Original Article

Patterns of Polycystic Ovarian Syndrome, its Impact on Mental Well-Being, Health-Related Life Quality, and Marital Satisfaction in Patients Presenting to the Outpatient Departments in Tertiary Care Hospitals of Peshawar

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Abstract

Objective: Assess the patterns of polycystic ovarian syndrome (PCOS), its effects on mental well-being, health-related quality of life, and marital satisfaction in women of childbearing age presenting to outpatient departments in tertiary care hospitals in Peshawar.

Methodology: A descriptive, cross-sectional study was conducted on 384 patients after approval from the ethical committee of KMU from July 1 to December 31, 2022. The participants completed a structured questionnaire independently or with medical personnel assistance. A multi-stage proportionate systematic random sampling technique was used. SPSS version 25 was used for the statistical analyses. The effect of independent variables on dependent variables is ascertained by regression analysis for categorical variables, frequencies and percentages, and mean and standard deviation (SD) for continuous variables, and a p-value of <0.05 is used to explore associations between variables. The variables' associations and significance levels were evaluated using the t-test, multivariate logistic regression, and correlation analysis.

Results: All married women between 15-44 years were selected; mean age was 27.25 years, 33.9%, illiterate, and 46.6% were educated up to matric. Regarding BMI, using WHO criteria, 38.1% overweight, and 53.5% were obese. 94.5% had menstrual irregularities, 85.3% had hyperandrogenism, 54.9% primary, and 45.1% had secondary subfertility. The independent variables, including subfertility, menstrual irregularities, hyperandrogenism, and, BMI used to determine the impact on HADS, PCOSQOL, and ENRICH under three different models.

Conclusion: Anxiety and depression are conditions that patients with PCOS should be assessed for since they impair quality of life and negatively affect marriages.

Keywords: Health-related quality of life, Marital satisfaction, Mental well-being, Polycystic Ovary Syndrome

Introduction

PCOS is the most prevalent multifactorial heterogeneous endocrine disease, affecting 2.2% to 26.7% of reproductive-aged women between 18 and 45 years throughout the world.[1] Although the exact etiology is unknown, the involvement of multiple genetic, endocrine, and environmental factors can lead to this condition.[2]

Several diagnostic criteria have been suggested, and finally, the European Society of Human-Reproduction and Embryology/American Society for Reproductive Medicine (ESHRE/ASRM) proposed the Rotterdam Criteria. According to the criteria, two of the three features being present include anovulation or oligomenorrhea, clinical or biochemical hyperandrogenism, and polycystic ovarian morphology detected on ultrasound.[3, 4, 5]

The typical appearance includes one of the larger ovaries with a thick capsule, multiple tiny follicles, 2-9 mm in size around the ovarian cortex, and an increased hyperechoic central stroma. The ovarian volume equal or more than 10 ml, with no cysts or dominant follicles present.[3]

Women suffering from PCOS have hormonal imbalances and usually manifest different clinical symptoms like menstrual irregularities (including amenorrhea, oligomenorrhea, hypomenorrhea, or other menstrual irregularities), hirsutism, acne vulgaris, male pattern baldness,[6] insulin resistance, high insulin levels, higher body mass index, (BMI)[7] and subfertility due to anovulatory cycles. Also, because of changes in body image and the symptoms, she suffered from psychological problems like anxiety and depression.[6] This ultimately affects their quality of life, including their health and marital relationship with their spouse. Living together, she is not satisfied, less attractive, confident, and happy, thus leading to marital maladjustment and decreasing living standards.[5,8,9,10]

The incidence of hyperandrogenism is approximately 60%-80%.[12] resulting in adverse effects such as menstrual irregularities, anovulatory menstrual cycles, hirsutism, sub-fertility psychological problems, increased risk of miscarriages, endometrial and ovarian carcinoma.[11,12,13,14]

