International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211
Volume 11, Issue 2, February-2023, Impact Factor: 7.429, Available online at: www.ijaresm.com

Polycystic Ovary Syndrome in Reproductive Age Women: A Psychological Impact Study

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ABSTRACT

Introduction:
Polycystic Ovary Syndrome is one of the most prevalent metabolic and reproductive diseases among women of reproductive age. According to estimates of its prevalence, this illness affects anywhere between 3.7 % to 22.5% of people in India. The aim of the study is to investigate the psychological impact of Polycystic Ovary Syndrome in women of reproductive age.

Methods and Material:
The investigation was a prospective observational study that lasted for six months. Females between the age of 18 to 50, participated in the study. There were 61 patients enrolled in the study which met the eligibility criteria. A self-structured questionnaire consisting of five variables (Impact of PCOS, Infertility, Body appearance, Menstrual abnormality, Impact on behavior) was used to evaluate psychological impact in PCOS women.

Results:
The average age of the patients was 30, and the majority of them were married, housewives and fell into the healthy weight category. Infertility was a complaint made by 80% of the women who visited to the clinics. The majority of patients (50%) with PCOS reported having a moderate psychological impact, according to the questionnaire.

Conclusion:
Our data indicate that menstrual abnormalities and infertility are the most frequent factors affecting PCOS women's mental health. Healthcare professionals need to be aware of PCOS-related psychological stress while treating patients.

Keywords: Polycystic ovary syndrome; psychologically impact; psychological impact questionnaire.

INTRODUCTION

Polycystic Ovary Syndrome is one of the most prevalent underdiagnosed condition in women of reproductive age. Women with PCOS frequently experience irregular menstruation and an excess of androgen. Despite the challenge of estimating the prevalence of this condition, there is strong evidence that it affects 3.7 % to 22.5% of women in India. [1] Obesity, insulin resistance, type 2 diabetes mellitus, cardiovascular disease (CVD), infertility, cancer (endometrial, ovarian, and breast), hypertension, and mental health issues are all examples of potential co-morbidities [2], all of which have a detrimental effect on their psychological health. The most common psychological disorders in PCOS women are by far chronic anxiety, sadness, and depression. Women can overcome the harmful consequences of PCOS with the aid of psychological consultation and psychotherapy if the connection between PCOS and psychological problems can be proven. [3] This element has drawn more attention globally as a result of how accurately it captures how the disease actually affects sufferers' lives.

AIM

To investigate psychosocial effects of Polycystic Ovary Syndrome in reproductive age women.

OBJECTIVE

To study psychological impact in PCOS patients.

MATERIALS &METHODS

METHODS

The investigation was six-month Prospective Observational study. (October 2021 –March 2022). Study comprised females between the ages of 18-50 years who visited clinical sites [Geeta Gynec Hospital, Gandhinagar, Shachi Women's Hospital, Ahmedabad]. during study hours. Clinical study sites were chosen based on patient availability and hospital approval. From 74 patients screened, 61 met the study's eligibility criteria and were recruited. In inclusion criteria, patients diagnosed with PCOS and other related comorbidities, who were between the ages of 18-50 years must also provide their consent to participate in the study. Patients older than 50, those who were psychologically unwell, and those who refuse to participate in the study were excluded.

MATERIALS

Patients who met the requirements for eligibility had received a validated Patient Information Sheet with information about the study. As evidence of freely participating in this study, patient signed an informed consent form. Each patient's data collection form was completed with their initials, age, occupation, weight, height, BMI, history of menstruation and pregnancy, medical history, medication history, and a provisional or final diagnosis. The psychological impact on PCOS women was assessed using a self-structured questionnaire. Additionally, the questionnaire was created utilising the PCOSQOL, Hamilton Anxiety and Depression Scale, Hospital Anxiety and Depression Scale, and Depression, Anxiety, and Stress Scale as references [6,7,8,9]. The questionnaire was validated with the help of experts. To evaluate the scale's internal consistency or reliability, Cronbach's alpha was calculated. The scale had 25 items with a 5-point Likert scale [10] and covered 5 different characteristics, including the impact of PCOS, infertility, body appearance, menstrual abnormalities, and impact of behaviour. The psychological impact was calculated using the combined score from all the questions, and it was then interpreted.

