



Research Article

Effectiveness of Structured Teaching Programme in terms of Knowledge of Adolescent Girls regarding Polycystic Ovarian Syndrome and Prevention of its Complications in Selected Senior Secondary School

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A B S T R A C T

A study was conducted "to assess and evaluate the effectiveness of Structured Teaching Programme (STP) in terms of knowledge of adolescent girls regarding Polycystic Ovarian Syndrome (PCOS) and Prevention of its Complications in selected senior secondary school of New Delhi".

Objectives of the Study: To assess the knowledge of adolescent girls on PCOS and prevention of its complications, to develop and evaluate the effectiveness of STP in terms of gain in knowledge of adolescent girls and to determine the association between pre- test knowledge scores and selected demographic variables.

Methods and Materials: A quantitative approach with one- group pre-test post-test design was selected. 60 adolescent girls were selected by convenient sampling technique. A STP was developed and data was collected from Bachan Prasad Senior Secondary School, Sangam Vihar, New Delhi by using Structured knowledge questionnaire.

Result: The data was analysed using descriptive and inferential statistics and the findings showed that the mean post-test knowledge scores (25.5 ± 3.71) was higher than the mean pre-test knowledge scores (15.85 ± 3.6) with a mean difference of 9.65. The obtained mean difference was found to be statistically significant as evident from calculated 't' value of 16* which is greater than table value of 2.00 at 0.05 level of significance. A significant association was found between pre-test knowledge scores and education stream of adolescent girls.

Conclusion: It was concluded from the study that the STP on PCOS and prevention of its complications was effective in enhancing the knowledge of adolescent girls.

Keywords: Adolescent girls, BMI, PCOS, STP



Introduction

Adolescence is a period having the sense of identity and the sense of intimacy. It is a period of transition from childhood to adulthood which can be difficult for many. Adolescence is a period of stress among young people and parents alike. The adolescents must learn who they are and must modify their conscience for their adult role in life. 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. Adolescents today are faced with many pressures the older generation did not have. Above all adolescence is a colourful period during which they are having so many dreams and developing the sense of self-image.¹ PCOS is a common problem among teen girls and young women.² PCOS is an endocrine disorder, which means normal hormone cycles are interrupted. The syndrome was originally reported by Stein and Leventhal in 1935 when they described a group of women with Amenorrhea, Infertility, Hirsutism and enlarged polycystic ovaries. Polycystic ovaries are two to five times larger than normal ovaries. PCOS occurs in 5% to 10% of women, making it one of the most common endocrine disorder. PCOS is a heterogeneous endocrine disorder that affects about 1 in 15 women worldwide.³ The prevalence of PCOS in Indian sub-continent Asian women was 52%. PCOS exists commonly among women at reproductive age with an incidence rate of 6-10%.³ Polycystic morphology seen in ultrasound is approximately 22% of women. In India nearly 40% of women are affected with PCOS. But among them only 60% come to hospitals for treatment, when they recognize that they have got infertility³. Polycystic ovarian syndrome (PCOS) affects 20% of women of reproductive age in Western society and is therefore, the most common endocrine disorder in such women. At least 90% of women attending fertility clinics with failure to ovulate have PCOS. PCOS is associated with reduced quality of life. It occurs amongst all races and nationalities; it is the most common hormonal disorder among women of reproductive age and is a leading cause of infertility.⁴

Adolescent girls are often associated with oligomenorrhea, amenorrhea, irregular, few, or absent menstrual periods, hirsutism, excessive and increased body hair, typically in a male pattern affecting face, chest and legs, hair loss appearing as thinning of hair on the top of the head, acne, oily skin, obesity or weight gain. One in two women with polycystic ovarian syndrome have obesity, depression and deepening of voice. All these are due to immaturity of the hypothalamic pituitary ovarian axis during the first years following menarche.⁵ PCOS is linked to the development of chronic disorders later in life, recognition and treatment during adolescence is critical to prevent these conditions. Many of the signs have significant impact on the emotional

health of an adolescent at a time when self-image is developing. More over attempts at weight loss can lead to distorted eating practices or eating disorders. Treatment should be instituted early to decrease symptoms and long-term sequel of PCOS.⁶ It is very important to detect PCOS among adolescents because of the long-term effects of PCOS as well as because of the dermatological effects of PCOS such as acne, hirsutism, and alopecia among adolescents leading to their poor self-image.⁷ In the present research study, the researcher carried out a comprehensive, extensive as well as systematic search of the studies and synthesised all the published literature available on the particular topic of interest. Based on the objectives of study the literature is divided into 3 Sections: Literature related to Polycystic Ovarian Syndrome, Literature related to the complications of polycystic ovarian syndrome, Studies related to effectiveness of structured teaching programme on Polycystic Ovarian Syndrome. From the above these studies the researcher found adolescent girls have lack of knowledge regarding PCOS. Hence, the researcher felt the need to assess the knowledge of adolescent girls and interested to educate about PCOS by developing Structured Teaching Programme on PCOS.

