

## Original Research Article

# Structured teaching programme on knowledge about polycystic ovarian syndrome among adolescent girls

Sonia Rawat\*, Gomathi B., Laxmi Kumar, Mahalingam V.,

Himalayan College of Nursing, SRHU, Dehradun, Uttarakhand, India

**Received:** 08 September 2017

**Accepted:** 02 October 2017

**\*Correspondence:**

Dr. Sonia Rawat,

E-mail: sarthak.manwal23@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

### ABSTRACT

**Background:** Polycystic ovarian syndrome is a common female endocrine disorder affecting 4 – 18% of women in their reproductive age. It is common in adolescent girls. Polycystic Ovarian Syndrome affects throughout the life and produce gynaecological and metabolic health problems. The aim of this study to create the awareness about the polycystic ovarian syndrome to the adolescent girls.

**Methods:** A Quantitative approach with pre- experimental design was used to study the effectiveness of STP on Poly Cystic Ovarian Syndrome. Ninety-four adolescent girls aged between 15 – 18 years were conveniently selected. Data was collected by using Structured Knowledge questionnaire.

**Results:** 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.

**Conclusions:** 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.

**Keywords:** Adolescent girls, Polycystic ovarian Syndrome, Structured teaching programme

### INTRODUCTION

The impact of modernization and technological advancement affects the daily life activity of human beings. Our lifestyle has changed a lot. An unhealthy eating habits and lack of exercise it leads to occurrence of many diseases in adolescents.<sup>1</sup>

Adolescent is a stage of transition from childhood to adulthood. Adolescence are undergoing several physiological changes which include body growth, hormonal changes, and sudden development of primary & secondary sex characteristics. Adolescent are more prone to health risk due to hormonal changes, lifestyle

changes and lack of knowledge. So, it is important to minimize the complication in later adolescent or health is maintained by the healthy lifestyles, early recognition of health problems.<sup>2</sup>

In adolescent period many diseases affecting adolescent girls like menstrual irregularities, dysmenorrhea, menorrhagia, premenstrual syndrome, amenorrhea, oligomenorrhea, premature ovarian failure or polycystic ovarian syndrome. Now a day's polycystic ovarian syndrome is considered as a widespread problem among adolescent girls.<sup>3</sup> Polycystic ovarian disease is a common adolescence health problem and one of the leading causes of infertility. Polycystic disease is a most common female

endocrine disorder which occurs in 4–18 % of women in their reproductive age worldwide.<sup>4</sup>

The short-term complications of polycystic ovarian disease include menstrual irregularities, hyperandrogenism, insulin resistance and hyperinsulinemia, obstructive sleep apnea, dyslipidemia, oligoovulation anovulation and long-term complication includes endometrial hyperplasia, metabolic syndrome, cardiovascular disease, psychological disorders.<sup>5</sup>

A healthy lifestyle is one of the most important aspects of managing Polycystic Ovarian Syndrome successfully. A healthy diet will ensure that the adolescent girls are getting an adequate intake of nutrients, vitamins and minerals. Healthy diet and avoid junk foods and regular exercise reduce the severity of polycystic ovarian symptoms.<sup>6</sup>

Investigator from her field of experience and through extensive literature realized that the infertility cases are increasing now a day. PCOS is one of the leading causes of infertility and it is the common health problem during adolescent period. Education is one of the generality widely adopted health promotion strategies. So, there is more importance to create awareness programme regarding polycystic ovarian syndrome among the adolescent girls to recognize the early sign of PCOS. So that the researcher was motivated to conduct the teaching programme to increase the knowledge of adolescent girls regarding PCOS. The objective of the study was to assess the level of existing knowledge on PCOS among the adolescent girls. To assess the effectiveness of STP on knowledge of PCOS among adolescent girls. To find the association between pre-test knowledge score on polycystic ovarian syndrome with their selected demographic variables.

## METHODS

A quantitative approach with one group pretest and post-test design were used to carry out this study. The population comprised of adolescent girls. 94 samples were selected conveniently to conduct this study. The tools used for this study were tested i.e. socio demographic Performa and structured knowledge questionnaire regarding polycystic ovarian syndrome. The structured teaching programme include introduction of polycystic ovarian syndrome, causes and risk factors, diagnosis, complication and management of polycystic ovarian syndrome. Informed written consent was obtained from the participants and ethical permission was taken from the ethical committee. Pre-test was done and after that structured programme was conducted regarding polycystic ovarian syndrome by the lecture cum discussion method with the help of charts, power point presentation, pamphlets and after 7<sup>th</sup> day post-test was done. Descriptive statistics includes frequency, percentage, mean, standard deviation was used to describe the result. Inferential statistics like paired t test,

Chi square test, chi square test with Yates correction & Fisher exact test were used to find the effectiveness and association

## Hypothesis

All the hypotheses measured at the level of  $p \leq 0.05$

- H1: The mean post-test knowledge score will be significantly higher than the mean pre-test knowledge score among adolescent girls.
- H2: There will be significant association between pre-test knowledge score on polycystic ovarian syndrome among adolescent girls with their selected demographic variable.