PCOS-affected women may have significant long-term health effects like disorders of metabolism, cardiovascular diseases, and psychiatric issues. Metabolic and cardiovascular complications associated with PCOS are glucose intolerance, Type 2 diabetes, hypertension, atherosclerosis, myocardial infarction, high cholesterol levels, insulin resistance, sleep apnea, and an increased tendency to develop stroke in future 15 Long-term complications also include psychological problems like anxiety, depression and when compared with normal females they experience moderate to severe anxiety symptoms (six times as probable) and depression (approximately four times more likely)16. In addition, they also experience obsessive-compulsive and bipolar disorders.[8,9,10] and also increases the risk of endometrial hyperplasia, and endometrial and ovarian malignancies.[14]

Globally, the prevalence of PCOS is rising, and in Pakistan, it is at about 52%.[17] The youth is mainly affected, leading to mental health stigma, and has a relevant impact on quality of life (QoL). In the U.K., the prevalence is 20-25%,[18] while the prevalence among different races of India ranges from 8.2% to 22.5%.[19]

There is limited data available in Pakistan especially in Khyber Pakhtunkhwa and is very important to see the implications of PCOS on mental health affecting the physical, and social well-being and QoL of women in our society. Our study will help to update the knowledge regarding the psychological consequences, that influence the relationship of women's QoL to health and marital satisfaction level in contemporary culture. This will also help to identify ways to improve such individuals' mental health and well-being.

Methodology

A descriptive cross-sectional study was conducted in Peshawar on married patients with PCOS from July 1 to December 31, 2022. The KMC Research and Ethics Board approved/ permission for conducting this study in private and public tertiary care hospitals including Hayatabad Medical Complex, Khyber Teaching Hospital, and Mercy/Kuwait Teaching Hospitals Peshawar Medical College in Peshawar, Khyber Pakhtunkhwa, Pakistan. The data analysis was done, using SPSS version 25.

A multi-stage proportionate systematic random sampling technique was used. The Open-Epi calculator was used, and the sample size was 384 while considering a 95% significance level and a 0.05% margin of error.

All married women, ages ranging between 18 to 45 years, were included. Patients with Psychiatric illness, Thyroid disorders, Cushing syndrome, Androgen-secreting tumors, Hyperprolactinemia, and other causes that affect marital satisfaction or who refused to participate in the study were excluded. A structured questionnaire was filled out by participants after giving verbal consent.

Frequencies and percentages for the categorical variables, while mean and SD were used for continuous variables. The effect of independent variables like menstrual irregularities like amenorrhea, oligomenorrhea, hyperandrogenism signs and symptoms like acne vulgaris/hirsutism/male pattern baldness, increased BMI, primary and secondary subfertility on dependent variables like psychological illness (like anxiety and depression),[16] Health-related quality of life (means physical, mental, and social wellbeing)[19] and, marital satisfaction means (marital maladjustment, and decreasing living

standards)[5,8,9,10] was ascertained by regression analysis.

The outcome variable and continuous background variables were subjected to an independent t-test to analyze the mean difference, with a p-value of less than 0.05% being considered statistically significant. Multivariate logistic regression and correlation was used to ascertain the association between the variables under investigation.

ANALYSIS

The sample size was 385 patients, of which 381 visited the mentioned hospital outpatient departments within the targeted six-month duration.

Results

Table 1 shows the frequency, distribution, and percentage of study participants, including age, education, BMI, and monthly income.

Table 2: Results showed the mean difference between primary and secondary subfertility on age, BMI, menstrual irregularities, and Hyperandrogenism. The result table revealed highly statistically significant ($p < .001$) difference and association of age, and BMI, with primary and secondary subfertility.

Table 3: Note: Independent variables Hyperandrogenism (BMI) Body Mass Index, Menstrual irregularities, and Subfertility.

Dependent variable: Hospital Anxiety and Depression Scale (HADS).

