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Assessment of Body Image Disturbance in Women with Polycystic Ovary Syndrome

Marah Yousef Debo[1,*], Marwan Ali Issa[2], Azeiza Mustafa Haddad[3]

[1]Facutly of Nursing, Latakia University, Syria
[2]Department of Maternal Nursing and Women Health, Faculty of Nursing, Latakia University, Syria
[3]Community Health Nursing Department, Faculty of Nursing, Latakia University, Syria

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Abstract **Objective:** This study aimed to assess body image disturbance among women diagnosed with Polycystic Ovary Syndrome (PCOS) in Latakia. It represents the first study of its kind within the Syrian context, where cultural and religious factors influence body image perception. **Design:** A descriptive study utilizing a structured questionnaire that included demographic and health data, along with the Body Image Scale. Data were analyzed using SPSS version 25. **Setting:** The study was conducted in the gynecology and obstetrics clinics of Latakia University Hospital and the Maternity and Children's Hospital in Latakia. **Subjects:** Women diagnosed with PCOS (n = 40) who attended gynecology and obstetrics clinics during the study period. **Results:** The study found that 72.5% of women had a negative body image, while 20% had a neutral perception. Married women, those aged between 25 and under 35 years, non-obese women, and those without hirsutism showed higher body image evaluations compared to other groups. **Conclusion:** Participants exhibited a generally negative perception of their body image. The study identified that women aged between 25 and under 35 years, of normal weight, and without hirsutism had significantly higher body image evaluations. This study did not assess psychological disorders associated with PCOS (such as depression). Future studies in Syria are recommended to incorporate this aspect for a deeper understanding.

Keywords Assessment, Body Image Disturbance, Polycystic Ovary Syndrome (PCOS), Syrian Context

1. Introduction

Polycystic Ovary Syndrome (PCOS), also known as Stein-Leventhal Syndrome, is a common endocrine disorder affecting women of reproductive age. It is characterized by hormonal imbalance, ovarian cysts, and irregular menstrual cycles. According to global estimates in 2024, the prevalence of PCOS is approximately 9.2%, with higher rates reported in certain regions, including parts of Africa. In Syria, recent data indicate that around 27.4% of women are affected by PCOS, which highlights the importance of studying this condition within the local healthcare system and considering the broader sociocultural environment in which women experience its impact [1, 2, 3].

The updated Rotterdam criteria for diagnosing PCOS have become evidence-based standards for adult women. Diagnosis requires the presence of at least two of the following criteria: clinical or biochemical hyperandrogenism (elevated levels of male hormones), ovulatory dysfunction, ovarian cysts visible via ultrasound, or elevated Anti-Müllerian Hormone (AMH) [4].

PCOS causes hyperandrogenism, which leads to increased testosterone levels. Clinical features of the syndrome include menstrual irregularities, infertility, acne, hirsutism, and androgenic alopecia. PCOS is also associated with metabolic syndrome, which manifests as central obesity, elevated fasting blood glucose levels, hypertension, increased Low-Density Lipoprotein (LDL) levels, and decreased High-Density Lipoprotein (HDL) levels. Additionally, women with PCOS face psychological challenges, including anxiety and depression, along with body image issues. They often experience self-image problems and dissatisfaction with their appearance [5, 6, 7, 8].

The psychological impact of PCOS stems from its physical manifestations and symptoms such as obesity, hirsutism, and acne, which lead to low self-esteem and dissatisfaction with physical appearance. These factors deviate from traditional standards of feminine attractiveness [9, 10].

The 2023 international guidelines for managing PCOS included body image as a new recommendation for assessment. Body image is defined as a person's perception of their body concerning appearance, size, health, normal functioning, and sexual desirability. It is a complex concept encompassing a person's perceptions, attitudes, feelings, thoughts, and actions regarding their body and appearance [4, 11, 12].

Body image is essential, as it plays a significant role in shaping thoughts, emotions, and behaviors in daily life and social relationships. A positive body image corresponds with high self-esteem, confidence, a sense of personal attractiveness, and overall happiness. In contrast, a negative body image is associated with disturbances in social relationships and self-destructive behaviors aimed at meeting socially accepted beauty standards [13, 14].

