

# EFFECT OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG GIRLS STUDYING IN GOVERNMENT HIGHER SECONDARY SCHOOLS

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**Abstract-** Polycystic Ovary Syndrome is a common health problem which increases in adolescent girls and young women during their reproductive years. It is one of the most common endocrine disorders of women in reproductive age, with prevalence of 5–10% in different ethnic populations. The present study was carried out to assess the knowledge regarding Polycystic Ovarian Syndrome among girls studying in Government Higher Secondary Schools of Thiruvananthapuram Corporation. The objective was to assess the effect of structured teaching programme on polycystic ovarian syndrome among girls studying in Government Higher Secondary Schools. Investigator adopted quasi-experimental approach for the study and the research design was one group pre-test post-test design. Multistage cluster sampling was used to select 80 students from 2 Government Higher Secondary Schools in Thiruvananthapuram corporation. On the first day pre-test was conducted, following that a structured teaching programme was given and after 7 days, a post-test was conducted by using the same questionnaire. The data were tabulated using descriptive and inferential statistics. The findings revealed that the percentage of participants with good knowledge score increased from 20 % to 85 % after the structured teaching programme. Mean total knowledge before intervention was  $20.5 \pm 6.0$ , which increased to  $32.0 \pm 5.0$  after STP. The findings indicated that the structured teaching programme had significant effect in improving the girl's knowledge on polycystic ovarian syndrome.

**Key words:** Polycystic ovarian syndrome; structured teaching programme; knowledge

## INTRODUCTION

Adolescence is a period having the sense of identity and the sense of intimacy. It is the transition from childhood to adulthood and so it is not a smooth one. In addition to this intellectual and emotional upheaval, rapid body growth causes them anxiety and cultural pressures of today's world add further stress to their uncertainty<sup>1</sup>. 10 to 20% of the world population comprises adolescents and their problems have not been fully appreciated and addressed until recent times<sup>2</sup>.

Gynaecological problems of adolescents occupy a special space in the spectrum of gynaecological disorders of all ages. Menstrual abnormalities are the common problems of adolescents. Menstrual disorders (58.06%) were found to be the commonest gynaecological problem<sup>3</sup>. One of the most important gynaecological diseases, now days faced by girls, is Polycystic ovarian disease (Stein Leventhal Syndrome). This is the commonest course of Amenorrhea in young girls<sup>4</sup>. PCOS, also known as Polycystic Ovarian Syndrome, is reported to be a growing problem with adolescent girls. It can be very difficult to diagnose PCOS in teenage girls as they often experience irregular or absent menses and acne.

Polycystic ovarian syndrome is a heterogeneous endocrine disorder that affects one in 15 women worldwide. It is the most frequent cause of hyperandrogenism and oligo-anovulation which have substantial psychological, social and economic consequences. Immigrant populations from the Indian subcontinent to the UK and Australian women of aboriginal heritage also have a higher prevalence of PCOS<sup>5</sup>.

PCOS was first described by Stein and Leventhal in 1935 with significant clinical implications like menstrual irregularities, hirsutism, infertility, suboptimal obstetrical outcome and long term complications like impaired glucose tolerance, diabetes mellitus type 2, dyslipidaemia, coronary artery disease and endometrial hyperplasia<sup>7</sup>. Studies in first-degree relatives of patients with PCOS shows that 24% of mothers and 32% of sisters are affected, suggesting a major genetic association. Screening of an unselected population in the south-western United States showed 4% incidence of PCOS<sup>8</sup>.

Recognizing the features of this syndrome can be very challenging in adolescence. Although adolescent's concerns are often cosmetic, if left untreated these girls are at risk for diabetes, metabolic syndrome, and infertility as they mature. Efforts should be made to diagnose and treat PCOS to minimize the development of symptoms and prevent the onset of cardiovascular and metabolic disturbances<sup>9</sup>.

Since PCOS is the most common endocrinologic disorders during adolescence, there is always a need to investigate all new and relevant data derived from adolescent girls.

### Statement of the problem

A study to assess the knowledge regarding Polycystic Ovarian Syndrome among girls studying in Government Higher Secondary Schools of Thiruvananthapuram Corporation.