RESULT

DEMOGRAPHIC DETAILS OF PATIENTS

According to eligibility criteria, 61 out of 74 patients were voluntarily participated in the study. Demographic details of PCOS patients shows that, age of the patients varied from 22- 42 years. The mean (SD) age of patients was 30(5.17%). The majority patients were in the age group of 26-30 that were 19(31.14) and no patient enrolled from age group of 46-50 in the study. In BMI class, 23(37.7%) were overweight, 24(39.34%) patients were healthy, 06(9.86%) patients were under-weight and 08(13.11%) patients were obese. Number of patients married and unmarried were 50(81.96%) and 11(18.03%) respectively. Furthermore, 52(85.24%) of patients in the study were non-working (Housewife or Student) and 09(14.75%) were working women. Total 19 women out of 61 were having pregnancy history. Patients suffered from gravida were 6(9.84%) and termination were 4(6.56%). There was total 9 patients who had given live birth. No patients in study were undergone parity as described. Maximum number of patients 42(68.85%) belonged to group 0-35(in days) of absence of menstruation. The minimum number were only 1(1.64%) in group 108-143(in days). Average time taken to visit the clinic is of 29 days after last menstruation. Considerable portion of patients 49(80.33%) were presented with complaints of infertility at the hospital as depicted. From remaining sample size, 10(16.39%) patients were having irregular menstruation and 2(3.28%) patients appeared with infertility as well as irregular menstruation.

Table 01: Demographic details of PCOS patients

Sr. No.	Variables	Number of patients (n)	Percentage (%)
01	**Age group (years)**		
	18-25	16	26.22
	26-30	19	31.14
	31-35	14	22.95
	36-40	11	18.03
	41-45	01	1.63
	46-50	00	0.00
02	**Body Mass Index (BMI) class**		
	<18.5 (Underweight)	06	9.86
	18.5-25 (Healthy weight)	24	39.34
	25-30 (Overweight)	23	37.70
	>30 (Obesity)	08	13.11
03	**Marital status**		
	Married	50	81.96
	Unmarried	11	18.03
04	**Occupation**		
	Working women	09	14.75
	Non-working women	52	85.24
05	**Pregnancy history**		
	Gravida	6	9.84
	Parity	0	0
	Termination	4	6.56
	Live	9	14.75
06	**Last menstruation history (in days)**		
	0-35	42	68.85
	36-71	14	22.95
	72-107	04	6.55
	108-143	01	1.64
07	**Patient's presenting complaints**		
	Infertility	49	80.33
	Irregular menstruation	10	16.39
	Both Infertility and Irregular menstruation	02	3.28

There were 14 patients presented with medical history. The majority of patients were found to be suffering from type- II Diabetes Mellitus(n=4) followed by Hypothyroidism(n=2) and In-Vitro Fertilization technique(n=2).

PSYCHOLOGICAL IMPACT ANALYSIS

Psychological impact questionnaire contained a total of 25 questions. It was expressed as 5-point Likert scale which is interpreted as below.

0= Never, 1= Almost Never, 2= Sometimes, 3= Fairly Often and 4= Very Often

Cronbach alpha was measured to check the accuracy and reliability of the psychological impact questionnaire in the study and interpreted as Excellent.

Question wise score distribution of patients describes the individual frequency of score answered by the patients. Out of 25 questions provided in questionnaire, question-19 about the troublesome menstrual problems to women have the highest mean score and lowest mean score was for question-14 about acceptance in society due to obesity.

