VOLUME - 10, ISSUE - 08, AUGUST- 2021 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Nursing

A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG SELECTED ADOLESCENT GIRLS OF COLLEGE OF NURSING

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ABSTRACT

Introduction: Adolescence is the most pivotal period of life, yet one of the most vulnerable more than 50% of world's population are below the age of 25 and one fifth are adolescents (WHO1995) in India one third of the population are between the age of 10 and 24. Today we are living in a period of modernization the effect of modernization and technological advancement reflects in everyday life. Our lifestyle also has changed a lot food intake is becoming more concentrated on sugar, fast food, and soft drinks and less on healthy, traditional fare. These unhealthy food habits and lack of exercise leads to many diseases in adolescent girls like Polycystic Ovary Syndrome (PCOS) (1)

Aim and Objectives: This study was mainly designed to assess the knowledge regarding polycystic ovarian syndrome among selected adolescent girls of college of nursing. Adolescent health plays an important role in nations health condition in India 35% of adolescents are suffering from PCOD. It is mainly due to the lifestyle changes.

Materials and Methods: A single group pre-test and post-test design was chosen for the study. This type of design helped the investigator to assess knowledge of adolescent girls of nursing college students before and after planned teaching programme related to selected aspects of Polycystic Ovary Syndrome. General Systems Model was the guiding framework for the study. Permission to carry out the study was obtained from the respective review boards. A written informed consent was obtained from each of the participants prior to the study. Data was collected by conducting face to face interview in person following a structured questionnaire. Data was analysed using the Statistical Package for Social Sciences (SPSS) version.

Findings: The findings arrived at the conclusion of this study was that adolescent girls had varying degrees of knowledge on the different aspects of PCOS. There is a need to provide a more details information of the sign and symptoms of PCOS that is the nature of abnormal menstrual cycle and another common sign of PCOS.The study has shown significant difference between pre intervention and post intervention knowledge of students in relation to selected aspects of Polycystic Ovary Syndrome which shows that the structured teaching programme has been highly effective in bringing about the changes in the overall knowledge level of the participants.

KEYWORDS : Polycystic Ovary Syndrome, Adolescence, Knowledge

INTRODUCTION

Up to 10% of women and girls worldwide have polycystic ovary syndrome (PCOS) a complex hormonal disorder for which there is no cure if left untreated PCOS can be precursor to many life – threating conditions including type 2 diabetes, hypertension, cardiovascular disease, and stroke and kidney problems. This means PCOS contributes some of the leading cause of death and disability in women today. (2)

PCOS is a chronic hyper androgenic state that has many significant short terms and long-term implication for patients such as oligomenorrhea, amenorrhea, infertility, diabetes mellitus, cardiovascular disease. Increased risk of endometrial cancer and excessive body hair. Polycystic ovarian syndrome (PCOS) is a leading cause of infertility. It affects 35% of women in their reproductive years and more than 90% of obese women. (3) There are two main reasons for the increase of PCOS diagnosis in Indian women, the adoption of unhealthy eating habits and a sedentary lifestyle. Whereas older generations of Indian women eat traditional, lower calorie food with less sugar. Many young Indian girls today eat a steady diet of junk food. (4) Within the past two decades, India began relying on westernized diets and lifestyle, if is predicted that they may she up to six- fold increase in obesity prevalence in the next 10 years especially for India who already has highest rates of diabetes in the world (WHO 2009) the proper awareness helps them in prevention and early identification of PCOD, thereby reducing the complications like diabetes, hypertension and cardiovascular diseases (5) Scientific discoveries that improve human health begin with basic research in which scientists study diseases at a molecular and cellular level. Such discoveries then progress to clinical applications that benefit to patents basic and clinical research into the causes of polycystic ovary syndrome has led to advance in the care of women with these disorders and also prevents an early detection of PCOS. Additional studies have confirm that women with PCOS have an increased risk of developing metabolic disturbances, including type 2 diabetes and lipid (blood fat abnormalities). Women with PCOS also have high rates of obstructive sleep apnea, a breathing disorder. Many researcher have also found that obese women are high time conceiving. If left undiagnosed PCOS can cause serious complication, including metabolic syndrome and type 2 diabetes. It is also the leading cause a female infertility, and puts women at increase drink of cancers, heart disease stroke and kidney problems. This means PCOS contributes to some of the leading causes of disability in women today. (6) A prospective study was conducted among adolescents to find out the prevalence of polycystic ovarian syndrome in India The study conducted among 460 girls aged between 15 to 18 years, who underwent clinical examination of which 72 girls with oligomenorrhea and / or hirsutism were invited for biochemical, hormonal and ultrasonographic evaluation for diagnosis of PCOS. The result of the study was prevalence of PCOS in India adolescents is 9.13% these draws attentions to the issues of early diagnosis in adolescent girls (7) Polycystic ovary syndrome is a condition that affects millions of women without their knowledge. Estimates range anywhere from 6 to 20% of the female reproductive population, and the number may be even higher among younger women, since infertility is the primary clue that leads to most diagnoses. In fact, PCOS is considered to be the most common cause of infertility in women today. (8) In PCOS, obesity, hyperinsulinemia and anovulation have been associated with increased risk. In addition to regular pap smears, PCOS therapies have focused on increasing menstrual regularity to decrease insulin resistance also improve menstrual function. All the above statistical reports and studies created an interest in the researchers mind to undertake a study to assess the effectiveness of structured teaching programmer on knowledge regarding prevention and early detection of polycystic ovarian diseases among adolescent girls in selected pre-university colleges. (9) PCOS usually start during adolescence, but may not be detected until women are in their late 20s or 30s because it takes a long time for symptoms to develop and those symptoms vary widely from one woman to the next.(10)