Excess weight exacerbates hormonal disorders, contributing to symptoms such as irregular menstrual cycles, hyperandrogenism, and insulin resistance- all of which increase the challenges of managing the syndrome. Additionally, obesity is closely linked to negative body image perceptions in this population, leading to decreased satisfaction with physical appearance [15].

Symptoms such as hirsutism, acne, and obesity are of great concern to women with PCOS. Hirsutism is defined as the presence of terminal hair in male-pattern distribution areas in women, such as the face (chin and upper lip), chest, back, and lower abdomen, The condition affects approximately 4-11% of women in the general population and is considered the primary indicator of elevated androgen levels in women with PCOS, with its prevalence ranging between 65-75% [16, 17].

Symptoms of PCOS often appear during a period in a woman's life when choosing a partner and getting married are socially significant. Therefore, changes in physical appearance and the feeling of losing femininity can cause severe distress and heightened stress. Severe dissatisfaction with one's body may lead to body image disorder, characterized by an irrational focus on perceived flaws due to the importance placed on external appearance. Women with body image disorder often see themselves as unattractive and develop a negative self-image [13, 18, 19].

A study conducted by Alur-Gupta et al. [20] aimed to evaluate differences in body image disorder among women with and without PCOS. The results showed that women with the syndrome had higher scores of body image disorder compared to the control group. Another study by Davitadze et al. [21] assessed body image concerns between women with and without PCOS. revealing that women with PCOS experienced greater dissatisfaction with their bodies than those without the syndrome, these findings highlight the importance of considering body image in the evaluation and management of women with PCOS. The study also emphasized the need for psychological and social support to provide comprehensive and individualized care.

Nursing plays a vital role in addressing the psychological disturbances related to body image disorder in women with PCOS. Many women with the syndrome suffer from low self-esteem and a negative body image due to hormonal and physical symptoms, which exacerbates psychological distress. Patients face challenges including acne, hirsutism, hair loss, and excess weight- all of which negatively affect their mental health. Therefore, nurses should be trained to provide emotional support, identify psychological issues, and refer patients to specialized mental health services. This ensures comprehensive care by creating a safe and trustworthy environment, empowering patients to openly discuss their concerns, alleviating psychological burdens, and improving their quality of life [22].

This study is the first of its kind in the Syrian context, where cultural and religious factors play a significant role in shaping body image. It aims to analyze the prevalence of the issue and identify associated factors. The study also highlights the psychological and physical impacts of PCOS, emphasizing the need for targeted interventions to improve the quality of life for affected women. Furthermore, advancing scientific research in this field contributes to increasing community awareness and encourages the development of effective treatment strategies that address both the physical and psychological needs of patients.

2. Materials and Methods

This descriptive analytical study was conducted in the gynecology and obstetrics clinics at both the Maternity and Children's Hospital and Latakia University Hospital in Latakia, Syria, between November 2023 and March 2024. The sample included women aged 17 to 40 years who attended these clinics during the study period and were diagnosed with PCOS based on the Rotterdam criteria. Participants with Symptoms or signs of other disorders presenting similarly were excluded, as well as those from the pilot study sample (n = 4). Data were collected using a researcher-developed questionnaire consisting of two sections: demographic data and health-related information. The second tool used was the Body Image Scale, also developed by the researcher. The content reliability of the

Body Image Scale was confirmed with a Cronbach's alpha coefficient of 0.87. Data entry and analysis were performed using the Statistical Package for the Social Sciences (SPSS), version 25, applying appropriate statistical methods. Ethical approval was obtained from the Research Committee at Latakia University to conduct the study.

3. Results

3.1. Demographic Characteristics

Table 1 presents the demographic distribution of the sample. The findings indicate that more than half of the participants 52.5% were aged 17-25 years. The majority 67.5% were single, while approximately three-quarters 72.5% held a university degree or higher. Nearly half of the sample 47.5% resided in the city, and most 57.5% were employed.

Among married women, the distribution of the number of children was as follows: 12.5% had no children, 12.5% had one or two children, and 7.5% had three or four children.

