Health-related quality of life among women with Polycystic Ovarian Syndrome visiting tertiary care hospitals of Rawalpindi city

Dr. Faiza Jamshaid[1], Dr.Sadia Azad[1], Dr.Qurat-ul-ain Raza[1], Dr. Mehwish Ali[2], Dr.Zumar Rizvi , Nimra Inayat [2],

Article Details

[1]Dr. Faiza Jamshaid (Corresponding Author)
Margalla College of Pharmacy, Margalla Institute of Health Sciences, Rawalpindi (faizajamshaid9@gmail.com)

[2]Dr. Sadia Azad
Margalla College of Pharmacy, Margalla Institute of Health Sciences, Rawalpindi (Sadiaazad9280@gmail.com)

[3]Dr. Quratt-ul-aen Raza
Margalla College of Pharmacy, Margalla Institute of Health Sciences, Rawalpindi (qurratuleanraza786@gmail.com)

[4]Dr. Mehwish Ali
Margalla College of Pharmacy, Margalla Institute of Health Sciences, Rawalpindi (Zunaish789@gmail.com)

[5]Dr. Zumar Rizvi
Margalla College of Pharmacy, Margalla Institute of Health Sciences, Rawalpindi (zumarrizvi@gmail.com)

[6] Nimra Inayat
 Ibadat International University, Islamabad (nimra.inayat2@gmail.com)

ABSTRACT

Polycystic ovary syndrome (PCOS) is a multi-fare disease caused by both genetic and environmental factors acting concurrently with rising prevalence at an alarming rate. It is a health problem that affects 1 out of 10 women of reproductive age. Infertility, body hair, menstrual problems, emotional disturbances, and weight are the main reasons that demonstrate poor quality of life among women. A cross-sectional study was conducted using non-probability convenience sampling for patient selection with a sample of 134 from tertiary care hospitals of Rawalpindi City. A pre-validated tool PCOSQ was used to measure the quality of life among women with PCOS that consist of 5 domains representing 25 items. Emotions, Body Hair, Weight, Menstrual problems, Infertility Problems. After data collection, data was entered and coded in SPSS, for descriptive statistics percentages and frequencies were analyzed. For inferential statistics, the Chi-square was used. The findings of this study showed the total quality of life among PCOS women 44% had a good quality of life and 56% had a poor quality of life this showed that PCOS hurts women's lives.The results of the present study concluded that women with polycystic ovary syndrome had a poor quality of life.

Introduction

Polycystic ovary syndrome (PCOS) is a major endocrine disorder caused by both genetic and environmental factors acting simultaneously at an increasing rate. It is a health problem that affects 1 out of 10 women of reproductive age. Polycystic ovary syndrome affects 15-20% of women of reproductive age [1]. In this disease lesions are formed in ovaries in which both ovaries are filled with fluid i.e. these lesions are filled with water or some of these lesions are filled with blood. Multiple cysts are formed in the ovaries. These cysts are formed in the outer layer of the ovaries and cause ovaries to appear as cystic ovaries [2]. Symptoms of PCOS vary from person to person but generally are infertility due to anovulation, cessation, or irregular menstrual periods.

PCOS is exceedingly harmful to the quality of life. Infertility is the main cause of decreased quality of life in women aged above 25 years. The increasing prevalence of depression in PCOS patients has been reported as a significant symptom Obesity, body hair, and infertility may decrease self-confidence and create depressive symptoms in patients with PCOS [3]. Insulin resistance is significantly associated with depression in patients with polycystic ovary syndrome patients [4].

The prevalence of PCOS is higher among Pakistani women (52%) than among Western Caucasian women, e.g., 20–25% in the UK [5].