MATERIALS AND METHODS

Research approach- In this study an evaluator approach was used. The evaluator approach helped the researcher evaluate the effect of a planned teaching programme on knowledge of adolescent girls related to selected aspects of PCOS.

Research design- A single group pre-test and post-test design was chosen for the study. This type of design helped the investigator to assess knowledge of students before and after planned teaching of Polycystic Ovary Syndrome. Design used in the study is basically a quantitative type for encouraging female adolescent girl participant to undergo the study.

Variables

Dependent Variables

According to researchers, knowledge of adolescent girls of nursing college regarding PCOS is the dependent variables.

Independent variables

The independent variable is planned teaching program related to selected aspects of Polycystic Ovary Syndrome.

Setting of the study: This study was conducted in urban areas of Mumbai District of Maharashtra state in India.

Sample: In this study, participants consisted of female students of selected college of nursing who fulfill the criteria of inclusion in the study.

Sample size: Sample size on the basis of calculation is 30. This procedure was adopted to ensure getting adequate number of women participants.

Sampling technique

In this study non-probability, convenient sampling technique was used. Female student from the selected urban community, who met criteria for selection, were chosen according to their availability.

Criteria for selection of participants

INCLUSION CRITERIA

1. Adolescent girls who are above the age of 18 years
2. Adolescent who know Marathi and can speak English, Marathi and Hindi.
3. Adolescent girls who are residents of selected residential area.

EXCLUSION CRITERIA

1. Adolescent girl who are not willing for participation in the study.
2. Adolescent girl who have participated in pilot study.

Ethical aspects

Ethical approval was obtained from the Ethical committee of the nursing college before commencement of the data collection. Informed consent of the subject was obtained prior to conducting the study. Confidentiality of collected data and privacy of the subject was maintained throughout the study.

Study period

The study started in the month of February 2019 and field work was completed in April 2019. The analysis was completed in the month of May 2019.

Study tool

Semi structured questionnaire along with interview technique was used for data collection regarding selected aspects of PCOS and planned teaching programme was administered among selected female nursing college students of Mumbai.

Feasibility of the study

The area from the nursing college which was selected was feasible in terms of

- Geographic proximity and ethical clearance
- Economy in terms of time
- Administration approval
- Cooperation and availability of the subjects

Validity

To establish validity of the tool prepared for data collection in this study the expert from the field of Obstetric and gynecology department and also from the field of nursing. After receiving the suggestions and opinions from the experts, relevant changes were incorporated with due modifications.

Reliability

In this study, the reliability of questionnaire was assessed by the test retest method.

The formula used for reliability was Karl Pearson product – movement method that is as follows: -

It is denoted by r_{xy} and calculated by using the formula

$$r_{xy} = \frac{\frac{1}{n}\Sigma(x-\bar{x})(y-\bar{y})}{\sqrt{\frac{1}{n}\Sigma(x-\bar{x})^2}\sqrt{\frac{1}{n}\Sigma(y-\bar{y})^2}}$$

$$= \frac{Cov(xy)}{SD(x)SD(y)}$$

Where , X= Pre-test Y= Re-test

Standard Deviation of pre data = SD (X) = 0.56

Standard Deviation of post data = SD (Y) = 0.62

Hence Karl Pearson's Corr. Coeff. $= \frac{Cov(xy)}{SD(x)SD(y)}$

These values suggest that the tool is highly reliable to be incorporated for the final study.

Pilot study

A pilot study was conducted prior to the main study on three participants which were not included in the main study. A sample consisting of three adolescent girls from selected nursing college of Mumbai.

Data compilation and analysis

Analysis of Demographic data, knowledge regarding selected aspects of PCOS was done with the help of frequency, percentage, and f–test. Appropriate tests like Non-Parametric Tests , Anova test and paired 't' test for difference were used. The conventional level of significance was set at 0.01.

RESULTS

There was apparent difference in the mean and standard deviation of knowledge scores among various aspects of Polycystic Ovary Syndrome. Effective female education and mass screening are necessary for successful implementation of educational program in India especially within the various sectors is the need of the hour. This study revealed the limited knowledge of female students about the susceptibility of developing PCOS and the necessity of screening among the group.

