Original Research Article

A study to evaluate the effectiveness of informative educational approach on knowledge regarding polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies among adolescent girls at selected colleges, Koppal district

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ABSTRACT

Background: Polycystic Ovary Syndrome (PCOS) is a very complex syndrome, with typical hormonal and metabolic features. In adolescent girls, this condition shows particular characteristics which are in common with adult signs and symptoms, often making the diagnosis difficult.

Aim: to evaluate the efficacy of informative educational approach on knowledge regarding polycystic ovarian syndrome, among Adolescent Girls at selected college students.

Research Design: Used for this study was pre-experimental one group pre-test post-test design.

Sampling and Sample Size: It was carried out with 110 samples selected by using Non-randomized purposive sampling technique.

Data Collection Methods: A self-administered knowledge questionnaire was used to assess the knowledge about PCOS, its impact and preventive strategies.

Results and Analysis: The collected data was analysed and interpreted based on descriptive and inferential statistics. Result shows that the Pre-test knowledge score, 83.6% (92) of the adolescent girls were having average level of knowledge on PCOS and its prevention and remaining 16.3% (18) were having poor level of knowledge whereas the Post-test knowledge score, 83.6% (92) of the students were in the Good level of knowledge on PCOS and its preventive strategies remaining 16.3% (18) were having average level of knowledge. The Mean score before manipulation was ± 9.1 and the standard deviation was ± 1.88 whereas after intervention Mean score was ±17.6 and SD was ± 1.15. The mean difference was ± 8.5. The calculated 't' value ± 44.34 which is a greater value compared to the critical value i.e., ± 1.98 which depicts that significance at the 0.05 level. Therefore, the null hypothesis was rejected and the research hypothesis was accepted. The association between the selected sociodemographic variables such as age, studying year in PUC, Branch in the PUC, Dietary pattern, Physical activity in the daily life, habit of eating junk food, age of menarche, type of menstrual flow, awareness of PCOS, and sources of information on PCOS and Mean Pre-test knowledge score found to be non-significant at 0.05 level since each calculated value of demographic variables were lesser than critical value. This result showed that null hypothesis was accepted and research hypothesis was rejected. Whereas BMI and regularity of menstrual cycle found to be significant at 0.05 level since calculated chi-square value was 7.90 and 16.93 with p value of 0.019 and 0.00005 respectively which is significantly greater than the critical value hence result showed that null hypothesis was rejected and research hypothesis was accepted.

Conclusion: From the findings of the study, it can be concluded that informative educational programme was effective in improving the knowledge regarding PCOS, its impact and prevention among college students.

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1. Introduction

Polycystic Ovary Syndrome is a lifelong disorder, commonly becomes manifest as puberty progresses, but its onset can occur later, during young adulthood.[1] Clinical hallmarks are menstrual abnormalities and manifestations of hyperandrogenism, but the severity of the disorder is variable.[2] The symptoms of PCOS usually begin at about the time of menarche, but post pubertal onset is also seen, usually as a result of environmental modifiers such as excess weight gain.[3] An ovulatory symptoms occur in about 75%, Hirsutism affects about 60%, acne affects 15% to 20%, and androgenic alopecia about 5%, Obesity has been reported in 30% to 75% of PCOS subjects.[4] Management of PCOS focuses on the menstrual abnormalities, symptoms of androgen excess, and associated metabolic changes.[5] Weight loss through lifestyle change, use of hormonal contraceptive agents for menstrual regulation as well as androgen suppression, antiandrogens as adjuncts for hirsutism treatment, and insulin-sensitizing agents are common components of treatment. Lack of knowledge and poor lifestyle choices are considered to be the major factor leading to this syndrome.[6] Nurses are in unique position to create awareness regarding this syndrome. Informed choices and lifestyle management like weight loss, stress management are key factors in management of this disease.[7]

2. Objectives

1. Assess the pre-test level of knowledge regarding polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies among adolescent girls at selected colleges.
2. Assess the post-test level of knowledge regarding polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies among adolescent girls.
3. Find the effectiveness of informative educational programme on knowledge regarding polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies.
4. Determine the association between the mean pre-test knowledge score of adolescent girls on polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies and selected demographic variables.

2.1. Hypothesis

1. **H**[1]: There will be significant difference betwen pre-test and post-test level of knowledge on polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies among adolescent girls

2. **H**[2]: There will be significant association between mean pre-test knowledge score on polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies with selected demographic variables.

