

INDIAN CYSTERHOOD: COPING AND QUALITY OF LIFE AMONGST INDIAN WOMEN WITH POLYCYSTIC OVARIAN SYNDROME

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Abstract

Poly Cystic Ovarian Syndrome (PCOS) is a long-term endocrine disorder that is characterized by hyperandrogenism, poly cystic ovaries, and ovulatory dysfunction. PCOS takes a significant toll not only on one's physical but also mental health, which, is often neglected. Since PCOS can't be cured but only managed through a range of lifestyle and health psychological interventions, it becomes imperative to study how women with PCOS cope with the disorder. This study examined coping, anxiety, depression, stress, and quality of life amongst Indian women with PCOS. Results indicate that coping style, especially disengagement coping style has a significant impact on the levels of depression, anxiety, stress, and quality of life women with PCOS experience.



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Introduction

Illnesses that demand a significant lifestyle change, for instance diabetes, has been found to significantly impact quality of life (Rubin and Peyrot, 1999). A lifestyle disorder whose prevalence has been steadily rising lately is Poly Cystic Ovarian Syndrome (PCOS). Polycystic Ovarian Syndrome (PCOS) is a common endocrinal disorder found in women that is marked by hyperandrogenism, ovulatory dysfunction, and polycystic ovarian morphology. Hyperandrogenism refers to excess secretion of the male hormone androgen. Ovulatory dysfunction encompasses irregular, rare or no ovulation. Polycystic Ovarian Morphology (PCOM) refers to an excess of pre-antral follicles in the ovaries. (Aziz et al, 2016). PCOS affects approximately 4-20% of women in the reproductive age worldwide (Deswal et al, 2020). In India, the prevalence rate ranges between 3.7-22.5% of the population (Ganie et al, 2019).

Androgenetic alopecia causes hair thinning across frontal or parietal scalp with higher density across the occipital scalp leading to retention of frontal hairline. (Price, 2003). Hyperthyroidism usually leads to unplanned weight loss, hair loss, brittleness of hair, nausea, *Copyright © 2023, Scholarly Research Journal for Interdisciplinary Studies*

increased irritability, and disturbed sleep pattern. Apart from these visible physical alterations, the metabolic dysfunction resulting in insulin resistance and hyperinsulinemia predisposes one to type 2 diabetes, cardiovascular and cerebrovascular disorder, gestational diabetes, endometrial cancer, and venous thromboembolism (Azziz et al, 2016). Clearly, this endocrine disorder has a profound impact on one's physical wellbeing. Ample evidence exists suggesting the toll PCOS takes on one's mental health as well as quality of life. For instance, Himelein and Thatcher (2006) reviewed medical and psychological literature to conclude that PCOS is associated with depression, anxiety, body dissatisfaction, lowered sexual satisfaction, and poor health-related quality of life.

Review of Literature

Women with PCOS were found to experience lower quality of life, increased psychological disturbances, and decreased sexual satisfaction. Symptoms that take the most toll on appearance such as obesity and hirsutism were significantly associated with poor quality of life (Hahn et al, 2005). Hirsutism was found to have the most significant impact on quality of life amongst Iranian women (Khomami et al, 2015). Another symptom of PCOS that wreaks havoc with one's appearance is alopecia. Quality of life was found to be poor amongst women with alopecia (Davis and Callender, 2018).

Considering the clinical expression of PCOS, a potential negative impact on psychological health could certainly be anticipated. Studies have found that women with PCOS have higher rates of eating disorders, fear of social rejection, body dissatisfaction, anxiety, and depression (Dorkas et al 2011; Karacan, et al 2014; Trent et al 2002). Adolescents with PCOS were found to experience psychiatric illnesses, especially major depressive disorder, more frequently (Çoban et al, 2019). In women diagnosed with PCOS, emotional distress could have psychosocial and/or pathophysiological causes. Visible features, such as hirsutism and acne, or potential consequences, such as infertility and obesity, are perceived as stigmatizing by many women and could cause distress (Prathap, et al 2018).