Table 02: Question wise score distribution of patients

Que. No.	Question	No of patients responding with respected score					Mean(SD)
		0	1	2	3	4	
IMPACT OF PCOS							
01.	Do you feel unfair that you have PCOS?	8	10	30	8	5	1.87(1.07)
02.	Do you feel angry about having PCOS?	6	14	24	13	4	1.92(1.05)
03.	Have you been envious of women without PCOS?	27	20	9	4	1	0.89(1.00)
04.	Are you struggling to deal with PCOS and other associated comorbidities?	31	9	10	7	4	1.08(1.32)
05.	Do you feel like PCOS is controlling your life?	23	20	8	7	3	1.13(1.19)
06.	Is there anything you haven't done because of PCOS?	30	17	8	2	4	0.90(1.16)
07.	Have you ever felt like you don't know what to do to help yourself?	24	9	15	8	5	1.36(1.34)
INFERTILITY							
08.	Are you worried about infertility problems?	8	3	18	19	13	2.43(1.26)
09.	Are you under pressure to have a child?	26	12	6	14	3	1.28(1.35)
10.	Are you scared that you may not be able to have children?	14	7	9	20	11	2.11(1.45)
BODY APPEARANCE							
11.	Do you feel embarrassed about your excess hair on your face, upper lip and chin area?	17	8	17	16	3	1.67(1.27)
12.	Do you spend a lot of time & energy in removal of excess hair?	27	8	14	8	4	1.25(1.32)
13.	Are you worried about being overweight?	20	18	12	12	9	1.70(1.48)
14	Do you feel that, you are less accepted in society due to your overweight?	39	13	5	2	2	0.60(1.00)
15.	Do you get frustrated in trying to lose weight?	24	7	12	9	9	1.54(1.50)
16.	Do you feel unattractive because of acne?	19	15	16	4	7	1.43(1.30)
17.	Do you avoid social gathering because of your acne?	33	18	4	5	1	0.74(1.01)
18.	Do you feel you are more self-conscious because of acne?	24	20	7	5	5	1.13(1.25)
MENSTRUAL ABNORMALITY							
19.	Do you experience bothersome menstrual cramps or heavy bleeding which affects your work or home responsibility?	5	2	13	29	12	2.67(1.09)
20.	Do you feel irritability because of your menstrual problems?	4	5	9	30	13	2.70(1.10)
IMPACT ON BEHAVIOUR							
21.	Do you get short tempered frequently?	4	6	21	17	13	2.48(1.13)
22.	Do you feel crying for no reason?	10	10	23	11	7	1.91(1.21)

23.	Do you have worrying and negative thoughts constantly in your mind?	9	13	23	10	6	1.85(1.17)
24.	Do you feel less confident/low self-esteem because of PCOS?	25	11	10	11	4	1.31(1.35)
25.	How often you feel stressed about difficulties were piling up so high that you could not overcome them?	14	17	12	13	5	1.64(1.28)

There were five variables in the study: impact of PCOS, infertility, body appearance, menstrual abnormality and impact on behavior. Among which majority of patients were suffered from menstrual abnormality (67%), followed by infertility (48%), impact of behavior (46%) and impact of PCOS (33%), whereas patients were least affected by body appearance (31%).

Table 03: Variable scores distribution of patients

Variable	Average Score	Average Percentage (%)
Impact of PCOS	9.15	33
Infertility	5.82	48
Body appearance	10.07	31
Menstrual abnormality	5.38	67
Impact on behaviour	9.2	46

Frequency distribution of psychological impact of patients depictsthat, majority of patients 32 (52%) were having moderate psychological impact. PCOS had a severe psychological impact on 6 (10%) individuals and a mild psychological impact on 23 (38%) patients.