## RESULTS

Table 1 shows that the frequency and percentage distribution of socio- demographic characteristics of study participants. Study included 94 adolescent girls. Half of the participants (51.1%) were aged between 17-18 years. All (100%) participants were belonging to rural area. Two third (67.02%) of the participants were belongs to nuclear family. Most (97.87%) of the participants were belongs to Hindu religion. Almost half (47.8%) of the participant's mothers had primary education. Majority (59.57%) of the participant's fathers had Intermediate education. In view of age of menarche almost three fourth (71.1%) of the participants were attained menarche in the age of between 14-16 years. 46.8% of the participants had dysmenorrhea. Most (95.30%) of the participants were using 2-4 pads in a day. More than half (55.32%) of the participants were having length of menstrual cycle 21-35 days. Most (98.93%) of the participants had no knowledge on PCOS. All (100%) of participants had no family history of PCOS. Two third (67.02%) of the participants were having menstrual flow between 5-7 days.

Table 2 Shows the effectiveness of structured teaching programme regarding polycystic ovarian syndrome. Paired t- test was performed to assess the effectiveness of STP on Polycystic Ovarian Syndrome. The calculated value (23.45) was higher than the tabulated value (df 93 = 1.98) at ( $p < 0.05$ ). The mean post-test knowledge score was ( $22.55 \pm 3.57$ ) significantly higher than the mean pre-test knowledge score ( $11.13 \pm 3.32$ ). Since, it can be interpreted that teaching programme was effective in improving the knowledge of adolescent girls regarding polycystic ovarian syndrome.

Table 3 Shows the comparison of pre-test and post-test knowledge score of adolescent girls on PCOS. The "t" test was computed to compare the knowledge scores. It shows that post-test knowledge scores in all components were significantly increased as compared to pre-test knowledge scores.

**Table 1: frequency and percentage wise distribution of socio- demographic characteristics of the study participants (n = 94).**

Variables	Frequency (F)	%
<b>Age (in years)</b>		
15yr – 16yr	46	48.9
17yr- 18yr	48	51.1
<b>Area of living</b>		
Rural	94	100
<b>Type of family</b>		
Joint	31	32.98
Nuclear	63	67.02
<b>Religion</b>		
Hindu	92	97.87
Muslim	02	2.12
<b>Mother education</b>		
No formal education	06	6.3
Primary	45	47.8
Intermediate	43	45.74
<b>Father education</b>		
No formal education	02	3.19
Primary	29	30.85
Intermediate	56	59.57
Graduate	07	7.44
<b>Age of Menarche</b>		
11 – 13yr	27	28.7
14 – 16yr	67	71.1
<b>Dysmenorrhea</b>		
Yes	44	46.8
No	50	53.2
<b>No. Pads used in a day</b>		
2- 4	90	95.30
5-7	04	4.30
<b>Menstrual cycle</b>		
< 21	16	17.03
21 – 35 days	52	55.32
> 35	26	27.65
<b>Know about PCOS</b>		
No	93	98.93
Yes	01	1.06
<b>Source of information</b>		
Doctor	01	
<b>Family history of PCOS</b>		
No	94	100
<b>Days of menstrual flow</b>		
2- 4	31	32.98
5-7	63	67.02

Figure 1 Illustrated that component wise comparison of pre-test and post-test knowledge scores of adolescent girls on PCOS. Shows the maximum mean percentage of pre-test knowledge (39.8%) obtained in the component of “Introduction of PCOS” and minimum mean percentage (25.9%) obtained in the component of “Diagnosis”. It also shows the maximum mean percentage of post-test knowledge (78.2%) obtained component of “Introduction of PCOS” and the minimum mean percentage (53.7%) obtained component of “complication of PCOS”. It shows that adolescent girls had improved their knowledge regarding polycystic ovarian syndrome after implementing structured teaching programme.