However, there's a dearth of research literature on the impact of Poly Cystic Ovarian Syndrome (PCOS) on the mental health, quality of life, and the coping strategies employed by Indian women. The present piece of literature addresses this research gap and attempts to study coping, anxiety, depression, stress, and quality of life amongst Indian women with Poly Cystic Ovarian Syndrome.

Research Question:

Does coping style impact levels of depression, stress, anxiety, and quality of life amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS)?

Hypothesis:

1. H₀: Coping style does not impact the levels of depression amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).
H₁: Coping style impacts the levels of depression amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).
2. H₀: Coping style does not impact the levels of stress amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).
H₁: Coping style impacts the levels of stress amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).
3. H₀: Coping style does not impact the levels of anxiety amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).
H₁: Coping style impacts the levels of anxiety amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).
4. H₀: Coping style does not impact quality of life amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).
H₁: Coping style impacts quality of life amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS).

Variables:

This study examines five variables: coping, depression, anxiety, stress, and quality of life.

Operational Definitions:

1. **COPING STYLE:** refers to the strategies one employs to reduce the negative impact or conflict resulting from stress. Approach or engagement coping refers to efforts or actions or behaviors employed to deal with a stressor or situation directly. Avoidant or disengagement coping comprises strategies to escape, in some form or another, from the stressor or the situation or having to deal with it.
2. **DEPRESSION:** a negative affective state, ranging from unhappiness and discontent to an extreme feeling of sadness, pessimism, and despondency, that interferes with daily life.
3. **ANXIETY:** an emotion characterized by apprehension and somatic symptoms of tension in which an individual anticipates impending danger, catastrophe, or misfortune.

4. **STRESS:** the physiological or psychological response to internal or external stressors.

5. **QUALITY OF LIFE:** one's evaluation of their well-being or a lack of it.

Method

Participants:

This research studies Indian women with Polycystic Ovarian Syndrome between the ages of 18 to 40 years.

Sample size:

This research aims to study 149 subjects as per the sample size table (Confidence = 99% at 1% margin of error)

Sampling:

The study uses two sampling methods: convenience sampling and snowball effect since these are the only viable tools available given the present COVID19 pandemic. Convenience sampling refers to drawing sample from the section of population that is closest to one's hand. Snowball effect occurs when the existing subjects of a study offer referrals to recruit subjects for the study.

Instruments:

This study uses the following three instruments:

- i. **Coping Style:** 28-item Brief COPE inventory by Carver (1997) that comprises of 14 two-item subscales which can be broadly classified into two broad coping styles: Approach Coping and Avoidant Coping. The scale uses 4-point Likert-like scale structure. The reliability of the 14 subscales range between 0.50 to 0.90.
- ii. **Quality of Life:** 35-item Poly Cystic Ovarian Syndrome Quality of Life Scale (PCOSQOL) by Williams, Sheffield, and Knibb (2018). The scale comprises 4 subscales (impact of PCOS, infertility, hirsutism, and mood). It uses a 7-point Likert-like scale structure and has reliability of 0.95
- iii. **Depression, Stress and Anxiety:** the 21-item Depression, Anxiety, Stress Scale (DASS-21). It is the short version of the DASS given by Lovibond and Lovibond (1995). The scale comprises three subscales: depression, anxiety, and stress. The reliability of subscales depression, anxiety, and stress was 0.89, and 0.78 respectively.

Results

The aim of this research is to study the impact of coping style on depression, anxiety, stress, and quality of life amongst Indian women with Poly Cystic Ovarian Syndrome (PCOS). The

sample size of this study was 50, comprising Indian women between the age of 15 to 45 years who suffer from Poly Cystic Ovarian Syndrome. Figure I represents the ages of the subjects of the study.