### Objective

To assess the effect of structured teaching program on knowledge regarding Polycystic Ovarian Syndrome among girls.

### Operational definitions

- **Effect:** It refers to the change in the mean knowledge score before and after the interventional programme among the study group.
- **Structured teaching program:** It refers to the systematically planned teaching strategy by the researcher designed to provide information to the study group regarding Polycystic Ovarian Syndrome for a duration of 45 minutes for a cluster of students about, definition of Polycystic Ovarian Syndrome, incidence and prevalence, risk factors, clinical manifestations, diagnostic criteria, prevention, treatment modalities.
- **Knowledge:** It denotes the level of understanding regarding Polycystic Ovarian Syndrome among study group. Knowledge will be assessed by using questionnaire.

Questionnaire consists of 39 items, each item carries 1 mark. If the score is less than 13, it is considered as poor knowledge, if the score is between 13 and 26, it is considered as average knowledge, if the score greater than 26, it is considered as good level of knowledge.

- **Polycystic ovarian syndrome:** In this study, polycystic ovarian disease is characterized by enlarged ovaries with multiple small cysts, an abnormally high number of follicles at various states of maturation, and a thick, scarred capsule surrounding each ovary and associated with high male hormone levels, chronic anovulation (absent ovulation), and other metabolic disturbances.

### Hypothesis

There will be difference between the knowledge of girls on polycystic ovarian syndrome before and after the structured teaching program.

### Materials and Methods

**Research approach :** Quantitative approach

**Research design:** Quasi experimental one group pre testpost test design

### Variables

- **Independent variable**  
In this study, the structured teaching programme regarding polycystic ovarian syndrome was the independent variable
- **Dependent variable**

In the present study, knowledge of girls regarding polycystic ovarian syndrome was the dependent variable

**Setting:** The settings of the study were Govt Higher Secondary Schools of Thiruvananthapuram corporation. The selected schools were

- Govt Girls Higher Secondary School, Cotton hill
- Govt GHSS, Karamana, Thiruvananthapuram

**Population:** Girls studying in Government Higher Secondary Schools.

**Sample size:** Sample size for the present study was 80.

**Sampling technique:** Multistage cluster sampling technique.

### Criteria for sample selection

#### Inclusion criteria

In this study, inclusion criteria were the following

- Girls studying in Higher Secondary Schools of Thiruvananthapuram Corporation.
- Girls who are available at the time of data collection and given consent to participate in the study.

#### Exclusion criteria

In this study, exclusion criteria was

- Girls who are absent on the day of pretest.

**Tools:** Structured questionnaire

### Content validity

The validity refers to the degree to which an instrument measures what it is intended to measure. The prepared tool along with the objectives and operational definition and hypothesis was send to 10 experts for content validity. Based on their suggestions necessary changes were made and tool was finalized with the help of the guide

### Development of the tool

The following methods were used for the development of tool

- Review of literature- books, research studies, journals, newspapers, online sources
- Discussion with experts and guide
- Discussion with colleagues
- Consultation and discussion with nursing experts and psychologist

### Description of the tool

Structured questionnaire with

Part I: Socio-demographic variables of study group.

Part II: Structured questionnaire on polycystic ovarian syndrome.

#### The tool for data collection had two parts

**Part I** consists of socio personal details of the girls. There were 10 questions which include age, sex, class, education status of mother and father, occupation of their mother and father, family type, and monthly income.

**Part II** consists of questions regarding the menstrual history of participants. This includes 6 questions regarding their age of menarche, interval between periods, duration of bleeding, amount of bleeding, about their previous knowledge etc.

**Part III** consists of questions to assess knowledge of participants regarding PCOS. It has 4 sections

**Section A:** Section A consists of questions to assess knowledge of girls regarding anatomy and physiology of ovary. This section includes 11 questions, each question carries 1 mark and a total of 11 marks

**Section B:** Section B consists of questions to assess the knowledge of girls regarding dietary management of PCOS. This section includes 7 questions. Each question carries 1 mark and a total of 7 marks.

**Section C:** Section C consists of questions to assess the knowledge of girls regarding exercise for the management of PCOS. This section includes 5 questions, each question carries 1 mark and a total of 5 marks.