The importance of health-related quality of life for polycystic ovary syndrome patients has been long recognized in developed countries. However, in developing countries like Pakistan, this concept is still in its early stages. PCOS is associated with obesity in 60% of the women and also increases the risk of diabetes and cardiovascular disease in 10% and 33% of the women, respectively. A study reported that nearly 85-90% of women suffer oligo-menorrhea. 30-40% present with amenorrhea as clinical features of anovulation but not all patients show these symptoms while PCOS was diagnosed in 16 % of the patients during surgery. The prevalence of PCOS among women in Pakistan was reported to be 5-10% of those in fertility age while 40% of the women suffer from depression, particularly in adolescent age [6]. PCOS is associated with significant short and long-term health problems these include many metabolic and cardiovascular complications. The increasingly high incidence of PCOS can be attributed to genetic factors, environmental factors, and intermarriages. However, it is considered an amalgamation of insulin resistance, hyperandrogenemia, and factors causing follicular abnormalities [7].

As PCOS is associated with high morbidity, future research is needed to establish the metabolic and CVD profiles in women with PCOS in their late reproductive years, as well as beyond menopause. Although there is no long-term data on the morbidity of CVD in PCOS, it is advisable to perform a careful metabolic and cardiovascular assessment in affected women to prevent conditions leading to CVD [8].

Material and Methods

A cross-sectional study was conducted among PCOS women visiting tertiary care hospitals of Rawalpindi city at gynecology OPD. The duration of the study was 6 months which started in March 2022 and ended in August 2022 after IRB approval. Non-probability convenience sampling was used for patient selection and the desired sample size was 139. The inclusion criteria for patient selection were: a) reproductive age of women from 15-44years b) having 12 years of education c) diagnosed cases of PCOS. Any respondent having known depression was excluded from the study.

Ethical consideration

➢ IRB approval was taken from the Ethical Review Board (IRB) of the Al-Shifa School of Public Health after the synopsis presentation.

➢ An informed consent form (ICF) was signed by every participant before starting interviews.

➢ Permission letter was taken from the hospital authorities to reach Participants for data collection along with the questionnaire.

Data collection Procedure

The questionnaire was interviewed and data was collected from the participants after obtaining informed consent. For participants who expressed an interest in taking part thereafter a copy of the participant information sheet and consent form were provided. The researcher informed them regarding the confidentiality of data. After data collection, the interview and demographic responses were saved and protected. The time required to complete the questionnaire was approximately 10 to 15 minutes.

Data Collection Tool

Data about health-related quality of life was collected through PCOSQ (Cronin, L., et al, 1998). PCOSQ is a validated tool to measure the quality of life among women with PCOS that consists of 5 domains which are Emotions, Body Hair, Weight, Menstrual problems, and Infertility Problems, and these represent 25 items. Each item is rated on a 6-point like-rt scale ranging from 1 to 6 which are 1=all of the time, 2=most of the time, 3=a bit of the time, 4=some of the time, 5=hardly any of the time, 6=none of the time.

Data Analysis

For descriptive results frequencies and percentages were calculated and for inferential statistics, chi-square was run where the median has been taken as the cut-off point for Quality of Life domains therefore, two categories for Quality of Life were used i.e. Poor Quality of Life and Good for analysis of result. There are ten categorical independent socio-demographics variables were coded on SPSS while dependent variables of domains were also computed on SPSS. Out of 139 questionnaires 134 were properly fulfilled and the rest of the five questionnaires were withdrawn by participants during the interview. Thus, data of 134 was used for data analysis. The overall **Cronbach's alpha** for the PCOQS scale was **(α=.88).**

RESULTS
Descriptive Results of Socio-Demographic Characteristics of Participants

After running the test, the response rate of 134 participants was 96% out of 139. Out of 134 participants (table 1), 23% (n=31) were between 15-25 years of age, 44% (n=60) were between 26-35 years of age and 31% (n=43) were between 36-44 years of age.