In the regression analysis, the constant term (B = 18.922, SE = 1.71) is statistically significant (t = 11.065, $p < .001$), representing the estimated value of the dependent variable HADS, when all independent variables were zero, with a 95% confidence interval between 15.56 and 22.285. Among the independent variables, only Menstrual Irregularities showed a statistically significant association with HADS (B = 0.344, SE = 0.171, t = 2.011, p = .045), indicating a 0.344-unit increase in HADS for each unit increase in Menstrual Irregularities, and a 95% confidence interval ranging from 0.008 to 0.68.

While considering the second regression model (see Table 4), the constant term (B = 88.558, SE = 8.588) is statistically significant (t = 10.312, $p < .001$), representing the estimated value of the dependent variable (PCOSQOL) when all independent variables were zero, and a 95% confidence interval ranges from 71.672 to 105.444. BMI had a statistically noteworthy positive correlation with PCOSQOL among the independent variables. (B = .673, SE = 0.283, t = 2.381, p = .018), indicating a 0.673-unit increase in PCOSQOL for each unit increase in BMI, with a 95% confidence interval between 0.117 and 1.229. Menstrual Irregularities, Hyperandrogenism, and Subfertility did not demonstrate statistically significant associations with PCOSQOL.

In the regression analysis, presented in Table 5, the constant term (B = 35.114, SE = 3.984) was statistically significant, with a t-statistic of 8.814 ($p < .001$), representing the estimated value of the dependent variable, ENRICH when all independent variables were zero. A 95% confidence interval for constant term ranges between 27.280 to 42.947. Subfertility was a significant predictor in this study and proved a positive association with ENRICH (B = 3.314, SE = 1.074, t = 3.085, p = .002). A 95% confidence interval for Subfertility ranges between 1.202 to 5.427. In contrast, BMI, Menstrual Irregularities, and Hyperandrogenism did not exhibit statistically significant associations with ENRICH.

The bivariate correlation table for the variables in the research study, presented in Table 6. Subfertility demonstrated a significant positive correlation with BMI (r = .485, $p <0.01$) and Parity (r = 0.544, $p < 0.01$). BMI exhibited positive correlations with Subfertility (r = .268, $p < 0.01$), Parity (r = 0.167, $p < 0.01$), Menstrual irregularities (r = 0.099, $p < 0.05$), and ENRICH (r = 0.153, $p < 0.01$). Parity was positively co-related with Subfertility (r =0 .844, $p < 0.01$), BMI (r = 0.216, $p < 0.01$), and ENRICH (r = 0.110, $p < .05$). Menstrual irregularities disclosed a weak positive correlation with BMI (r = 0.099, $p < 0.05$). However, Hyperandrogenism had no significant correlations with the other variables. ENRICH demonstrated positive correlations with Subfertility (r = 0.171, $p < 0.01$), BMI (r = 0.110, $p < 0.05$), and PCOSQOL (r = 0.118, $p < 0.05$). PCOSQOL also had positive correlations with BMI (r = 0.104, $p < 0.05$) and ENRICH (r = 0.104, $p < 0.05$). Finally, HADS exhibited a significant, meaningful positive correlation with Parity (r = 0.138, $p < .01$). Overall, the study results showed that the key variables were related to each other.

Discussion

PCOS affects 2.2% to 26.7% of reproductive-aged women between 18 to 45 years throughout the world.

All married women in the age range of 15 to 44 years were included. 59.8% were between 26 to 35 years. 56.2 % were illiterate or had primary education, and 43.8 % had a secondary or high level of education. Most of them were obese; 38.1 % had a BMI between 25 – 30kg/m^2, and 53.8 % had more than 30kg/m^2. The association of PCOS with low socioeconomic status, less education, and obesity was mentioned by Rubin K. et al. (2019) and Ranathunga, I et al. in their research work.[19,20], and Tabassum F et al (2021).[21] A study conducted by Sidra. S et al.[22] also mentioned that 74.5% were nearly obese, 24.5% morbidly obese, and 0.9% underweight. The outcomes of these studies were more or less consistent with our study.

