

# Effectiveness of Planned Teaching on knowledge regarding Polycystic Ovarian Syndrome among Adolescent Girls in selected higher secondary schools.

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## ABSTRACT

**Introduction:** Menstrual cycle irregularities can have many different causes, including extreme weight loss or gain, polycystic ovary syndrome (PCOS), premature ovarian failure, pelvic inflammatory disease, uterine fibroids, stress so nowadays the most of the adolescent girls having irregular periods because of polycystic ovarian syndrome. Polycystic Ovarian Syndrome (PCOS) is one of the most common female endocrine disorders affecting approximately 5-10% of women of reproductive age (15-45 years) and was thought to be one of the leading causes of female infertility. PCOS often manifests around the time of menarche as irregular and often lengthened menstrual cycles. It often goes unrecognized and undiagnosed at this time because most adolescents do not have regular menstrual cycles. In addition, these young women go undiagnosed because the prescribed treatment for irregular menstrual cycles is the use of Oral Contraceptive Pills (OCPs). OCPs will regulate menstrual cycle and often controls acne and hirsutism. Often these girls will not receive a diagnosis until much later, perhaps at the time when they seek treatment for infertility. **The present study title:** Effectiveness of Planned Teaching on knowledge regarding Polycystic Ovarian Syndrome among Adolescent Girls in selected higher secondary schools. The objective of the study to assess the level of knowledge regarding polycystic ovarian syndrome among adolescent girls, to assess the effectiveness of planned teaching on level of knowledge regarding polycystic ovarian syndrome among adolescent girls, to find the association between pain with selected demographic variable. **Material and Methods:** In present study, researcher adopted quasi experimental one group pre-test post-test design. The study carried out on 50 samples. A Non-probability convenient Sampling Technique was used. Data analysis was done mainly using descriptive & inferential statistics test- paired t test was applied. **Result:** Researcher applied t-test for the effect of Planned Teaching on knowledge regarding Polycystic Ovarian Syndrome. It is observed from pre-test that, 12(24%) of the adolescent girls had poor level of knowledge score, 29(58%) of the adolescent girls had average level of knowledge score, 9(18%) of the adolescent girls had good level of knowledge score and none of the adolescent girls had excellent level of knowledge score. Whereas in the post test none of the adolescent girls had poor level of knowledge score 10(20%) of the adolescent girls had average level of knowledge score, 38(76%) of the adolescent girls had good level of knowledge score and 2(4%) of the adolescent girls had excellent level of knowledge score. This indicates that The overall mean percentage of post-test knowledge score of adolescent girls 62% was apparently higher than the overall mean percentage of pre-test knowledge score 39.21 %. And it was significant at 0.1% level. Paired  $t^* = 9.61$ ,  $p < 0.05$  indicating that planned teaching was effective in gaining knowledge of adolescent girls on polycystic ovarian syndrome. **Conclusion:** Planned teaching on polycystic ovarian syndrome was found to be significantly effective in level of knowledge among adolescent girls.

**Keywords:** (Effectiveness, Planned teaching, Knowledge, Polycystic ovarian syndrome, Adolescent girls)

## INTRODUCTION

Adolescence is the transitional phase of growth and development between childhood and adulthood. In adolescent the physical transition marked by the onset of puberty. Puberty is a period of several years in which rapid physical growth and psychological changes occur, culminating in sexual maturity. The average age of onset of puberty is at 11 for girls.

The most striking change in adolescent girls is the onset of menstruation. In the Indian context, the age of onset of menstruation or menarche is generally between 11-15 years. Menstrual cycle irregularities can have many different causes, including extreme weight loss or gain, polycystic ovary syndrome (PCOS), premature ovarian failure, pelvic inflammatory disease, uterine fibroids etc. Polycystic Ovarian Syndrome (PCOS) is one of the most common female endocrine disorders affecting approximately 5-10% of women of reproductive age (15-45 years) and was thought to be one of the leading causes of female infertility. PCOS often manifests around the time of menarche as irregular and often lengthened menstrual cycles. It often goes unrecognized and

undiagnosed at this time because most adolescents do not have regular menstrual cycles.