3.2. Health Data

Table 2 presents the health-related characteristics of the participants. The vast majority (92.5%) reported not having any chronic diseases. Among the small subset of participants diagnosed with chronic conditions (n = 3), diabetes and hypertension were the most frequently reported, each affecting two out of the three cases (66.7%). Additionally, 30% of participants had been medically diagnosed with obesity.

Furthermore, 77.5% of participants reported experiencing hirsutism, while 50% indicated having acne on the face and neck. The mean body image perception score was 2.80 ±0.21, reflecting the prevailing trend within the sample.

3.3. Body Image Scale

Table 3 presents the mean and standard deviation of participants' responses to the body image scale statements. The statement "I lack confidence in my appearance because of excessive facial hair" ranked highest, reported by 64% of participants, with a mean score of (3.20±0.648), indicating a more positive body image perception.

Table 1. Distribution of the sample According to Demographic characteristics

Demographic characteristics	**No (n=40)**	**%**
Age:		
• 17 - 25	21	**52.5%**
• 26- ≤35	16	40.0%
• 35 and above	3	7.5%
Marital status:		
• Single	27	**67.5%**
• Married	11	27.5%
• Divorced	2	5.0%
• Widowed	0	0%
Level of education:		
• Elementary	1	2.5%
• Preparatory	1	2.5%
• Secondary	1	2.5%
• Institute	8	20.0%
• University/Higher education	29	**72.5%**
Address:		
• City	19	**47.5%**
• Countryside	17	42.5%
• Suburbs	4	10.0%
Occupational status:		
• Employed	23	**57.5%**
• Unemployed	17	42.5%
Number of children (n=13)		
• None	5	**12.5%**
• 1-2	5	**12.5%**
• 3-4	3	7.5%

Table 2. The sample members were distributed according to health data

Variable	Variable classes	No (n=40)	%
Do you suffer from chronic diseases?	Yes	3	7.5%
	No	37	**92.5%**
What chronic diseases exist? (n=3)*	Hypertension	2	**66.67%**
	Diabetes	2	**66.67%**
	Cardiovascular disease	1	33.33%
	Allergic asthma	1	33.33%
Do You suffer from doctor-diagnosed obesity?	Yes	10	30
	No	30	70
Do you have body hair?	Yes	31	77.5
	No	9	22.5
Do you have acne on the face and neck?	Yes	20	50
	No	20	50

*: More than one answer for the patient.

Table 3. The mean and standard deviation of the sample members' answers to the body image scale statements

	Phrase	Mean	Deviation	%	t	P value
1	Negative view of my body because of obesity	2.75	0.494	55	35.24	0.000**
2	Negative view of my body because of excessive hair	2.45	0.597	49	25.95	0.000**
3	Negative view of my body because of acne on my face	2.65	0.622	53	26.94	0.000**
4	Prefer staying home due to acne and hair on my face	2.88	0.335	57.6	54.29	0.000**
5	Feel unattractive because of obesity	2.93	0.267	58.6	69.35	0.000**
6	Avoid looking at my body in the mirror	2.88	0.404	57.6	44.97	0.000**
7	Feel sad when looking at my body because of excess weight	2.80	0.464	56	38.16	0.000**
8	Accept my body as it is regardless of obesity or excessive hair	2.38	0.838	47.6	17.93	0.000**
9	Lack confidence in my appearance because of facial hair	3.20	0.648	64	31.21	0.000**
10	Feel accepted by people	3.03	0.862	60.6	22.20	0.000**
11	Refuse to wear revealing clothes because of excessive hair	2.68	0.656	53.6	25.80	0.000**
12	Avoid social events because of obesity	2.98	0.158	59.6	119.00	0.000**
Total scale		**2.80**	**0.211**	**56**	**Negative**	

The statement "I feel accepted by people" ranked second, with a mean score of (3.03±0.862), reflecting a neutral body image perception, although 60.6% of participants reported negative feelings toward this item. Most item-level mean scores fell below the positive threshold of 3.68, indicating that participants tended to report neutral or negative perceptions of their body image. The overall mean score was (2.80±0.211), and 56% of participants exhibited a negative body image perception.

