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Psychological Distress, Quality of Life, and Eating Disorder Risk in Women with PCOS: A Case-Control Study

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Abstract: Polycystic ovary syndrome (PCOS) is associated with significant psychological morbidity, yet limited research exists on mental health and eating behaviors in Indian women with PCOS. This study examined mental health outcomes, quality of life, and predictors of disordered eating in women with PCOS from Mysuru, Karnataka, South India, compared to healthy controls. This case-control study included 100 women with PCOS and 101 healthy controls with comparable age distributions. Participants completed the PCOS Questionnaire (PCOSQ), Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), and Eating Attitudes Test-26 (EAT-26). Hierarchical regression and serial mediation (PROCESS Model 6 with 5,000 bootstrap samples) were conducted to examine predictors of disordered eating and mediating pathways. Women with PCOS had significantly higher BMI and were more likely to be obese compared to controls. No significant group differences were observed in depression or anxiety scores. PCOS-specific quality of life was most impaired in the menstrual and weight domains. Hierarchical regression revealed that PCOS weight concerns were the strongest and only significant predictor of disordered eating, explaining 15.1% of unique variance beyond BMI and age (β = -.364, p = .023). The serial mediation pathway (weight concerns → emotional distress → depression → disordered eating) was not significant. Subscale analysis showed that weight concerns specifically predicted dieting behaviors (β = -.381, p = .012). Weight concerns directly predict disordered eating in Indian women with PCOS, independent of PCOS-specific emotional distress or general depression. These findings suggest that interventions targeting weight-related body image may be particularly beneficial for reducing eating disorder risk in this population.

Keywords: *Polycystic Ovary Syndrome, Mental Health, Quality of Life, Feeding and Eating Disorders, Body Image, India*.

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I. INTRODUCTION

Polycystic ovary syndrome (PCOS) is a prevalent endocrine condition among women of reproductive age, with a worldwide prevalence percentage ranging from 5% to 20% (1,2). PCOS is characterized by hyperandrogenism, ovulatory dysfunction, and polycystic ovarian morphology (2), and is linked to metabolic conditions such as insulin resistance, obesity, and type 2 diabetes. Beyond its physical manifestations, increasing evidence associates PCOS with negative mental health consequences. A recent meta-analysis of studies from low- and middle-income countries (LMICs) indicated pooled prevalence estimates of 51% for depression and 45% for anxiety among women with PCOS (3), underscoring the significant psychological burden linked to this disorder.

The psychological effects of PCOS are believed to stem from observable symptoms such as hirsutism, acne, and weight gain, potentially resulting in adverse body image and diminished self-esteem (4,5). Weight concerns are consistently recognized as a significant factor contributing to psychological discomfort in PCOS (6). Eating disorders and disordered eating habits are becoming acknowledged as critical issues, with women diagnosed with PCOS being 3 to 6 times more susceptible to eating disorders than their counterparts without PCOS (6)

Body image distress is posited as a crucial mediator in the association between PCOS and psychological consequences. Alur-Gupta et al. (7)established that body image distress fully mediated the relationship between PCOS and depression and anxiety in a US cohort. Nonetheless, it is

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uncertain if similar pathways operate for Indian women with PCOS, given the significant differences in cultural norms and healthcare environments. In India, PCOS impacts around 3.7–22.5% of women (8), yet investigations on the psychosocial dimensions of PCOS are scarce.

This study aimed to: (1) compare mental health outcomes (depression, anxiety, and disordered eating attitude) between women with PCOS and healthy controls; (2) evaluate PCOS-specific quality of life; and (3) investigate whether PCOS-specific emotional distress and depressive symptoms serially mediate the relationship between concerns about weight related to PCOS and disordered eating. We hypothesized that women with PCOS would exhibit inferior mental health outcomes and diminished quality of life, and that weight concerns would correlate with disordered eating via the sequential pathway of PCOS-specific emotional discomfort and depressive symptoms.

II. METHODS

➢ *Study Design and Setting*

This case-control study was conducted between October 2021 and September 2023 in South India. The Institutional Ethics Committee approved the study (IHEC-UOM No. 171/Ph.D./2019-20, approved on November 21, 2020). All participants provided written informed consent before enrollment.

➢ *Participants*

Women with PCOS were recruited from two sources: 81 from the community via word-of-mouth and social media, and 19 from the tertiary care hospital endocrinology outpatient department. Healthy controls were recruited exclusively from the community using the same methods.

