



## Quality of life of women with polycystic ovary syndrome of reproductive age

Kvalitet života žena u reproduktivnom dobu koje imaju sindrom policističnih jajnika

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### Abstract

**Background/Aim.** Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in women of reproductive age, and it affects their physical and mental health and their quality of life (QoL). The aim of this study was to assess the QoL of women with PCOS of reproductive age. **Methods.** The study included 100 women, aged 18 years or above, diagnosed with PCOS. The Short Form Health Survey-36 (SF-36) was used as the research instrument. Mann-Whitney *U* test, Kruskal-Wallis test, and Spearman's rank correlation coefficient were used to examine possible differences in QoL within the variables studied. **Results.** Women with PCOS living in rural areas had a significantly higher mean score in the vitality domain. A statistically significant, strongly positive correlation with the total QoL score was found for the Mental Component Summary (MCS) ( $p < 0.001$ ) and Physical Component Summary (PCS) ( $p < 0.001$ ) subscales. A statistically significant but weak negative correlation was found between self-rated health and the PCS ( $p = 0.021$ ), the MCS ( $p = 0.004$ ) and the total QoL score ( $p = 0.002$ ), and age with the PCS ( $p = 0.023$ ) and the total QoL score ( $p = 0.032$ ). **Conclusion.** Women with PCOS in rural areas were more vital and had better QoL. Lower self-esteem regarding health is associated with poorer QoL, especially in the psychological domain. In women with manifest PCOS, early diagnosis and appropriate education can help alleviate certain symptoms and prevent serious complications.

### Keywords:

health; polycystic ovary syndrome; quality of life; surveys and questionnaires; women.

### Apstrakt

**Uvod/Cilj.** Sindrom policističnih jajnika (*polycystic ovary syndrome* – PCOS) je najčešći endokrini poremećaj žena u reproduktivnom dobu i utiče na njihovo fizičko i mentalno zdravlje i na kvalitet života (*quality of life* – QoL). Cilj rada bio je da se proceni QoL žena u reproduktivnom periodu koje imaju PCOS. **Metode.** Istraživanjem je obuhvaćeno 100 žena starijih od 18 godina, kojima je dijagnostikovano PCOS. Kao instrument istraživanja korišćen je upitnik *Short Form Health Survey-36* (SF-36). Za ispitivanje mogućih razlika u QoL u odnosu na ispitivane varijable, korišćeni su Mann-Whitney *U* test, Kruskal-Wallis test i Spearman-ov koeficijent korelacije. **Rezultati.** Žene koje imaju PCOS i žive u ruralnim sredinama imale su značajno viši prosečni rezultat u domenu vitalnosti. Statistički značajna, jaka pozitivna korelacija sa ukupnim rezultatom QoL utvrđena je za podskale *Mental Component Summary* (MCS) ( $p < 0,001$ ) i *Physical Component Summary* (PCS) ( $p < 0,001$ ). Utvrđena je statistički značajna, ali slaba negativna korelacija između samoprocene zdravlja i PCS ( $p = 0,021$ ), MCS ( $p = 0,004$ ) i ukupnog skora QoL ( $p = 0,002$ ), kao i između životnog doba i PCS ( $p = 0,023$ ) i ukupnog skora QoL ( $p = 0,032$ ). **Zaključak.** Žene u ruralnim područjima koje imaju PCOS bile su vitalnije i imale su bolji QoL. Niže samopouzdanje u vezi sa zdravljem povezano je sa lošijim QoL, posebno u psihološkom domenu. Kod žena sa ispoljenim PCOS se, uz ranu dijagnozu i odgovarajuću edukaciju, mogu ublažiti pojedini simptomi i sprečiti teške komplikacije.

### Ključne reči:

zdravlje; jajnik, policistični, sindrom; kvalitet života; ankete i upitnici; žene.