**Section D:** Section D consists of questions to assess the knowledge of girls regarding the disease condition PCOS. This section includes 15 questions, each question carries 1 mark and a total of 15 marks.

#### Data collection process

After getting permission from Institutional research committee, human ethics committee, Government College of Nursing Thiruvananthapuram, Directorate of Higher Secondary Education, and Kerala University of Health Sciences. The period of data collection was from 6/1/18 to 14/2/18. The study was conducted in The Govt Girls Higher Secondary School, Cotton hill and GGHSS, Karamana which was selected randomly from the sampling frame obtained from directorate of higher secondary education. 80 girl students were taken for the study, 40 from each school. Purpose of data collection explained to the participants and obtained consent from them, the questionnaire was administered to the participants. After collection of pre test data structured teaching program was given to the group of girls regarding definition, incidence, risk factors, clinical manifestations, diagnostic criteria, prevention, treatment modalities of polycystic ovarian syndrome. Certain aerobic exercises were demonstrated to the group. The teaching was given in a class room, the group were taken as a cluster, 40 from plus one and 40 from plus two. The teaching was given for a period of 45 minutes for a group of 20 students. Clarification of their doubts was done. A self -instructional module was given to each class after the teaching section for the remaining students. Post-test was conducted using the same questionnaire after 1 week in the same classrooms.

#### Data analysis

##### Results

The data were analyzed using statistical package for social science (SPSS). Frequency, mean and standard deviation is used to describe the data. Paired “t” test was done to compare the pre and the post-test knowledge scores. It was obtained that the average knowledge score in the pre-test was  $20.5 \pm 6.0$  after intervention knowledge score becomes  $32.0 \pm 5.0$  Average change in knowledge score was  $11.422 \pm 7.025$ . The observed difference was statistically significant ( $p < 0.05$ ). The knowledge score was significantly improved after intervention.

**Table 1- Distribution of participants based on total knowledge score in pre and post test (n=80)**

Knowledge	Pre test		Post test	
	N	%	N	%
Poor	8	10.0	0	0
Average	56	70.0	12	15.0
Good	16	20.0	68	85.0
Total	80	100.0	80	100.0

**Table 2- Comparison of pre and post test total knowledge score of participants (n=80)**

	N	Knowledge score		Paired difference		Paired t test	
		Mean	Sd	Mean	Sd	T	P
Pre-test	80	20.5	6.0	11.422	7.025	14.542	<0.001
Post test	80	32.0	5.0				

#### Part I: Socio demographic data of participants

- It was observed that 46.3% of the participants were 17 years old and 42.5% were 16 years old.
- Out of 80 students, 50% were studying in plus one and 50% were studying in plus two.
- Regarding the religion 70.0% students were Hindu, 15% were Christians and 15% were Muslims.

- It was observed that 72.5 % were residing in urban area and 27.5% were residing in rural area.
- Regarding the type of family, 91.3% participants belong to nuclear family, 6.3% belongs to extended nuclear family and remaining 2.5 % belongs to joint family.
- It was observed that 57.5 % fathers of participant's have completed high school education, 21.3 % completed higher secondary education and 8.8 % were graduates.
- It was observed that 52.5% mothers of participants have completed high school education, 21.3 % have completed higher secondary education and 22.5% were graduates.
- Majority of the (47.5%) student's fathers were daily wage earners and 21.3% were office workers.
- Majority of the (67.5%) participant's mothers were unemployed and 12.5 % were office workers
- Regarding the monthly income 51.2% of the participants were APL and 48.8% were BPL.

#### **Part II: Menstrual history of participants.**

- It was observed that 38.8 % participants attained menarche at age 12 and 32.5 % attained menarche at age 13.
- It was observed that that the average interval between 2 periods for 37.5% girls are greater than 28 days and 36.3 % are 28 days.
- Regarding the duration of periods 61.3% of the girl's periods last for 5-7 days.
- It was observed that 50% girls have heavy bleeding for 3-4 days during their menstrual cycle and 42.5 % have heavy bleeding for less than 4 days.
- Majority of the participants (75%) 75 % participants do not have any previous information regarding PCOS.
- It was observed that 12.5% reported that their source of information regarding PCOS were health workers and 7.5% get information from their teachers.

