
BODY SHAPE CONCERN, SELF-ESTEEM AND PSYCHOLOGICAL WELLBEING IN ADOLESCENT

FEMALES HAVING POLYCYSTIC OVARIAN SYNDROME (PCOS)

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Author's Note

We have no conflict of interest to disclose.

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ABSTRACT

The purpose of the study was to examine body shape concern as predictor of self-esteem and psychological wellbeing of adolescent females having Polycystic Ovarian Syndrome (PCOS).

Method: The Sample comprised of 133 adolescent females ranging in age from 15-20 years. The sample constituted two groups, females having PCOS (n=55) and females not having PCOS (n=78). Demographics datasheet, Body Shape Questionnaire (BSQ), Rosenberg Self-esteem Scale (RSES) and Psychological Wellbeing Scale (PWB) were administered. Data were analyzed by using mean, SD, t-test, Pearson correlation and linear regression. **Results:** The female adolescents having PCOS scored significantly higher on BSQ as compared to female adolescents not having PCOS. They also scored less on RSES and PWB scale as compared to females not having PCOS. BSQ correlated significantly negatively with RSES and PWB in the female adolescents having PCOS. RSES and PWB correlated significantly positively with each other in both groups i.e. adolescent females having PCOS and who do not. BSQ significantly negatively predicted the RSES and PWB. **Conclusions:** The psychological wellbeing of the patients struggling with the syndrome needs to be recognized comprehensively, particularly in relation to the low self-esteem, body shape concern, and struggles with weight.

Keywords: Body shape concern, self-esteem, psychological wellbeing, adolescent females.

Introduction: Polycystic ovarian syndrome (PCOS) is the most common endocrine disorders in women of reproductive age. The global prevalence of PCOS is estimated to be between 6% and 26% (Lauritsen et al., 2014). The Indian Fertility Society reported a prevalence of 3.7%–22.5% in India (Malik et al., 2014). Of which 70% of affected women remain undiagnosed. (Teede et al., 2018). It often manifests with some or all of the following symptoms: menstrual dysfunction, infertility, hirsutism, acne, and obesity. The causes of PCOS are still

unclear, although some studies suggest that combination genetics and lifestyle contribute to its development (Ajmal et al., 2019). The impact of PCOS on the patient's mental state is recognized, with studies showing the increased presence of anxiety, depression and suicide ideation (Månsson et al., 2008), anxiety and stress (Damone et al., 2019). Moreover, change in appearance due to these symptoms may lead to behavioural disorders and affect the overall quality of life (Moghadam et al., 2018). These conditions further leads to problems in the

patient's social, professional, and intimate relationships (Scaruffi et al., 2019).

Studies have shown that women with PCOS continue to struggle with higher body dissatisfaction than healthy control women with regular cycles (Thomas & Fan, 2014), even after adjusting their body mass index (BMI) (Himelein & Thatcher, 2006). *Body image* is the mental picture of one's body, an attitude about the physical self, appearance, state of health, wholeness, and sexual desire (Bazarganipour et al., 2013). It changes throughout the person's life. PCOS symptoms deeply undermine women's self-esteem, self-image, and self-worth due to a lower perception of the feminine identity (Ekbäck et al., 2009). Negative perceptions of body image in PCOS patients are associated with the dissatisfaction of appearance, loss of femininity, feeling less sexually attractive and is a predictor of anxiety and depression (Deeks et al., 2011). Body image concerns are also associated with overall poor self-concept, including poor physical, social, and academic self-concepts and low overall self-esteem (O'Dea, 2012). However, some studies have shown that a high level of self-esteem may serve as a protective factor in coping with new and chronic illnesses. In contrast, low self-esteem is related to anxiety, depression, and increased reports of general psychiatric (including somatic) symptoms (Rosenberg, 2015).

Evidence regarding the psychological implications of PCOS is rapidly emerging (Cesta et al., 2016). Weight and infertility concerns negatively impact the health-related quality of life (Bazarganipour et al., 2015). Here psychological wellbeing becomes essential as it is an independent predictor of morbidity and mortality (Lundgren-Nilsson

et al., 2013). Several factors promote psychological distress in PCOS patients (Tay et al., 2019). Hirsutism, menstrual irregularity and infertility are the most distressing symptoms in adult women with PCOS (Kitzinger & Willmott, 2002), whereas weight difficulties are the most distressing symptoms in adolescents and young women with PCOS (Trent et al., 2005). However, some studies suggest an independent PCOS effect even after controlling some of these factors (Hollinrake et al., 2007).

