Comparative Study

Comparative Study: Quality of life Between Women with PCOS And Without PCOS

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ABSTRACT

Polycystic Ovarian Disease (PCOD), also known PCOS is referred to as an endocrine (hormonal) problem affecting women. Symptoms of the disease start to appear across the beginning of menstruation but few women do now not show signs and symptoms till early to mid-20's. Although PCOS presents early in life it persists throughout the reproductive years. It affects 15%-20% of adolescent women of reproductive age i.e., one out of every 10 women suffers from PCOS. PCOS impacts many aspects of a person's health including infertility, obesity, and excessive facial hair in women, which can also lead to severe mental health issues including anxiety, depression, and eating disorders. The aim of the study was to compare the quality of life between adolescent women with PCOS and without PCOS. Samples [N=108] were collected in which 50% of the population was diagnosed with PCOS. WHO-QOL (BREF) scale was used to collect the data which measures the quality of life of a person in four domains, i.e., physical health, psychological health, societal relationships and environment respectively. The average scores for the four domains, acquired by the two groups were analyzed for significance. A considerable difference was noted in the first domain, i.e., physical health while the differences in the rest of the three domains i.e., psychological, societal relationships and environment domains were not significant. ANOVA analysis was applied to evaluate the scores of women with PCOS and without PCOS, in each one of the four domains.

Keywords: *Body weight, Hirsutism, Infertility, Mental health, Menstrual Problems, PCOS, Quality of life.*

PCOD or PCOS influences the working of the ovaries characterized by, irregular periods, excess male hormones and cysts in ovaries, the ovaries happen to become enlarged containing many fluid-filled sacs surrounding the eggs. It affects 15%-20% of adolescent women of reproductive age i.e., one out of every 10 women suffers from PCOS. Symptoms like excessive facial or body hair, hair loss, obesity, acne and infertility, can cause other devastating symptoms including mental health problems, like depression, anxiety and reduced quality of life. The disorder can have a large impact on quality of life

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and is capable to be linked with high risk of mood disorders A variety of general and specific questionnaires are created and used for evaluating diverse dimensions of Quality of Life in the PCOS women It was noted that the clinical symptoms of the syndrome was the major concern which negatively affect the quality of life in women. Among the symptoms, overweight, hirsutism and infertility were reported to be more distressing compared to other symptoms. Reduced sexual satisfaction is also reported in women with PCOS.

REVIEW OF LITERATURE

Marriapen et al (2022), studied the impact of menstrual problems on the quality of life among adolescent girls in Malaysia. Sample included [N=729] women between 13 to 18 years. The results indicated that women suffering from menstrual problems had notable lower average total score on PedsQL. Lowest physical and emotional index was reported by women with heavy menstrual bleeding. Women with irregular menstrual cycles showed lowest social index, whereas those with heavy menstrual cramps had poor school index. Smoking, drinking and medical comorbidities were linked to poor health-related quality of life, taking oral OCPs was seen to improve the scores.

Abdalla et al (2021), studied the relationship between free androgen index and anti-Mullerian hormone and health-related quality of life in women with PCOS. The study included a sample [N=81] of women of age 28 ± 6.0 years diagnosed with PCOS. The result indicated that FAI was associated with reduced QoL in women with PCOS which was mediated by Body Mass Index.

Bhola et al (2021), investigated that the symptoms of PCOS (like infertility, weight gain, hirsutism etc.) impact the quality of life of the patient. PCOS can also lead to more problems like endometrial carcinoma, uterine contractions and bleeding, hypertension, abortion, diabetes and type II diabetes. It can also lead to psychological issues like depression and eating disorders which can further affect QoL.

Fatemeh et al (2021), assessed the health- Related Quality of Life, anxiety and depression, in women belonging to Iran with different phenotypes of PCOS. The sample included [N=239] women classified into four categories on the basis of Rotterdam criteria. Results indicated no significant difference in the four phenotypes for depression anxiety and QOL. However, two phenotypes had poor HR-QOL related to abnormal hair growth.

