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Effectiveness of Structured Teaching Programme on Knowledge Regarding Polycystic Ovarian Syndrome among Adolescents and Young Women

Abinaya Pushparaj[1]*, Porkodi Rabindhran[2], Venkatesh Ashok[3]

[1]B.Sc III year student, College of Nursing, Puducherry, India

[2]Tutor, College of Nursing, JIPMER, Puducherry, India

[3]Research Associate, Department of Obstetrics and Gynaecology, JIPMER, Puducherry, India

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ABSTRACT

Background: Poly cystic ovarian syndrome is a condition in which woman has an imbalance of sex hormones. It is increasingly observed feature among teenagers and young women. It affects 5%-10% of women in their reproductive age resulting in complication like metabolic disease and infertility.

Aim:The study was undertaken to assess the knowledge on the polycystic ovarian syndromeamong adolescent and young women.

Methods: One group pre-test post-test pre experimental design was used for the study. It include 34 adolescent girls and young women. Data was collected using the tool prepared by the investigator. The data was analyzed using descriptive and inferential statistics.

Results: The sociodemographic distribution showed 76% of the participants to be young women (20-24 years). 77% of the mothers of the young women were home makers with 47% of them having secondary level education. 64.7% of the adolescents and young women came from middle or lower middle class. The BMI from deviated from normal range among 55.9% of them. 38.2% of them had information about PCOS from Health personnel. Regarding specific features of PCOS, hair growth was present in 29.4% with 30% having in multiple regions of the body, acne and skin discoloration in 14.7%. A significant difference between mean scores of pre-test (6.5) and post-test (14.6) was found though it was not statistically significant at p (0.05). There is no significant knowledge level of demographic variables.

Conclusions: Providing information about PCOS and encouraginghealthy lifestyle among adolescents will help in reducing the incidence of PCOS. Hence health personnel should utilize all opportunity to improve awareness towards the disorder and lifestyle modification.

KEYWORDS

PCOS, knowledge, structured teaching programme

INTRODUCTION

Adolescence is a period of transition between childhood and adulthood, a time of profound biological, intellectual, psychological, and economic changes. The changes of adolescence have important implications for understanding the health risks and health promotion [1].

Poly cystic ovarian syndrome is a condition in which woman have an imbalance of hormones. It is common among teenagers and young women and affects 5%-10% of women in their reproductive age [2]. In 1935, STEIN AND LEVENTHAL described the unique gynecological condition that would later be designated as POLY CYSTIC OVARIAN SYNDROME (PCOS). PCOS is one of the most common endocrine disorders occurring in women and heterogeneous in nature [3]. Though nature of PCOS is heterogeneous, hyper and rogenism and chronic anovulation specific to it [4].

PCOS is a very complex disorder which consist of three characteristic symptoms namely oligo/amenorrhea or anovulation, hirsutism and infertility [5].The adolescent girls may have irregular menstrual cycles that goes undiagnosed because of the prescribed treatment for

irregular menstrual cycles. The use of oral contraceptive pills controls acne and hirsutism that further contributes to under diagnosis of the condition. Usually these undiagnosed girls remain undetected with the problem till they seek infertility treatment [6]. High prevalence of PCOS observed among the first degree relatives [7]. The exact cause of PCOS is unknown. If left untreated it may lead to diseases including type 2 diabetes mellitus, hypertension, cardiovascular disease, stroke and kidney problems [1, 8].

There is higher prevalence of anxiety and depression in women with PCOS and leads to increased risk of negative self-image and suicide attempts [9].

The major purpose of this study was to create awareness among adolescent about PCOS, so as to help them to modify their life style and have better reproductive life.

METHODOLOGY:

Pre experimental, one group pre-test post-test study design was adopted in this study. The study was conducted on 34 Adolescents and Young Women in the age groups of 18 – 24 years who fulfilled the inclusion and exclusion criteria, residing in the Villianur town, Odaimpet, and Uruvaiyar villages under Villianur Primary Health Centre. Adolescents and Young Women were selected using Systematic random sampling technique.

Data was collected using the tool prepared by the investigator, which consisted of four parts. The first part was on socio demographic profile, the second part on clinical profile, the third part regarding dietary profile and the fourth part the structured knowledge questionnaire. The content validity for questionnaire was obtained from two nursing and one medical expert of obstetrics and gynecology and one medical expert from P&SM department of JIPMER hospital. The structured knowledge questionnaire consisted of 19 questions regarding PCOS. The data was collected over a period of 4weeks. During adolescent clinic the participants were contacted in small groups living in same area within the villages. Each participant was given about 30 minutes to provide their response. The Structured Teaching Programme was conducted immediately after pre-test. After the gap of 14 days the participants were administered post- test. The results were analyzed using descriptive and inferential statistics. The data were analyzed using statistical software SPSS version 22. The demographic profile and clinical profile were described using descriptive statistics including frequency and percentage. The mean pre-test and post-test scores was compared using paired‘t’ test and association of knowledge with

demographic variables was carried out using chi-square.