Inclusion criteria for the PCOS group were: (i) age 18–45 years; (ii) PCOS diagnosis confirmed by medical records based on Rotterdam criteria (9); and (iii) willingness to provide informed consent.

Inclusion criteria for controls were: (i) age 18–45 years; (ii) regular menstrual cycles (21–35 days); (iii) no prior PCOS diagnosis; and (iv) no current use of hormonal medications. Controls were not systematically screened for PCOS, a limitation acknowledged.

Exclusion criteria for both groups were: pregnancy, lactation, current psychiatric treatment, other endocrine disorders, and inability to provide informed consent.

➢ *Sample Size*

The present analysis pertains to secondary outcome variables derived from a broader study that employed a non-probability convenience sampling approach to recruit participants across all domains, with a target of 100 cases and 100 controls. A total of 157 cases and 108 controls were approached; 100 cases and 101 controls consented and completed the self-administered instruments.

Although a priori sample size estimation was not performed due to feasibility constraints, the achieved sample size was considered adequate for the planned analyses. For case–control comparisons, a sample size of approximately 100 participants per group is sufficient to detect moderate effect sizes (Cohen's $d \geq 0.40$) with 80% power and $\alpha = 0.05$ (10), consistent with previous Indian studies on PCOS (4,11).

For mediation analysis within the PCOS group, a sample size exceeds the recommended minimum of 50 for bootstrap-based mediation models (12) and meets the guideline of 10–15 participants per predictor variable for regression analyses (13).

➢ *Measures*

Sociodemographic and clinical characteristics. Participants completed a structured questionnaire capturing sociodemographic details. Socioeconomic status was assessed using the modified Kuppuswamy scale, with income categories updated for the year of data collection (14). Height and weight were measured, and body mass index (BMI) was calculated and categorized according to the WHO Asia-Pacific guidelines (15). For women with PCOS, the duration since diagnosis was calculated as current age minus age at diagnosis.

- PCOS-specific quality of life. The Polycystic Ovary Syndrome Questionnaire (PCOSQ) (16) assessed condition-specific quality of life across five domains: Emotion (6 items), Weight (5 items), Hair (5 items), Infertility (4 items), and Menstrual problems (4 items). Items are rated on a 7-point scale (1 = maximum problem, 7 = no problem), with higher scores indicating better quality of life. In the present sample, Cronbach's α ranged from .746 to .924 across subscales.

- Depression and anxiety. The Patient Health Questionnaire-9 (PHQ-9) (17) and Generalized Anxiety Disorder-7 (GAD-7) (18) assessed depression and anxiety severity over the past two weeks. Scores ≥10 indicate moderate to severe symptoms. In the present sample, Cronbach's α was .902 for both scales.

- Eating disorder risk. The Eating Attitudes Test-26 (EAT-26) (19) was used to assess risk for eating disorders. Items 1–25 are scored 3 (Always) to 0 (Never), with Item 26 reverse-scored. Total scores range from 0 to 78; scores ≥20 indicate clinically significant risk. Subscales for Dieting, Bulimia, and Oral Control were computed. In the present sample, Cronbach's α for the total scale was .933.

➢ *Statistical Analysis*

Analyses were conducted using SPSS version 20. Normality was assessed using Shapiro-Wilk tests, which indicated non-normal distributions ($p < 0.05$). Group differences were analysed using Mann-Whitney U tests for continuous variables and chi-square tests (or Fisher's exact) for categorical variables. Statistical significance was set at $p < 0.05$.

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Within the PCOS group, serial mediation was tested using PROCESS Model 6 (12) with 5,000 bootstrap samples. The model examined the pathway from PCOS weight concerns (X) to disordered eating (Y) through PCOS-specific emotional distress (M1) and depressive symptoms (M2), controlling for age and BMI. Indirect effects were significant if the 95% bootstrap confidence interval did not contain zero.

Hierarchical regression analysis was conducted to examine predictors of disordered eating (total EAT-26 and Dieting subscale), controlling for BMI and age. Variables were entered in sequential blocks: Step 1 (BMI, age); Step 2 (PCOS weight concerns); Step 3 (PCOS-specific emotional distress); and Step 4 (depressive symptoms). The change in R^2 (ΔR^2) at each step was assessed, and standardized coefficients (β) are reported. The Dieting subscale was selected as a secondary outcome based on its demonstrated association with weight concerns in prior research.