Follicles of the ovary are the basic unit of female reproductive biology. They are usually round and contain a single egg or ovum. Normal ovarian volume in the menstruating females is 5-15 ml; with an approximate mean of 10 ml. Polycystic ovary syndrome (PCOS) is the leading cause of menstrual irregularities and hyperandrogenism in adolescents. In addition, it is the most common hormonal disorder in obesity and one of the most common causes of infertility in women. Although it was traditionally thought to be a problem of adulthood, it is now known that its onset takes place in childhood. It should be considered in any adolescent with hirsutism, persistent acne, dysfunctional uterine bleeding and/or obesity.

There is strong evidence that obesity increase severity of clinical manifestations of PCOS and the risk of metabolic dysfunction. In adolescents, as in adult women, there is a positive association between body mass index (BMI) and androgen levels. On the other hand, weight loss is associated with a decrease in testosterone.

## NEED FOR THE STUDY

World Health Organization (WHO) estimates that PCOS has affected 116 million women (3.4%) worldwide in 2012. Globally, prevalence estimates of PCOS are highly variable, ranging from 2.2% to as high as 26%.

A cross sectional study was conducted on Prevalence and symptomatology of polycystic ovarian syndrome in Indian women: is there a rising incidence? Study was done to find out the prevalence and symptomatology of PCOS in Indian women. 70 women with features of PCOS were included in the study (diagnosed as PCOS by NIH criteria). The finding shows that the overall prevalence of PCOS in the study population was 41%. It was 16% in married women and 24 % in unmarried girls. Common menstrual irregularity was - oligomenorrhea (40%), Menorrhagia (12.8%) amenorrhea (11%). Common symptoms were hirsutism, acne, infertility and alopecia. The study concluded that PCOS is rising in young women and to some extent the changing lifestyle in urban women may be linked to it. There is a world-wide increase in the incidence of obesity, diabetes mellitus and metabolic syndrome. PCOS and its accompanying insulin resistance are contributing to it. Treating PCOS and its complications is adding to health care burden.

Early diagnosis of PCOS is important as it has been linked to an increased risk for developing several medical conditions including insulin resistance, type 2 diabetes, high cholesterol, high blood pressure and heart disease. PCOS is an emerging health problem during adolescence therefore promotion of healthy lifestyles and early interventions are required to prevent future morbidities.

## OBJECTIVES OF THIS STUDY

To assess the level of knowledge regarding polycystic ovarian syndrome among adolescent girls.

To assess the effectiveness of planned teaching on level of knowledge regarding polycystic ovarian syndrome among adolescent girls.

To find out the association between level of knowledge regarding polycystic ovarian syndrome among adolescent girls with their selected demographic variables.

## REVIEW OF LITERATURE

Many studies have been carried out on knowledge regarding polycystic ovarian syndrome. Review of the relevant studies was carried out from the textbooks, journals, articles, review of literature for the present study is organized under the following headings:

### Review of literature related to polycystic ovarian syndrome

A study was conducted on the proportion and determinants of polycystic ovarian syndrome among health sciences students in 2016 at South India. The study was done to assess the proportion of university students with PCOS and to study its risk factors. Data were collected from students of a private medical, dental, and nursing college using a self-administered questionnaire. Height and weight of all participants were recorded by standard procedures. In study the 480 participants are collected from these participant 39 (8.1%) were already diagnosed with PCOS. Out of the remaining 441 participants, 40 (9.1%) were at high risk, and 401 (90.9%) were at low risk for PCOS. Greater proportion of PCOS cases was seen in the age group 23- 25 years, among those with family history of PCOS, among those who were permanent residents of urban areas, and among those who were overweight or obese. About 90% of PCOS cases and those at high risk for PCOS each had difficulty in controlling excess weight or were experiencing difficulty in maintaining ideal weight. About 36 (92.3%) of PCOS cases and all those at high risk had emotional problems such as feeling moody or experiencing fatigability over the previous 2 weeks. The study concluded that the PCOS is a common disorder among young women in this settings and this warrants periodic screening activities. A multidisciplinary approach is required to bring about lifestyle modification and help those with emotional problems due to this endocrine disorder.

