



A STUDY TO ASSESS AWARENESS REGARDING PCOS AMONG COLLEGE-GOING STUDENTS

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INTRODUCTION

Polycystic ovary syndrome (PCOS) is a heterogeneous disorder that leads to the overproduction of androgens mainly from the ovaries.^[1] Diagnosis is usually made when a patient has two of three main features, or their associated phenotypes, which include hyperandrogenism, polycystic ovaries, and anovulation.^[2] About 40–80% of patients with PCOS are either overweight or obese, thus increasing the risk of metabolic syndrome, endometrial hyperplasia, and endometrial cancer. Although there is no cure for PCOS, there are several ways to treat and manage the condition like weight loss, healthy food habits, and exercise.^[3]

PCOS remains an underdiagnosed condition despite being the most common endocrine syndrome in women of reproductive age.^[4] In more than 40% of cases, PCOS is associated with obesity, impaired glucose tolerance, type II diabetes, gestational diabetes, and metabolic syndrome.^[5] India has witnessed about 30% rise in PCOS cases in the last couple of years. Studies have found that there was a gap in the knowledge about PCOS, its symptoms, and its signs. Thus, most visit their doctors late leading to metabolic and reproductive abnormalities associated with it. There is a need to increase awareness among women so as to avoid major cases of fertility problems in the future. This study aimed at assessing the knowledge and attitude of university students towards PCOS in a university on the west coast of India.^[6]

MATERIALS AND METHODS

This was a single-centre questionnaire-based cross-sectional study performed at a University in Gujarat. University students > 18 years of age from both medical and non-medical streams were enrolled. Those who were not willing to participate in the survey were excluded.

Data was collected through an online questionnaire using Google Forms. The questionnaire was constructed by two gynecologists and one statistician and was validated. Questions were written in English. The questionnaire covered participants' age, PCOS symptoms, reversibility, the role of obesity, and the treatment strategies available.

The questionnaire was uploaded on Google forms and distributed to the students, through social media platforms and students' university emails. A short paragraph about the study containing a consent form for participation in the study and the emails of the researchers to answer any inquiries was shared using a Uniform Resource Locator (URL) link to the questionnaire. Reminders to fill out the questionnaire were sent on day seven and day ten.

Participants' awareness of PCOS was measured by their knowledge regarding the presentation of PCOS (10 points), prevention (10 points), and associated conditions (4 points). For example: "Which of the findings listed below are seen in PCOS patient (tick all correct answers): contained four options, the correct being all the above. Those who chose one, two or three got 1,2 or 3 marks, while those who chose all the above got 4 marks. A total score of 24 points was calculated and was assumed to represent the overall awareness of participants about the disease.

STATISTICAL ANALYSIS

Continuous variables with normal distribution are expressed as the mean \pm standard deviation (SD); nonnormally distributed continuous variables are reported as median (interquartile range, IQR). For the P value, Mann-Whitney U test was used to analyze the continuous variable. Categorical variables were analyzed by the chi-square test or Wilcoxon rank-sum test and are

presented as percentages. A P-value less than 0.05 is considered statistically significant.

RESULT

Responses from a total of 150 students were recorded. Out of these, 75 each were from the medical and nonmedical streams. In the non-medical stream, 22 (29.30%) each were from food and nutrition and family and community science, 4 (5.3%) each was from home science, social work, and management, 5 (6.6%) were from general-level programs and 14 (18.6%) were from

other miscellaneous subjects. (Table 1) On comparing correct responses from medical stream students as compared to non-medical students, a marked difference was seen in questions regarding problems with irregular menses (35% vs 77%), the necessity of treating them (25% vs 78%), and presentation (35% vs 80%) and reversibility of PCOS (25% vs 65%). The mean score was 14.97 ± 3.96 in the non-medical stream while in the medical stream it was 17.80 ± 2.62 , the difference being statistically significant ($p < 0.05$). (Table 2)

Table 1: Distribution of non-medical departments.

Sr. No	Department	Responses (n=75)	Percentage
1	Food technology	22	29.30%
2	Family and Community Sciences	22	29.30%
3	Homescience	4	5.30%
4	Arts and Design	5	6.60%
5	Social Work	4	5.30%
6	Management	4	5.30%
7	Others	14	18.60%

Table 2: Pre-test vs Post-test responses.

