

Effectiveness of Informational Module regarding Polycystic Ovarian Syndrome on Knowledge among Young Women of Selected College at Lucknow

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Abstract: ***Background:** Polycystic ovary syndrome (PCOS) is a common health issue which is caused by an imbalance of reproductive hormones. Women with PCOS secretes higher-than-normal level of male hormones. **Aim:** The study was planned to compare the knowledge score regarding PCOS among young women before and after administration of informational module. **Material and methods:** In this study the research approach was quasi experimental “one group pre-test post-test” performed on 70 young women of age group 15-24 years studying in Colleges of Lucknow city. The intervention Informational Module was introduced to the group after the pre-test. Knowledge was assessed by self-structured questionnaire before and after the 7 days of the intervention. The data were analyzed with the help of descriptive and inferential statistical techniques. **Results:** The results revealed that the mean pre-test score of knowledge regarding PCOS was 8.79 ± 2.99 which after post-test increased to 18.30 ± 3.35 . The mean difference was 9.51. The obtained ‘z’ value 19.06 was statistically highly significant at ($p < 0.001$) level. **Conclusion:** The study revealed that the informational module administered by the researcher was effective to increase the knowledge among young women regarding PCOS. Awareness regarding PCOS will reduce the long term health complications associated with PCOS.*

Keywords: Effectiveness, Informational module, Knowledge, PCOS.

1. Introduction

Polycystic ovary syndrome (PCOS) is a common health issue which is caused by an imbalance of reproductive hormones. Women with PCOS secretes higher-than-normal level of male hormones. The hormonal imbalance causes skip of menstrual periods and makes harder for them to get pregnant. PCOS also causes hair growth on the face and body & baldness and it can results to long-term health problems like diabetes and heart disease. Polycystic ovary syndrome is a health problem that affects women of childbearing age. It is common and treatable cause of infertility. [1] World Health Organization (WHO) estimates that PCOS has affected 116 million women (3.4%) worldwide in 2012.

Globally, prevalence estimates of PCOS are highly volatile, ranging from 2.2% to as high as 26%. In India, experts claim 10% of the women to be affected by PCOS. [2] In Few Asian countries prevalence figures are range from 2% to 7.5% in china and 6.3 in Shri Lanka. There are few studies conducted in India. Studies done in south India and Maharashtra the prevalence of PCOS (by Rotterdam’s criteria) was reported as 9.13% and 22.5% by Androgen Excess Society criteria respectively. [3]

According to a study by the PCOS Society of India, one in every 10 women in India has PCOS. It is a common endocrinal system disorder among women of reproductive age & out of every 10 women diagnosed with PCOS, six are teenage girls. [4] In India, in every five women one can be diagnosed with PCOS, As stated in report published by

Metropolis Healthcare, a chain of pathology laboratories, in 2015—an alarming fallout of the increasingly sedentary lifestyles that have become characteristic of our urban existence. The prevalence of PCOS is most in women of 15 to 30-years age group. [5]

It is a complex heterogeneous disorder of the female endocrine system with uncertain etiology. It impacts about 5-10% of the female population of age group of 12–45 years and produces symptoms in approximately 5% to 10% of women of reproductive age and is thought to be one of the leading causes of infertility. In October 2013, the Endocrine Society released practice guidelines for the diagnosis and treatment of PCOS. [6] Treatment of PCOS must focus both on normalizing short-term signs of hyperandrogenism and an ovulation and on reducing metabolic complications. This can be achieved through pharmacological intervention or preferably lifestyle modification. [7] Lifestyle modifications are viewed as first-line treatment for women with PCOS. Weight loss is an important treatment strategy; it enhances practically every parameter of PCOS where weight loss restores ovulation and pregnancy rates, reduces insulin levels, lowers testosterone levels while increasing sex hormone binding globulin (SHBG) levels. [8] Lack of knowledge and the negative lifestyle attitude towards polycystic ovarian disease among college girls and not taking any measures to improve their lifestyles is observed by the investigator that these college young women can be helped by assessing their knowledge and by providing necessary information with a view to changing their lifestyle. The researcher plays a crucial role in raising awareness among young women about how to identify the symptoms

Volume 9 Issue 9, September 2020

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and avoid further PCOS complications. The researcher also considered that the information module will be an effective method for conveying knowledge about polycystic ovarian syndrome.