A survey was conducted on Polycystic Ovarian Disease (PCOD) Among the Girl Students of Bishop Heber College, Trichirappalli, Tamil Nadu, and India in 2016. The objective of the study was to assess its prevalence of PCOS in the girl students of a college. 252 students were taken for the survey among the female students and age group was between 18-31yrs of Bishop Heber College (Autonomous), Trichirappalli City of Tamil Nadu. The study reveals that totally 43 girls in different age group were found to be having irregular menstrual cycles. 28 girls were detected with polycysts in their ovaries and 28 girls were found to be with hirsutism. Among the girls studied about 46 of them were found to have increased acne. The mean BMI of girls in age groups 17 – 19, 20 – 22, 23 – 25, 26 - 28 and 29 - 31 were 23.4, 21.1, 23.5, 24.2 and 23.5 respectively. The prevalence of PCOS has increased

with the use of different diagnostic criteria and has recently been shown to be 18% ( $17.8 \pm 2.8\%$ ) in the first community-based prevalence study based on current Rotterdam diagnostic criteria. The study identified the adolescents with risk for developing PCOS, ask them to take proper diagnosis and treatment include healthy dietary habits and regular exercise accompanied by additional medications to treat presenting symptoms.

### Review of literature related to knowledge regarding polycystic ovarian syndrome

A study was conducted on Awareness of PCOS (polycystic ovarian syndrome) in adolescent and young girls in 2017 at Nagpur, India. The study was done to assess the knowledge on PCOS among the medical students. Survey of 200 girls was done to assess the knowledge on the polycystic ovarian syndrome. The result shows that, in present study, 51% girls had normal BMI, 19.5% were overweight, and 16.5% were obese while 13% were underweight. 33.5% females had acne, 16% had irregularity of menses, 5% had hirsutism while 2% had infertility. In present study, 33% adolescent and young girls had information about PCOS from teacher, 19% got information from friend, 11.5% got information from a doctor, and 3.5% got information from newspaper while 5% got information from internet. 28% adolescent and young girls were unaware of PCOS. Study concluded that 72% girls were aware of PCOS while 28% girls were unaware of PCOS. Prevalence of PCOS in present study was 6%. Early diagnosis of PCOS and its prompt treatment will help the girls to improve quality of life and prevent further health hazards.

A descriptive study was conducted on Knowledge regarding Polycystic Ovarian Syndrome (PCOS) among the Teenage Girls in 2016 at Mohali. A study was done to assess the level of knowledge regarding polycystic ovarian syndrome. Afterwards information booklet was provided. The study site was selected schools of district Mohali, 200 adolescent girls were taken as sample from the schools. Collected data was analyzed using descriptive and inferential statistics. Pilot study was conducted among 20 teenage girls. The main research study was conducted among 200 teenage girls studying at selected schools of Mohali. The results shows that majority of girls 123 (61.5%) had fair knowledge and minority of girls i.e. 1 (0.5%) had excellent level of knowledge. Only 35 (17.5%) girls had good level of knowledge. The mean score was 8.0 with standard deviation of 2.7 and median was 8.0 with minimum score of 3.0 and maximum score of 16.0. The findings showed that there was lack of knowledge of teenage girls regarding PCOS. The administration of information booklet may have helped the teenage girls to understand more about PCOS. The findings showed that there was lack of knowledge of teenage girls regarding PCOS. The administration of information booklet may have helped the teenage girls to understand more about PCOS.