III. RESULTS

➢ *Participant Characteristics*

Table 1 presents the sociodemographic and clinical characteristics of the sample. The PCOS and control groups were comparable with respect to age, occupation, and socioeconomic status. However, significant differences emerged across several variables. Women with PCOS had higher BMI, were more likely to be obese, resided in urban areas, had lower educational attainment, and were more likely to be married than controls. The majority of women with PCOS were diagnosed within the last five years.

➢ *Mental Health Outcomes*

Table 2 presents the comparison of mental health outcomes between groups. Mann-Whitney U tests revealed no significant differences between groups for PHQ-9 (U = 4759.5, p = 0.480), GAD-7 (U = 4388.0, p = 0.108), or EAT-26 total scores (U = 5010.0, p = 0.922). The distribution of depression and anxiety severity categories was also comparable across groups. Although a higher proportion of women with PCOS scored above the clinical cutoff for eating disorder risk (19.0% vs. 10.9%), this difference was not statistically significant.

Table 1 Sociodemographic and Clinical Characteristics of Study Participants

Characteristic	PCOS Group (n = 100)	Control Group (n = 101)	*p*-value
Age (years), median (IQR)	24.00 (22.00–27.00)	23.00 (22.00–27.00)	0.367[1]
BMI (kg/m²), median (IQR)	25.40 (22.75–28.30)	21.90 (20.35–25.60)	< 0.001[1]
BMI category (Asia-Pacific cut-offs), n (%)			< 0.001[2]
Underweight (<18.5)	1 (1.0)	16 (15.8)	
Normal (18.5–22.9)	25 (25.0)	46 (45.5)	
Overweight (23.0–24.9)	18 (18.0)	9 (8.9)	
Obese (≥25.0)	56 (56.0)	30 (29.7)	
Area of residence, n (%)			0.004[2]
Urban	73 (73.0)	54 (53.5)	
Non-urban (Rural + Semi-urban)	27 (27.0)	47 (46.5)	
Educational qualification, n (%)			< 0.001[2]
≤ High School / Intermediate	23 (23.0)	11 (10.9)	
Graduate	28 (28.0)	6 (5.9)	
Postgraduate & above	49 (49.0)	84 (83.2)	
Occupation, n (%)			0.842[2]
Unemployed / Homemaker	68 (68.0)	70 (69.3)	
Employed	32 (32.0)	31 (30.7)	
Socio-economic status (Kuppuswamy), n (%)			0.492[2]
Upper	5 (5.0)	6 (5.9)	
Upper Middle	25 (25.0)	23 (22.8)	
Lower Middle	51 (51.0)	44 (43.6)	
Upper Lower	19 (19.0)	28 (27.7)	
Marital status, n (%)			< 0.001[2]
Married	43 (43.0)	15 (14.9)	
Not Married (Never Married + Separated)	57 (57.0)	86 (85.1)	
Recruitment source, n (%)			—[3]
Tertiary care clinic	19 (19.0)	—	
Community	81 (81.0)	101 (100.0)	
PCOS duration (years), median (IQR)	2.00 (1.00–4.00)	—	—
PCOS duration categories, n (%)			
<1 year	24 (24.0)	—	
1–5 years	58 (58.0)	—	

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>5 years	18 (18.0)	—	

Note. BMI = body mass index; IQR = interquartile range. Percentages may not sum to 100 due to rounding.
[1]Mann-Whitney U test; [2]Chi-square test; [3]Not applicable (groups recruited differently by design)

Several notable differences emerged in secondary outcomes. The control group showed a significantly higher prevalence of underweight (15.8% vs. 1.0%; p < 0.001) and higher scores on the EAT-26 Oral Control subscale (median = 2.00 vs. 0.00; p = 0.019). No significant differences were observed in the Dieting or Bulimia subscales. Behavioral criteria for eating disorder risk showed a trend toward higher endorsement among controls (36.6% vs. 24.0%; p = 0.051).