3.4. Body Image Perception Scoring

Responses to the Body Image Scale were categorized based on item polarity. For negative body image items, responses ranged from (5) "Never" to (1) "Always". For positive items, the scale was reversed: (1) "Never" to (5) "Always". The total score ranged from 12 to 60, with higher scores indicating a more positive body image perception. A mean score of 3 represented a neutral body image perspective. Scores below 3 indicated a negative perception, while scores above 3 indicated a positive perception. Results revealed that 72.5% of participants demonstrated a negative body image perception, while 20% exhibited a neutral perception, and only 7.5% showed a positive perception (Table 4).

Table 4. Distribution of the Sample According to Body Image Perception

Level	Negative Outlook (<3)		Neutral Outlook (=3)		positive Outlook (>3)	
Total scale	29	72.5	8	20.0	3	7.5

3.5. Differences in Body Image Perception According to Demographic Data

Table 5 presents differences in body image perception among the sample according to demographic factors. Statistically significant variations were identified in relation to age, with participants aged 26 to 35 years reporting the highest mean body image score (2.95±0.193). Additionally, marital status had a significant impact, as married participants exhibited a higher mean body image score (2.91±0.188) compared to single and divorced women (p= 0.013).

Conversely, no statistically **significant differences** were observed in body image perception based on educational level, place of residence, or employment status (p > 0.05), suggesting that these factors did not notably influence body image perception within the sample.

3.6. Differences in Body Image Perception among the Sample According to Health Data

Table 6 shows differences in body image perception according to health data. Significant statistical differences were found in relation to obesity, where non-obese participants showed a higher mean score (2.60±0.843) compared to obese participants (p = 0.025).

Additionally, highly significant differences were observed in relation to hirsutism, where participants showed a higher mean score (2.50±0.707) compared to those with hirsutism (p = 0.006).

No significant differences were found in body image perception based on the presence of chronic disease or acne (p > 0.05).

Table 5. Differences in Body Image Perception According to Demographic Data

Variable	Variable classes	No (n=40)	Mean	Deviation	t/F	P value
Age:	19-25	21	2.72	0.202	**3.721**	**0.034***
	26 to less than 35	**16**	**2.90**	**0.173**		
	35 and above	3	2.83	0.300		
Marital status:	Single	**27**	2.73	0.195	**4.899**	**0.013***
	Married	**11**	**2.91**	**0.188**		
	Divorced	2	3.04	0.177		
Level of education:	Elementary	1	2.75	-	0.431	0.785
	Preparatory	1	3.00	-		
	Secondary	1	2.75	-		
	Institute	8	2.85	0.139		
	University/Higher education	**29**	2.78	0.233		
Address:	city	**19**	2.78	0.174	0.299	0.743
	Countryside	17	2.83	0.213		
	Suburbs	4	2.77	0.381		
Occupational status:	Employed	**23**	2.83	0.215	1.548	0.221
	Unemployed	17	2.75	0.202		

Table 6. Differences in Body Image Perception According to Health Data

Variable	Variable classes	No (n=40)	Mean	Deviation	t/f	P value
Do you suffer from chronic diseases?	Yes	3	1.60	**0.754**	1.597	**0.188**
	No	37	1.29	**0.488**		
Do You suffer from doctor-diagnosed obesity?	Yes	12	1.30	0.542	**1.411**	**0.025***
	No	**30**	**2.60**	**0.843**		
Do you have body hair?	Yes	31	1.60	0.548	**1.998**	**0.006****
	No	**9**	**2.50**	**0.707**		
Do you have acne on the face and neck?	Yes	20	1.36	0.628	0.319	0.576
	No	20	1.35	0.622		

4. Discussion

The results presented in **Table 1** indicate that more than half of the participants (52.5%) were aged 17-25 years, with the majority (67.5%) being unmarried and holding a university degree (72.5%). Additionally, 47.5% resided in urban areas, and 57.5% were employed. Among married participants, the number of children varied: 12.5% had no children, 12.5% had one or two children, and 7.5% had three or four children. These findings reflect the demographic diversity of the sample and its potential impact on body image perception.