Statement of the Problem

Effectiveness of informational module regarding polycystic ovarian syndrome on knowledge among young women of selected college at Lucknow.

Objectives of the Study

- To assess the knowledge score regarding PCOS among the young women before and after administration of informational module.
- To compare the knowledge score regarding PCOS among young women before and after administration of informational module.
- To find out the association in knowledge scores regarding PCOS among the young women with their selected demographic variables before administration of informational module.

Hypothesis

- H_0 - There is no significant difference in knowledge scores regarding PCOS among young women before and after administration of informational module.
- H_1 - There is significant differences in knowledge scores regarding PCOS among young women before and after administration of informational module.
- H_2 - There is significant association in knowledge scores regarding PCOS among young women with their selected demographic variables before administration of informational module.

Assumptions

- Young women may have inadequate knowledge regarding PCOS.
- Proper knowledge in early age regarding PCOS reduces the risk of getting PCOS among young women.
- Informational module may help the young women to develop adequate knowledge regarding PCOS.

2. Methods

Research Approach

Quantitative approach is used in this study

Research Design

One group pre-test post-test design.

Study setting

The study has been conducted in the Bright Career Inter & Degree College Lucknow.

Population:

The population under study is young women of selected college, Lucknow.

Sample and Sampling Technique

In this study samples are 70 young women (15-24 years of age) studying in selected college who fulfill the inclusion

criteria. The subjects were selected using non-probability purposive sampling technique.

Criteria for Samples Selection:

a) Inclusion criteria

- Young women studying in selected college at Lucknow.
- Both married and unmarried young women.
- Young women who are willing to participate.

b) Exclusion Criteria

- Young women suffering from mental disability.
- Young women is more than 24 years.

Tools/ Instruments- In this study following tool is used for collection of data.

Tool: structured knowledge questionnaire

- **Part 1:** Socio demographic variables.
- **Part 2:** Knowledge Questionnaire

Grading of knowledge scores

- **Poor** - 1-8
- **Average** - 9-16
- **Good** - 17-24

These grading are purely for this research study only.

Informational module on PCOS-

In this study a small book containing information regarding anatomy and physiology of ovaries and PCOS meaning, causes, sign and symptoms, diagnostic evaluation, complication, management & prevention.

Reliability

The Karl Pearson's formula for test-re-test analysis of reliability for self-structured knowledge questionnaire was used to test the reliability of the tool. Reliability for knowledge test was 0.80 after pilot testing. The tools were found to be reliable.

Data collection procedure

First of all ethical permission was obtained from the ethics committee of KGMU, Lucknow. After getting the ethical clearance, formal permission were taken from the respective principal of selected college at Lucknow. The data collection period started from 4th November 2019 to 31st January 2020 to complete. The sample was taken by non-probability purposive sampling technique and all the potential participants matching the inclusion and exclusion criterion. Self-introduction was given to the participants. After that purposes and benefits of the study were explained to the participants and informed consent was taken. Questions were explained to the participants if any of the participants was not able to understand. Then, pre-test was taken and later participants were provided with informational module on PCOS. Post-test was conducted after 7 days of intervention.

Plan for data analysis

For data analysis, the statistical software SPSS (Statistical Package for Social Sciences) version 23.0 was used, facilitating the process of organizing data into tables for the

sake of better visualization of the results and their interpretation. Wilcoxon signed rank test was used to compare the means of both groups and chi square χ^2 test was used to test the association between demographic variables and pre-test score. Descriptive statistics were used to describe frequencies of variables.

3. Result

Section-I: Description of demographic variables of young women.