3. Materials and Methods

In the present study, the researcher aimed at evaluating the effectiveness of informative educational approach on knowledge regarding polycystic ovarian syndrome, it's impact on reproductive system and preventive strategies among Adolescent Girls at selected college students. Study approach was quantitative evaluative and pre-experimental one group pre-test and post-test research design was used for the current study. The study conducted at selected PU colleges and non-probability purposive sampling technique was used to select 100 adolescent girls studying in first year and second year PUC with different branches. The researcher used two instruments for the relevant data collection, Socio-demographic variables such as age, Body Mass Index (BMI), studying year in the PUC, different branches in the PUC, dietary pattern, physical activities engaging in the daily life, age of menarche, regularity of menarche, menstrual flow pattern, habit of eating junk food, sources of information about PCOS and previous knowledge of PCOS and Structured knowledge questionnaire on PCOS, its impact and prevention. Before the educational programme collected the data using the research tool followed by intervention and post-test was conducted on seventh day after the intervention using the same questionnaires categorised into three groups in the knowledge aspect poor, average, and good knowledge based on their score. The collected data were computed by descriptive and inferential statistics. The investigator obtained written permission from the concerned authority.[8]

4. Results

Table 1 explains that majority16-17 years of age group adolescent girls were 53% (59) and remaining were in the age group of 18-19 years were 47% (12.5) respectively. 38% (42) of adolescent girls were having BMI > 25, 32% (35) were in the BMI of 22-25 and remaining 30% (32) girls were having BMI 18-21. 70% (77) of adolescent girls were studying in first year PUC and 30% (33) were in second year. Studying in science branch were 45% (49), commerce branch was 29% (32) and remaining 26% (29) were in arts branch. Majority of 45% (49) adolescent girls' dietary pattern was mixed type of diet and the least 26% (29) was vegetarian type of diet. 32% (35) of them have the habit of Physical activity yoga and the least 8% (8) were doing brisk walking in their daily living activity. 52% (57) of girls were not having the habit of eating junk food, 83% (91) of adolescent girls had the regular menstrual cycle

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Table 1: Frequency and Percentage distribution of adolescent girls according to demographic variables. [n = 110]

sl.no	Demographic variable	Frequency (f)	Percentage (%)
1	**Age (in years)**		
	16-17	59	53
	18-19	51	47
2	**BMI**		
	18-21	33	30
	22-25	35	32
	> 25	42	38
3	**Studying year in the PUC**		
	First Year	77	70
	Second Year	33	30
4	**Studying branch in the PUC**		
	Arts	29	26
	Commerce	32	29
	Science	49	45
5	**Dietary pattern**		
	Vegetarian	29	26
	Non-vegetarian	32	29
	Mixed	49	45
6	**Physical activities in the daily life**		
	Indoor games	18	16
	Outdoor games	29	26
	Yoga/gym	35	32
	Brisk walking	08	08
	Other exercise	20	18
7	**Do you eat more junk food**		
	Yes	53	48
	No	57	52
8	**Age of menarche**		
	11-12 yrs.	56	51
	13-14 yrs	54	49
9	**Regularity of menstrual cycle**		
	Regular	91	83
	Irregular	19	17
10	**Type of menstrual flow**		
	Scanty	33	30
	Normal	56	51
	Heavy	21	19
11	**Have you ever heard of PCOS**		
	Yes	43	39
	No	67	61
12	**Sources of information about PCOS**		
	Textbooks	14	13
	TV/Media	18	16
	Internet	60	55
	Friends/Family 8	18	16

Table 2: Frequency and percentage distribution of adolescent girls according to pre-test and post-test level of knowledge. [n = 110]

Level of knowledge	Score	Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
Poor	0-7	18	16.3	00	00
Average	8-14	92	83.6	18	16.3
Good	15-21	00	00	92	83.6
Total		110	100	110	100

Table 3: Comparison of mean pre-test and post- test knowledge scores of adolescent girls regarding PCOS, its impact on reproductive system and preventive strategies. [n = 110]

Level of knowledge	Mean	Mean difference	SD	Calculated "t" value	P value
Pre test	9.1		1.88		
		08.5		-44.34	<0.00001
Post test	17.6		1.15		

Table 4: Association between Pre-test level of knowledge on PCOS, it's impact on reproductive system and preventive strategies of adolescent girls with the selected demographic variable. [n = 110]