Menstrual irregularities and hyperandrogenism were considered the most common hallmarks of PCOS, leading to subfertility. In our study, 94.5% presented with a different pattern of menstrual irregularities. 60.9% had oligomenorrhea, 33.3% with an irregular

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Table 1. Demographic Features of Study the Participants, N=381

Variables	Categories	Frequency	Percentage
Age Group Mean age=27.25 years	15 -24 Years	118	31.0
	26 - 35 Years	228	59.8
	36- 44 Years	35	9.2
Education	Illiterate	129	33.9
	Primary	85	22.3
	Middle	38	10.0
	Matric	55	14.4
	Intermediate	37	9.7
	Graduate	37	9.7
BMI in Kg/m2 (WHO criteria) Mean BMI = 29.59 + 4.08	Below 18.5 Kg/m2	3	0.8
	18.5 -24.9 Kg/m2	29	7.6
	25 -29.9 Kg/m2	145	38.1
	30 or more Kg/m2	204	53.5
Monthly Income in Rupees	10,000 - 25,000	69	18.1
	26,000 - 50,000	181	47.5
	51,000 - 75,000	83	21.8
	76,000 +	48	12.6
Menstrual Irregularities	Nil	21	5.5
	Oligomenorrhea	232	60.9
	Amenorrhea	1	0.3
	Irregular cycles	127	33.3
Hyperandrogenism	Nil	056	14.7
	Acne	17	4.5
	Hirsutism	220	57.7
	Male pattern baldness	1	0.3
	acne + Hirsutism	77	20.2
	Hirsutism + Male pattern baldness	6	1.6
	acne + Hirsutism + Male Pattern baldness	4	1.0
Subfertility	Primary	209	54.9
	Secondary	172	45.1
Parity with secondary subfertility	Para-1	97	25.5
	Para-2	47	12.3
	Para-3 and more	28	7.3

Table 2. Mean and Standard deviation of the participants with subfertility

Variables	B	SE	β	t-value	p	LL 95% CI	UL 95% CI
HADS	18.922	1.710		11.065	0.000	15.560	22.285
BMI	0.071	0.056	0.066	1.267	0.206	-0.039	0.182
M.IRR	0.344	0.171	0.103	2.011	0.045	0.008	0.680
HYP.AN.	-0.295	0.169	-0.090	-1.744	0.082	-0.627	0.037
SUB.FR	0.383	0.461	0.043	0.831	0.407	-0.524	1.290

Table 3. Multivariate Regression of BMI, Menstrual irregularities, Hyperandrogenism, and subfertility on the Hospital Anxiety and Depression scale (HADS) (N=381)

Variables	B	SE	B	t- value	P	95% CI LL	UL
PSOSQO	88.56	8.59		10.31	0.00	71.67	105.44
BMI	0.67	0.28	0.12	2.38	0.02	0.12	1.23
Menstrual irregularities	0.88	0.86	0.05	1.02	0.31	-0.81	2.57
Hyperandrogenism	1.50	0.85	0.09	1.77	0.08	-0.17	3.17
Subfertility	3.64	2.32	0.08	1.57	0.12	-0.92	8.20

Note: Independent variables Hyperandrogenism (BMI) Body Mass Index, Menstrual irregularities, and Subfertility.

Dependent variable: Polycystic Ovary Syndrome Quality of Life Scale (PSOSQOL)

Table 4. Regression of BMI, Menstrual irregularities, Hyperandrogenism, and subfertility on Polycystic Ovary Syndrome Quality of Life Scale (PCOSQOL) (N=381)

Variables	B	SE	B	t- value	P	95% CI LL	UL
PSOSQO	88.56	8.59		10.31	0.00	71.67	105.44
BMI	0.67	0.28	0.12	2.38	0.02	0.12	1.23
Menstrual irregularities	0.88	0.86	0.05	1.02	0.31	-0.81	2.57
Hyperandrogenism	1.50	0.85	0.09	1.77	0.08	-0.17	3.17
Subfertility	3.64	2.32	0.08	1.57	0.12	-0.92	8.20

Note: Independent variables Hyperandrogenism (BMI) Body Mass Index, Menstrual irregularities, and Subfertility.