#### **Part III: Distribution of participants based on total knowledge score**

- It was observed that in pre-test 10% of the participants had poor knowledge, 70% had average knowledge and 20% had good knowledge regarding PCOS.
- It was observed that in post test, after intervention, 85% of the participants gained good knowledge and 15% gained average knowledge regarding PCOS.

#### **Section A: Assessment of knowledge regarding anatomy and physiology of ovary**

- It was observed that during pre test 60% of the participants had average knowledge, 32.5% had good knowledge regarding anatomy and physiology of ovary.
- It was observed that in the post test, after intervention, 75 % of the participants gained good knowledge and 25% gained average knowledge regarding anatomy and physiology of ovary

#### **Section B: Assessment of knowledge regarding dietary management of PCOS**

It was observed that in the pre- test 62.5 % participants had good knowledge and 32.5 % had average knowledge regarding the dietary management of PCOS.

It was observed that in the Post-test, after intervention 88.8% of the participants gained good level of knowledge and 11.3 % gained average knowledge regarding dietary management of PCOS during post test.

#### **Section C: Assessment of knowledge regarding exercise for the management of PCOS**

- It was observed that in pre test 15 % of the participants had poor knowledge, 43.8% had average knowledge and 41.3% had good knowledge regarding exercise for the management of PCOS.
- It was observed that in post –test, after intervention 82.5% of the participants gained good knowledge and 13.8 % gained average knowledge regarding exercise for the management of PCOS

#### **Section D: Assessment of knowledge regarding disease condition PCOS**

- It was observed that 47.5% of the participants had poor knowledge, 51.3% had average knowledge.
- It was observed that in post-test, after intervention 86.3 % of the participants gained good knowledge and 13.8 % gained average knowledge regarding PCOS

#### **Part IV: Comparison of pre and post -test knowledge of participants**

##### **Comparison of pre and post- test total score of knowledge of participants**

It was obtained that the average knowledge score in the pre-test was  $20.5 \pm 6.0$  after intervention knowledge score becomes  $32.0 \pm 5.0$  Average change in knowledge score was  $11.422 \pm 7.025$ . The observed difference was statistically significant ( $p < 0.05$ ). The knowledge score was significantly improved after intervention.

## **DISCUSSION**

The present study was conducted to assess the effect of structured teaching programme on knowledge regarding polycystic ovarian syndrome among girls studying in higher secondary schools of Thiruvananthapuram corporation. It was found that the structured teaching programme resulted in significant improvement in the knowledge of girls regarding polycystic ovarian syndrome.

In the present study, 91.3% participants belong to nuclear family, 6.3% belongs to extended nuclear family and remaining 2.5 % belongs to joint family. 57.5 % fathers of participant's have completed high school education, 21.3 % completed higher secondary education and 8.8 % were graduates. In the present study 52.5% mothers of participants have completed high school education, 21.3 % have completed higher secondary education and 22.5% were graduates.

In the present study 47.5% of student's fathers were daily wage earners and 21.3% were office workers. Majority of the (67.5%) participant's mothers were unemployed and 12.5 % were office workers. Regarding the monthly income 51.2% of the participants were APL and 48.8% were BPL.

The finding of the study is supported by a quasi-experimental study, which was done in secondary schools in Mansoura, Egypt in 2015. They also found that 92.5% belongs to the age group 17 years. As regards students' mothers and father's education were 44.5% and 36.8 % respectively were secondary school educated and regarding their occupation 66.3% of students mother were housewife and 54.7% of students father were employed in Governmental jobs. Most of the students 94.7% belong to nuclear family. With regard to family monthly income was not enough in 77.9% of students.<sup>9</sup>

## 2. Effect of structured teaching programme on knowledge regarding polycystic ovarian syndrome among girls

The present study found out that median pre-test knowledge score was  $20.5 \pm 6.0$  after intervention knowledge score becomes  $32.0 \pm 5.0$  Average change in knowledge score was  $11.422 \pm 7.025$  with a p value 0.001. The observed difference was statistically significant ( $p < 0.05$ ). Hence there was significant difference after the intervention on knowledge regarding polycystic ovarian syndrome.