Table 1: Frequency and percentage distribution of young women according to their demographic variables

Variable	Frequency (f)	Percentage (%)
Age (in years):		
15-17	35	50
18-20	32	45.7
21-24	3	4.3
Dietary pattern		
Vegetarian	34	48.6
Non vegetarian	20	28.6
Ovo-vegetarian	16	22.9
Type of family		
Nuclear	34	48.6
Joint	35	50
Extended	1	1.4
Marital status		
Unmarried	63	90
Married	7	10
Educational Status		
Senior secondary	35	50
Graduation	35	50
Stream of subject		
Science	39	55.7
Arts	23	32.9
Commerce	8	11.4
Menstrual cycle occurs		
< 21 days	19	27.1
22-31 days	49	70.0
32-41 days	2	2.9
Have you heard about polycystic ovarian problems before		
Yes	11	15.7
No	59	84.3
If yes, then source of information		
Family members	2	2.9
Friends & neighbor	9	12.9
No information so far	59	84.3
Is anyone in your family suffers from hormonal imbalance		
Yes	9	12.9
No	61	87.1

Table 1 shows the frequency and percentage distribution of selected demographic variables of young women of selected college at Lucknow. Demographic variables for young women consist of age in years, dietary pattern, type of family & marital status, educational status, stream of subject, menstrual cycle occurs, knowledge about polycystic ovarian

problems, Source of information, family history.

Section III: Comparison of knowledge score regarding PCOS among young women before and after administration of informational module.

Table 2: Categories wise overall pre-test and post-test comparison of knowledge regarding PCOS based on total score

Knowledge Level	Pre test		Post test	
	(f)	(%)	(f)	(%)
Poor	34	48.6	-	-
Average	35	50	18	25.7
Good	1	1.4	52	74.3
Total Score	70	100	70	100

Table 2 reveals that among 70 young women, most of them 34 (48.6%) had poor knowledge, 35(50%) had average

knowledge, 1(1.4%) had good knowledge in pre-test and 52(74.3%) had good knowledge, 18(25.7%) had average knowledge, on one had poor knowledge in post-test.

Table 3: Mean, standard deviation, mean difference and ‘z’ value of pre-test and post-test level of knowledge among young women

Level of knowledge	Total Score		Mean difference	Wilcoxon Signed Rank Test	
	Mean	SD		z-value	p-value
	Pre test	8.79	2.99	9.51	7.28
Post test	18.30	3.35			

n=70

Table 3 reveals that among young women, the mean pre-test score was 8.79±2.99 and post-test score was 18.30±3.35. The mean difference was 9.51. The obtained ‘z’ value 7.28 was highly significant at p<0.001 level. Hence the stated null hypothesis (H0) was rejected and research hypothesis (H1) was accepted. There is a significant difference between the mean pre and post-test level of knowledge among young women.

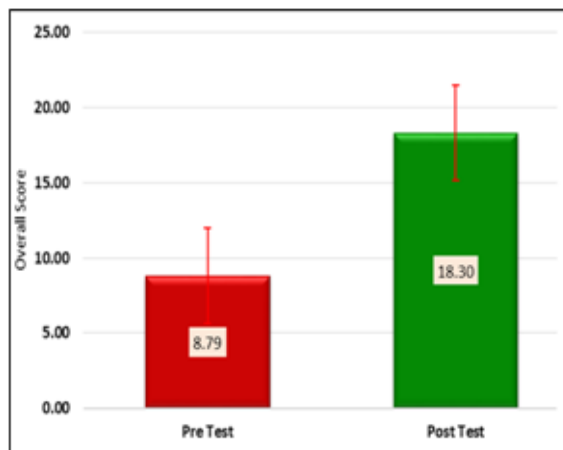


Figure 1: Mean, standard deviation, mean difference and ‘z’ value of pre-test and post-test level of knowledge among young women.

Section IV: Association of knowledge scores regarding PCOS among the young women with their selected demographic variables before the administration of informational module.

Table 4: Distribution of association of knowledge with selected demographic variable before administration of informational module.