Body dissatisfaction as a public health issue, especially in adolescent girls, is increasingly being recognized. In India, only a limited number of studies have analyzed the effect of PCOS on psychological wellbeing, which have been both inconsistent and inconclusive (Chaudhari et al., 2018). Assessing the relationship between different aspects of this network will contribute to understanding the complex nature of PCOS. In light of the above considerations, body shape concern, self-esteem, and psychological wellbeing will reflect psychologically relevant consequences for the PCOS burden of patients. Hence, the objective of this study was to assess the influence of PCOS on the body shape concern, self-esteem and psychological wellbeing of adolescent females. The hypotheses of the present study are as follows:

1. There is a significant relationship between body shape concern, self-esteem and psychological wellbeing in the adolescent females who have PCOS.
2. Body shape concern negatively predicts self-esteem and psychological wellbeing in

adolescent females having PCOS and non PCOS.

3. There is a significant difference between the body shape concern, self-esteem and psychological wellbeing of the adolescent females who have PCOS and non PCOS.

METHODOLOGY

Sample

This study was cross-sectional, using convenience sampling. This study was conducted on adolescent females falling in 15-20 years of age in Jammu city, J&K, India. The average age of the sample is 17.89. The sample was drawn from 133 female adolescents, consisting of PCOS (n=55) and non-PCOS (n=78) groups.

Procedure:

The data was collected using Google forms. Link to the google form was posted on various social media platforms and circulated through emails. Participants were informed about the purpose of the study. Informed consent was obtained before the start of the survey. All the ethical procedures were adhered to during this study.

Instrument used:

- **Body Shape Questionnaire (BSQ), adapted from Cooper et al. (1987):** It is a self-applied questionnaire with eight items assessing the level of preoccupation with weight and body shape over the past four weeks. Items were ranked using a 6-point Likert scale ('never', 'rarely', 'sometimes', 'often', 'very often' and 'always').
- **Self-esteem scale by Rosenberg (1965):** It is a widely used self-report instrument for evaluating individual self-esteem. It is a ten-item Likert

scale with items answered on a four-point scale (strongly agree, agree, disagree, strongly disagree).

- **Psychological wellbeing scale by Ryff (1989):** The scale consists of 18 items. The items are divided into six dimensions that measure autonomy, environmental mastery, personal growth, relations with others, and purpose in life and self-acceptance. The subject is supposed to answer on a six-point scale (strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree and strongly agree).

DATA ANALYSIS AND INTERPRETATION

The aim of the present study was to explore the relationship between body shape concerns, self-esteem and psychological wellbeing among adolescent females having PCOS and Not having PCOS and, role of body shape concerns as predictor of Self-esteem and Psychological wellbeing among adolescent females was also studied. Pearson product moment method was used to calculate the relationship between body shape concerns and self-esteem and body shape concerns and psychological wellbeing.

Table 1 revealed that in the sample of non-PCOS group, body shape concern has non-significant correlation with self-esteem ($r = -.20$, $p > 0.05$) and psychological wellbeing ($r = -.10$, $p > 0.05$). Self-esteem has significant positive correlation with psychological wellbeing ($r = .50$, $p < 0.001$). In the sample of PCOS group, body shape concern has significant negative correlation with self-esteem ($r = -.49$, $p < 0.001$) and psychological wellbeing ($r = -.45$, $p < 0.01$). Self-esteem showed significant positive correlation with psychological wellbeing ($r = .44$, $p < 0.01$).

Table 1

Inter-correlations for Study Variables by PCOS and non-PCOS groups

Variable	1	2	3
1.Body Shape Concern	--	-.49***	-.45**
2.Self-esteem	-.20	--	.44**
3.Psychological wellbeing	-.10	.50***	--

Note. The results for the sample of PCOS group (n=55) are above the diagonal. The results for the sample of non-PCOS group (n=78) are below the diagonal.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

It is evident from the results that in the PCOS group body shape concern shows significantly negative relationship with self-esteem and psychological wellbeing as compared to non-PCOS group. Self-esteem and psychological wellbeing showed a significant positive relationship in both groups (Twenge et al., 2018). So, the H1 “There is a significant relationship between body shape concern, self-esteem and psychological wellbeing” is accepted.

As indicated in Table 2 Body shape concerns accounts for 4% of variance in self-esteem with $F(1, 76) = 3.53$, $p > 0.05$ in non-PCOS group (Figure 1A), and on the other hand 24% of variance in outcome variable with $F(1, 53) = 17.10$, $p < 0.001$ in the PCOS group (Figure 1B). The findings revealed that body shape concern significantly predicts the self-esteem in PCOS group ($\beta = .49$, $p < 0.001$), but not in non-PCOS group ($\beta = -.20$, $p > 0.05$).