Findings from **Table 2** suggest that most participants did not suffer from chronic diseases, which may be attributed to their younger age, as chronic conditions typically appear later in life. However, diabetes and hypertension were the most prevalent conditions among affected participants, with a 66.7% occurrence rate for each. Additionally, 77.5% reported hirsutism, and 50% reported acne, reinforcing the notion that physical symptoms significantly affect quality of life. These findings align with Lipton et al. [23], who indicated that women with PCOS suffering from hirsutism experience significant negative effects on their self-confidence and heightened anxiety about their appearance.

Table 3 demonstrates a strong correlation between hirsutism and lower body image satisfaction, with 64% of participants expressing dissatisfaction with their appearance due to excessive hair growth. Women without obesity or hirsutism showed significantly higher body satisfaction scores compared to those with these conditions, highlighting the psychological impact of such symptoms. These results align with Pfister et al. [24], who emphasized the negative influence of PCOS symptoms on self-image, reinforcing the importance of early medical interventions to mitigate these effects.

The data also indicate that social support plays a positive role in enhancing women's body image perception. A total of 60.6% of participants reported feeling accepted by others, suggesting that social inclusion may help reduce the stigma associated with physical appearance. This aligns with Scaruffi et al. [25], who highlighted the social interaction challenges women with PCOS face due to body image concerns.

As shown in **Table 4**, 72.5% of women had a negative perception of their body image, whereas 20% reported a neutral perception. This dissatisfaction may be linked to societal pressure promoting unrealistic beauty standards, increasing body image concerns among women with PCOS. These results correspond to Davitadze et al. [21], who showed that women with PCOS experience greater body dissatisfaction compared to unaffected individuals, reflecting the profound social impact of the condition.

Table 5 shows that women aged 26-35 years had higher body image perception scores compared to younger participants, potentially due to life experience and social adaptation aiding their adjustment to physical changes. However, this assumption cannot be confirmed without further evidence. Additionally, married women scored higher on body image perception than unmarried or divorced participants, possibly due to family stability, although no explicit data confirms that spousal support was a contributing factor.

Table 6 demonstrates that women without obesity or hirsutism reported more positive body image scores compared to those with these conditions. These findings are consistent with Hofmann et al. [26], who showed that most women with PCOS struggle with body dissatisfaction, significantly affecting their personal perceptions of weight and appearance. Furthermore, Alkheyr et al. [27] emphasized the increased social difficulties faced by women with hirsutism, underscoring the need for psychological support strategies to help them navigate these challenges.

The findings of this study confirm that obesity and hirsutism significantly impact Syrian women's perception of their body image, with variations based on age and marital status.

5. Conclusions

Despite the limited sample size (n = 40), this study found that 72.5% of women with PCOS experience negative body image perceptions, with significant variations based on age, marital status, and health factors. The results indicate that women affected by PCOS report greater dissatisfaction with their physical appearance compared to non-affected women, which negatively impacts their self-perception of body image. Findings further revealed that married women aged 26 to 35, as well as those without obesity or hirsutism, scored higher in body image assessments, suggesting that social and health-related factors play a role in body perception. These findings underscore the complex interplay between biological and social factors in shaping body image among women with PCOS. Based on these insights, future research should explore the relationship between PCOS symptoms and body image perception, with a focus on developing targeted strategies to improve body satisfaction and enhance overall quality of life.

6. Recommendations

Based on the findings of our study, we recommend:

1. Reconducting the study with a larger sample size to examine the prevalence of body image disturbances among women with PCOS, enhancing the accuracy and generalizability of the results.
2. Investigating the relationship between PCOS and mental health, with a focus on the impact of depression and anxiety on body image, to identify relevant psychological variables.

3. Exploring the influence of cultural factors, including societal values and dress codes, on body image perception among Syrian women with PCOS.
4. Analyzing the association between obesity and PCOS and its effect on body image perception, particularly within the context of social interactions.
5. Assessing the role of social support, including family and partners, in improving body image satisfaction among women with PCOS.
6. Implementing awareness and educational campaigns that highlight the health and social factors affecting body image perception among women with PCOS.

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