

Quality of Life in Women with Polycystic Ovarian Syndrome

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Abstract:

Background: Polycystic ovarian syndrome is a disorder of chronically abnormal ovarian function and abnormally elevated androgen levels. 5% to 10% of females 18 to 44 years in the reproductive age group. Patients complain of menstrual irregularity, acne, hirsutism and infertility. PCOS has substantial psychological, social, and economic consequences. Decreased quality of life have also been reported.

Materials and Methods: This cross sectional observational study recruited 60 women with polycystic ovarian syndrome confirmed with USG abdomen. It was carried out on out patients of Department of Obstetrics & Gynaecology at Sree Balaji Medical College & Hospital, Chrompet. Information was gathered from patients using a semi-structured proforma about demographic and Quality of life was assessed by WHOQOL-BREF Scale.

Results: Unmarried women with PCOS had better quality of life. Women with complaints of acanthosis nigricans scored significantly low scores on fourth domain of environmental and financial resources ($P = <0.014$). Women with infertility have significantly lower scores in Domain of social & personal relationships ($r = .494^{**}$, $P = <0.01$). Women with past history of treatment obtained for infertility & other symptoms of PCOS scored low in domain 3 and was found to be statistically significant ($P = 0.026$)

Conclusion: Improving QOL and enhancing perception about self-image & self worth is very important in women with PCOS and proper supportive measures should be carried out.

Key Word: PCOS, Acanthosis nigricans, Infertility, Quality of life

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I. Introduction

Polycystic ovarian syndrome first described by Stein-Leventhal in 1935. It is a disorder of chronically abnormal ovarian function and abnormally elevated androgen levels. Women with PCOS do not ovulate hence they do not release an egg every month characterized by irregular menstrual cycles.^[1] Research suggests that 5% to 10% of females 18 to 44 years of age are affected by PCOS, hence it is the most common endocrine abnormality among women in the reproductive age group.^[2] PCOS has substantial psychological, social, and economic consequences. Patients complain of menstrual irregularity, acne, hirsutism and infertility^[3]. Decreased quality of life characterized by symptoms of depression, decreased sexual satisfaction, and problems with woman self-esteem and self-image have been reported.^[4]

II. Material And Methods

This cross sectional observational study was carried out on out patients of Department of Obstetrics & Gynaecology at Sree Balaji Medical College & Hospital, Chrompet, Chennai, Tamil Nadu from December 2018 to December 2019. 60 subjects comprising of both married & unmarried women with polycystic ovarian syndrome were included in this study.

Study Design: Cross sectional study

Study Location: This was a tertiary care teaching hospital based study done in Obstetrics and Gynaecology OPD

Study Duration: December 2018 to December 2019

Sample size: 60 patients.

Sample size calculation: Sample size was calculated with the help of a statistician.

Subjects & selection method: A cross sectional study was conducted among 60 Married & Unmarried women between age 18 years and 40 years attending the Obstetrics and Gynaecology OPD diagnosed with PCOS confirmed by USG Abdomen from December 2018 to December 2019.

Inclusion criteria:

1. Both Married & Unmarried women diagnosed with PCOS confirmed by USG Abdomen by Gynaecologist aged(18years-40years)
2. Clinically stable for interview
3. Patient who have given their consent to participate in the study.
4. without previous psychiatric illness.

Exclusion criteria:

1. Aged >40years
2. Clinically unstable or uncooperative
3. K/C/O Psychiatric illness & on treatment
4. Intellectual disability.
5. Patient who have not given their consent to participate in the study.
6. Those not fulfilling the inclusion criteria.

III. Methodology

After obtaining written informed consent the subjects were included in the study, Information was gathered from patients using a semi-structured proforma about demographic and clinical data including, presence of symptoms of PCOS, menstrual history, obstetric history and past treatment history. Quality of life was assessed by WHOQOL-BREF Scale. WHOQOL-BREF is an abbreviated version of WHOQOL-100. The WHOQOL-BREF instrument comprises 26 items, which measure the following broad domains: Domain 1(Physical health), Domain 2 (Psychological health), Domain 3(Social relationships) and Domain 4(Environment).

Statistical Methods:

Appropriate statistical analysis was carried out by the statistician. Descriptive analysis was carried out and the continuous variables were described in terms of mean and standard deviation, whereas frequency and proportion were used to describe categorical variables. Non normally distributed quantitative variables were summarized by median and interquartile range (IQR). The association between categorical explanatory variables and quantitative outcome was assessed by comparing the mean values. P value < 0.05 was considered statistically significant.

IV. Result

Sociodemographic details:

A total of 60 subjects in the age group of 18–45 years were included in the final analysis. The mean age of the sample was 25.05 ± 4.52 years in the study population, minimum age was 18 and maximum age was 37 in the study population (95% CI 23.88 to 26.22).

Table 1: Descriptive analysis of age group in the study population (N=60)

Age Group	Frequency	Percentages
18-22	20	33.33%
23-27	24	40.00%
>28	16	26.67%

58.3% were married and 41.7% were unmarried among the study group. 35 women had past history of treatment obtained, 21 and 14 for infertility and other symptoms of PCOS respectively.

Symptoms of PCOS:

Irregular menstrual cycle (51.7%) is the most commonly reported menstrual abnormality in the study population. The second most common reason for consultation is anxious to conceive (28.33%) 60.00% of women had weight gain out of which 45 % were overweight and 10% were obese as per their BMI. Acne(38.3%) was the next most complained symptom followed by Hirsutism(30%) & Alopecia(30%). Out of 35 married women, 21 (60%) had infertility issues and were anxious to conceive.

Quality of life in women with PCOS:

Unmarried women with PCOS had better quality of life when compared to married women with PCOS. However, it was not statistically significant.