### Review of literature related to effectiveness of planned teaching on polycystic ovarian syndrome

A pre-experimental study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian disease among adolescent girls in selected colleges in 2017 at Mysuru. The main objective of the study was to assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome among adolescent girls. In this study the sample consists of 60 adolescent girls by using one group is pre test and other post test and non probability convenient sampling technique was adopted to select adolescent girls. The result of the study reveal that the significance of difference between the mean pre test and mean post test scores which was statistically tested using paired t test. The mean difference between the mean pre test and mean post test knowledge scores was 2.5 with standard deviation difference  $\pm 0.5$ . The paired t test (59) = 11.6 which was found to be highly significant at 0.05 level of significance. The result also shows that the knowledge score of adolescent girls had no significant association with their selected demographic variables expect for monthly income, known case of PCOD and previous source of information. In this study the pre test finding showed that most of adolescent girls 51 (85%) are having average knowledge, 5 (8.3%) are having poor knowledge and 4 (6.6%) are having good knowledge regarding PCOD. The post test findings showed that majority of the adolescent girls 46 (76.6%) have average knowledge and 14 (23.3%) are having good knowledge regarding PCOD. And none of them have poor knowledge. There for, the study concluded that the administration of structured teaching programme was an effective method in increasing knowledge of adolescent girls regarding PCOD and it will help to change in their day to day life.

A pre-experimental study was conducted on effectiveness of video assisted teaching module on knowledge of adolescent girls regarding polycystic ovarian syndrome in gayatri women's +2 science college in 2017 at Berhampur, Ganjam, Odisha. The study was done to find out the effectiveness of VATM in increasing awareness about PCOS among adolescents. Here one group pre & post test design with 60 adolescents girls aged between 16-19 years was included. The findings revealed that the overall mean knowledge score in pre-test was ( $13.96 \pm 3.07$ ), which is 41.05%, whereas in post-test it was ( $23.41 \pm 4.0$ ), which is 68.85% revealing good knowledge and the effectiveness was 27.8%. Hence the study concluded the video assisted teaching module is effective in enhancing knowledge among adolescents regarding PCOS. And also it can be recommended for the nurse midwives to counsel their clients who are at risk for developing PCOS regarding the risk factors, life style changes, and treatment options available with newer modalities, so that the future consequences of it can be well prevented

### Material and method:

In present study, researcher adopted quasi experimental one group pre-test post-test design. The study carried out on 50 samples. A Non probability convenient Sampling Technique was used. Data analysis was done mainly using descriptive & inferential statistics test- paired t test was applied

### Description of Tool:

The tool includes three sections:

**SECTION A:** Demographic data like age, age of menarche, income of the family, type of family, religion, dietary habits, regularity of menstrual cycle, information regarding PCOS.

**SECTION B:** Questions to assess the knowledge before and after giving planned teaching.

**SECTION C:** Association between knowledge and demographic variables.

### Plan for Data Analysis

Data analysis was done by using descriptive and inferential statistics based on objectives of study. T test and chi-square was used for the effectiveness of planned teaching program.

## RESULT AND DISCUSSION

Analysis and interpretation of the data are based on data collected from 50 samples through A Wong Baker pain scale

### Section A

#### Distribution of subjects with regards to their demographic variables

Table 1: Distribution of subjects with regards to their demographic variables

Sr.no	Demographic variables	Frequency (f)	Percentage (%)
1	<b>Age in years</b>		
	12-13 yrs	1	2
	14-15 yrs	3	6
	16-17 yrs	42	84
	18-19 yrs	4	8
2	<b>Age of menarche</b>		
	12-13 yrs	10	20
	14-15 yrs	24	48
	16-17 yrs	12	24
	18-20 yrs	4	8
3	<b>Monthly Income of the family</b>		
	5000-10000 Rs	18	36
	11000-15000 Rs	12	24
	16000-20000 Rs	6	12
	>20000 Rs	14	28
4	<b>Type of family</b>		
	Joint	19	38
	Nuclear	31	62
5	<b>Religion</b>		
	Hindu	44	88
	Muslim	3	6
	Christian	0	0
	Any Other	3	6
6	<b>Dietary Habits</b>		
	Vegetarian	15	30
	Mixed Vegetarian	35	70
7	<b>Regularity of menstrual cycle</b>		
	Regular	30	60
	Irregular	20	40
8	<b>Information regarding PCOS</b>		
	Yes	4	8
	No	46	92
9	<b>Source of information</b>		
	Mass Media	0	0
	Teachers	3	75

n=50

Health Care Members	1	25
Conferences and Workshop	0	0

Table no 1 is showing description of samples based on their personal characteristics majority of students were from age group of 16 – 17 yrs. 42 (84%), 14 - 15 yrs. 24 (48) Age of menarche, 5000 – 10000, 18 (36%) monthly family income, 31 (62%) Nuclear family, 44 (88%) by religion, 35 (70%) mixed (Veg + Non veg), 30 (60%) with regular menstruation, 46 not having information regarding PCOS and only 4 were having information regarding PCOS got from teachers & Health care members.

