

ENHANCING KNOWLEDGE OF POLYCYSTIC OVARIAN DISEASE THROUGH STRUCTURED TEACHING AMONG ADOLESCENT GIRLS

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Abstract

Polycystic ovarian disease (PCOD) is a common hormonal disorder that affects hormone balance, menstrual cycles, fertility, and physical traits in females aged 14 to 35. Adolescents with poor diets and inactive lifestyles are more likely to develop PCOD. This study aimed to assess the knowledge of high school girls about PCOD and to evaluate the impact of a training program on their understanding of the condition. The research took place at Channakeshava Swamy (CKS) High School in Hassan, Karnataka, involving 100 students chosen through non-probability convenience sampling. The study used a pre-experimental one-group pre-test and post-test method.

After obtaining permission and informed consent, the participants completed a structured knowledge questionnaire in the pre-test. They then received a group educational intervention, featuring a PowerPoint presentation, pelvic floor exercises, and home remedies to help prevent PCOD. The same questionnaire was administered one week later as a post-test. The results indicated a significant increase in knowledge. The mean post-test score, 32.80, exceeded the pre-test score, 19.07, with statistical significance ($p < 0.001$, $df = 99$). The mean difference of 42.35 further confirmed the effectiveness of the educational program.

In conclusion, this study emphasizes the need for educational efforts to raise awareness about PCOD among adolescent girls. Healthcare professionals, particularly obstetricians, gynecological nurses, and educators, play a key role in preventive measures and in developing effective management strategies for PCOD-related issues in this group.

Keywords: PCOD; knowledge; Adolescence; Girls; High school.

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Introduction

Polycystic ovarian syndrome (PCOS) is a common endocrine condition affecting teenage girls worldwide. It significantly impacts their health both in the short and long term. This syndrome is characterized by hormonal imbalances, irregular periods, and metabolic issues. It often begins quietly during adolescence and is usually not diagnosed until complications arise. It is estimated that 9.8% of teenagers globally have PCOS, meaning about one in ten young girls may face this issue without sufficient awareness or support.

In the Indian context, the situation demands particular attention. Studies report a highly variable prevalence ranging from 6% to 77.1%, depending on diagnostic criteria and population characteristics, reflecting both the complexity of diagnosis and the substantial burden of disease. What makes this particularly concerning is the consistently documented gap in awareness. Research

indicates that over 78% of adolescents remain uninformed about PCOS symptoms and their long-term consequences. Many young girls experience irregular periods, acne, weight gain, and excessive hair growth without realizing these could be early indicators of an underlying condition requiring medical attention.

The silence surrounding PCOS during adolescence is not without consequence. Delayed diagnosis results in the loss of opportunities for early intervention, which in turn enables metabolic complications, including insulin resistance and type 2 diabetes, to develop. Furthermore, research indicates that less than one-third of adolescents with PCOS are cognisant of their potential fertility risks, and only 25% report receiving any fertility-related guidance from healthcare providers. Structured teaching programs have demonstrated potential as an effective strategy for empowering adolescent females in recognition of this critical knowledge gap. The evidence

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from school-based interventions indicates that structured health education can result in substantial improvements in knowledge, indicating that young women can experience a significant transformation in their understanding and response to their bodies when they are provided with timely, age-appropriate information. Consequently, the objective of this investigation is to assess the efficacy of a structured teaching program in improving the understanding of PCOS among adolescent females, with the intention of facilitating early awareness and prevention initiatives.

Material and Methods:

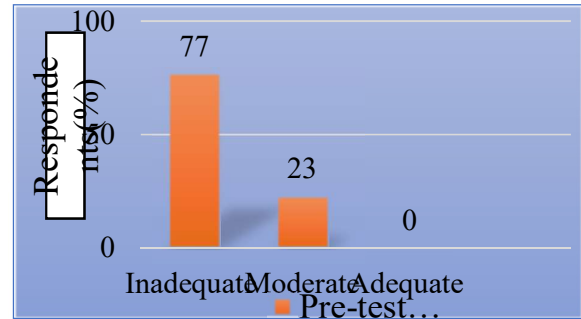
This study employed a pre-experimental, one-group pre-test and post-test design at CKS High School in Hassan, Karnataka, with approval from the Headmaster and institutional ethics committee. One hundred students from grades 8 to 10 were selected through convenience sampling, and informed consent was obtained. The validated study tool included two sections: Section A gathered socio-demographic data, while Section B featured a structured knowledge quiz on PCOD. Data collection began with a pre-test using a standardised questionnaire. Students then participated in group training via a PowerPoint presentation on pelvic floor exercises and home remedies for preventing polycystic ovarian disease. A post-test using the same questionnaire was administered on the seventh day to measure knowledge improvement.

Results:

SECTION - I: Analysis of socio-demographic characteristics of study participants under the study.

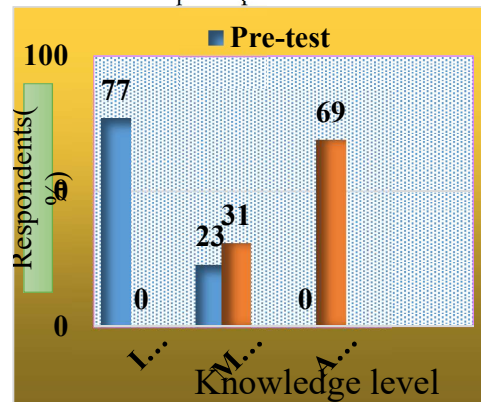
Most respondents (88%) were aged 15–16 years, while 12% were 13–14 years. The majority were Hindu (90%), with 10% Muslim. Fathers were mostly well educated, with 61% having undergraduate or higher education, while 80% of mothers had secondary education. Most mothers worked in private jobs (60%), while 33% were housewives. A large proportion belonged to nuclear families (85%) and middle-class status (87%). Most had a family income between Rs.10,001–50,000 (85%). The majority lived in urban areas (86%) and were non-vegetarians (78%). Most had regular menstrual cycles (82%), no medical diseases (93%), liked junk food (97%), and received information mainly from mass media (54%).

SECTION II : Analysis of pre-test knowledge among study participants.



In figure 1, we can see how the respondents were grouped based on their pre-test knowledge levels. According to the results, none of the respondents had sufficient awareness on polycystic ovary syndrome, while 23% had intermediate knowledge and 77% had inadequate knowledge.

SECTION III: Comparison of pre-test and post-test knowledge level of study participants.



The comparison of the knowledge levels of the participants before and after the educational intervention is presented in Section III. Pre-test results indicated that the majority of the participants (77%) had poor knowledge, 23% had moderate knowledge and no participant had adequate knowledge. Post intervention, the knowledge levels of the participants improved significantly. The majority of the participants (69%) had adequate knowledge and (31%) had moderate knowledge. Post-test results showed that no participant remained in the category of poor knowledge. The results show that the level of knowledge of the participants significantly increased after the intervention, suggesting that it was helpful in increasing their grasp of the subject matter.

SECTION -IV: ASSOCIATION BETWEEN THE SELECTED DEMOGRAPHIC VARIABLES AND THE POST-TEST KNOWLEDGE LEVEL REGARDING POLYCYSTIC OVARIAN DISEASE.

(n=100)

Demogra	Cate	Knowledge	P
ogra	gory	Level	

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phic Variables		Sa m ple		Mo der ate		Adeq uate		χ^2 Va lue	Va lue
		n	%	n	%	n	%		
Age group (years)	13-14	17	78.3	53	41.7	47	36.7	4.76*	P<0.05 (3.841)
	15-16	84	22.7	73	63.3	77	63.3		
Religion	Hindu	90	25.7	28	22.2	62	47.8	4.37*	P<0.05 (3.841)
	Muslim	106	28.3	60	47.2	44	33.8		
Residential area	Urban	86	23.3	26	20.3	60	46.3	5.20*	P<0.05 (3.841)
	Rural	144	38.7	87	67.3	94	72.7		
Menstrual cycle	Regular	82	22.1	29	22.4	53	40.6	4.06*	P<0.05 (3.841)
	Irregular	118	31.3	41	31.3	77	59.4		
Associated medical diseases	Yes	75	20.3	27	20.7	48	36.6	5.75*	P<0.05 (3.841)
	No	133	35.7	68	52.3	65	50.0		
Education of Father	Secondary	39	10.5	17	13.0	22	17.1	5.09*	P<0.05 (3.841)
	Undergraduate & above	61	16.5	29	22.3	32	24.7		

