

# A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge regarding Polycystic Ovarian Syndrome [PCOS] among the Adolescent Girls in Selected Senior Secondary School of Haryana

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**Abstract:** Polycystic ovarian syndrome is a complex disorder with diverse clinical presentations and potential long-term health implications. PCOS is a common health problem caused by an imbalance of reproductive hormones among females. The global prevalence of PCOS is estimated between 4% and 20%. Early diagnosis, personalized management, and comprehensive care are crucial to optimize outcomes and improve the quality of life for women affected by PCOS. The Structured Teaching Programme (STP) will help the girls gain complete unbiased information, which will empower them to make their own decisions leading to healthy whole lives. The present study is aimed to assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome among adolescent girls in selected senior secondary school of Haryana. In this research quantitative approach with pre-experimental one group pre and post-test design was used. The sample consisted of 70 adolescent girls and was selected by using purposive sampling technique. The collected data was analyzed by using descriptive and inferential statistics ('t' test). The result of the study showed that the mean post-test knowledge score and SD ( $19.97 \pm 2.27$ ) was higher than the mean pre-test knowledge score and SD ( $11.5 \pm 1.998$ ). The 't' value computed ( $t = 23.43$ ) which is more than the table t-value at 0.001 level of significance showed a significant difference suggesting that the STP was effective in increasing the knowledge of adolescent girls on PCOS. There was no association between the pre-test knowledge scores and selected demographic variables.

**Keywords:** Effectiveness, STP, adolescent girls, PCOS.

## 1. Introduction

Life shrinks or expands in proportion to one's courage. The best protection of any women can have been courage, because she has the power to create, which is expressed through when she becomes a mother. It is a natural phenomenon but sometimes it is blocked by physical and psychological problem. Naturally each female child is born with capability of giving birth and she is physically prepared at puberty. Normally she attains puberty during her adolescence [1].

**Adolescence** is a period of transition between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health. Adolescents experience rapid physical, cognitive and psychosocial growth. Adolescence and young women make up around 40% of population of India. There are many adolescent problems that stem up while passing through this phase. One of them, now a day's faced by girls is polycystic ovarian syndrome [2].

**Polycystic ovary syndrome (PCOS)** is a complex condition characterized by elevated androgen levels, menstrual irregularities, and/or small cysts on one or both ovaries. PCOS was first described in 1935 by **American gynecologists Irving F. Stein, Sr., and Michael L. Leventhal**, from whom its original name of *Stein-Leventhal syndrome* is taken. Polycystic ovary syndrome (PCOS) is a problem with hormones and is most common **Endocrine disorder** that happens during the reproductive years. The diverse manifestations of PCOS start at an early age especially after puberty [3].

PCOS a diagnosis of exclusion has been a topic of debate and many consensus definitions have evolved over time. The **National Institute for Health (NIH) Criteria 1990** was revised in 2003 and **Rotterdam criteria** has been adopted world over. Recently in 2006, the **Androgen Excess PCOS Society** suggested a tightening of the diagnostic criteria to all of the following:

- 1) Excess androgen activity
- 2) Oligo ovulation/an ovulation and/or polycystic ovaries
- 3) Exclusion of other entities that would cause excess androgen activity [3]

The WHO estimates that it affects 116 million women worldwide as of 2010 (3.4% of women). Another estimate indicates that 7% of women of **Reproductive age** are affected. Another study using the Rotterdam criteria found that about 18% of women had PCOS, and that 70% of them were previously undiagnosed. Prevalence also varies across countries due to lack of large-scale scientific studies [4]. In **India** 40% of women are affected by PCOS but among them 60% come to hospitals for treatment when they recognize that they have got infertility i.e., India has a purported rate of 1 in 5 women having PCOS.

**Health education** is one of the widely adopted health promotion strategy to improve knowledge on condition which helps in early detection to prevent its long-term complications [5]. Hence, the present study focuses on providing **structured awareness programme** on PCOS which helps to identify the high-risk adolescents for PCOS by using PCOS. The high-risk adolescents were identified and sent for higher referrals at medical centers to correlate the clinical symptoms of PCOS with biochemical tests. This helps in early diagnosis of adolescents with PCOS.

## 2. Literature Survey

Globally, prevalence estimates of PCOS are highly variable, ranging from 2.2% to as high as 26% [6].

According to a study by PCOS Society, 1 in every 10 women in India has polycystic ovary syndrome (PCOS), a common endocrinal system disorder among women of reproductive age. And out of every 10 women diagnosed with PCOS, six are teenage girls [7].