### Introduction

Polycystic ovary syndrome (PCOS) is a significant public health problem with a prevalence of approximately

15–20% in women aged 15–49 years<sup>1</sup>. Due to its complexity, up to 70% of women worldwide remain undiagnosed<sup>2</sup>. In 2016, 403 cases of coded PCOS diagnoses per 100,000 women aged 15 to 49 years were recorded in

Slovenia, which may suggest a substantial level of underdiagnosis in this population<sup>3</sup>.

The pathophysiology of the disease is not yet fully understood, but it is thought to result from genetic, metabolic, and environmental factors (e.g., lifestyle, obesity)<sup>1,4</sup>. According to the Rotterdam consensus, PCOS is defined by the presence of two or three of the following criteria: anovulation and/or oligoovulation, clinical and/or biochemical signs of hyperandrogenism, and polycystic ovarian morphology ( $\geq 12$  follicles with a diameter of 2–9 mm and/or an ovarian volume  $> 10$  cm<sup>3</sup>)<sup>5-7</sup>.

PCOS as a reproductive syndrome can develop over time into a metabolic syndrome characterized by insulin resistance independent of body mass index (BMI)<sup>8</sup>, impaired glucose intolerance, dyslipidemia, and increased body weight<sup>9</sup>. This, in turn, can lead to the development of type 2 diabetes mellitus<sup>10</sup> and increase the risk of cardiovascular disease (atherosclerosis, hypertension, heart attack)<sup>11</sup>, breast and endometrial cancer<sup>12</sup>, and, in rare but severe cases, obstructive sleep apnea. However, this is not a common outcome<sup>13</sup>. The severity of PCOS symptoms often varies over the course of a woman's reproductive life and manifests differently at various stages of life<sup>14</sup>. PCOS, a significant cause of infertility, affects more than just physical health. It often leads to emotional stress, reduced quality of life (QoL), and body image issues. If the condition is not diagnosed in time, it can cause serious health problems<sup>15</sup>.

QoL is one of the most important measures for patients with chronic diseases<sup>16</sup>. As disease duration increases, overall QoL declines, along with perceived health status and QoL across the physical, social, and environmental domains<sup>17</sup>. The World Health Organization defines QoL as a subjective assessment of an individual's perception of reality in relation to personal goals, viewed within the context of their culture and value system<sup>18</sup>. QoL is a broad concept, defined as the perception of health or a conscious cognitive evaluation of satisfaction with life<sup>19</sup>. It is a useful indicator of overall self-perception of health and physical and emotional functioning in any illness<sup>20</sup>. Health-related QoL (HRQoL) is a multidimensional concept that examines how health affects QoL<sup>19</sup>. It is defined as a person's perception of their own life in the context of their culture and beliefs, as well as their personal goals and concerns<sup>21</sup>. It captures information about people's physical and mental health status and the impact of their health status on their QoL<sup>22</sup>.

As PCOS can develop into a lifelong/chronic health condition, it is important to assess the HRQoL of women with PCOS<sup>23</sup>. Women with PCOS often have a lower HRQoL, which may be due to symptoms that currently cause them problems or fear of possible future disorders<sup>24</sup>. The HRQoL of women of reproductive age is negatively influenced by reproductive history and menstrual status<sup>25</sup>, as well as PCOS and infertility as separate factors<sup>26</sup>, obesity and body image disturbance<sup>27</sup>, hyperandrogenism<sup>2</sup>, anxiety and depression<sup>28</sup>, a deterioration in women's self-esteem and self-image<sup>17</sup>, changes in sleep quality, body image, and mood disorders<sup>29</sup>. PCOS affects all domains of the Short Form (SF) Health Survey, with PCOS having the most

negative impact on psychological domains such as emotions and vitality<sup>30</sup>. HRQoL is significantly reduced in adult women with the anovulatory phenotype of PCOS<sup>19</sup>. PCOS has a negative impact on HRQoL in women with PCOS<sup>1</sup>.