Sr. No.	Questions	Pre-test Correct Responses (n=75)	Post-test Correct Responses (n=75)
1	Can Irregular menses lead to health problems in future-like Cancer, Premature Menopause or Chronic diseases like Thyroid, diabetes of heart attack?	39 (52%)	50 (66.6%)
2	Is it always necessary to take medications for irregular periods?	50 (66.6%)	62 (82.6%)
3	Can Obesity shorten one's lifespan, lead to cancer or affect one's sexual life?	42 (56%)	50 (66.6%)
4	Is Bariatric surgery safe or lifestyle changes better for weight loss?	21 (28%)	25 (33.3%)
5	Is PCOS preventable?	46 (61.3%)	53 (70.6%)
6	Is Obesity genetic or acquired?	53 (70.6%)	60 (80%)
7	Age at which PCOS commonly diagnosed?	12 (16%)	17 (22.6%)
8	Women suffering from PCOS are at an increased risk of developing	47 (62.6%)	59 (78.6%)
9	Can loosing weight reverse symptoms of PCOS?	25 (33.3%)	49 (65.3%)
10	Which of the findings listed below are seen in PCOS patients?	58 (77.3%)	68 (90.6%)
	Average	52.30%	65.60%

In the pre-test, in the nonmedical stream, correct answers were 52.30% while in post-test 65.60% of responses were correct. 75% from the medical stream while only 30% from non-medical stream scored more than 18 (75%) out of the maximum 24. In the repeat test, the mean score of non-medical stream students improved to 16.12 ± 3.01 and the difference in the proportion of correct responses from non-medical students compared to the medical students was also reduced. About 60% scored more than 18 out of the maximum 24. Most of them were convinced that gynaecologists should be contacted at the earliest.

DISCUSSION

PCOS is a condition that affects teens and young females, alters the female sex hormones, causes changes

in the menstrual cycle, and may lead to infertility. Joshi B et al found that the prevalence of PCOS is variable globally, ranging from 2.2% to as high as 26%. According to Rotterdam criteria, there is a 22.5% prevalence of PCOS and according to the Androgen excess society it is 10.7%. The pathogenesis of PCOS has been attributed to hyperinsulinemia to which women developing PCOS usually have a genetic predisposition.

In India, there is a 30% rise in the cases of PCOS in the last couple of years which is attributed to lack of knowledge and awareness among young women.^[7] Shetty D found that PCOS affected 10 % of Indian women.^[8] Choudhary N et al found that the prevalence of PCOS in Indian adolescents is 9.13%.^[9] Vaidya R et al found that 116 million women were affected with PCOS

worldwide in 2012 (3.4% of women).^[10] Lakshmi KS et al found that the prevalence of PCOS at a tertiary care hospital was 32%.^[11] Radha P et al found that the proportion of PCOS was higher in the urban population in comparison to the rural population.^[12] This difference can be attributed to lack of physical activity and unhealthy food habits which are more common in the urban population.

Although it is incurable, weight loss in obese women has shown to restore normal hormonal balance and decrease complications. Daily exercising and eating healthy food help to combat the disease. However, topics related to reproductive health are often neglected or rarely discussed at primary levels like schools and colleges. A study conducted in Saudi Arabia revealed that 66.3% of women out of 350 participants had inaccurate and inadequate knowledge about this syndrome.^[13] In another study, 98.9% of respondents felt that it was necessary to spread awareness about this condition.^[14]

A study conducted in Saudi Arabia also revealed that knowledge of PCOS was higher at higher educational levels.^[15] Similarly, in this study, we found there was a lack of knowledge regarding PCOS among college-going students which improved significantly after giving information through a PowerPoint presentation.

CONCLUSIONS

There is a lack of knowledge regarding the presentation and reversibility of PCOS which may be the prime reason for the delay in accessing healthcare. Imparting basic knowledge even with PowerPoint can improve this knowledge significantly. This simple strategy can be adapted at a mass scale to bring down the rising numbers of PCOS and related morbidity in the community.

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