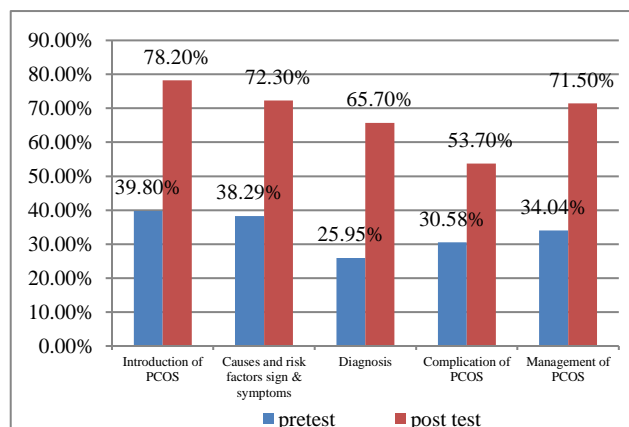
**Table 2: Effectiveness of structured teaching programme regarding PCOS (n = 94).**

Knowledge score of adolescents girls	Mean ± SD	Mean difference	“t” value	p-value
Pre – test score	11.13± 3.32	11.42	23.45*	0.0001*
Post – test score	22.55± 3.57			

(df 93 = 1.98) at p< 0.05 \* = Significant

**Table 3: Component wise comparison of means of pre-test and post-test knowledge score of adolescent girls on PCOS (n = 94).**

Components of related to PCOS	Mean ± SD (pre – test)	Mean ± SD (post – test)	t test	P value
Introduction to polycystic ovarian syndrome	3.98±1.72	7.82±1.84	13.90	0.0001
Cause and risk factors and sign and symptoms	1.91±0.98	3.61±0.94	12.67	0.0001
Diagnosis	1.29±1.18	3.28±0.83	13.12	0.0001
Complication of Polycystic Ovarian syndrome	1.22±1.00	2.14±0.94	7.25	0.0001
Management and treatment	2.69±1.30	5.72±1.13	16.76	0.0001



**Figure 1: Bar diagram illustrates component wise comparison of mean pre-test and mean post-test knowledge scores of adolescent girls on PCOS.**

Table 4 shows the association between the pre-test knowledge score of adolescent girls on Polycystic Ovarian Syndrome with their selected demographic variables. Chi square test, Chi square test with Yates correction test, and Fisher test was performed to find the association. The result indicates that there was no significant association found between mean pre-test knowledge score of adolescent girls on polycystic ovarian syndrome with their selected demographic variables {i.e.

age (0.52), type of family (0.51), religion (0.92), mother education (0.49), father education (0.48), age of menarche (0.09), dysmenorrhea (0.31), menstrual cycle (0.93), menstrual flow (0.27), knows about PCOS (0.46) except pads used in a day ( $p = 0.04$ ).

**Table 4: Association between selected demographic characteristics of adolescent girls with pre-test knowledge score on PCOS (n=94).**

Variables	Below median <11	At or above median >11	$\chi^2$	p-value
<b>Age (in years)</b>				
15yr – 16yr	20	26	0.40	0.52
17yr- 18yr	24	24		
<b>Type of family</b>				
Joint	16	15	0.42	0.51
Nuclear	28	35		
<b>Mother education</b>				
No formal education	2	4	0.46	0.49**
Formal education	42	46		
<b>Father education</b>				
No formal education	1	1	0.48	0.48**
Formal education	43	49		
<b>Age of Menarche</b>				
11 – 13 yr	9	18	2.76	0.09
14 – 16 yr	35	32		
<b>Dysmenorrhea</b>				
Yes	23	21	0.99	0.31
No	21	29		
<b>Menstrual cycle</b>				
< 21	7	13	0.89	0.64
21 – 35 days	28	31		
> 35	7	8		
<b>No of Pads used in a day</b>				
2- 4 pads	40	50	----	0.04#
5 – 7 pads	4	0		
<b>Menstrual Flow</b>				
2 – 4 days	17	14	1.19	0.27
5 – 7 days	27	36		
<b>Know about PCOS</b>				
Yes	1	0	-----	0.46#
No	43	50		

df1 = (3.84) at  $p < 0.05$ . \*\* = Chi square with Yates correction. # = Fisher exact test

## DISCUSSION

This study results proved that structured teaching programme is effective to improve the knowledge of adolescent girls regarding polycystic ovarian syndrome. This study findings also supported by the study

conducted by Mohamed AAH stated that mean scores of post-test were significantly higher after educational program compared to their values at pre-test ( $p < .0001$ ).<sup>7</sup> Study conducted by Tamilarashi B, Vathana V with the findings  $t=8.45$  ( $p < 0.05$ ) which indicates increase in knowledge score after implementing structured teaching programme.<sup>8</sup> Study conducted by Patel K stated that planned teaching programme was effective in improving the knowledge of adolescent girls ( $p < 0.05$ ).<sup>9</sup>