All members of the interdisciplinary healthcare team, including physicians, nurses, pharmacists, and other healthcare support staff, need to understand the concept of QoL to effectively support patients in achieving their health goals and improving their QoL<sup>31</sup>.

The aim of this study was to assess the QoL of women with PCOS of reproductive age.

## Methods

This cross-sectional study was conducted between May and July 2023 in 100 women diagnosed with PCOS at reproductive age.

A self-report questionnaire, the 36-item SF (SF-36), was used as the research instrument. More holistic health care focuses on a biopsychosocial model that emphasizes the patient's well-being and QoL. HRQoL is a multidimensional concept that describes the physical, emotional, and social aspects of certain diseases. Patient-centered measures or patient-reported outcome measures capture information that comes directly from the patient<sup>1</sup>. These measures include patient satisfaction, community integration, and social participation from the patient's perspective. This patient perspective is particularly important in research and clinical practice, especially regarding their functioning and health. The SF-36 is an instrument that has the highest methodological quality for assessing HRQoL<sup>32</sup>. The SF-36 is used to understand the impact of PCOS and to assess the health status of individual patients, as well as to monitor and compare the burden of disease<sup>20,33</sup>.

The pre-validated SF-36 questionnaire is a standard tool for assessing various aspects of HRQoL during the past four weeks. Respondents considered the four weeks preceding the date of questionnaire completion. The SF-36 comprises eight domains: general health, physical functioning, role limitations due to physical health, role limitations due to emotional problems, bodily pain, social functioning, vitality (energy/fatigue), and emotional well-being. The scores for each domain range from 0–100, with higher scores indicating better health<sup>1,23,26</sup>. We divided the eight QoL domains into two summarizing subscales: Physical Component Summary (PCS) with physical functioning, role limitations due to physical health, body pain, and general health domains and Mental Component Summary (MCS) with vitality (energy/fatigue), social functioning, role limitations due to emotional problems, emotional well-being domains, as well as the SF-36 total score<sup>34,35</sup>.

The questionnaire consisted of two parts. The first part collected socio-demographic data (age, place of residence, employment status, and self-rated health), while the second part contained the validated SF-36 questionnaire translated into Slovenian. The Slovenian translation of the SF-36 is a reliable and valuable validated tool that uses the SF-36 domains to assess HRQoL. Reliability testing of the SF-36 domains

included internal consistency and test-retest reliability. The Cronbach alpha coefficient for all SF-36 domains was above 0.78, and the Cronbach alpha coefficient for the SF-36 total score was 0.93<sup>36</sup>. In this study, the Cronbach alpha coefficient for all domains of the SF-36 was 0.840.

#### *Sampling technique*

The questionnaire was developed using the online survey tool Google Forms. As we included only women with PCOS in the survey, a link to an anonymous online questionnaire was distributed *via* social media and PCOS support groups using a snowball sampling approach. All participants were recruited *via* posts on social media supporting women with PCOS (Facebook PCOS Slovenia), where they received a direct link to the first introductory part of the online survey. Upon accessing the survey, participants received information about the study. They were informed that all entries were anonymous and voluntary. Participants could only continue with the survey after they had given their consent.

The simple random sampling was carried out using Microsoft Excel software, whereby the women were assigned using the random numbers function – RAND, and the first 100 were selected according to their value.

#### *Ethical consent*

The data was collected using an anonymous online questionnaire. The study was conducted in accordance with the ethical principles of the World Medical Association Declaration of Helsinki (including its Tokyo revision) and the Code of Ethics for Nurses and Nursing Assistants in Slovenia. Informed consent was obtained from all study participants. Participation was voluntary. Absolute confidentiality was guaranteed throughout the study.