Tabassum et al (2021), investigated the health-related quality of life in women with PCOS. The study included sample [N=300] where 100 women were diagnosed with PCOS and 200 were healthy controls in AIIMS, Patna. The result indicated that women with PCOS had significantly decreased HRQOL Also, difference was observed in different domains of SF-36 between women with PCOS and controls. Increased body mass index menstrual difficulties, educational qualification and marital status were observed to play a significant role in improving HRQOL in PCOS patients.

Angin et al (2019), studied the difference between QOL in PCOS and non-PCOS women. The sample included 238 women which included 62 fertile and 47 infertile PCOS cases. The remaining were infertile non- PCOS cases. The results indicated that both PCOSQ and SF-36 scores were lowest for infertile group. However, QOL was observed to be lowest in infertile PCOS patients.

Chaudhari et al (2018), studied the frequency of anxiety, depression, QOL and psychiatric morbidity in women suffering from PCOS. The sample included 70 women (aged 18-45 years) diagnosed with PCOS using Rotterman criteria. The results indicated 36.6% women reported anxiety symptoms and 25.7% reported symptoms of depression. Difficulties in child birth and baldness was associated to anxiety and acne was associated to depression. Excessive body hair was associated to reduced psychological QOL. Reduced QOL was also evident in patients with psychiatric morbidity

METHODOLOGY

The methodology was a survey-based research design and self-report data was utilized for the research.

Aim

To compare the quality of life of women with PCOS with women without PCOS

Objectives

- To investigate the effect of PCOD on patients' physical health related quality of life.
- To investigate the effect of PCOD on patients' psychological quality of life.
- To investigate the effect of PCOD on patients' social relationships.
- To investigate the effect of PCOD on patients QOL related to environmental conditions.

Hypothesis

1. H1`- there is a significant impact of PCOD on physical health associated quality of life of the patient
2. H2- there is significant impact of PCOD on patients' psychological domain of quality of life
3. H3- there is a significant impact of PCOD on patients' social relationships.
4. H4- there is a significant impact of PCOD on patients' quality of life associated to environment.

Sample

The sample comprises of Women in the age group of 15-25 years. A sample N=108 was taken consisting of 54 with PCOS and 54 controls

Variables

- Independent Variable: Polycystic Ovarian Disease
- Dependent Variable: Quality of life

Description of Tool

World Health Organization Quality of Life- Brief (WHOQOL-BREF), developed by World Health Organisation- It has 26 items and four domains. The four domains assess quality of life in context of culture, values, goals and standards. The domains evaluate physical health, psychological health, societal relationships and environment respectively. The items have been rated on a 5-point Likert scale.

Procedure

To investigate the influence of Poly cystic ovarian syndrome on the quality of life, the research was initiated. Literature review was collected and various researches were studied.

The tools for data collection were acquired and hypotheses were formulated. The objective of the study was stated to the participants & data collection was done through the questionnaire (created in google forms). Participants were thanked for their valuable responses and time. Furthermore, raw scores were compiled in excel sheet for each variable and each participant. Analysis of raw scores was done through Microsoft Excel and results were tabulated. Further the findings of the study i.e., limitations, implications, & recommendations for future research in the field were written.

Data Analysis
After collecting data through the scales and systematically organizing it in the spreadsheets statistical operations were performed on the standardized tools to derive conclusions. ANOVA analysis was applied to evaluate the scores of women with PCOS and without PCOS, in each one of the four domains, i.e physical health, psychological, social relationships and environmental.

ANOVA ANALYSIS
1.Physical Health
The results of Domain 1 of WHO-QOL i.e., physical health domain indicate that Women with PCOS show reduced health associated quality of life than the controls.

Table 1- ANOVA analysis of Physical health related Quality of life of the two groups

Source of Variance	ss	df	MS	F	P-value	F-crit
Between groups	2028	1	2028	8.000143	0.005594	3.930693
Within groups	26870.52	106	253.4955			
Total	28898.52	107				

The p-value is less than 0.05 therefore, we eliminate the null hypothesis which means that a significant difference is present between the two groups, after comparing the means of the two groups, it is evident that PCOS patients have reduced Health related QOL than the controls.

2. Psychological State
In domain 2- i.e., psychological domain, results indicate that there exists is no significant difference between the two groups.