Dependent variable: Polycystic Ovary Syndrome Quality of Life Scale (PSOSQOL)

menstrual cycle, and 0.3% had amenorrhea. 84.3% had either one symptom or mixed signs and symptoms of hyperandrogenism. The study by Sidra. S et al.[22] 71.8% had different presentations of menstrual irregularities, 68.4% had hirsutism, and 67.3% were presented with acne. Our study findings showed consistency with this study's findings.

The case-control study conducted by Ranathunga, I et al[20] mentioned that 54.67% had oligomenorrhea, amenorrhea 40%, 76.7% were obese, 90% presented with clinical or biochemical features of hyperandrogenism, and 80% of patients had a combination of the above symptoms. Their study results were correlating with our study results.

In our study, 54.5% of women presented with primary subfertility, and 45.1% had secondary subfertility. The study done by Ranathunga I et al[20] mentioned about 68% with primary and 32 % with secondary infertility. A significant correlation between irregular menstrual patterns, obesity, hyperandrogenemia, and infertility was found because of delayed treatment, low socioeconomic status, and less education. The study con-

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Table 5. Regression of BMI, Menstrual irregularities, Hyperandrogenism, and Subfertility on Evaluation and Nurturing Relationship Issues, communication, and Happiness (ENRICH)

Variables	B	SE	B	t-value	Sig.	95.0% CI	UL
ENRICH	35.11	3.98		8.81	0.00	27.28	42.95
BMI	0.22	0.13	0.08	1.65	0.10	-0.04	0.47
Menstrual irregularities	0.53	0.40	0.07	1.33	0.19	-0.26	1.31
Hyperandrogenism	-0.05	0.39	-0.01	-0.11	0.91	-0.82	0.73
Subfertility	3.31	1.07	0.16	3.09	0.00	1.20	5.43

Note: Independent variables Hyperandrogenism (BMI) Body Mass Index, Menstrual irregularities, and Subfertility.

Dependent variable: Evaluation and, nurturing relationship issues, communication and, happiness. (ENRICH)

Table 6. Relationship between the study variables

Variables.	I	II	III	IV	V	VI	VII	VIII	XI
I. Age	-								
II. Subfertility	.485**								
III. BMI	.268**	.167**							
IV. Parity	.544**	.844**	.216**						
V. Menstrual irregularities	.099*	-0.021	-0.009	-0.001					
VI. Hyperandrogenism	-0.046	0.040	0.037	0.014	.113*				
VII. ENRICH	.153**	.171**	.110*	.166**	0.064	0.011			
VIII. PCOSQOL	.118*	.104*	.139**	0.065	0.060	.104*	0.087		
XI. HADS	-0.066	0.049	0.069	0.018	0.092	-0.074	-0.021	.138**	-

Note: ** Correlation insignificant at the 0.01 level (2-tailed).

Independent variables Hyperandrogenism, BMI, Menstrual irregularities, and Subfertility. ENRICH, PCOSQOL

ducted by Taghavi S-A et al.[23] showed that the biggest important factor affecting sexual and marital happiness in PCOS was infertility.

A study by Dhagat et al.[24] determined that 94% were between 21-30 years old, 20% were obese, and 65% had menstrual irregularities, 70% were primary and 30% had secondary infertility. A statistical data difference was seen when compared with our study because of the sample size difference as their study sample size was just 100 cases.

