insulin resistance, and increased risk for type 2 diabetes. Preventive strategies such as maintaining a healthy lifestyle through diet, exercise, and stress Management-are essential. Early Education about PCOS in adolescents may leads to earlier diagnosis and effective intervention.

A study conducted in Odisha at MKCG Medical College further highlights the clinical complexity of PCOS, especially when symptoms like menstrual irregularities and hormonal imbalances are not reported early. The research included women aged 15-30 and examined variations in hormone levels and body composition. Notably, serum leptin levels were found to be higher in obese women with PCOS, underlining the metabolic risks associated with the condition. Often, clinical diagnosis is delayed due to symptom overlap with normal pubertal changes, particularly within the first few years following menarche. This underscore the importance of increasing awareness during adolescence.

Despite its high prevalence and long-term consequences, awareness of PCOS remains low, especially among adolescents. Many are unaware that symptoms like irregular menstruation and weight gain may indicate a hormonal disorder. Early intervention is crucial for effective management. Therefore, educating teenage girls can facilitate timely diagnosis, reduce emotional distress, and improve long-term outcomes.

Statement of the Problem

“A study to evaluate the effectiveness of structured teaching programs on knowledge regarding polycystic ovarian syndrome among teenage girls in DRIEMS Higher Secondary School of Science, Cuttack”.

Objective

1. To determine the level of knowledge about Polycystic Ovary Syndrome (PCOS) among adolescent girls before the intervention.
2. To assess the impact of a structured teaching program on improving knowledge related to PCOS
3. To analyse the relationship between post- intervention knowledge scores and selected demographic factors.

Hypothesis

Null Hypothesis (H0): -

There is no significant difference in knowledge regarding PCOS among teenage girls before and after a structured teaching program.

Alternative Hypothesis (H1): -

There is a significant improvement in knowledge regarding PCOS among teenage girls after participating in the structured teaching program.

Methodology

A descriptive and exploratory research design was employed. Thirty teenage girls from DRIEMS Higher secondary School were selected using convenience sampling. Structured questionnaire assessed their knowledge of PCOS before and after the teaching intervention. Statistical analysis included descriptive and inferential statistical methods, including mean, standard deviation, paired t-test, and chi-square test, were utilized for data analysis.

Findings

The results indicated that prior to the intervention, 98% of adolescent girls demonstrated poor knowledge regarding PCOS, and only 2% showed an average level of understanding. However, following the structured teaching program, 75% of the participants exhibited average knowledge, 6% showed good understanding, and 19% still had poor knowledge.

The mean knowledge score before the intervention was 14.37 with a standard deviation of 2.646. After the intervention, the mean score increased to 6.83, with a standard deviation of 15.99. The difference in average scores was calculated as 7.54. A paired t-test revealed a t-value of 12.355 with 29 degrees of freedom, indicating a statistically significant improvement in knowledge levels after the intervention.

This improvement suggests the structured teaching program was effective in enhancing awareness about PCOS among teenage girls. Furthermore, chi-square analysis was used to explore the relationship between post-test scores and selected demographic variables. It was observed that the duration of the menstrual cycle had a statistically significant association with post-test knowledge levels.

The structured teaching program proved to be a reliable and impactful method for increasing awareness and understanding of PCOS in various settings.

Comparison of Mean, Mean Difference, Standard Deviation, and Paired *t*-Test Results for Pre-Test and Post-Test Scores

| Test | Mean | Mean difference | Standard deviation | Paired <i>t</i> -value | P-Value |
|------------|-------|-----------------|--------------------|------------------------|---------|
| Pre-test | 14.37 | 7.54 | 2.696 | 12.355 (df=29) | 0.000* |
| Post –test | 6.83 | | 15.99 | | |

Note: The result is statistically significant with a P-value > 0.000

Table 4.14: Statistical Analysis of Knowledge Scores on PCOD among Teenage Girls
Sample Size (n) = 30

| Parameter | t-value | Significance Level ($\alpha = 0.05$) |
|--|---------|--|
| Difference in knowledge (pre-test vs. post-test) | 12.355 | Highly significant |

Conclusion

From the finding of the present study it can be concluded that, Most of the students have moderate knowledge 12 (40%).regarding polycystic ovarian syndrome. This study will be helpful for the students to gain more insight regarding polycystic ovarian syndrome. There was a positive significant knowledge level regarding polycystic ovarian syndrome. The study also revealed that there was a significant association between knowledge with age, religion, height, and weight of the students of teenage girls in DRIEMS Higher Secondary School of Science, Cuttack.

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