Table 2 Comparison of Mental Health Outcomes Between PCOS and Control Group

Outcome	PCOS Group (n = 100)	Control Group (n = 101)	*p* -value
Depression (PHQ-9)			
Total score, median (IQR)	7.00 (4.00–11.00)	7.00 (4.00–11.00)	0.480[1]
Severity category, n (%)			0.727[2]
None or minimal	30 (30.0)	31 (30.7)	
Mild	35 (35.0)	41 (40.6)	
Moderate	18 (18.0)	18 (17.8)	
Moderately Severe	11 (11.0)	6 (5.9)	
Severe	6 (6.0)	5 (5.0)	
Anxiety (GAD-7)			
Total score, median (IQR)	7.00 (4.00–11.50)	7.00 (4.00–11.00)	0.108[1]
Severity category, n (%)			0.294[2]
Minimal	29 (29.0)	35 (34.7)	
Mild	32 (32.0)	39 (38.6)	
Moderate	20 (20.0)	12 (11.9)	
Severe	19 (19.0)	15 (14.9)	
Eating Disorder Risk (EAT-26)			
Total score, median (IQR)	7.00 (3.00–13.75)	9.00 (3.00–14.50)	0.922[1]
Risk category (≥20), n (%)			0.107[2]
High level of concern	19 (19.0)	11 (10.9)	
Low level of concern	81 (81.0)	90 (89.1)	
Met behavioral criteria, n (%)			0.051[2]
Yes	24 (24.0)	37 (36.6)	
No	76 (76.0)	64 (63.4)	
Underweight (BMI < 18.5 kg/m2), n (%)			< 0.001[2]
Yes	1 (1.0)	16 (15.8)	
No	99 (99.0)	85 (84.2)	
EAT-26 Subscales			
Dieting, median (IQR)	5.50 (3.00–11.00)	4.00 (2.00–8.50)	0.067[1]
Bulimia & food preoccupation, median (IQR)	0.00 (0.00–2.00)	0.00 (0.00–2.50)	0.246[1]
Oral control, median (IQR)	0.00 (0.00–3.00)	2.00 (0.00–3.50)	0.019[1]

Note. PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7; EAT-26 = Eating Attitudes Test-26; IQR = interquartile range. PHQ-9 severity categories: None or minimal (0–4), Mild (5–9), Moderate (10–14), Moderately Severe (15–19), Severe (20–27). GAD-7 severity categories: Minimal (0–4), Mild (5–9), Moderate (10–14), Severe (15–21). Behavioral criteria include binge eating, self-induced vomiting, laxative use, excessive exercise, or significant weight loss in the past 6 months. Underweight classification based on the WHO Asia-Pacific BMI cut-off (<18.5 kg/m²).
[1]Mann-Whitney U test; [2]Chi-square test

Table 3 PCOS-Quality of Life Subscale Scores (PCOS Group, n = 100)

Subscale	Items	Score Range	Median (IQR)	Mean ± SD	Cronbach's α
Emotion	6	1–7	4.50 (3.46–5.57)	4.50 ± 1.41	0.858
Body Hair	5	1–7	5.60 (4.25–6.55)	5.11 ± 1.69	0.907
Weight	5	1–7	4.50 (2.85–6.00)	4.46 ± 1.88	0.924
Infertility	4	1–7	5.75 (3.31–6.50)	4.95 ± 1.91	0.865
Menstrual Problems	5	1–7	4.10 (2.85–5.15)	4.10 ± 1.44	0.746
Total	26	1–7	24.34 (18.06–27.91)	23.12 ± 6.29	0.933

Note. Higher scores indicate a better quality of life. Scores range from 1 (severe problem) to 7 (no problem).

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Table 3 presents PCOSQ subscale scores. The most severe impairments were in the Menstrual Problems and Weight domains. The Emotion subscale exhibited moderate impairment. Conversely, the domains of body hair and infertility exhibited comparatively higher scores, signifying diminished impairment.

➢ *Predictors of Disordered Eating*

- *Serial Mediation Analysis*

A serial mediation analysis (Table 4) examined whether PCOS-specific emotional distress and depressive symptoms sequentially mediate the relationship between PCOS weight concerns and disordered eating, adjusting for BMI and age. Weight concerns significantly predicted emotional distress (B = 0.629, p < .001), and emotional distress significantly predicted depressive symptoms (B = -2.233, p < .001); however, depressive symptoms did not predict disordered eating (B = -0.061, p = .765). The serial indirect effect was not significant (indirect effect = 0.086; 95% CI: [-0.519, 0.760]), suggesting that the hypothesized pathway was not supported.

Table 4 Serial Mediation Model (Weight → Emotion → PHQ → EAT)

Path	B	SE	t	p	95% CI
Direct Effects					
Weight → Emotion	0.629	0.055	11.39	< .001	[0.519, 0.738]
Emotion → PHQ	-2.233	0.519	-4.3	< .001	[-3.264, -1.203]
PHQ → EAT	-0.061	0.203	-0.3	0.765	[-0.465, 0.343]
Weight → EAT	-1.977	0.857	-2.31	0.023	[-3.679, -0.276]
Indirect Effects	Effect	BootSE	BootLLCI	BootULCI	
Total indirect	-0.388	0.653	-1.767	0.827	
Weight → Emotion → EAT	-0.497	0.763	-2.108	0.884	
Weight → PHQ → EAT	0.024	0.14	-0.257	0.344	
Weight → Emotion → PHQ → EAT	0.086	0.321	-0.519	0.76	

Note. PROCESS Model 6 with 5,000 bootstrap samples. BootLLCI = bootstrap lower limit confidence interval; BootULCI = bootstrap upper limit confidence interval.