The signs and symptoms of PCOS were the leading factors for psychological morbidities, mainly anxiety, and depression, as assessed by Veltman-Verhulst SM et al. while conducting a systematic review and meta-analysis.[25]

Not only are the signs and symptoms of hyperandrogenism, especially hirsutism itself, a major concern for women diagnosed with PCOS, but the presence of menstrual irregularities aggravates the distress further. A qualitative study conducted by Ekback et al.[26] mentioned that these women had a poor self-body image, decreased self-esteem, and restricted social engagement.

In our study, the HADS scale for evaluation of anxiety and depression and its relation with independent variables showed that menstrual cycle irregularities had a positive correlation. In our study, 95.5% had menstrual problems. The study conducted by Chaudhari AP et al.[27] showed that 95.7% of females with PCOS had menstrual irregularities, and the study done by Bazarganipour, F[28] mentioned that the women with menstrual irregularities seemed to be more depressed. Irregular menses, obesity, and hyperandrogenism lead to poor self-esteem and body image, as observed by De Niet JE et al. in their study.[29] So, the findings of these studies more or lessco-relatedg with our research.

Our study showed that obesity and hyperandrogenism mainly affect psychological well-being and HRQoL. The study done by Khomami MB et al 30 showed that hirsutism followed by increased BMI, irregular menstru-

al cycles, and sub-fertility had a strong impact on the patient's HRQoL.[2] According to the opinion of Yoldemir et al.[31] menstrual issues were the worst parameter impacting QoL.

In our study, by using the ENRICH scale, subfertility was considered the most important factor affecting the level of satisfaction, happiness, and sexual and marital health among couples. The outcomes of the study done by Kowalczyk R et al.[32] also disclosed that women with PCOS feel less confident, which contributes to poor marital relationships. All these studies regarding infertility due to PCOS affecting the marital relationship favored the results of our research work. Counseling regarding weight loss should be considered the primary care in the treatment of PCOS. These women do not ignore it.

Psychological illnesses in these women with PCOS should be excluded as they affect the QOL. They should be motivated for lifestyle modification, like avoiding fast foods, and daily exercise should be part of their life. In the outpatient department, regular counseling of women with PCOS needs to be practiced so that 5 to 10% weight reduction will improve symptoms.

The research was conducted in multi-centered territory care teaching institutions. An accurate assessment of how PCOS affects the different aspects of married women's lives was done by using multiple standard scales, and the psychiatric complications, including depression and anxiety, were evaluated on QoL and marital satisfaction among these couples. As there was no control group for comparison with the study population, we compared the results with the findings of previous studies and generalization was not possible due to the small sample size.

Conclusion

This study was fruitful as it provided optimal information about the multifactorial nature of PCOS and its impact on different aspects of life. In these women, irregular menstruation and hyperandrogenism were the virtual causes of elevated anxiety and depression. Increased BMI is the crucial reason leading to poorer health-related QoL, and subfertility is the major predictor of low levels of marital satisfaction and impaired sexual function among these couples.