RESULTS:

The adolescents and young women were aged between 18-24 years. 8 (34%) of them were adolescents and 26 (76%) were young women. Majority of them 32(94%) belong to Hindu religion. Their mothers mostly 16(47%) had secondary level education and only 3(9%) of them were having collegiate education, and 26(77%) were homemakers. Majority of them 25(74%) came from nuclear family with 22(65%) belonging to middle class and lower middle class income group.

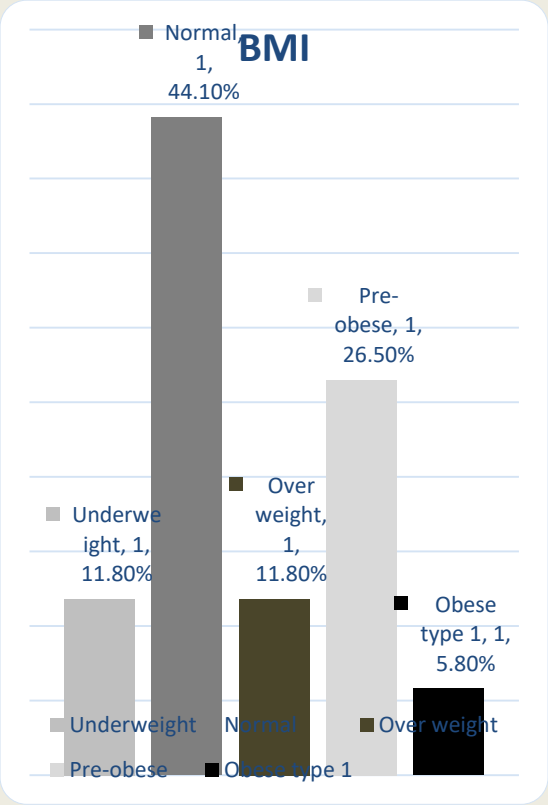

Fig. 1 "BMI of adolescents and young women"

Figure 1 depicts that only 15 (44%) of the adolescents and young women had BMI within the range of normal (18.5-22.9). Overweight (23-24.9) was observed among 4(11.8%) and obesity (25-40) among 11(33%).

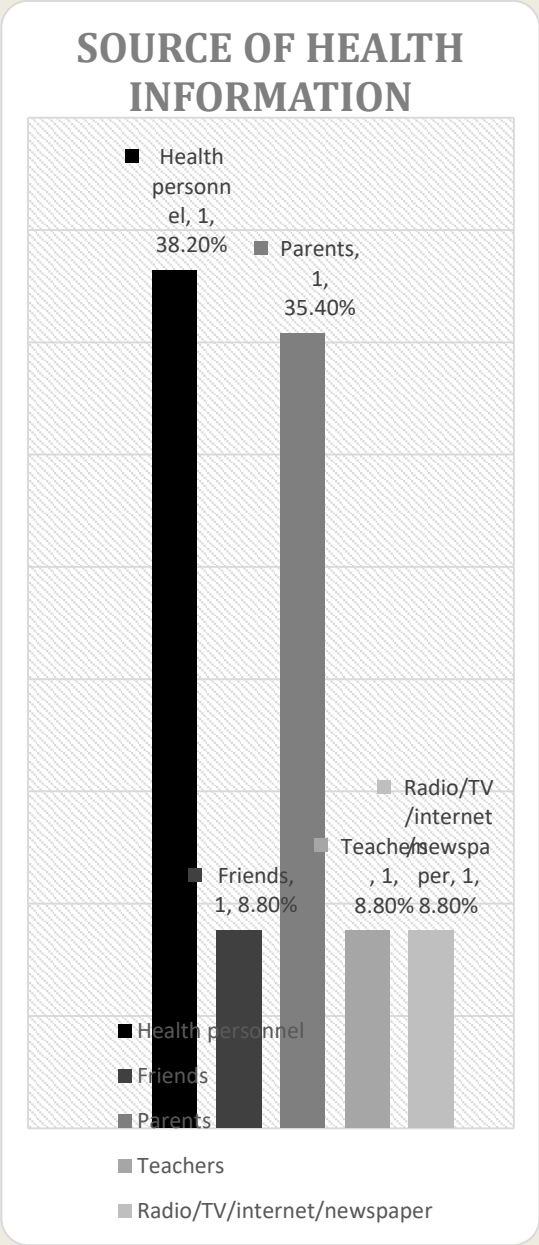

Fig 2 "Source of health information regarding PCOS"

Figure 2 depicts that information regarding health mostly received from health personnel in 13 (38%) of adolescents and young women and from parents among 12(35%) of them.