Table 1. Socio-demographic Characteristics of Participants

Sr. No	Variable	n (%)
01	**Age**	
	15 - 25 years	31 (23%)
	26 - 35 years	60 (44%)
	36– 44 years	43 (33%)
02	**Weight**	
	45-55 kg	5 (3%)
	56-65 kg	9 (6%)
	66 - 75 kg	37 (29%)
	Above 75 kg	83 (62%)
03	**Height**	
	4 feet - 5 feet	2 (1%)
	5 feet - 5.5 feet	131 (98%)
	5.5 feet- 6 feet	1 (1%)
04	**Occupation**	
	Housewife	86 (65%)
	Working woman	48 (35%)
	Any other	0 (0%)
05	**No. of Children**	
	0	47 (35%)
	1	78 (59%)
	2	9 (6%)
	More than 2	0 (%)

BMI status of participants
Figure 1 showed that the BMI status of participants was 18.0 - 20.9 (4%), 21.0 - 23.9 (29%), 24.0 - 25.9 (27%) and more than 25.9 (40%).
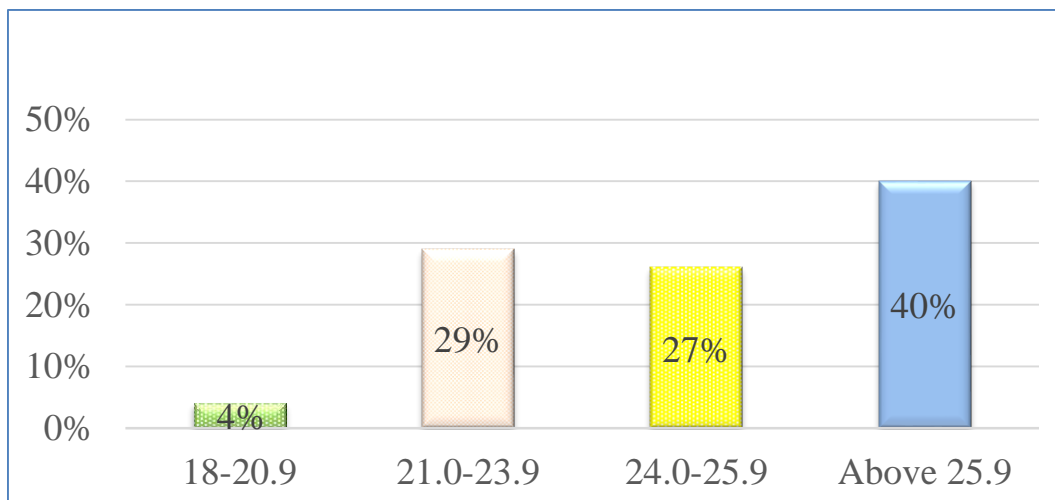
Figure 1. BMI status of Participants

Total Quality of Life among PCOS women

Figure 2 shows that good Quality of life among PCOS women 56% had poor quality of life and 44% had good quality of life.
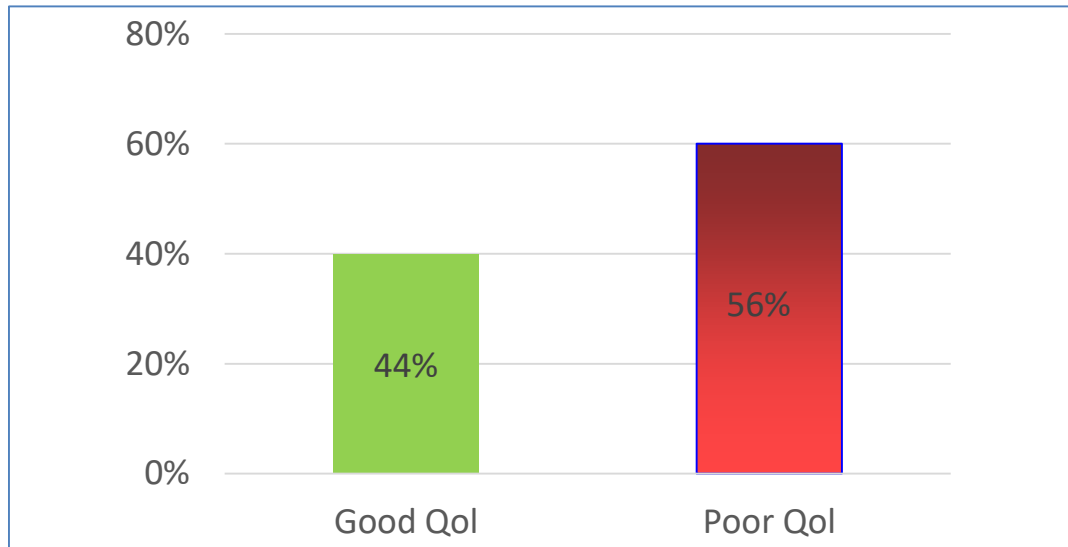