Demographic variables	f	Pretest level of knowledge		Chi square	df	P value	Inference
		Poor	Average				
1. Age (in years)							
16-17	59	6	53	3.56	1	0.058	NS
18-19	51	12	39				
2. BMI							
18-21	33	4	29	7.90	2	0.019	**S**
22-25	35	2	33				
> 25	42	12	30				
3. Studying year in the PUC							
First Year	77	14	63	0.62	1	0.431	NS
Second Year	33	04	29				
4. Studying branch in the PUC							
Arts	29	5	24	3.73	2	0.154	NS
Commerce	32	2	30				
Science	49	11	38				
5. Dietary Pattern							
Vegetarian	29	6	23	1.68	2	0.431	NS
Non-vegetarian	32	3	29				
Mixed	49	9	40				
6. Physical activities in the daily life							
Indoor games	18	2	16				
Outdoor	29	5	24	3.12	4	0.536	NS
games	35	5	30				
Yoga/gym	08	3	05				
Brisk walking	20	3	17				
Other exercise							
7. Do you eat more junk food							
Yes	53	8	45	0.12	1	0.72	NS
No	57	10	47				
8. Age of menarche	56	10	46	0.18	1	0.66	NS
11-12 yrs	54	08	46				
13-14 yrs							
9. Regularity of Menstrual cycle							
Regular	91	9	82	16.13	1	0.0005	**S**
Irregular	19	9	10				
10. Type of menstrual flow							
Scanty	33	4	29	0.63	1	0.72	NS
Normal	56	10	46				
Heavy	21	4	17				
11. Have you heard of PCOS							
Yes	43	6	37	0.29	1	0.58	NS
No	67	12	55				
12. Sources of PCOS							
Textbooks	14	3	11				
TV/Media	18	3	15	1.11	3	0.77	NS
Internet Friends/Family	60	8	52				
	18	4	14				

S = Significant NS = Non-significant

with the 51% (56) of normal flow, majority 67% (61) of adolescent girls were not the awareness on PCOS and its impact on heath and majority 55% (60) of the girls were getting information from the internet.

The data in the Table 2 shows that the Pre-test knowledge score, 83.6% (92) of the adolescent girls were having average level of knowledge on PCOS and its prevention and remaining 16.3% (18) were having poor level of knowledge whereas the Post-test knowledge score, 83.6% (92) of the students were in the Good level of knowledge on PCOS and its preventive strategies remaining 16.3% (18) were having average level of knowledge.

Data presented in the Table 3 describes the Mean score before manipulation was ± 9.1 and the standard deviation was ± 1.88 whereas after intervention Mean score was ±17.6 and SD was ± 1.15. The mean difference was ± 8.5. The calculated 't' value ± 44.34 which was a greater value compared to the critical value i.e., ±1.98 which depicts that significance at the 0.05 level. Therefore, the null hypothesis was rejected and the research hypothesis was accepted. This outcome indicates that the informative education programme was effectiveness in enhancing the knowledge of adolescent girls on PCOS, its impact on reproductive system and preventive strategies.

The above Table 4 shows that the association between the selected sociodemographic variables such as age, study year in PUC, Branch in the PUC, Dietary pattern, Physical activity in the daily life, habit of eating junk food, age of menarche, type of menstrual flow, awareness of PCOS, and sources of information on PCOS and Mean Pre-test knowledge score found to be non-significant at 0.05 level since each calculated value of demographic variables were lesser than critical value. This result showed that null hypothesis was accepted and research hypothesis was rejected. Whereas BMI and regularity of menstrual cycle found to be significant at 0.05 level calculated chi-square value was 7.90 and 16.93 with p value of 0.019 and 0.00005 respectively, which was significantly greater than the critical value hence result showed that null hypothesis was rejected and research hypothesis was accepted.

5. Discussion

By witnessing the above explanation this result showed that the informative educational programme was effective in augmenting the knowledge of adolescent girls concerning to PCOS its impact and preventive measures. Pertaining to the association between pre-test knowledge and demographic variables describes that there was an association between demographic variable like BMI and regularities of menstrual cycle found to be significant at 0.05 level where as remaining variables are not being significant since their chi square values were lesser than their critical values.

6. Conclusion

In health care setting nurses are in unique position to create awareness regarding polycystic ovarian syndrome and its impact on reproductive health.[9–11] Through education, helps the adolescent girls to understand the syndrome and its associated risk factors to prevent long-term health problems and encourage them to make positive life styles changes.[12,13] A good plan will address nutrition education, meal planning, physical activity, mental and emotional health, weight and stress reduction strategies to facilitate engagement, nurses can provide counselling with educational support in the form of electronic or written materials.[14,15]

7. Source of Funding

None.

8. Conflict of Interest

None.

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