Objectives of the Study

- To assess the knowledge of adolescent girls on polycystic ovarian syndrome and prevention of its complications.
- To develop Structured Teaching Programme for Adolescent Girls on Polycystic Ovarian Syndrome and Prevention of its complications.
- To evaluate the effectiveness of Structured Teaching Programme in terms of gain in knowledge scores of adolescent girls.
- To determine the association between pre- test knowledge scores and selected demographic variables such as age, type of family, dietary pattern and education stream.

Materials and Methods

For the present study, the quantitative research approach was considered to be most appropriate to accomplish the objectives. Since the present study was aimed to evaluate the effectiveness of Structured Teaching programme on the level of knowledge regarding PCOS and prevention of its complications among adolescent girls, the research design selected was pre-experimental one group pre-test post-test design. The population included was adolescent girls. Inclusion criteria for the study subjects were the adolescent girls who were studying at the selected Senior Secondary School aged between 15 to 18 years, adolescent girls who could speak and understand English. Exclusion Criteria for study were adolescent girls who were not willing to participate, adolescent girls who were not available during the study. Study duration was from 18- Dec-2017

to 8- Jan- 2018. The sample for the present study was 60 adolescent girls aged between 15-18 years selected on the basis of availability and willingness of the study subjects studying in Selected Senior Secondary school, New Delhi.

Sampling technique used was convenient sampling technique. Reliability co-efficient for the knowledge questionnaire was calculated using KR - 20. The reliability co-efficient was $r=0.85$. Hence, the tool was found to be highly reliable.

The data were collected by using structured knowledge questionnaire to assess the knowledge of adolescent girls before and after the administration of Structured Teaching Programme on PCOS and prevention of its complications. Knowledge questionnaire consisted of three parts; Knowledge questionnaire related to Female Reproductive system, knowledge questionnaire related to Menstruation Cycle, knowledge questionnaire related to Polycystic ovarian syndrome and prevention of its complications.

Each correct answer was awarded a score of 1 and for wrong answer 0. Tool and STP was validated by 9 experts in the field of obstetrics and gynaecology medicine, community medicine and nursing faculty of obstetrical and gynaecology. The descriptive and Inferential statistics was used for analysis of the data.

Result

The results are discussed in the following sections.

Finding Related to the Demographic Characteristics of Adolescents

Out of 60 adolescent girls, majority of the subjects, that is, 53 (88.3%) were in the age group of 17-18 years followed by 7 (11.7%) in the age group of 15-16 years. Majority 43 (71.7%) out of 60 adolescent girls belonged to nuclear family and 17 (28.3%) were from joint family. According to

the dietary pattern, 31 (51.7%) out of 60 adolescent girls were vegetarian and 29 (48.3%) were non- vegetarian. Stream wise distribution of sample subjects depicts that 25 (41.7%) girls were from arts stream followed by 17 (28.3%) who were from science (medical) stream followed by 10 (16.7%) who were from science (non-medical) stream and 8 (13.3%) were from commerce. Out of 60 adolescent girls, 10 (16.7%) had menstrual irregularity and 50(83.3%) had no menstrual irregularity. Out of all adolescent girls, none of them had attended any class on PCOS.

Findings Related to the Evaluation of the Effectiveness of STP on Polycystic Ovarian Syndrome and Prevention of its Complications in Terms of Knowledge of Adolescent Girls

Table 1, shows that mean post-test knowledge score 25.5 of adolescent girls regarding Polycystic ovarian syndrome and prevention of its complications was higher than their mean pre-test knowledge score 15.85 with a mean difference of 9.65 and standard deviation obtained was 3.6 in pre-test and 3.7 in post-test. The obtained mean difference was found to be statistically significant as evident from calculated 't' value of 16* which is greater than the table value of 2.00 at 0.05 level of significance.

This shows that mean difference between pre-test and post-test knowledge scores was a true difference and not by chance. Hence, null hypotheses (H_{01}) was rejected, this indicates that STP on Polycystic ovarian syndrome and prevention of its complications was effective in increasing the knowledge of adolescent girls.