Figure 2, Total Quality of Life among PCOS women

Association between Socio-demographic variables and total Quality of life among PCOS women

When the variable of weight was cross-tabbed with total Quality of Life among PCOS women, results showed that in the weight of participants above 75kg 16% had poor Quality of Life while 20% had a good Quality of Life(Table 2). The results showed that there was a statistically significant association between weight and total Quality of Life among PCOS women with X^2 (3) = 0.017 and p-value = 0.012.

When the occupation of participants was cross-tabbed with total Quality of Life among PCOS women, results showed that housewives represented 40% had a poor Quality of Life while 26% had a good Quality of Life. The results showed that there is a statistically significant association between occupation and total Quality of Life among PCOS women with X^2 (1) = 0.002 and p-value = 0.000.

Table 2, Association between Socio-demographic variables and total Quality of life among PCOS women

Sr.No	Variables	Poor Qol N (%)	Good Qol N (%)	X^2 (pdf)	P -Value
01	**Age** 15-25 years 26 – 35 years 36– 44 years	11 (10%) 23 (18%) 21 (16%)	20 (14%) 37 (24%) 24 (18%)	df=3, X^2= 0.269	0.196

02	**Weight** 45-55 kg 56-65 kg 66-75 kg Above 75 kg	2 (9%) 4 (10%) 15 (6%) 31 (16%)	4 (13%) 7 (16%) 22 (10%) 49 (20%)	df =3, X^2=0.017	0.012
03	**Height** 4 feet-12 inches 5 feet -5 inches 5feet6inches-12 inches	1 (10%) 63 (30%) 0 (0%)	2 (20%) 68 (40%) 0 (0%)	df=2, X^2=0.490	0.988
04	**BMI** 18.0-20.9 21.0-23.9 24.0-25.9 Above 25.9	2 (6%) 18 (14%) 17 (12%) 22 (10%)	4 (12%) 21 (20%) 18 (14%) 32 (12%)	df=3, X^2=0.648	0.711
05	**Occupation** Housewife Working woman Any other	40 (40%) 22 (15%) 0 (0%)	45 (26%) 27 (19%) 0 (0%)	df=1, X^2=0.002	0.000
06	**No. of Children** 0 1 2 More than 2	20 (14%) 16 (14%) 5 (2%) 6 (10%)	27 (20%) 36 (20%) 14 (4%) 10 (16%)	df=2, X^2=0.230	0.204
07	**Ethnicity** Punjabi Balochi Pathan Sindhi	30 (15%) 14 (10%) 12 (8%) 0 (0%)	40 (23%) 18 (15%) 20 (29%) 0 (0%)	df=3, X^2=0.510	0.829
08	**City** Urban Rural	34 (10%) 25 (28%)	42 (24%) 33 (38%)	df=3, X^2=0.000	<0.001