#### *Statistical analysis*

Categorical variables were presented as percentages, while continuous variables were presented as arithmetic

means with standard deviations, 95% confidence intervals, medians, and ranges. The Mann-Whitney *U* test was used to compare the mean scores of SF domains between two groups (by place of residence and employment status). The Kruskal-Wallis test with Bonferroni correction was used to compare the mean scores of SF domains among three groups (age groups and self-rated health). Spearman correlation was used to assess relationships between SF domains. Statistical significance was set at  $p < 0.05$ . All analyses were performed using IBM SPSS Statistics, version 29.0 (IBM Corporation, Armonk, NY, USA).

## **Results**

The present study included 100 women over the age of 18 years (mean age  $25.19 \pm 4.02$ , range 18–39) diagnosed with PCOS. Most of the respondents (66%) lived in rural areas, with female students forming the largest subgroup (52%). A total of 39% of respondents rated their health as satisfactory (Table 1).

#### *Differences in the quality of life of women with polycystic ovary syndrome – influence of sociodemographic factors*

In the SF-36, respondents achieved the lowest mean scores in the areas of role limitation/emotions (22.33), role limitation/physicality (41.50), and MCS (42.77). There were no significant differences in age, employment status, or the SF domains. In all domains of the SF-36, the mean score of respondents living in rural areas was slightly higher. However, the Mann-Whitney *U* test only revealed a statistically significant difference in vitality (energy/fatigue) depending on place of residence ( $Z = -2.122$ ;  $U = 831.500$ ;  $p = 0.034$ ). Pairwise comparisons showed that respondents in rural areas had a significantly higher mean vitality score (54.90) than respondents in urban areas (41.96).

Respondents who rated their state of health as very good had higher scores in all SF domains. The Kruskal-Wallis test shows statistically significant differences in the domains of role limitation/physicality ( $H = 33.030$ ;

**Table 1**  
**Socio-demographic characteristics of PCOS women**

Variable	Values
Age, years	
18–24	48
25–29	37
$\geq 30$	15
Place of residence	
urban area	34
rural area	66
Employment status	
studying	52
active working	48
Self-rated health	
very good	26
satisfactory	39
poor	35

**PCOS – polycystic ovary syndrome.**  
**All values are given as percentages.**

$p < 0.001$ ), role limitation/emotion ( $H = 19.641$ ;  $p < 0.001$ ), PCS ( $H = 6.700$ ;  $p = 0.037$ ), MCS ( $H = 8.199$ ;  $p = 0.017$ ), and the total QoL score ( $H = 9.695$ ;  $p = 0.008$ ) on the self-rated health (Table 2).

Pairwise comparisons showed that in the role limitation/physicality domain, respondents who rated their health as very good were statistically significantly different from those who rated it as poor ( $p < 0.001$ ) and statistically significantly different from those who rated their health as satisfactory ( $p = 0.003$ ); respondents who rated their health as satisfactory were also significantly different from those who rated their health as poor ( $p = 0.002$ ). In the area of role limitation/emotion domain, respondents with a very good self-rated state of health differed significantly from those who rated their state of health as poor ( $p < 0.001$ ) or satisfactory ( $p = 0.004$ ), while no significant difference was found between the “satisfactory” and “poor” groups ( $p = 0.080$ ). In the PCS, respondents with a very good self-rated health status differed significantly from those who rated their health status as poor ( $p < 0.001$ ) or satisfactory ( $p = 0.004$ ), while no significant difference was found between the “satisfactory” and “poor” groups ( $p = 0.080$ ). In the MCS, respondents with a very good self-rated health status differed significantly from those who rated their health status as satisfactory ( $p = 0.014$ ) or poor ( $p = 0.009$ ), although no significant difference was found between the “satisfactory” and “poor” groups ( $p = 0.805$ ). In the total QoL score, respondents who rated their state of health as

very good differed significantly from those who rated it as satisfactory ( $p = 0.022$ ) or poor ( $p = 0.002$ ), while no significant difference was found between the “satisfactory” and “poor” groups ( $p = 0.885$ ).