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References

1. Nidhi R, Padmalatha V, Nagarathna R, Amritanshu R. Prevalence of polycystic ovarian syndrome in Indian adolescents. J Pediatr Adolesc Gynecol 2011;24(4):223-7.
2. Vink JM, Sadrzadeh S, Lambalk CB, Boomsma DI. Heritability of polycystic ovary syndrome in a Dutch twin-family study. J Clin Endocrinol Metab 2006;91(6):2100-4.
3. Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. Fertil Steril 2004;81:19-25.
4. Escobar-Morreale HF. Polycystic ovary syndrome: definition, etiology, diagnosis, and treatment. Nat Rev Endocrinol 2018;14:270-84. DOI: 10.1038/nrendo.2018.24.
5. Brutocao C, Zaiem F, Alsawas M, Morrow AS, Murad MH, Javed A. Psychiatric disorders in women with polycystic ovary syndrome: a systematic review and meta-analysis. Endocrine 2018;62:318-25. DOI: 10.1007/s12020-018-1692-3.
6. Borghi L, Leone D, Vegni E, Galiano V, Lepadatu C, Sulpizio P, Garzia E. Psychological distress, anger, and quality of life in polycystic ovary syndrome: associations with biochemical, phenotypical, and socio-demographic factors. J Psychosom Obstet Gynecol 2018;39:128-37.
7. Gholinezhad M, Golsorkhtabaramiri M, Esmaeilzadeh S, Ghanbarpour A. Insulin resistance and adverse metabolic profile in overweight/obese and normal weight of young women with polycystic ovary syndrome. Casp J Intern Med 2018;9:260-7.
8. Banaszewska B, Pawelczyk L, Spaczynski RZ, Duleba AJ. Effects of simvastatin and metformin on polycystic ovary syndrome after six months of treatment. J Clin Endocrinol Metab 2011;96(11):3493-501.
9. Rollings BC, Gallian R. The developing child and marital satisfaction of parents. In: Lerner RM, Spanier GB, editors. Child influences on marital and family interaction: a lifespan perspective. San Francisco: Academic Press; 1978. p. 71-105. DOI: 10.1016/B978-0-12-444450-8.50010-9.
10. Valian K, Amini L, Sadeghi H, Montazeri A. Marital satisfaction in women with and without polycystic ovary syndrome: a comparative study. Life Sci J 2013;10(12):616-20.
11. Harris HR, Titus LJ, Cramer DW, Terry KL. Long and irregular menstrual cycles, polycystic ovary syndrome, and ovarian cancer risk in a population-based case-control study. Int J Cancer 2017;140(2):285-91. DOI: 10.1002/ijc.30441.
12. Ye W, Xie T, Song Y, Zhou L. The role of androgen and its related signals in PCOS. J Cell Mol Med 2021;25(4):1825-37. DOI: 10.1111/jcmm.16205.
13. Gokcay C, Ozgur D, Meve Sema S, Betul Y. Is there a difference in anxiety, body perception, and depression scales according to subphenotypes of polycystic ovary syndrome?. J Ankara Fac Med 2021;74(1):38-42.
14. Shetty C, Rizvi S, Sharaf J, et al. Risk of gynecological cancers in women with polycystic ovary syndrome and the pathophysiology of association. Cureus 2023;15(4):e37266. DOI: 10.7759/cureus.37266.
15. Sidra S, Tariq MH, Farrukh MJ, Mohsin M. Evaluation of clinical manifestations, health risks, and quality of life among women with polycystic ovary syndrome. PLoS One 2019;14(10):e0223329. DOI: 10.1371/journal.

pone.0223329.