A study was conducted in Mohali, Punjab on knowledge regarding PCOS among Teenage Girls. A study was conducted on around 200 adolescent girls from school. The results show that the majority of girls (61.5%) had fair knowledge and a minority of girls (0.5%) had an excellent level of knowledge. Only 17.5% had a good level of knowledge. The finding showed that there was lack of knowledge of teenage girls regarding PCOS [8].

## 3. Methodology

The objective of the study was to assess the level of knowledge regarding PCOS among adolescent girls before and after structured teaching programme. The study was

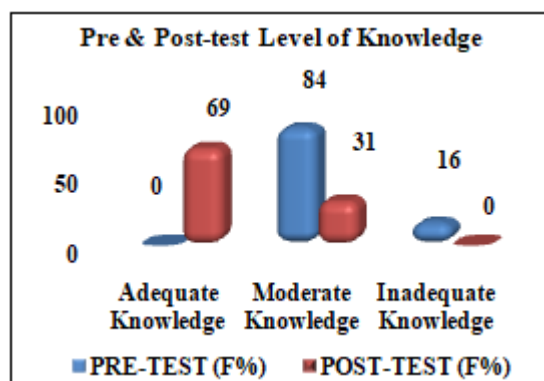
conducted at K.H.M. Happy Child senior secondary school, Bahadurgarh, Haryana. The research approach used for the study was quantitative research approach. Purposive sampling technique were used to select 70 adolescent girls. The research design chosen for the study was Pre experimental one group pre-test post-test design. The tool for data collection comprised of 9 questions related to sociodemographic data and 27 structured questionnaires to assess the knowledge of adolescent girls about PCOS. Reliability of the tool was assessed by using internal consistency method. The reliability of structured questionnaires to assess knowledge regarding PCOS was found to be 0.830. Hence, the tool was considered reliable.

## 4. Result and Discussion

In the present study the result revealed that 84% of adolescent girls were having moderate knowledge in pre-test and 16% of the adolescent girls were having inadequate knowledge. And in post-test 69% of adolescent girls having adequate knowledge and 31% of adolescent girls having moderate knowledge.

**Table 1:** Pre and Post test level of knowledge score, N=70

Level of Knowledge	Pre-Test		Post-Test	
	No. of Frequency	%	No. of Frequency	%
Adequate Knowledge (19-27)	0	0	48	69
Moderate Knowledge (10-18)	59	84	22	31
Inadequate Knowledge (1-9)	11	16	0	0
TOTAL	70	100	70	100



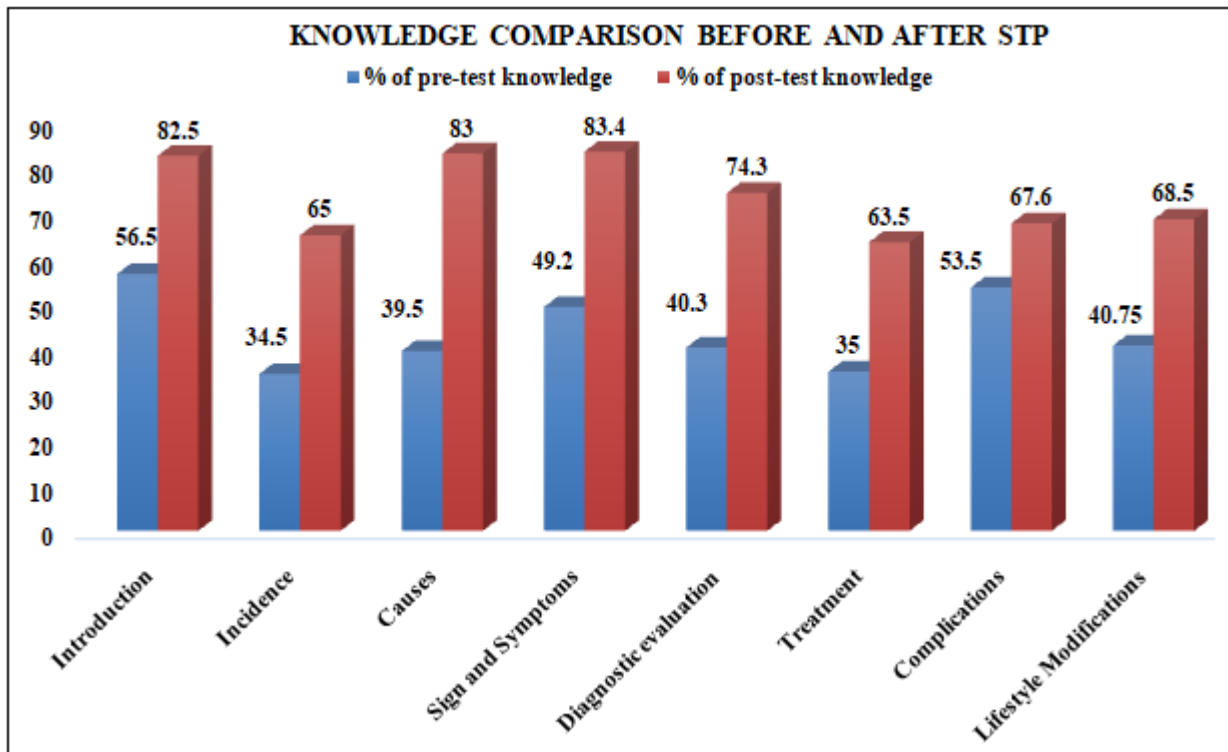
**Figure 1:** Percentage distribution of pre and post-test level of knowledge score of adolescent girls.