Education of Mother	Secondary	80	21.3	26	20.0	54	41.3	5.15*	P<0.05 (3.841)
	Undergraduate & above	220	58.7	100	76.7	190	146.7		
Socio-economic status	Middle class	87	23.3	26	20.0	61	46.7	6.52*	P<0.05 (3.841)
	Lower middle	133	35.7	48	36.7	85	65.0		

Discussion

The present study showed considerable improvement in knowledge of PCOD among adolescent girls after structured instruction programme. The mean knowledge score after the test (32.80) was significantly higher than that before the test (19.07) with an increase of 72% (p < 0.001). This is in line with several prior studies that have investigated similar instructional approaches. For instance, a study conducted by Chouhan et al. (P. Chouhan, 2026) among 60 teenage females in Jodhpur revealed that structured education programs had a significant impact on the knowledge score (from 11.2 to 21.8) with a p-value of < 0.001. Moreover, a study was done by Kaur et al. (Harleen Kaur, 2026) on 100 nursing students in Amritsar which showed an increase in post-test knowledge to 78% showing the significant educational impact of planned interventions. Together these results support the efficacy of school-based PCOD education in bridging the major knowledge gap reported in the literature where more than 78% of teenagers are unaware of PCOS symptoms and long-term effects.

Demographic associations established in this study, most notably the strong association between regularity of menstrual cycles and post-test knowledge (p < 0.05), indicate that girls with irregular menstrual cycles may be more open to health education as a result of increased awareness of personal symptoms. This is similar to the findings of Pazhanivelu et al. (Vathana Pazhanivelu, 2024) with 95.38% sufficient knowledge levels in the post-test evaluations after organised instruction programmes. However, the duration of the intervention and the way of

material distribution varied among research and should be noted. The majority of the studies used identical one-week intervals between before and post-tests. The current study is unique in its holistic approach by incorporating pelvic floor exercises and home remedies, compared to the knowledge-only therapies in some previous research. The mean difference in knowledge gain in this study was 42.35% which emphasises the need of having educational content that is multi-faceted and incorporates practical self-care practices in addition to theoretical knowledge, since this may enhance retention and facilitate change in behaviour.

Limitations of the study:

The study's findings are limited due to a specific geographic area, a small sample of high school girls from one school in Hassan, and a teaching plan based on literature and the researchers' experience instead of the participants' learning needs. Without a control group, outside factors like media or peer influence could affect the results. Despite these limitations, the findings provide practical suggestions. Nursing education should include detailed information on polycystic ovarian disease in its curricula. Nurses can use the teaching plan to educate individuals and communities across different settings. Nursing administrators might organize public and in-service programs about the disease. In research, similar teaching methods can be tested for other reproductive disorders with diverse samples and settings, and the results can be shared in publications.

Conclusion

Prior to the planned training session, the study demonstrated that high school females had little knowledge regarding polycystic ovarian illness. But once the program got started, understanding took off. Results indicate that various approaches to teach youths about polycystic ovarian disease are effective in increasing their knowledge about it. The results indicate that further study should be conducted on larger and more diverse populations, that alternative teaching methods should be explored, and that experimental research designs including control groups should be considered. Educational tools and programs should be developed to assist in prevention, taking into account demographic and contextual factors that influence levels of knowledge.

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Conflict of interest-The author has declared no conflicts of interest.

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Undertaking letter

**EFFECTIVENESS OF PLANNED TEACHING
PROGRAMME ON KNOWLEDGE
REGARDING POLYCYSTIC OVARIAN
DISEASE AMONG HIGH SCHOOL GIRLS**

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