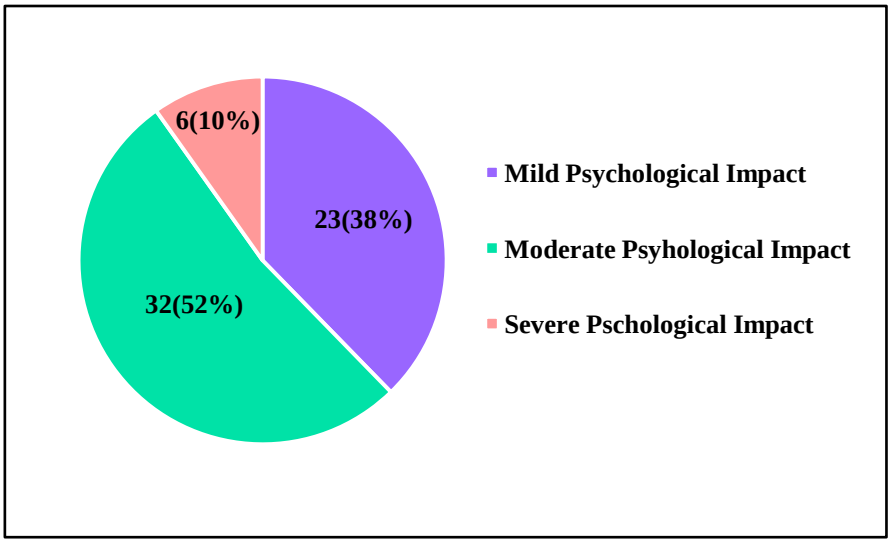

Figure 01: Frequency distribution of psychological impact of patients

DISCUSSION

Polycystic Ovary syndrome is thought to be complex endocrine disorder found in women of reproductive age. Obesity, insulin resistance, type- II Diabetes Mellitus, cardiovascular disease (CVD), infertility, cancer (endometrial, ovarian, and breast), hypertension, and psychological disorders are all possible morbidities in PCOS women. Prevalence of PCOS in India ranges from 3.7 % to 22.5%. [1]

In our study, certain conclusions emerged from research on the psychological impact of PCOS in reproductive-age women. Prof. G. Venkata Ramana concluded a study in Andhra Pradesh on 60 PCOS women of reproductive age and majority of the patients were between the age of 20 -30 years, 40 women were married and 20 were unmarried. [4] whereas, in present

study it included total 61 patients and most of patients enrolled were between the age group of 26 -30 years and 50(81.97%) were married and remaining 11(18.03%) were unmarried. The average BMI was 25.04 kg/m2, with a maximum of 24 patients (39.34%) falling within the 18.6-25 kg/m2 range, suggesting normal weight status.

Judy Griffin McCook et. al. done study on Health-Related Quality of Life Issues in Women with Polycystic Ovary Syndrome, most common health-related quality of life concern reported by women with PCOS was weight, menstrual problems, infertility, emotions, and body hair respectively. [5] Whereas, in current study the most common variables affecting psychological impact were body appearance (Hirsutism, Obesity and Acne) followed by impact on behaviour, impact of PCOS, infertility and menstrual abnormalities. On other hand, in our psychological impact questionnaire there were total 25 questions with 5 sub variables i) Impact of PCOS, ii) infertility, iii) body appearance (hirsutism, obesity and acne), iv) menstrual abnormalities and v) impact on behaviour all of which had 7, 3, 8, 2, 5 number of questions respectively scored based on 5-point Likert scale. Based on the total score in each patient the final results interpreted as 32(52.46%) patients were suffering from moderate psychological impact, 23(37.70%) patients suffering from mild psychological impact and 6(9.84%) patients suffering from severe psychological impact. This shows that majority of PCOS patient have moderate psychological impact in their health which indicates that attention should be given in this area and providing counselling while treating such patients. Also, to keep an eye on the psychological effects of PCOS on women, as well as to treat patients holistically to address all parts of PCOS as well as providing guidance for future government initiatives aimed at providing medical assistance to PCOS sufferers.

CONCLUSION

According to our findings, menstrual irregularities and infertility are the most common variables that have an impact on mental health of PCOS women. From the statistics, we can also deduce that half of the patients in our study had a moderate psychological impact. Psychological stress caused by PCOS is an issue that healthcare practitioners should keep in mind during the treatment phase. The government can enact laws that address the psychological components of PCOS.

LIMITATION

The study included patients whose ages ranged from 18-50 years, and data were only gathered from two sites, so they might not be generalizable to other sites. The study's duration was also brief, and the sample size was small. Furthermore, absence of control group (non PCOS subjects) which prevented the assessment of individual influence on psychological health. So, comparison studies were also needed with healthy ovulatory women to better define the degree of impaired quality of life resulted from PCOS

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ACKNOWLEDGEMENT

The authors would like to acknowledge Dr. Nisha S. Patel, M.S (Gynec), Dr. Bhavik Modi, M.B.D.G.O (Gynec) and nursing staff at clinics for their valuable support in conduct of this study.

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