Table 2 shows that, before administration of STP, 12 (20%) adolescent girls had poor knowledge, 48 (80%) had average knowledge and none of the adolescent had good knowledge regarding Polycystic Ovarian syndrome and Prevention of its complications.

Table 1. Possible range of scores, range of obtained score, mean, mean difference standard deviation and 't'-value of pre- test and post-test of adolescent girls regarding polycystic ovarian syndrome

Knowledge test	Possible range of scores	Range of obtained scores	Mean	Mean difference	Standard deviation	't'-value
Pre-test	0-36	8-24	15.85	9.65	3.6	16*
Post-test	0-36	14-32	25.5		3.7	

't' (59) = 2.00, $p \leq 0.05$, *significant at 0.05 level.

Table 2. Frequency-percentage distribution of adolescent girls on the basis of their level of knowledge before and after administration of STP

Level of knowledge	Score range	Pre-test		Post-test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Poor knowledge	0-12	12	20	0	0
Average knowledge	13-24	48	80	24	40
Good knowledge	25-36	0	0	36	60

After administration of STP, 36 (60%) adolescent girls showed vast improvement in the knowledge score and only 24 (40%) had average knowledge and none of them had poor knowledge in post-test.

Findings of Chi-square showing Association of Pre-test Knowledge Scores with Selected Demographic Variables such as Age, type of Family, Dietary Pattern and Education Stream

The data presented in Table 3, show that the calculated Chi-square value between education stream of adolescent girls and their pre-test knowledge scores is statistically significant at 0.05 level as evident from $\chi^2=19.6^*$.

Table 3. Chi-square value showing association between education stream and pre-test knowledge scores

(n=60)

S. No.	Selected variable	Category			Chi- square	df	Table value	p-value
		Poor knowledge Frequency	Average knowledge Frequency	Good knowledge Frequency				
1.	Science (medical)	2	17	0	19.6*	3	7.815	0.0002*
2.	Science (Non-medical)	1	10	0				
3.	Commerce	1	7	0				
4.	Arts	8	14	0				

Significant at 0.05 level of significance at df (3) $\chi^2 = 19.6^*$.

In present study, there was no significant association between pre-test knowledge scores with age of adolescent girls, type of family and dietary pattern but it is evident that significant association was found between pre-test knowledge scores and education stream as calculated Chi-square value between education stream of adolescent girls and their pre-test knowledge scores is statistically significant at 0.05 level as evident from $\chi^2=19.6^*$. Thus, null hypotheses H_0 is Partially rejected as a significant association was found between pre-test knowledge scores and education stream.

Discussion

The present study findings revealed that there was improvement in the knowledge of adolescent girls regarding PCOS and prevention of its complications. Majority of the adolescents had good knowledge in post-test that is 36 (60%) which was higher than pre-test score that is 20 (0%). Highly statistically significant difference was found between pre and post-test ($p=0.005$) regarding knowledge score of polycystic ovarian syndrome. This may be due to clarity and consistency of the Structured Teaching Programme and suitable media used. The present study results were supported by Rao RS et al., which revealed that there was an increase in overall knowledge of adolescent girls regarding PCOS and the educational program implemented the desirable outcome regarding knowledge of adolescent

girls.⁸ The present study results were also supported by Shanmugasundaram S which showed that the effectiveness of structured teaching program on PCOS awareness among adolescent girls in a selected rural area and reported that there was an improvement in the knowledge level of adolescent girls on PCOS after implementation of the teaching program.⁹ The present study results were also supported by Dhital and Badhu which was done to evaluate the effectiveness of structured teaching program in improving knowledge and attitude of school going adolescents on reproductive health and reported that using teaching program was an effective method to improve knowledge and attitude of the adolescent girls regarding

reproductive health.¹⁰ The present study results were also supported by Hadayat et al. who studied the effectiveness of educating program for upgrading nurses' knowledge regarding polycystic ovarian syndrome and showed that the highest improvement of knowledge regarding PCOS and mean post-test score was higher than the mean pre-test knowledge score.¹¹

Conclusion

The present study was to assess and evaluate the effectiveness of structured teaching programme on polycystic ovarian syndrome and prevention of its complications among adolescent girls. The study finding showed that there was an increase in the level of knowledge after providing structured teaching programme based on statistical findings, so it was proven that such kind of structured teaching programme will motivate the adolescent girls can help them to acquire knowledge regarding polycystic ovarian syndrome.

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Conflict of Interest: None

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