The result showed that the pre-test mean score and SD was  $11.5 \pm 1.998$  and post-test mean score and SD was  $19.97 \pm 2.27$ . The calculated paired t-test value 't = 23.43' which was more than the table t-value at 0.001 level of significance. Thus, it was established that structured teaching program was effective in increasing the knowledge.

**Table 2:** Comparison of pre and post-test knowledge score before and after administration of STP. [N=70]

Knowledge Questionnaire by category	Pre – test			Post-Test			% of knowledge gain	Paired test
	Mean	% of knowledge	SD	Mean	% of knowledge	SD		
Introduction about the anatomy of female reproductive system	2.26	56.5	0.97	3.3	82.5	0.92	26	t = 6.51, p = 0.000***
Incidence	0.69	34.5	0.67	1.3	65	0.67	30.5	t = 5.43, p = 0.000***
Causes	0.79	39.5	0.66	1.66	83	0.54	43.5	t = 8.60, p = 0.000***
Sign and Symptoms	2.46	49.2	0.94	4.17	83.4	0.98	34.2	t = 10.56, p = 0.000***
Diagnostic evaluation	1.21	40.3	0.81	2.23	74.3	0.82	34	t = 7.34, p = 0.000***
Treatment	1.4	35	0.65	2.54	63.5	0.91	28.5	t = 8.56, p = 0.000***
Complications	1.07	53.5	0.77	2.03	67.6	0.78	14.1	t = 7.32, p = 0.000***
Lifestyle Modifications	1.63	40.75	10.4	2.74	68.5	1.11	27.8	t = 6.13, p = 0.000***
<b>Overall</b>	<b>11.5</b>	<b>42.59</b>	<b>1.998</b>	<b>19.97</b>	<b>74</b>	<b>2.27</b>	<b>31.41</b>	<b>t = 23.43, p = 0.000***</b>

Note \*\*\* Significant at 0.001 level (P < 0.001)



**Figure 2:** Percentage Distribution of Pre-Test and Post-Test Knowledge Scores (N=70) The result of the study showed that the difference between pre- and post-knowledge scores was higher and it was significant. Statistical significance was calculated by using paired “t” test. The adolescent girls gained the maximum knowledge in causes (43.5%) and minimum knowledge in complications (14.1%). Overall, 31.41% of knowledge gain is the net benefit of this study, which indicates the effectiveness of STP.

The previous study findings showed that the structured teaching programme was effective in improving knowledge of adolescent girls regarding polycystic ovarian syndrome. There was no significant association between the level of knowledge and demographic variables except the group in which they study (Science, Arts, Commerce). A significant difference between pre-test and post-test knowledge was found ( $t_{79} = 2.0$   $p < 0.05$ ) [9].

A previous study was done on the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian disease among adolescent girls in selected colleges in Mysuru. The study revealed that the significance of difference between the mean pre-test and mean post-test scores which are statistically tested using paired ‘t’ test. The mean difference between the mean pre-test and mean post-test knowledge score was 2.5 with standard deviation

difference 0.5. the paired ‘t’ test (59) = 11.6 which was found to be highly significant at 0.05 level of significance [10].

### 5. Conclusion

The above study was conducted on 70 adolescent girls of K.H.M. Happy Child senior secondary school, Bahadurgarh, Haryana to assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome [PCOS]. The data showed that about 69% of the adolescent girls have adequate knowledge and 31% of adolescent girls having moderate knowledge regarding PCOS. Result revealed that the pre-test mean score and SD was  $11.5 \pm 1.998$  and post-test mean score and SD was  $19.97 \pm 2.27$ .

## 6. Future Scope

- 1) Further studies can be conducted on a large scale to provide a better picture of knowledge related to PCOS.
- 2) A comparative study can be conducted between rural and urban adolescent girls on knowledge regarding PCOS.
- 3) A similar study can be conducted in other settings with large and different age group to generalize the finding.
- 4) A similar study can be done to test the effectiveness of different teaching program like video assisted teaching program in imparting knowledge on PCOS.

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