Table 2- ANOVA analysis of psychological state related Quality of life of the two groups

Source of Variance	ss	df	MS	F	P-value	F-crit
Between groups	948.1481	1	948.1481	3.621774	0.059741	3.930692
Within groups	27749.85	106	268.1481			
Total	28698	107				

The p-value is greater than 0.05 therefore, we fail to eliminate the null hypothesis which means there is no considerable difference between the two groups.

3. Social Relationships

In the domain -3, i.e., social relationships, the results signify that there is no significant difference between women with PCOS and women without PCOS.

Table 3- ANOVA analysis of social relationships related Quality of life of the two groups

Source of Variance	ss	df	MS	F	P-value	F-crit
Between groups	524.4815	1	524.4815	3.621774	0.219581	3.930692
Within groups	36453.59	106	343.9018			
Total	36978.07	107				

The P- value is greater than 0.05 therefore, we fail to eliminate the null hypothesis indicating that there is no considerable difference among the two groups.

4. Environment

The last domain of WHO-QOL is related to physical environment. The results specify that there is no considerable difference among women with PCOS and controls.

Table 4- ANOVA analysis of environment related Quality of life of the two groups

Source of Variance	ss	df	MS	F	P-value	F-crit
Between groups	118.2315	1	118.2315	0.561644	0.455259	3.930692
Within groups	22314.02	106	210.5096			
Total	22432.25	107				

DISCUSSION

The results were analyzed by means of SINGLE-FACTOR ANOVA. WHOQOL- BREF questionnaire was used to assess the women on four domains.

In the first domain i.e., physical health domain a significant difference was seen among the two groups, which showed a reduced health associated quality of life in females with PCOS. This may possibly be as a result of the various physical symptoms that come with the illness e.g., infertility, hirsutism, excess body weight etc. Researches state that poor **HRQOL** among the patients of **PCOS** was more related to irregular periods and infertility than to excess body weight and hirsutism. It is also reported that apart from medications, lifestyle changes including exercise and dietary changes can also help to manage the disorder which in turn can help to improve the mental health and the quality of life of the patient. Targeting the distressing symptoms of women with PCOD can help to improve their QOL e.g., permanent hair removal in women with hirsutism can improve self-esteem and Quality of Life. Similarly, treating acne through Anti Androgen medication can help women who are troubled by this symptom. Management of depression is expected to have a positive result on other symptoms of the disorder, like weight managing, insulin resistance and endocrine problems.

In the second domain, i.e., psychological domain, no considerable difference was found. The domain assesses Body image and appearance, negative and positive feelings. self-esteem, personal beliefs, thinking, memory and concentration. No difference was found among the groups which can be as a result of the social and cultural factors. Also, according to researches one of the leading factors of psychological distress among women is issues related to infertility, but the sample of this study included participants who are unmarried.

In the third domain.ie. social relationships no significant difference was found. It includes personal relationships social support and sexual activity. No difference in both the groups in this domain can be because of both the groups come from similar socio-cultural backgrounds. Researches indicate that PCOS patients can also have reduced sexual satisfaction, but in this research the sample was all unmarried which can be the cause behind the outcome not being discriminating. Researches state that better support provided to the patients with PCOD and boost their self-esteem and hence improve their quality of life.

In last domain i.e., environmental domain, no considerable difference was produced. This domain evaluates economic security, freedom, safety, security, accessibility and quality of health and social care, home environment, chances for acquiring new knowledge and skills, contribution in leisure activities, physical environment and transport. The inability of this domains to distinguish between the two groups can be because of the sociodemographic and cultural index. Since in both the groups statistically there was no difference in the sociocultural and economic index and hence, they were comparable and therefore no considerable difference was produced in these domains.

CONCLUSION

The study was aimed to understand the influence of PCOD on patients' 'Quality of life'. The average scores for the four domains, acquired by the two groups were analyzed for significance. A considerable difference was noted in the first domain, i.e., physical health while the differences in the rest of the three domains i.e., psychological, societal relationships and environment domains were not significant. The results indicate that PCOS does influence a patient QOL in physical domains of Quality of Life.

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