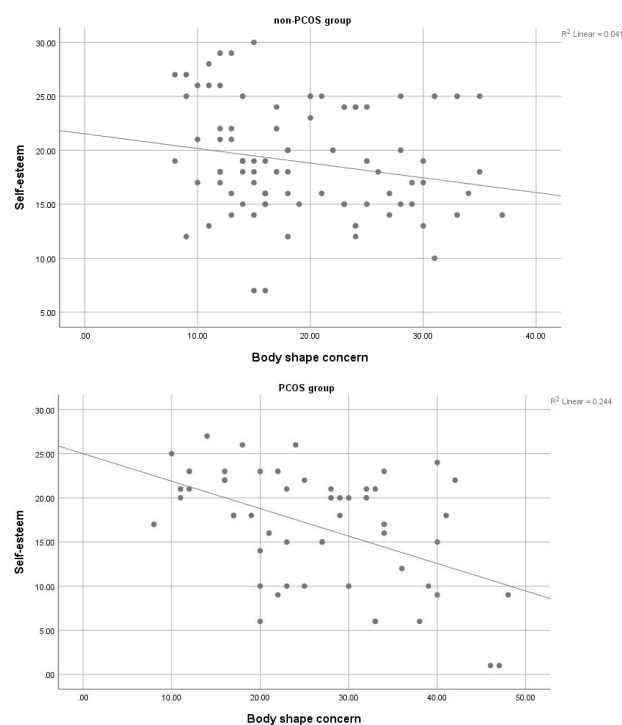
Table 2

Regression Coefficients of Body Shape Concern on Self-esteem

Variables	Non-PCOS (n=78)		PCOS (n=55)	
	B	SE	B	SE
Constant	21.52***	1.49	25.00***	2.13
Body shape concern	-.14	.27	.31**	.12
R^2	.04		.24	

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Figure 1
B



A

Table 4*Regression Coefficients of Body Shape Concern on Psychological wellbeing*

Variables	Non-PCOS (n=78)		PCOS (n=55)		
	B	SE	B	β	SE
Constant	76.97***	2.34	79.38***		3.04
Body shape concern	-.11	.10	-.40**	-.45**	.10
R^2	.01		.20		

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.Figure 2
B

A

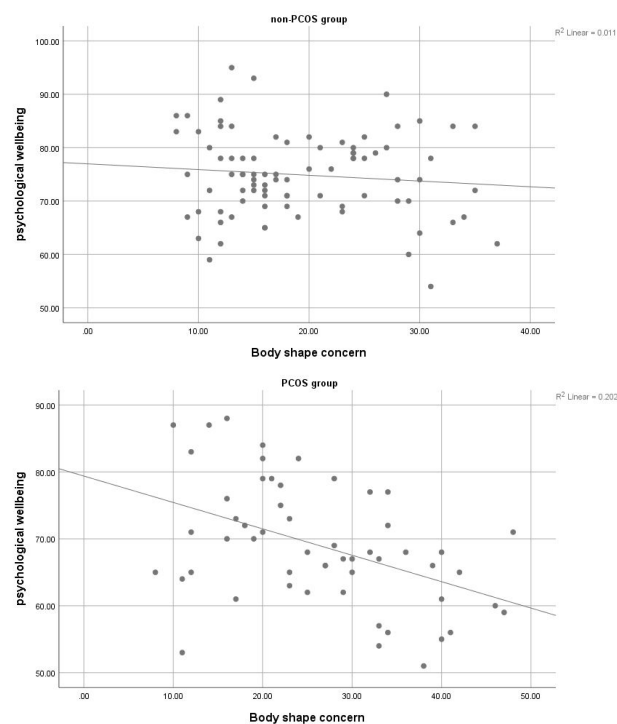


Table 4 shows the impact of body shape concern on psychological wellbeing in non-PCOS and PCOS group. The R^2 values revealed that body shape concerns accounts for 1% of variance in psychological wellbeing with $F(1, 76) = .90$, $p > 0.05$ in non-PCOS group (Figure 2A), and 20% of variance with $F(1, 53) = 13.43$, $p < 0.01$ in the PCOS group (Figure 2B).