*P< 0.05 was taken as significance

*Fisher's exact test

DISCUSSION

PCOS is one of the major endocrine disorders and affects 15-20% of women of reproductive age [6]. The present study reported that body hairs associated with PCOS develop in the later stages of life. Participants with poor quality of life experienced more body hair. Participants with PCOS experienced growth of visible hair on the upper lip and face while others showed growth of visible hair on the chin, most of them felt embarrassed about excessive body hair. Hence, hirsutism was reported in 15% of the age group from 26-35 with poor quality of life only in Rawalpindi city while it is reported in 36% in remaining Pakistan [7]. The results showed that hirsutism had the strongest impact on the patient's quality of life [6]. Moreover, the socio-demographic variables i.e. age group from 26-35, occupation, and city area of the participants with poor Quality of Life faced major infertility problems. These participants experienced the inability to have children and felt frustration because others didn't understand the condition. The findings of this study showed that participants in the age group 26-35 years were 13% had poor quality of life because of infertility problems whereas the findings of the previous study showed that women with PCOS from the age group 26-35 years had impaired health-related quality of life because of infertility [10]. The present study revealed when socio-demographic variables were cross-tabbed with Quality of Life menstrual problems among PCOS women, the findings of the study concluded that women residing in rural areas were 47% had poor quality of life which shows these participants experienced irregular menstrual bleeding, headaches, heavy menstrual bleeding, menstrual cramps and periods with clots. While as per the findings of the previous study proved that out of all participants (n=135), 88% had irregular periods, and participants residing in rural areas had a relatively poor quality of life [9].

The finding of the participant's weight showed poor Quality of Life which means they had serious weight issues. These participants had trouble dealing with weight, felt frustration in trying to lose weight, and had low self-esteem because of being overweight. The findings of this study declared that due to the increase in weight of participants above 75kg, 9% had poor quality of life. According to a study, 35% of the participants were classified as obese [11].

This study showed that Socio-demographic variables have great importance in altering the quality of life among PCOS women. Another study has proved that together, an increase in BMI, weight, age, ethnicity, height, number of children, city, and occupation played a major role in altering health-related Quality of Life in PCOS[12].

Evidence from the present study proved that there is a decrease in Health-Related Quality of Life among women with PCOS. The present study revealed that age groups, height, and area residence of participants with poor quality of life are more depressed and they had poor emotional control as well as depression as a result of having PCOS. Most of them have experienced getting upset and swings of moods and also irritated without any reason by other people.

When the occupation of participants was cross-tabbed with total Quality of Life, results showed that 47% of housewives have a poor quality of life while on the other hand, 52% have a good Quality of Life. Statistically association between occupation and total Quality of Life among PCOS women was significant with X^2 (1) = 0.002 and p-value = 0.000. While in a previous study, it was found that out of 152 housewives, 50% (n=76) had impaired quality of life [10].

In the past few decades, various contributing factors affecting quality of life have been studied worldwide for a better understanding of different aspects associated with decreased health-related quality of life and increased psycho-social burden among PCOS women, but women's reproductive health is still one of the neglected areas in most of the developing countries including Pakistan [9].The current study revealed that in Pakistan, the Quality of Life among PCOS women is affected due to many reasons, one of the most important reasons is the lack of family support in our community, and for this reason, women of Pakistan encounter more pressure as compared to Western women. There is another reason that as such no awareness and counselling centers for women's reproductive health are established in Pakistan. Moreover, if talk about the prevalence of PCOS which is rapidly increasing in Pakistan, the ratio is approximately 52% of women, as far as Western Caucasian women are concerned, the ratio is half of Pakistani PCOS women i.e., 20-25%[5]. PCOS has a major negative impact on health-related quality of life (HRQoL), women from an Asian or Caucasian ethnic background with weight and infertility problems affected badly their quality of life [13].

Strengths
The major strength of the current study was that people from different backgrounds participated.

Conclusion
The results of the present study concluded that PCOS hurts health-related quality of life of patients including all domains but weight and infertility problems are highly significant as compared to body hair, menstrual problems, and emotions. PCOS badly affects women residing in rural areas as compared to urban areas of Rawalpindi city, due to a lack of awareness, medical equipment, and financial resources for their better treatment and care.

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