#### *Correlation analysis of quality of life and sociodemographic characteristics*

A statistically significant, strongly positive correlation was found between the total QoL score and the PCS ( $p < 0.001$ ) and MCS ( $p < 0.001$ ) subscales. In contrast, a statistically significant but weak negative correlation was found between the self-rated health status and the PCS ( $p = 0.021$ ), MCS ( $p = 0.004$ ), and the total QoL score ( $p = 0.002$ ). Age also showed a weak negative correlation with both the PCS ( $p = 0.023$ ) and the total QoL score ( $p = 0.032$ ) (Table 3).

#### **Discussion**

Assessing the QoL of people with PCOS is necessary as it provides a broader insight into the life and well-being of the individual. The results of our study show that women with PCOS living in rural areas scored higher in the vitality SF domain, possibly due to a more active lifestyle in nature and lower stress levels. Our findings indicate that women with PCOS generally reported a satisfactory self-assessment of their health. However, lower mean scores were observed

**Table 2**

#### **Differences in the SF-36 domain scores in PCOS women**

SF domain	Mean $\pm$ SD	95% CI	Median	Rank	<i>p</i> -value
PCS	51.51 $\pm$ 18.97	47.74–55.27	55.31	98.75	0.037 <sup>†</sup>
physical functioning	64.05 $\pm$ 33.50	57.40–70.70	70.00	100.00	n.s.
role limit/physical	41.50 $\pm$ 43.11	32.95–50.05	25.00	100.00	< 0.001 <sup>†</sup>
bodily pain	51.58 $\pm$ 27.33	46.15–57.00	45.00	100.00	n.s.
general health	48.90 $\pm$ 22.37	44.46–53.34	45.00	100.00	n.s.
MCS	42.77 $\pm$ 16.18	39.56–45.98	42.23	91.67	0.017 <sup>†</sup>
role limit/emotion	22.33 $\pm$ 36.72	15.05–29.62	15.00	100.00	< 0.001 <sup>†</sup>
vitality (energy/fatigue)	44.80 $\pm$ 18.23	41.18–48.42	45.00	100.00	0.034 <sup>*</sup>
emotional well-being	53.19 $\pm$ 19.18	49.38–57.00	52.00	100.00	n.s.
social functioning	50.75 $\pm$ 23.82	46.02–55.48	50.00	100.00	n.s.
QoL – total score (SF-36)	47.14 $\pm$ 16.45	43.87–50.40	46.16	95.21	0.008 <sup>†</sup>

**SF-36 – Short Form Health Survey-36; PCOS – polycystic ovary syndrome; SD – standard deviation; CI – confidence interval; PCS – Physical Component Summary; MCS – Mental Component Summary; QoL – quality of life; n.s. – non-significant.**

**Note:** \*residence difference, Mann-Whitney *U* test with a  $p < 0.05$ ; <sup>†</sup>general health difference, Kruskal-Wallis test with a  $p < 0.05$ . For an explanation on how the MCS and PCS are derived from eight subscales of the SF-36, see the Methods section.

**Table 3**

#### **Correlation analysis of quality of life and selected sociodemographic characteristics**

Parameter	PCS	MCS	QoL – total score
Age	-0.227*	-0.147	-0.215*
Place of residence	-0.196	-0.138	-0.184
Job status	-0.119	-0.107	-0.143
Self-rated health	-0.230*	-0.287**	-0.300**
PCS	1.000	0.732**	0.932**
MCS	0.732**	1.000	0.918**