Table 1 Characteristics of PCOS

Characteristics of PCOS	No of girls	Percent
Hirsutism	10	29.4
Acne	23	67.7
Velvety discoloration	5	14.7

Table 1 is regarding regularity of menstrual cycle among adolescents and young women shows that 26(76.5%) had a regular menstrual cycle that is 12 cycles per year. Among those who had irregular menstrual cycle 7(20.6%) had 8-12cycles per year and 1 (2.9%) had >12 cycles per year.

Table 2 Type of Diet

Type of diet	No of girls	Percent
Pure vegetarian	4	11.8
Vegetarian + non vegetarian	18	52.9
Non-vegetarian + vegetarian	12	35.3

Table 2 depicts most of adolescents and young women 18 (52.9%) consumed a combined diet that was predominantly vegetarian. Vegetable consumption on everyday basis was among 19(55.9%) only 7(20.6%) of them consumed processed food.

Table 3 Comparison of knowledge score between pretest and posttest

KNOWLEDGE SCORE	MEAN	S.D	t-VALUE (paired "t"-test)	P VALUE
PRE-TEST	6.500	2.351	-12.47	.197
POST-TEST	14.64	3.575		

*-p<0.05, significant

Table 3 depicts the knowledge level as analyzed using mean score and standard deviation. The difference in mean score between pretest and posttest was 8.14, but was not statistically significant.

Table 4a Distribution of overall knowledge of adolescents and young women regarding PCO

	LEVEL OF KNOWLEDGE SCORE							
	poor		**average**		**good**		**very good**	
	N	%	N	%	N	%	N	%
Pre-Test	22	64.7	12	35.3	0	0	0	0
Post Test	1	2.9	9	26.5	24	70.6	0	0

Table 4a shows the distribution of overall knowledge score. In the pre-test most of the adolescents and young women 22 (64.7%) had poor knowledge score whereas during post-test it was only in 1 (2.9%). With respect to average knowledge score in pre-test there were 12 (35.3%) and in post-test 9 (26.5%) adolescents and young women. Good knowledge score was 0 (0%) in pre-test and 24 (70.6%) in post-test. Both in pre and post-test, there was zero knowledge score in very good category.

Table 4b Category wise comparison of pre-test –post-test knowledge score

Category	Maximum possible score	Pre-test knowledge score		Post-test knowledge score		Knowledge score
		Mean	SD	Mean	SD	Mean Difference
Anatomy and physiology	4	1.79	.946	3.44	.504	1.65
General information	4	1.8	.936	3.32	.944	1.52
Causes and	2	.558	.612	1.61	.493	1.05

Risk factors						
Clinical manifestation and complication	4	1.24	1.046	2.73	1.582	1.49
Diagnosis and management	5	1.08	.933	3.53	1.308	2.45

Table 4b shows the category wise knowledge score were the least score was for cause and risk factors (1.16), whereas in anatomy & physiology (3.44) and general information (3.32) the adolescents Andyoung women had comparatively better knowledge. In the post-test the mean knowledge score was seen highest in the category for diagnosis and management (3.53), anatomy and physiology (3.44) and general information (3.32)**.** The maximum mean difference was observed for the category of diagnosis and management with 2.45 mean differences That is the structured teaching programme on PCOS was effective.

Table 5 "Association between the pre-test knowledge score and selected demographic variables, clinical and dietary profile"

VARIABLES	**PRE-TEST LEVEL OF KNOWLEDGE-PCOS**						**X^2**	**df**	**P-value**
	POOR		**AVERAGE**		**GOOD**				
	N	**%**	**N**	**%**	**N**	**%**			
Age									
18 years	0	0.0	2	50	2	50.0	3.05	4	.549
19-21 years	4	30.8	7	53.8	2	15.4			
22-24 years	3	17.6	9	52.9	5	29.4			
Religion							1.89	4	.756
Hindu	7	21.9	16	50	9	28.1			
Muslim	0	0	1	100	0	0			
Christian	0	0	1	100	0	0			
Mothers education							5.31	10	.869
Illiterate	1	16.7	3	50	2	33.3			
Primary school	2	22.2	5	55.6	2	22.2			
High school	2	15.4	8	61.5	3	23.1			
Higher secondary	1	33.3	1	33.3	1	33.3			
Graduate	1	50	1	50	0	0			
Post graduate	0	0	0	0	1	100			
Others	0	0	0	0	0	0			
Mothers occupation							2.35	4	.671
Home maker	6	23.1	12	46.2	8	30.8			
Related to health department	0	0	1	100	0	0			
Not related to health department	1	14.3	5	71.4	1	14.3			
Family type							4.60	4	.331
Nuclear family	5	20	14	56	6	24			
Joint family	1	12.5	4	50	3	37.5			
Extended family	1	100	0	0	0	0			
Family income							5.12	2	.077
<Rs.6000	5	41.7	5	41.7	2	16.7			
>Rs.6000	2	9.1	13	59.1	7	31.8			