The above findings are supported by a quasi-experimental study conducted at the Faculty of Nursing at Minia University, El Minia, Egypt with the objective to assess the effect of educational program on the level of knowledge regarding polycystic ovarian syndrome among ninety six female students studying in Minia university. The mean pre-test knowledge score was 25.5 and mean post-test knowledge score was 54.66. The calculated "t" value was significantly greater than the table value at 0.001 level of significance,  $p < 0.001$ .<sup>10</sup>

These study results were supported by Sowmya and Philomena (2013) [21] who reported that teaching program on polycystic ovarian syndrome was effective and statistically highly significant at 0.001 level. This study result revealed that there was significant difference between the mean pre-test and post-test knowledge scores. The pre-test mean percentage (4.37%) scores regarding PCOS were found to be less than post-test mean percentage (12.08%) scores. 't' value computed between pre-test and post-test knowledge scores ( $t_{79} = 2.0$ ,  $p < 0.05$ ) was statistically significant.<sup>11</sup>

As well as a study conducted by Sunanda B, Sabitha Nayak, lecturer, Nitte Usha Institute of Nursing Sciences on a study to assess the knowledge regarding polycystic ovarian syndrome among nursing students at NUINS revealed that most of the students (76%) had average knowledge and 10.7% had good knowledge regarding polycystic ovarian syndrome.<sup>12</sup>

## Nursing Implications

The findings of the study have a lot of implications in the field of nursing service, nursing education, nursing research and nursing administration by providing structured teaching programme many of the PCOS cases can be diagnosed earlier and complications can prevent.

### a) Nursing service

- Information from the study can be utilized by the staff nurses in wards, school health nurses, public health nurses, health educators, teachers and local leaders
- School health nurses can teach students regarding PCOS and preventive measures.
- BSc nursing students, nursing graduates and post graduates can be utilized to teach students.
- Teachers can be utilized for conducting health education as a part of school health programme.
- Teachers and school health nurses can identify students who may have PCOS and refer them for medical check-up.
- Nurse should include themselves to implement the lifestyle changes in the community to prevent incidence of PCOS.

### b) Nursing education

- Findings can be used for training of health workers and teachers.
- It can be utilized as guidelines for conducting various studies.
- This study can be left in library and its preventive measures can be included in library.

### c) Nursing research

- Similar studies can be conducted regarding other common health problems in children
- The study can be utilized as a reference material for future researchers.
- The methodology, tool and findings can be added to nursing literature.
- Suggestions, recommendations arising from the present study could be utilized for conducting future studies in the similar field.
- An abstract of the research can be published in various nursing journals.

## Nursing administration

- Nurse administrator should take interest in motivating school health nurses, especially to improve their professional knowledge and skill by attending health conferences, workshops, and seminars and training programme on recent updates on PCOS.
- The nurse administrator should arrange regular in-service education programme on polycystic ovarian syndrome for staff nurses and student nurses.
- In the community, the nurse administrator should organize community health education programme with the community health nurse regarding prevention of risk factors for polycystic ovarian syndrome.
- Periodical appraisal of school health nurses and community health nurses has to be done to assess the level of knowledge regarding PCOS.
- Nurses administrator can train the Higher Secondary School teachers and school health nurses to educate students other than science batch regarding menstruation and reproductive system

## Limitations

- The study is limited to government higher secondary schools of Thiruvananthapuram corporation.
- The study is limited to students who are studying plus one and plus two.

## Recommendations

In the light of the study following recommendations are put forth-



- Topics related to PCOS can be included in the School curriculum
- In service education can be given to teachers regarding PCOS
- Organize awareness programme for the students in association with adolescent clinic.
- Participation of teachers, parents, and students in school health programme should be ensured and it can facilitate better compliance.
- Literature related to PCOS can be included in school library.

## CONCLUSION

The study intended to assess the effect of a structured teaching programme on knowledge regarding polycystic ovarian syndrome among girls studying in higher secondary schools of Thiruvananthapuram corporation. Based on the findings of the study the following conclusions were drawn.

From this study it was found out that the mean pre-test knowledge score was 20.5, which was increased to 32.0 after structured teaching programme on polycystic ovarian syndrome with a  $p$  value  $< 0.05$ . Hence there was a significant difference after intervention on knowledge regarding PCOS.

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