**PCS – Physical Component Summary; MCS – Mental Component Summary; QoL – quality of life.**

**Note:** \* correlation is significant at  $p < 0.05$ ; \*\* correlation is significant at  $p < 0.01$ .

in several domains of the SF-36, particularly in role limitation/emotion, role limitation/physical, and vitality. The lower mean MCS score compared to the PCS further suggests that the mental, rather than the physical, component of QoL was more affected in respondents. The mean total QoL score was 47.14, indicating a tendency towards poorer emotional functioning and poorer HRQoL. Similarly, PCOS was found to have the strongest negative impact on psychological HRQoL<sup>1</sup>. It was also found that women with PCOS had a significantly lower mean HRQoL score of 43.4, with the lowest scores in domains such as vitality, emotional health, social functioning, physical pain, and general health<sup>37</sup>. On the other hand, in Spain, the SF-12 scale was used in a cohort of women with PCOS, and it was found that all women with PCOS had significantly lower scores on the PSC. The QoL of women with PCOS is worse, as PCOS has a negative impact on physical and mental health, as well as social activities<sup>17</sup>. When comparing women with ovulatory or anovulatory PCOS to the control group of women without PCOS, women with anovulatory PCOS had statistically significantly lower scores in the domains of role limitation/physical, vitality, and role limitation/emotion, while women with ovulatory PCOS had lower scores in the domains of general health and mental health. The greater differences in HRQoL among women with anovulatory PCOS are likely due to oligoovulation and hyperandrogenism, which are associated with infertility and issues related to self-esteem or self-concept<sup>21</sup>. With an early diagnosis and appropriate information, those affected can prevent serious complications and minimize the disturbing symptoms associated with PCOS<sup>37</sup>.

The increasing incidence of PCOS worldwide requires a thorough investigation of its epidemiological trends and socio-demographic correlates. In 2021, the global prevalence of PCOS was estimated at 65.77 million cases, with 576.05 thousand disability-adjusted life years (DALYs) attributed to the condition. This represents an increase of 87% compared to 1990. The increasing trend can be observed in regions with a medium socio-demographic index, and the 45–49 age group has the highest DALYs rate in this region<sup>38</sup>. In 2021, there were 2.3 million new cases of PCOS, with the highest rates in Italy, Japan, and New Zealand. The increase in the prevalence and burden of PCOS is likely due to multiple factors. It is partly attributable to improved diagnostic criteria and reporting, but may also reflect a genuine rise associated with genetic, epigenetic, and environmental factors, as well as differences in the sociodemographic index between countries and regions<sup>39</sup>.

Women with PCOS had a significantly lower QoL compared to healthy controls. The PCOS women with higher education had better HRQoL scores in all eight domains of the SF-36, but without statistically significant differences; those over 30 years of age had the lowest mean scores in the domains of role limitations/emotional (25.92), role limitations/physical (25.0), and general health (28.24)<sup>23</sup>. Similarly, in our study, we found a significantly weak negative correlation between age and PCS and total QoL scores, suggesting that older respondents have poorer HRQoL.

For women with PCOS, their socioeconomic status is a risk factor for disease acceptance; living in an urban environment and time since diagnosis (1 to 5 years) were significantly associated with poorer acceptance of PCOS<sup>17</sup>. In the present study, we also found the influence of place of residence on QoL. Respondents who lived in the countryside had slightly higher mean scores in all QoL domains and a statistically significantly higher score for vitality (energy/fatigue), implying that they have less of a negative impact on QoL. This could indicate a less stressful life in the countryside, where appearance is less important, as well as a lifestyle with more physical activity and contact with nature. In contrast, the QoL of women with PCOS was not related to disease duration or comorbidities. However, a significant correlation was found with the discomfort caused by PCOS symptoms. Most women with PCOS rated their QoL as good or very good, and those with very bothersome PCOS symptoms reported lower QoL than those whose symptoms were not categorized as very bothersome. Women with lower QoL felt they were not in control of the disease, suffered from depression, and did not accept their physical appearance<sup>40</sup>. In our study, we found a significantly weak negative correlation between rated health status and PCS, MCS, and total QoL scores, which, as expected, means that the worse the perceived health status, the lower the HRQoL.

Women with PCOS and BMI > 25 had a statistically significant and more pronounced lower QoL compared to healthy women and normal-weight PCOS women. However, the SF-36 domains of social function and physical function were significantly more impaired in PCOS women with a BMI > 25 compared to normal-weight controls<sup>41</sup>. Similarly, women with PCOS with a BMI > 30 had a statistically significantly lower mean score in the domains of general health (32.55), physical function (61.56), and energy/fatigue (48.43)<sup>23</sup>.