Variable	Poor		Average		good		χ ²	p-value
	(f)	(%)	(f)	(%)	(f)	(%)		
Age (in years)								
15-17 yr	18	51.4	17	48.6	0	0	1.59	0.811
18-20 yr	15	46.9	16	50	1	3.1		
21-24 yr	1	33.3	2	66.7	0	0		
Dietary pattern								
Veg	17	50	17	50	0	0	4.19	0.381
Non Veg	11	55	9	45	0	0		
Ovo-veg	6	37.5	9	56.3	1	6.3		
Type of family								
Nuclear	15	44.1	19	55.9	0	0	2.95	0.566
Joint	19	54.3	15	42.9	1	2.9		
Extended	0	0	1	100	0	0		
Marital Status								
Unmarried	31	49.2	31	49.2	1	1.6	0.24	0.886
Married	3	42.9	4	57.1	0	0		
Educational Status								
Senior secondary	18	51.4	17	48.6	0	0	1.15	0.564
Graduation	16	45.7	18	51.4	1	2.9		
Stream of subject								
Science	20	51.3	19	48.7	0	0.0	2.26	0.687
Arts	10	43.5	12	52.2	1	4.3		
Commerce	4	50	4	50	0	0		
Menstrual cycle occurs								
<21 days	6	31.6	21	68.4	0	0	3.78	0.437
22-31 days	27	55.1	13	42.9	1	2.0		
32-41 days	1	50	1	50	0	0		
Have you heard about polycystic ovarian problems before								
Yes	7	63.3	4	36.4	0	0	1.28	0.527
No	27	45.8	31	52.5	1	1.7		
If yes, then source of information through								
Family members	2	100	0	0	0	0	2.59	0.628
Friends & neighbor	5	55.6	4	44.4	0	0		
No information so far	27	45.8	31	52.5	1	1.7		
Is anyone in your family suffers from hormonal imbalance								
Yes	6	66.7	3	33.3	0	0	1.42	0.492
No	28	45.9	32	52.5	1	1.6		

Table 4 shows that the variables consist of age in years, dietary pattern, type of family & marital status, educational

status, stream of subject, menstrual cycle occurs, knowledge about polycystic ovarian problems, source of information,

family history have no association with the knowledge score of young women.

4. Discussion

The present study focused to compare the knowledge score regarding PCOS among young women before and after administration of informational module.

In the present study pre-test finding showed that most of the samples have the average knowledge. The analysis of the findings revealed that there was a significant difference between pre-test and post-test knowledge scores. The result also reveals that there was no association between pre-test knowledge score with their selected demographic variable thus it was concluded that informational module is effective in gaining the knowledge regarding PCOS among young women.

The finding of the present study was supported by the findings of previous studies. Brar K, Kaur T, Ramanadin P.V.(2016), conducted a study to assess the level of knowledge regard PCOS among 200 adolescent girls in Mohali. The study revealed that majority of girls 123 (61.5%) had fair knowledge and minority of girls i.e. 1 (0.5%) had excellent level of knowledge and 35 (17.5%) girls had good level of knowledge. The study concluded that there was lack of knowledge of teenage girls regarding PCOS. The administration of information booklet may have helped the teenage girls to understand more about PCOS.^[9]

Karki Ranu, Negi Hansi (2018) conducted a study to assess the effectiveness of structured-Teaching programme on knowledge regarding polycystic ovarian syndrome and its prevention among 50 higher secondary female students in selected school of Dehradun. The study reveals that pre test mean score was 11.78. After intervention post-test mean score 21.78 was found significantly higher than the pre-test score with a mean difference 9.82 as evidenced from 't' value of 21.33 for df, at <0.05 level of significance. The study concludes that the STP was effective in enhancing the knowledge score regarding polycystic ovarian syndrome among students.^[10]

5. Conclusion

In the present study pre-test finding showed that most of the samples have the average knowledge. The analysis of the findings revealed that there was a significant difference between pre-test and post-test knowledge scores. The result also reveals that there was no significant association between pre-test knowledge score with their selected demographic variable such as age and dietary pattern thus it was concluded that informational module is effective in gaining the knowledge regarding PCOS among young women.

6. Recommendations

The current study recommends the following:

- A similar study can be replicated with a control group.
- A similar study can be conducted to the group of adult

women.

- The study can be replicated on a larger sample for generalizing the findings.
- A similar study can be conducted among students of rural areas.
- The comparative study can be conducted on urban and rural area.
- A similar study can be conducted by assessing the knowledge and attitude regarding PCOS among young women.

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