Table 2: Descriptive Statistics of Total scores of WHOQOL among Married & Unmarried women

MARITAL STATUS	N	Minimum	Maximum	Mean	SD
MARRIED	35	66.00	105.00	91.9429	9.99395
UNMARRIED	25	82.00	114.00	96.3600	8.20000

Women with complaints of acanthosis nigricans scored significantly low scores on Domain of environmental and financial resources. (P = <0.014).

Table 3: Comparison of QOL Acanthosis Nigericans (N=60)

Parameters	Acanthosis Nigricans Median (IQR)		Mann Whitney U test (P value)
	Yes (N=12)	No (N=48)	
QOL score 1	14 (11.5,15.75)	14 (13,15)	0.666
QOL Score 2	13 (11,13.75)	13 (12,15)	0.286
QOL Score 3	12.5 (8.25,15.75)	13 (11.25,16)	0.412
QOL score 4	14.5 (14,16)	16.5 (15,17.75)	0.014

QOL of all the four domains were compared with symptoms of PCOS. Patients with infertility have significantly lower scores in Domain of social & personal relationships (Domain 3) (r = .494** , P= <0.01).

Table 4: Correlation between QOL and Infertility in the study population (N=60)

Parameter	Infertility	P value
	Pearson correlation	
Domain 1	-.057	0.680
Domain 2	.032	0.820
Domain 3	.494**	>0.01
Domain 4	.004	0.978

Number of PCOS symptoms were compared with mean scores of WHOQOL. Women with more than 3 symptoms of PCOS had lower scores of quality of life and but was not statistically significant.

Table 5: Correlation between Number of symptoms of PCOS with Total scores of WHOQOL:

Number of PCOS Symptoms	Mean	SD	P- VALUE
0-3	94.0208	9.21259	.701
>3	92.8333	10.83625	.732

Mean scores of all four domains were compared with patients who had past history of treatment obtained for infertility & other symptoms of PCOS scored low in domain 3 and was found to be statistically significant (P= 0.026)

Table 6: Comparison of mean of QOL score with treatment history(N=35)

Parameter	TREATMENT HISTORY (Mean± SD)		P value
	Treatment for infertility (N=21)	Treatment for PCOS (N=14)	
QOL score 1	13.57 ± 1.94	14.21 ± 1.81	0.331
QOL Score 2	12.57 ± 1.75	13.57 ± 2.34	0.158
QOL Score 3	14.81 ± 1.75	12.71 ± 3.54	0.026
QOL score 4	14.67 ± 2.58	16.07 ± 1.73	0.083

V. Discussion

Quality of life in women with PCOS:

The quality of an individual's life may be considered in terms of its richness, completeness & contentedness. PCOS is well known to cause reduced quality of life in terms of all four domains of WHOQOL-BREF namely, physical health, psychological health, social and personal relationship and environment & financial resources. It adversely affects the social life & emotional status of the individual. [4][5][6]

Unmarried women with PCOS had better quality of life when compared to married women with PCOS (Mean=96.360, SD= 8.2000). However, it was not statistically significant (P = 0.075). Married women in our study experienced lower quality of life may be due to the stress of married life, catering to the demands of the family, difficulty in conception which has its own dynamics in a typical Indian household.

When assessing the symptoms of PCOS, women with complaints of acanthosis nigricans scored significantly low scores on fourth domain of environmental and financial resources (P = <0.014). This replicates the findings in an earlier study. Young adolescent females with acanthosis nigricans were assessed for psychological distress in a study conducted by Patel et al and found that they show low self-esteem and poor quality of life. [7] Acanthosis nigricans is dark patches of skin with a thick, velvety texture on skin folds such as armpits, neck and groin sometimes causing bad odour. This is due to insulin resistance. The low scores in the fourth domain could be due to women visiting various dermatology clinics, without knowing the underlying cause for the skin pigmentation, they spend a lot on cosmetic treatments like skin lighteners & laser therapy. There are very less number of studies showing relation between acanthosis nigricans & QOL.

Women with infertility have significantly lower scores in Domain of social & personal relationships (r = .494** , P= <0.01). Similarly, those who underwent treatment for infertility and other symptom of PCOS scored low in domain 3 and was found to be statistically significant (P= 0.026). Brady et al assessed quality of life in PCOS patients and has found that infertility has emotional impact on the individual and has low quality life [8] "Child bearing" is the dream of most married couples. Due to fertility issues, the couple have sexual dissatisfaction, causing emotional distress. Sociocultural influence regarding the infertility poses burden on the women leading to low self-esteem. Women who undergo treatment for infertility would have faced several failed treatment outcomes. All of the above may lead to poorer interpersonal relationship with their husbands. This may significantly have an impact on social and personal relationship.

Women with more than 3 symptoms of PCOS had lower quality of life and but was not statistically significant. When each domain was assessed separately, patients scored relatively lower in Domain 4 however was not statistically significant. (P= 0.072) Symptoms of PCOS which are unpredictable & uncomfortable & linked with factors defined as unfeminine and undesirable. Acne, Hirsutism, Alopecia, Weight gain are the cosmetic concerns perceived by the women as loss of womanhood & lack of physical attractiveness. More the number of symptoms, more the influence on their personal gender role, leading to poor quality of life.

VI. Conclusion

More than an endocrine disorder, polycystic ovarian syndrome poses a great effect on women's identity and quality of life. Young females with hyperandrogenism have greater cosmetic concerns and negative body image. Infertility is the next bothersome effect of PCOS which causes severe psychological disturbance and poor quality of life. Improving QOL and enhancing perception about self-image & self worth is very important. Therefore, psychological assessment should be included after routine screening for PCOS and proper supportive measures should be carried out.

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