Angin et al.<sup>26</sup> found that infertility negatively affects QoL, with the lowest SF-36 scores observed in the infertile PCOS group compared to the fertile PCOS group and the infertile non-PCOS group. The lowest scores were in the mental (44.0) and physical (44.4) components<sup>26</sup>. Infertility in women with PCOS is associated with psychological distress, which affects their sexual satisfaction, self-esteem, and QoL. However, infertility and psychological distress largely depend on ethnic background, religious beliefs, and personal desire to have children<sup>42</sup>. In addition to obesity and hirsutism, bodily pain is the main disorder that limits the physical QoL of PCOS women<sup>43</sup>. PCOS women score significantly worse in the domains of physical functioning and bodily pain on the SF-36 compared to healthy controls<sup>44</sup>.

The risk of depressive symptoms is 2.5 times higher in women with PCOS than in healthy women<sup>45</sup>. Compared to healthy women, women with PCOS had significantly lower scores in the SF-36 domains PCS (67.31) and MCS (52.74), and significantly higher scores for depressive, anxious, and hyperthymic symptoms<sup>46</sup>. In this study, respondents who self-rated their health as very good reported fewer physical and emotional limitations and had statistically significantly

higher mean scores for PCS, MCS, and total QoL. This suggests that health perception is an important factor in assessing the HRQoL of women with PCOS and emphasizes the need for a holistic approach to the treatment of PCOS patients, which includes not only the treatment of symptoms but also the psychosocial aspects of the disease.

Physical and psychological problems are often exacerbated by cultural and societal pressures, which underscores the need to destigmatize PCOS. Healthcare professionals should be aware of the impact of PCOS on reducing QoL<sup>47</sup>. Nurses have a positive impact on women by supporting them, educating them about the disease and symptom management, raising awareness of prevention, and promoting health through a healthy lifestyle<sup>48</sup>. In addition, they must address the psychological dimensions of the disease and, above all, empower women to actively participate in the management of their own health.

Physical and mental health are closely linked and together form an important part of QoL. A poorer self-rated state of health is closely linked to a lower QoL, especially in the area of mental health. Effective management of PCOS requires an interdisciplinary healthcare team, with the gynecologist taking a leading role. The nurse can make an important contribution to the health promotion of women with PCOS by raising awareness and actively encouraging a healthy lifestyle. Shereda et al.<sup>49</sup> suggested that biopsychosocial nursing intervention significantly improved body image, depression, anxiety, stress, and overall QoL in women with PCOS.

As a health educator, the nurse plays an important role in encouraging women, particularly in urban environments, to maintain a healthy lifestyle and weight through a

balanced, nutritious diet; regular, health-enhancing physical activity in green spaces or indoors when air pollution is present; restorative sleep; and effective stress management techniques.

#### Limitations of the study

The present study has some limitations. The women self-assessed their QoL. The SF-36 does not include physical and emotional symptoms related to the menstrual cycle, hirsutism, and infertility, which are important in women with PCOS and may affect their QoL.

#### Conclusion

In this study, we found that women with polycystic ovary syndrome who live in rural areas are more vital and have a better quality of life. Poorer self-rated health status is significantly associated with lower quality of life, particularly in relation to the psychological component. The relationship between the physical and psychological components of health and perceived quality of life thus emphasizes the need for a holistic approach in the treatment of women with polycystic ovary syndrome. With an early diagnosis and appropriate education, serious complications and minimization of some symptoms associated with polycystic ovary syndrome in affected women can be prevented.

#### Conflict of interest

The author declares no conflict of interest.

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Received on July 20, 2025  
Revised on March 19, 2026  
Revised on April 1, 2026  
Accepted on April 8, 2026  
Online First April 2026