BMI							9.65	8	.290
Underweight	0	0	2	50	2	50			
Normal	4	26.7	8	53.3	3	20			
Overweight	0	0	1	25	3	75			
Obese	2	22.2	6	66.7	1	11.1			
Obese type 1	1	50	1	50	0	0			
Source of information							6.99	8	.538
Health personnel	4	30.8	6	46.2	3	23.1			
Friends	0	0	2	66.7	1	33.3			
Parents	2	16.7	8	66.7	2	16.7			
Teachers	0	0	2	66.7	1	33.3			
Radio/TV/internet/ Newspaper	1	33.3	0	0	2	66.7			

Association of selected demographic and clinical variables with the knowledge score of adolescent and young women as given in table 5 shows none of the variables statistically significant at $p<0.05$.

DISCUSSION

The study was to examine the effectiveness of structured teaching programme for adolescents and young women on knowledge regarding PCOS. Among the 34 participants 8 (34%) of them were adolescents and 26 (76%) were young women. Majority of them 32(94%) belong to Hindu religion. Their mothers mostly 16(47%) had secondary level education and only 3(9%) of them were having collegiate education, and 26(77%) were homemakers. Majority of them 25(74%) came from nuclear family with 22(65%) belonging to middle class and lower middle class income group. A similar study conducted in colleges of Udupi District among pre university students shows that out of 752 students theirmothers were mostly 437 (58.1%) had primary education and majority 554 (73.6%) of the students' mothers were home makers[6].

Only 15 (44%) of the adolescents and young women had BMI within the range of normal (18.5-22.9). Overweight (23-24.9) was observed among 4(11.8%) and obesity (25-40) among 11(33%). This finding is slightly different from the study conducted among 200 medical students in Nagpur which shows that 51% girls had normal BMI, 19.5% were overweight, and 16.5% were obese while 13% were underweight. In comparison the proportion of girls being obese is very large in the present study with difference of about 20%. The reason could be that the present study sample is very small[13].

The information regarding health mostly received was from health personnel among 13 (38%) of adolescents and young women and from parents among 12(35%) of them. This finding is contrary to the findings

found in Udupi district where 562 (74.7%) students had the habit of reading health related magazines[6].

Dietary profile showed most of the adolescents and young women 18 (52.9%) consumed a combined diet that was predominantly vegetarian. Study conducted in Australian National Nutrition Survey revealed that the subjects consumed vegetables pattern diet is about 3.9%[14] and a another study conducted in Urban Baroda showed that 66.6% adolescents were consumed processed food which is less compared to this study where 20.6% of adolescents only consumed processed food[15].

There was significant difference between the mean pre-test and post-test knowledge level. The pre-test mean 6.500 (2.351) scores regarding PCOS were found to be less than post-test mean percentage 14.64 (3.575)) scores. The difference in mean score between pretest and posttest was 8.14, but was not statistically significant. The 't' value computed between pre-test and post-test knowledge levels (t=12.47), the paired t –test shows the results, p-value (0.197) is not significant. In spite of the difference in pre-test and post-test knowledge score, the reason for the statistical non significance could be small group. Similar findings was found in a study conducted at Mangalore, where the study results revealed pre-test mean percentage (4.37%) scores regarding PCOS to be less than post-test mean percentage (12.08%) scores[1].

CONCLUSION

PCOS is a condition which needs lifestyle modification and adequate awareness about the early diagnosis and prevention. It affects the reproductive girls if not treated early. Educating adolescent girls and their mother's on prevention and management of PCOS will help prevent its occurrence. The various studies including present study showed that adolescents and their mothers had lack of knowledge about PCOS and the knowledge level increased after the structured teaching programme. So the health personnel should take initiativeto frequently sensitizeadolescent girls and their mothers with health information regarding PCOS with emphasis on healthy lifestyle and dietary pattern.

CONFLICT OF INTEREST: None

ETHICAL CLEARANCE: Approved by JIPMER Institute Ethic Committee.

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