16. Dybciak P, Humeniuk E, Raczkiewicz D, Krakowiak J, Wdowiak A, Bojar I. Anxiety and depression in women with polycystic ovary syndrome. Medicina (Kaunas) 2022;58(7):942. DOI: 10.3390/medicina58070942.
17. Akram M, Roohi N. Endocrine correlates of polycystic ovary syndrome in Pakistani women. J Coll Physicians Surg Pak 2015;25(1):22-6.
18. Gupta M, SD, Toppo M, Priya A, Sethia S, Gupta P. A cross-sectional study of the polycystic ovarian syndrome among young women in Bhopal, Central India. Int J Community Med Public Health 2018;5:95-100.
19. Rubin KH, Andersen MS, Abrahamsen B, Glintborg D. Socioeconomic status in Danish women with polycystic ovary syndrome: a register-based cohort study. Acta Obstet Gynecol Scand 2019;98(4):440-50. DOI: 10.1111/aogs.13514.
20. Ranathunga I, Athukorala TG, Sumanatilleke MR, et al. Evaluation of socio-demographic and clinical characteristics of PCOS patients attending a tertiary care institute in Colombo. BMC Endocr Disord 2022;22:289. DOI: 10.1186/s12902-022-01206-0.
21. Tabassum F, Jyoti C, Sinha HH, Dhar K, Akhtar MS. Impact of polycystic ovary syndrome on quality of life of women in correlation to age, basal metabolic index, education and marriage. PLoS One 2021;16(3):e0247486. DOI: 10.1371/journal.pone.0247486.
22. Ligocka N, Chmaj-Wierzchowska K, Wszołek K, Wilczak M, Tomczyk K. Quality of life of women with polycystic ovary syndrome. Medicina 2024;60(2):294. DOI: 10.3390/medicina60020294.
23. Taghavi SA, Aramesh S, Azizi-Kutenaee M, Allan H, Safarzadeh T, Taheri M, et al. The influence of infertility on sexual and marital satisfaction in Iranian women with polycystic ovary syndrome: a case-control study. Middle East Fertil Soc J 2021;26:1-7. DOI: 10.1186/s43043-020-00047-y.
24. Dhagat V, Shah P, Thakar R, Deliwala K. Study of 100 cases of infertility in polycystic ovarian syndrome and its management outcome. Int J Med Sci Public Health 2013;2(4):1041-6.
25. Veltman-Verhulst SM, Boivin J, Eijkemans MJ, Fauser BJ. Emotional distress is a common risk in women with polycystic ovary syndrome: a systematic review and meta-analysis of 28 studies. Hum Reprod Update 2012;18:638-51.
26. Ekback M, Wijma K, Benzein E. "It is always on my mind": women's experiences of their bodies when living with hirsutism. Health Care Women Int 2009;30:358-72. DOI: 10.1080/07399330902785133.
27. Chaudhari AP, Mazumdar K, Mehta PD. Anxiety, depression, and quality of life in women with polycystic ovarian syndrome. Indian J Psychol Med 2018;40(3):239-46. DOI: 10.4103/IJPSYM.IJPSYM_561_17.
28. Bazarganipour F, Ziaei S, Montazeri A, Foroozanfard F, Kazemnejad A, Faghihzadeh S. Psychological investigation in patients with polycystic ovary syndrome. Health Qual Life Outcomes 2013;11:141. DOI: 10.1186/1477-7525-11-141.
29. De Niet JE, De Koning CM, Pastoor H, Duivenvoorden HJ, Valkenburg O, Ramakers MJ, et al. Psychological well-being and sexarche in women with polycystic ovary syndrome. Hum Reprod 2010;25(6):1497-503. DOI: 10.1093/humrep/deq068.
30. Khomami MB, Tehrani FR, Hashemi S, Farahmand M, Azizi F. Of PCOS symptoms, hirsutism has the most significant impact on the quality of life of Iranian women. PLoS One 2015;10(4):e0123608. DOI: 10.1371/journal.pone.0123608.
31. Coffey S, Bano G, Mason HD. Health-related quality of life in women with polycystic ovary syndrome: a comparison with the general population using the polycystic ovary syndrome questionnaire (PCOSQ) and the short form-36 (SF-36). Gynecol Endocrinol 2006;22(2):80-6. DOI: 10.1080/09513590600604541.
32. Kowalczyk R, et al. Sexuality in women with polycystic ovary syndrome. Ginekol Pol 2015;86(2):100-6.

Authors' Contribution Statement

SW contributed to the conception, design, acquisition, analysis, interpretation of data, drafting of the manuscript, and critical review of the manuscript. MSG contributed to the design, acquisition, analysis, interpretation of data, and final approval of the version to be published. RK contributed to the manuscript's acquisition, analysis, drafting, and critical review. QQ contributed to the manuscript's acquisition, analysis, drafting, and critical review. NH contributed to the acquisition, analysis, and drafting of the manuscript. ZW contributed to the acquisition, analysis, and drafting of the manuscript. All authors are accountable for their work and ensure the accuracy and integrity of the study.

Confilct of Interest

Authors declared no conflict on interest

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Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.