### Section B

#### Assessment of level of knowledge score regarding polycystic ovarian syndrome among subjects

**Table 2: Assessment of level of knowledge score regarding polycystic ovarian syndrome among subjects before giving planned teaching (Pretest)**

Level of knowledge score	Score Range	Pre test	
		Frequency (f)	Percentage (%)
Poor	1-7(0-25%)	12	24%
Average	8-14(26-50%)	29	58%
Good	15-21(51-75%)	9	18%
Excellent	22-28(76-100%)	0	0%
Minimum score		4	
Maximum score		20	
Mean knowledge score		10.98±3.57	
Mean % Knowledge Score		39.21±12.75	

The above table shows that during pretest 12(24%) of the subjects had poor level of knowledge score, 29(58%) of the subjects had average level of knowledge score, 9(18%) of the subjects had good level of knowledge score and none of the subjects had excellent level of knowledge score.

**Table 3: Assessment of level of knowledge score regarding polycystic ovarian syndrome among subjects after giving planned teaching (Posttest)**

Level of knowledge score	Score Range	Post test	
		Frequency (f)	Percentage (%)
Poor	1-7(0-25%)	0	0%
Average	8-14(26-50%)	10	20%
Good	15-21(51-75%)	38	76%
Excellent	22-28(76-100%)	2	(4%
Minimum score		10	
Maximum score		22	
Mean knowledge score		17.36±3.01	
Mean % Knowledge Score		62±10.76	

The above table shows that, during posttest none of the subjects had poor level of knowledge score 10(20%) of the subjects had average level of knowledge score, 38(76%) of the subjects had good level of knowledge score and 2(4%) of the subjects had excellent level of knowledge score.

**Table No 4: Comparison of knowledge before and after planned teaching regarding polycystic ovarian syndrome**

Level of knowledge	Knowledge Score Pre test		Knowledge Score Post test	
	Frequency (f)	Percentage	Frequency (f)	Percentage
Poor	12	(24%)	0	(0%)
Average	29	(58%)	10	(20%)
Good	9	(18%)	38	(76%)
Excellent	0	(0%)	2	(4%)

The above table shows that majority of subjects having average knowledge 29 (58%) in pretest However majority of subjects having good knowledge 38 (76%) in posttest.

### Section C

**Association between pretest knowledge regarding polycystic ovarian syndrome among subjects with their selected demographic variables.**

**Table No 5: Association between pretest knowledge regarding polycystic ovarian syndrome among subjects with their selected demographic variables syndrome**

n=50

DEMOGRAPHIC DATA	DEGREE OF FREEDOM	$\chi^2$ -value	p-value	Significant
Age	6	5.17	0.42	No
Age of menarche	6	4.70	0.58	No
Family Income	6	3.39	0.75	No
Type of family	2	0.37	0.82	No
Religion	4	6.36	0.17	No
Dietary Habits	2	0.33	0.84	No
Regularity of menstrual cycle	2	1.70	0.42	No
Information regarding PCOS	2	0.16	0.91	No
Source of information	2	4.0	0.13	No

As the p value is more than 0.05 so there is no association with demographic data.

### Discussion

The aim of the study was to assess the effectiveness of planned teaching on knowledge regarding polycystic ovarian syndrome among adolescent girls.