- *Hierarchical Regression Analysis*

Hierarchical Regression (Table 5) examined the unique contribution of each variable. PCOS weight concerns emerged as the sole significant predictor of disordered eating, accounting for 15.1% of unique variance beyond BMI and age (ΔR^2 = .151, p < .001). Neither PCOS-specific emotional discomfort nor depressive symptoms contributed significantly.

Analysis of the EAT-26 Dieting subscale (Table 6) showed that weight concerns explained 15.9% of unique variance beyond BMI and age (ΔR^2 = .159, p < .001). In the final model, weight concerns remained the only significant predictor of dieting behavior (β = -.381, p = .012).

Table 5 Hierarchical Regression Analysis Predicting Disordered Eating (EAT-26 Scores)

Step and Predictors	Model 1	Model 2	Model 3	Model 4
Step 1: Controls				
BMI	0.273*	0.061	0.080	0.072
Age	-0.131	-0.087	-0.085	-0.090
Step 2: PCOS Weight Concerns				
Weight		-0.436***	-0.360*	-0.364*
Step 3: PCOS Emotional Distress				
Emotion			-0.091	-0.109
Step 4: Depression				
PHQ-9				-0.036
-				
R^2	0.062	0.212	0.216	0.216
ΔR^2	0.062*	0.151***	0.003	0.001
F for ΔR^2	3.194*	18.352***	0.409	0.090

Note. EAT-26 = Eating Attitudes Test-26; BMI = body mass index; PHQ-9 = Patient Health Questionnaire-9. Values are standardized coefficients (β). ΔR^2 = change in R-squared. * p < .05. *** p < .001.

Table 6 Hierarchical Regression Analysis Predicting EAT-26 Dieting Subscale Scores

Step and Predictors	Model 1	Model 2	Model 3	Model 4
Step 1: Controls				
BMI	0.410***	0.192	0.209	0.203
Age	-0.155	-0.110	-0.108	-0.112
Step 2: PCOS Weight Concerns				

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Weight		-0.448***	-0.378**	-0.381*
Step 3: PCOS Emotional Distress				
Emotion			-0.083	-0.099
Step 4: Depression				
PHQ-9				-0.030
-				
R^2	0.139	0.298	0.301	0.301
ΔR^2	0.139**	0.159***	0.003	0.001
F for ΔR^2	7.820**	21.705***	0.388	0.070

Note. EAT-26 = Eating Attitudes Test-26; BMI = body mass index; PHQ-9 = Patient Health Questionnaire-9; Weight = PCOSQ Weight domain; Emotion = PCOSQ Emotion domain. Values are standardized coefficients (β). ΔR^2 = change in R-squared. $p < .05$, ** $p < .01$, *** $p < .001$.

IV. DISCUSSION

This study investigated mental health outcomes, PCOS-specific quality of life, and predictors of disordered eating in Indian women with PCOS relative to healthy controls. The results provide distinctive contributions to the literature.

➢ *Mental Health Burden in Indian and LMIC Contexts*

The study found that 35% of participants experienced moderate-to-severe depressive symptoms. In comparison, 39% reported anxiety symptoms, aligning with findings from a systematic review by Atinga et al. (3), which indicated high prevalence rates of depression (51%) and anxiety (45%) among women with PCOS in low- and middle-income countries (LMICs). Indian-specific data showed variability in depression (25.7% to 93.0%) and anxiety (34.0% to 100%) across studies, with our findings supporting the representativeness of our sample.

While prior Indian studies reported elevated depression in PCOS—20% (11), 25.7–93.0% (20)—and anxiety—25% (11), 34–100% (20)—along with increased body image concerns and reduced self-esteem (4), our study revealed no significant group differences. This divergence may reflect our community-based sample (81%) versus hospital-based recruitment in previous studies, where patients often present with more severe symptoms. Additionally, our control group showed unexpectedly high depression (28.7%) and anxiety (26.8%) rates—possibly due to post-pandemic factors—and effect sizes were negligible (r = 0.05–0.11), suggesting minimal true differences in this population.