SECTION I Comparison of mean score of pre-test and post-test knowledge of adolescent girls regarding PCOS

n=30

Sr. No	Knowledge Score	Mean Score	Standard Deviation	SEMD	"t" Value	LOS
1	Pre-intervention	11.90	2.554	0.46	6.725	0.001
2	Post-intervention	23.40	3.284	0.60		

The mean knowledge score of pre intervention among women was only 11.90 which showed a significant rise in post intervention of 23.40 after implementing the planned teaching programme among the participants. The pre intervention knowledge score SD was 2.55 which in comparison to post intervention is 3.28 .From the mean score it is seen that there is significant differences between the pre-test and post-test

scores depicted by paired t-test which depicts that null hypothesis is rejected and alternate hypothesis is accepted. Which also depicts that there is considerable difference between the scores of pre intervention and post intervention suggesting that the research study has proved to be highly effective.

SECTION II

This section mainly concentrates to know the association between knowledge scores of the participants with selected demographic variables of respondents.

Association of knowledge scores with selected demographic variables A -Level of Haemoglobin

Level of Hb	Mean	N	Std. deviation
A	75.2056	5	27.73252
B	114.5579	20	66.20050
C	145.7500	5	86.17569
Total	113.1979	30	66.59223
F-test result	f-test=1.460 p-value=0.250		

From the above table it is depicted that the increase in knowledge scores is not dependent on level of hemoglobin of the respondent.

B -Height of the participants

Height	Mean	N	Std. Deviation
A	130.4127	5	95.98783
B	141.9308	11	77.06548
C	82.4107	12	29.51820
D	96.8531	2	17.30681
Total	113.1979	30	66.59223
F-test result	f-test = 1.835 p-value = 0.166		

From the above table it is depicted that the increase in knowledge scores is not dependent on height of the respondents. Hence there is no association between scores of respondents with the selected demographic variables.

Approximately 93.33 percent of the adolescent girls were knowledgeable regarding the awareness of PCOS.70 percent were knowledgeable about the meaning of PCOS. 86.66 percent of the adolescent girls answered that incidence of the PCOS can be detected at an early stage. After implementation of planned teaching programme 80 percent of the adolescent girls believed that reduction of weight can decrease the chances to developing PCOS in future. 100 percent adolescent girl showed that seeking early diagnosis of PCOS is important to prevent complications in future. Only 10 percent from study group were knowledgeable that PCOS is manifested in the pretest but after planned teaching the awareness increased to 73.33 percent. 43.33 percent of study sample from adolescent girl group knew that extreme production of hormone is indicated in PCOS in t pre-test, the scores increased to 60 percent in the post test. 36.66 percent adolescent girls answered that PCOS is seen more frequently among the age group in pretest, which increased to 70 percent in post-test analysis. About 26.66 percent adolescent knew that hyperandrogenism and acanthosis Nigerians can be detected in pre-test which increased the score to 66.66 percent after planned teaching is provided. Only 60 percent adolescent girls answered that biochemical abnormalities can be detected in pretest, the knowledge scores increased to 80 percent in post intervention.

CONCLUSION

The aim of this study was to explore knowledge of PCOS among the female adolescent of urban area of Mumbai, Maharashtra. Additionally, we attempted to identify association between the knowledge scores of the participants with selected socio-demographic parameters of the participants.The findings arrived at the conclusion of this study was that adolescent girls had varying degrees of knowledge on the different aspects of PCOS. There is a need to provide a more details information of the sign and symptoms of PCOS that is the nature of abnormal menstrual cycle and another common sign of PCOS. It continues to be the upcoming disease resulting in the ill-health of the coming generations which in the long run majorly might leads to infertility too in the developing countries. While this burden may rise in the coming years, there is need to educate the young generation to get themselves screened at the earliest. The findings arrived of the study showed are that the girls had low and varying degrees of knowledge on the various aspects of PCOS. There is a need to provide a more detail information about the signs and symptoms and availability of various screening measures for early detection of PCOS and other common signs of this disease condition.

From the findings of the study it can be concluded that implementation of planned teaching programme with periodic counseling sessions are very effective tool in imparting the knowledge and encouraging the female groups for screening practices with a view of prompt diagnosis, treatment and follow up. The change in the post intervention scores of the participants indicates a significant effect of planned teaching on the knowledge of the group. The investigator also identified the views of girls regarding PCOS and the importance of screening practices in order to prevent themselves against the disease, timely assistance and seek proper guidance for themselves and other young females.

Source of support: Nil
Conflict of interest: Nil

Final objectives of the study:

- To assess the pre intervention knowledge score regarding selected aspects of polycystic ovary syndrome among adolescent girls before planned teaching.
- To evaluate the effectiveness of knowledge related to selected aspects of polycystic ovary syndrome after administration of planned teaching programme.
- To find out the association between the knowledge scores of the participants related to polycystic ovary syndrome along with their selected demographic variables.

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