Study was also supported the study conducted by Souza D P stated that planned teaching programme was effective in gaining knowledge of adolescent girls ( $t=7.02$ ,  $p < 0.05$ ).<sup>10</sup> Study conducted by Mohamad E H, Mansour S E, Ibrahim E A and the result showed that educational sessions were effective to increase the knowledge of adolescent girls about polycystic ovarian syndrome.<sup>11</sup> Study conducted by Shobha, Devi S E, Prabhu A showed that a significant increase in the knowledge scores on PCOS was observed after the awareness program ( $p < 0.001$ ).<sup>12</sup> Also stated that an awareness program could bring about a desirable change in knowledge among adolescent girls regarding PCOS and prevent future complications. This study findings also supported by Sidhu G, Kaur H, Batth, Sharma N, Kaur D stated that the planned teaching program helped to increase the knowledge regarding PCOS among adolescent girls.<sup>13</sup> Study conducted by Sowmya MA, Fernandes P study findings showed that the structured teaching programme was effective in improving knowledge of adolescent girls regarding polycystic ovarian syndrome.<sup>14</sup> Study also supported by study conducted by Atiqulla S, Gulam S B, Ghufraam A, Bana M, Raghad H study findings shows that a statistically significant difference was observed between pre and post intervention knowledge scores with p value (0.000).<sup>15</sup>

## CONCLUSION

Educating the adolescent girls regarding polycystic ovarian syndrome helps the adolescent girls to identify the signs and symptoms and early recognition of polycystic ovarian syndrome and prevents its complications and improve the fertility.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee SRHU*

## REFERENCES

- Mohammad HE, Mansour SE, Ibrahim E. Effect of educational sessions about polycystic ovarian syndrome for late adolescent girls self-protective measures. Int J N Didat. 2016;5(8). available from <http://innovativejournal.in/ijnd/index.php/ijnd>
- Gulani K K, Textbook of community health nursing, 2<sup>nd</sup> edition, Delhi, Kumar; 2013:461.

3. Afendi R.N, Chee C, Shingh S Adolescent menstrual problems. *J Pediatrics Obstetrics Gynaecol.* 2015;6(3):15-6.
4. Brosens I, Giuseppe B. Menstrual preconditioning for the prevention of major obstetrical syndromes in polycystic ovary syndrome. *Americ J Obstetr Gyanecol.* 2015;213(4):488.
5. Tabbasum K. Ultrasonographic Prevalence of Polycystic Ovarian Syndrome in Different Age Groups *Indian J Clinic Pract.* 2014;25(6);561-64.
6. Jean Hailes for women's health. Management and treatment.: Available from <https://jeanhailes.org.au/health-a-z/pcos/management-treatment>
7. Mohamed AAH. Quasi experimental study on Effect of educational program on the level of knowledge regarding polycystic ovarian syndrome among adolescent girls. *JNEP.* 2016;6(10):80-6.
8. Tamilarashi B, Vathana V. Effectiveness of structured teaching programme on knowledge regarding PCOS among adolescent girls in selected school at Chennai. *Internat J Medic Surg Nurs* 2016;1(1):19-22.
9. Patel K. Effectiveness of Planned Teaching Program on Polycystic Ovarian Syndrome in terms of Knowledge and Attitude among adolescent girl in Ahmedabad. *J Nur Today.* 2016;2(3).
10. Pramila D, Souza A study to assess the effectiveness of Planned Teaching Programme on PCOS among adolescent girls in selected school at Mangalore. *Nitte University J Health Sci.* 2013;3(3).
11. Mohamed A, Abdel H. Effect of educational program on the level of knowledge regarding polycystic ovarian syndrome among adolescent girls. *JNEP.* 2015;6(10):5-10.
12. Shobha, Devi SE, Prabhu A. An exploratory survey to identify with high risk for PCOS and to find the effectiveness of an awareness programme among students of selected pre-university colleges of Udupi District. *Journal N Health Sci.* 2014;3(3):66-9.
13. Sidhu G, Kaur H, Bath, Sharma N, Kaur D. Study on effectiveness of Planned Teaching Program on Level of Knowledge Regarding Polycystic Ovarian Syndrome. *Inventi Rapid: Obstetr Gynecol.* 2017;1:1-4.
14. Sowmya M.A, Fernandes P. Study to assess effectiveness of Structured Teaching Programme on knowledge about PCOS among adolescent girls. *Nitte University J Health Sci.* 2013;3(3):54-7.
15. Atiqulla S. Gulam S. Ghufraam A. Bana M. Raghad H. An Interventional Study on Effectiveness of Structured Education Programme in Improving the Knowledge of Polycystic Ovarian Syndrome among Female Students. *IJSR.* 2016;5(1):1659-61.

**Cite this article as:** Rawat S, Gomathi B, Laxmi K, Mahalingam V. Structured teaching programme on knowledge about polycystic ovarian syndrome among adolescent girls. *Int J Res Med Sci* 2017;5:5004-8.