➢ *PCOS-Specific Quality of Life*

Our PCOSQ scores aligned closely with the Indian study by Joshi et al.(21), with Emotion domain scores of 4.50 ± 1.41 (vs. 4.44 ± 1.42). The most significant impairments were in the Menstrual Problems and Weight domains, consistent with evidence that overweight preoccupation and body dissatisfaction are strongly linked to disordered eating in PCOS (6). Moderate impairment in the Emotion domain highlights the need for condition-specific psychological evaluation. Higher Body Hair and Infertility scores may reflect our community-based sample (81%) having less severe symptoms than clinic-based populations.

➢ *Weight Concerns as the Central Driver of Disordered Eating*

A central finding was that PCOS weight concerns emerged as the strongest and sole significant predictor of disordered eating, explaining 15.1% of unique variance beyond BMI and age. This aligns with Lalonde-Bester et al. (6), who reported that women with PCOS are 3–6 times more likely to have an eating disorder, with overweight preoccupation and body dissatisfaction strongly associated with disordered eating independent of BMI. Broughton et al. (5) similarly found that overweight preoccupation and self-classified weight predicted depression, anxiety, and disordered eating.

Subscale analyses revealed that weight concerns consistently predicted the Dieting subscale (15.9% unique variance), but not the Bulimia subscale. The Oral Control subscale showed an initial association with weight concerns that diminished after accounting for emotional distress and depression, suggesting psychological factors partially explain this link. Consistent with our findings, Stefanaki et al. (22) reported no significant differences in EAT-26 scores between PCOS and controls, whereas Tripathi et al. (23) found higher rates in an Indian adolescent cohort, underscoring the importance of sample characteristics.

➢ *Mediation Analyses: A Contrast with Previous Research*

The serial mediation model was not supported. While weight concerns predicted emotional distress, and emotional distress predicted depressive symptoms, the latter did not predict disordered eating. The direct effect of weight concerns on eating pathology suggests their independent role, with body image dissatisfaction or self-esteem potentially better explaining this relationship. Future studies should explore simpler mediation models and culturally specific mediators.

This contrasts with prior studies: Alur-Gupta et al. (7) found body image distress fully mediated depression and anxiety in PCOS; Barberis et al. (24) reported dysmorphic concerns and eating disorders mediated BMI–quality of life; and Zhang et al. (25) found resilience mediated fertility stress–depression.

Divergent findings may reflect outcome differences (depression/anxiety vs. disordered eating), sample

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composition (community-based vs. clinic-based), and cultural factors, suggesting pathways vary across contexts.

- *Clinical Implications*

Given the central role of weight concerns in disordered eating, routine screening for weight-related distress should be integrated into PCOS care, aligning with international guidelines (26,27). The absence of mediation by emotional distress suggests that interventions targeting body image may be more effective than those focused solely on emotional well-being—a finding supported by lifestyle intervention studies (28). Given the high prevalence of mental health symptoms in Indian women with PCOS, psychological evaluations must extend beyond general anxiety and depression to include weight-related concerns and disordered eating.

- *Strengths and Limitations*

Several limitations should be acknowledged. The cross-sectional design precludes causal inferences; longitudinal investigations are required to establish temporal ordering. The sample was obtained using convenience sampling, which restricts generalizability. While PCOS diagnosis was confirmed through medical records for all participants, controls were not systematically screened for PCOS using the Rotterdam criteria. Given the estimated 8–13% prevalence of PCOS in the general population, it is possible that some control participants had undiagnosed PCOS, which would bias group comparisons toward the null. This suggests that the observed lack of group differences may, if anything, underestimate true disparities between women with and without PCOS. The very recent diagnosis of PCOS (median 2 years) may indicate that the findings represent early adjustment rather than long-term adaptation. The utilization of self-report instruments may be influenced by recollection and social desirability biases.

Notwithstanding these limitations, this study has notable strengths. The majority of PCOS participants (81%) were recruited from the community, offering insights beyond clinic-biased samples and capturing a broader spectrum of symptom severity. The use of validated instruments with robust internal consistency (Cronbach's $\alpha > .74$ across all scales) and appropriate statistical methods (non-parametric tests, bootstrapped mediation) further strengthens the validity of our findings.

V. CONCLUSIONS

This study provides evidence that PCOS weight concerns directly predict disordered eating, independent of emotional distress or depression. When viewed alongside broader LMIC evidence, these findings underscore the urgent need for routine, culturally tailored screening for weight-related distress and eating disorders in Indian women with PCOS.

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