The findings revealed that body shape concern significantly predicts the psychological wellbeing in PCOS group ($\beta = -.45$, $p < 0.01$), but not in non-PCOS group ($\beta = -.10$, $p > 0.05$). Hence the H2 “Body shape concern negatively influences self-esteem and psychological wellbeing in the adolescent females who have PCOS.” is accepted. Previously Nayir et al., (2016) also opined that a good body image is a predictor of enhancing the quality of life. Thus the present results are in line with the previous research findings.

To examine the comparison between adolescent females having PCOS and non-PCOS t-test was used and Table 3 revealed a statistical significant difference in BMI ($t=-4.79$, $p<.01$) of PCOS and non-PCOS groups. The value of *Cohen's d* was $0.86(>0.5)$, which indicated a large effect size. There was significant mean differences on Body Shape Questionnaire ($t=-4.34$, $p<0.01$), Self-esteem ($t=2.00$, $p<0.05$) and Psychological Wellbeing ($t=4.08$, $p<0.01$). The dimensions of Psychological wellbeing such as Environmental mastery ($t=2.29$, $p<0.05$), Personal growth ($t=2.30$, $p<0.05$) and Self-acceptance ($t=13.53$, $p<0.01$) also showed a significant difference between the groups. Findings revealed that females having PCOS exhibit higher score on Body Shape Concern ($M=26.31$, $SD=10.40$) compared to the non-PCOS females ($M=19.25$, $SD=7.57$). The value of *Cohen's d* was $0.77(>0.5)$, which indicated a large effect size. PCOS group showed significantly lower scores on Self-esteem ($t=16.82$, $SD=6.55$) and Psychological Wellbeing ($t=69.00$, $SD=6.55$) as compared to non-PCOS group ($t=18.90$, $SD=5.09$; $t=74.90$, $SD=7.80$). The value of *Cohen's d* was 0.36 (medium effect size) for self-esteem and 0.70 (large effect size) for psychological wellbeing.

Table 3

Mean Difference of PCOS and non-PCOS group

Variables	PCOS		Non-PCOS		<i>t</i> (133)	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Body Mass Index	22.90	3.67	20.43	2.30	-4.79	.000	0.86

Body Shape Concern	26.31	10.40	19.25	7.57	-4.34	.000	0.77
Self-esteem	16.82	6.55	18.90	5.09	2.00	.044	0.36
Psychological Wellbeing	69.00	6.55	74.90	7.80	4.08	.000	0.70
Autonomy	12.15	3.25	12.15	2.41	1.25	.212	0.21
Environmental mastery	12.10	3.00	12.10	2.42	2.29	.024	0.40
Personal growth	12.17	2.05	12.17	2.63	2.30	.023	0.41
Positive relations	12.14	4.12	12.14	3.05	1.23	.223	0.28
Purpose in life	11.15	2.30	11.15	2.40	0.03	.979	0.00
Self-acceptance	9.82	2.28	9.82	2.35	13.53	.000	1.96

As a high score in BSQ signifies greater concern with body shape, females in the PCOS group are more concerned with their body shape than the non-PCOS group. They also have lower self-esteem and

psychological well-being as compared to the non-PCOS group. Thus, hypothesis H3, "There is a significant difference between the body shape concern, self-esteem and psychological wellbeing of the adolescent girls who have PCOS and those who do not", is accepted. The finding is consistent with the study conducted by Bazarganipour et al., (2013).

Overall the results of this study are in line with Bazarganipour et al. (2013), which indicated that females with PCOS struggle with greater body dissatisfaction, which further leads to lower self-esteem and psychological wellbeing. PCOS impacts the reproductive, metabolic, psychological, and social facets of women's lives. Over the decades treatment of PCOS has typically been focused on physical symptoms and a relative lack of attention on lifestyle and psychological factors may likely be thwarting the overall well-being of women with PCOS. The psychological burden of PCOS is more in some cultures where motherhood is the only way for women to enhance status in their family and community (Winkvist & Akhtar, 2000). The limitations of this study are that it did not evaluate the connection between physical consequences of PCOS such as acne and hirsutism and psychological distress. The cross-sectional design also restricts the interpretation of this study. Despite several limitations, the present study establishes that PCOS seems to be associated with higher body concern, lower self-esteem and psychological distress.

Conclusion

The psychological wellbeing of the females struggling with PCOS needs to be recognized more fully, particularly in relation to low self-esteem, poor body image and struggles with weight. The treatment of

women with PCOS should notably focus on physical as well as psychological and sexual characteristics. Clinicians and mental health practitioners should be cognizant of the potential for these women to be psychologically distressed about their symptoms and consider providing resources for coping with them. The results of this study raise implications for a comprehensive and multidisciplinary lifestyle intervention to the management of PCOS in adolescent females.

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