A similar pre-experimental study was conducted on structured teaching programme on knowledge about polycystic ovarian syndrome among adolescent girls in 2017 at Uttarakhand, India. Study was done to create the awareness about the polycystic ovarian syndrome to the adolescent girls. Ninety-four adolescent girls aged between 15 – 18 years were conveniently selected by using a Quantitative approach. Result shows that the mean post-test knowledge score ( $22.55 \pm 3.57$ ) was higher than that of mean pre-test mean knowledge score ( $11.13 \pm 3.32$ ) and the mean difference was 11.42. The t calculated value was 23.45 which is higher than the tabulated value of 1.98 (df 93 at  $p < 0.05$ ). Therefore, research hypothesis was accepted. So, it can be interpreting that structured teaching programme is effective in improving the knowledge of adolescent girls. The findings of the study revealed that STP was effective in enhancing the knowledge of adolescent girls on PCOS. Hence the study concluded that structured teaching programme had a great potentiality to increase the awareness on PCOS.

### CONCLUSION

The present study concluded that planned teaching on knowledge regarding polycystic ovarian syndrome was found to be effective in improving the knowledge of subjects. There is no significant association of knowledge was found with selected demographic variables of the subjects in relation to polycystic ovarian syndrome. Based on the above cited findings, it was

concluded that the written prepared material by the investigator in the form of planned teaching helped the subjects to improve their knowledge regarding polycystic ovarian syndrome.

## IMPLICATIONS

### NURSING PRACTICE

Nursing is an art and science, as science nursing is based upon a body of knowledge that is always changing with new discoveries and innovations. When nurses integrate the science and art of nursing into their practice, the quality of care provided to client is a level of excellence that benefits clients in innumerable ways. The health care professionals including nurses will be more tactful in order to provide the knowledge regarding polycystic ovarian syndrome. The findings of the study will help the nursing professionals working in the hospital in gaining the knowledge and in planning and implementation of health teaching. Nurse can conduct the teaching session for clients in the hospital which will help them to improve their knowledge. Nurse can counsel the patients at risk for PCOS.

### NURSING EDUCATION

Nursing may be defined as a dynamic, therapeutic and educative process in meeting health need of the society. The present study emphasizes the health education on knowledge about polycystic ovarian syndrome. In order to educate the subjects, it is essential that the nurses are competent and have sound knowledge to improve the level of understanding which can be reflect to the public through education. The nursing students can develop an insight regarding knowledge about polycystic ovarian syndrome and implement the knowledge of the same while dealing with clients in various setting. The student nurse can use the tool prepared for this study for collecting information of polycystic ovarian syndrome. The findings can be utilized to prepare a guideline for managing PCOS

### NURSING ADMINISTRATION

Health administration plays role in supervision and management of nursing profession. The nurse administrator can utilize the present tool for assessing the knowledge of clients and can implement measures to promote health on the finding of the study. Teaching modules, group discussion and periodical educational sessions can also be arranged for subjects. Knowledge regarding polycystic ovarian syndrome is being concern of medical health care facility. Programme at schools level for prospective can be planned and implemented on large scale to manage the polycystic ovarian syndrome. Continuing and in-service education programs can be conducted for nurses in improving and updating with recent once and they in turn can create awareness to clients by teaching/educating.

### NURSING RESEARCH

Research is a systematic attempt to obtain meaningful awareness to phenomenon or events through of scientific procedures. It is an objective, impartial, empirical and logical analysis and according to controlled observations that may lead to the development of generalization and control of events that may be the consequences or cause of specific phenomenon. The findings of the study would add to the existing body of knowledge in the nursing profession. It would also provide a baseline data to educate staff and student nurses regarding polycystic ovarian syndrome.

### LIMITATION

- This study is limited to the adolescent girls in selected higher secondary schools.
- Assessment of knowledge only once before and after administration of planned teaching.
- The study was limited to 50 subjects.
- Non probability convenient sampling was done which restrict the generalization of study.

### RECOMMENDATIONS

On the basis of the study, it is recommended that following studies can be conducted. A similar study may be conducted on a larger population for generalization of findings. A similar study can be conducted and evaluated using alternative teaching strategies like interactive learning session, structured teaching programme, video assisted teaching. Comparative study can be conducted to ascertain the knowledge regarding polycystic ovarian syndrome among urban and rural population.

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