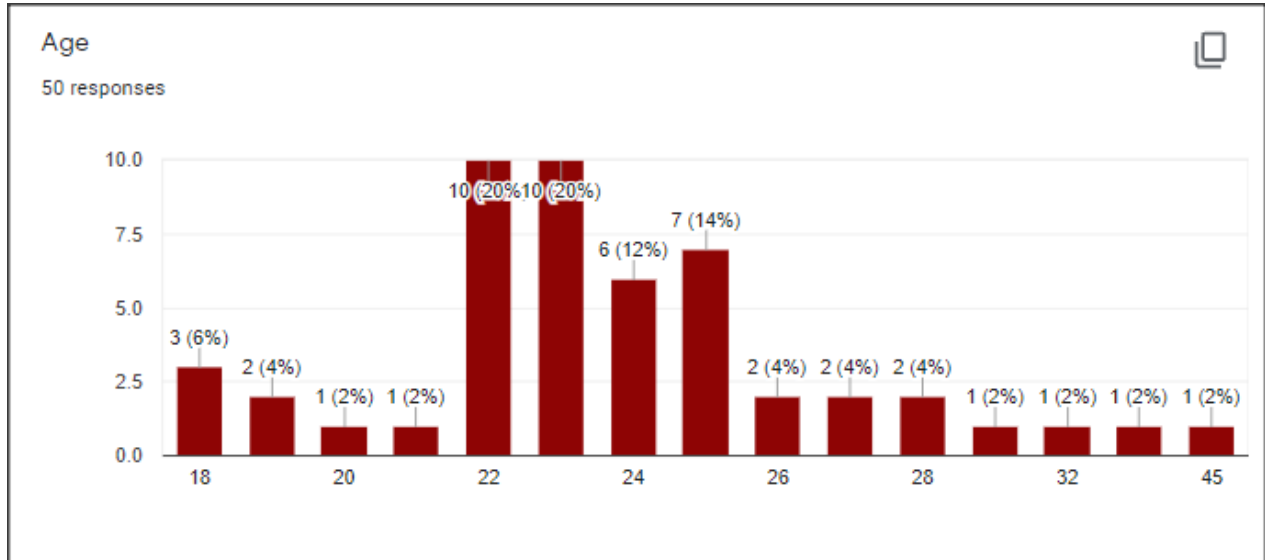


Fig I: Age (in years) of the participants of the study.

I. DESCRIPTIVE STATISTICS

Collected data was analyzed for mean and standard deviation. Table 1 presents the descriptive statistics performed on the obtained data.

| | N | Range | Minimum | Maximum | Sum | Mean | Std. Deviation | Skewness | Kurtosis | | |
|------------|----|-------|---------|---------|------|--------|----------------|----------|------------|-----------|------------|
| | | | | | | | | | Std. Error | Statistic | Std. Error |
| Approach | 50 | 32 | 14 | 46 | 1744 | 34.88 | 7.474 | -0.938 | 0.337 | 0.696 | 0.662 |
| Avoidant | 50 | 27 | 13 | 40 | 1201 | 24.02 | 6.91195 | 0.567 | 0.337 | -0.446 | 0.662 |
| Depression | 50 | 42 | 0 | 42 | 1028 | 20.56 | 12.68803 | 0.106 | 0.337 | -1.34 | 0.662 |
| Anxiety | 50 | 38 | 0 | 38 | 834 | 16.68 | 10.487 | 0.197 | 0.337 | -0.916 | 0.662 |
| Stress | 50 | 42 | 0 | 42 | 1152 | 23.04 | 11.47306 | -0.16 | 0.337 | -1.117 | 0.662 |
| QoL | 50 | 196 | 49 | 245 | 7584 | 151.68 | 51.02798 | -0.025 | 0.337 | -0.889 | 0.662 |

Table 1: Descriptive statistics of the variables

II. INFERENCE STATISTICS

This study uses Shapiro-Wilk normality test, and multiple regression to draw meaningful inferences from the obtained data. Table 2.1.1 presents the results Shapiro-Wilk normality testing analysis. The significance levels of stress, anxiety, and quality of life were 0.062, 0.055, and 0.321 respectively. Since, these values are greater than 0.05 the data for these variables is

normally distributed. The significance levels of approach coping, avoidant coping, depression, mood disturbances, overall impact of PCOS, hirsutism, and infertility were smaller than 0.05. Therefore, the data for these variables is not normally distributed.

| | W | df | Sig. |
|-----------------|-------|----|-------|
| Approach | 0.934 | 50 | 0.008 |
| Avoidant | 0.954 | 50 | 0.049 |
| Depression | 0.93 | 50 | 0.006 |
| Stress | 0.956 | 50 | 0.062 |
| Anxiety | 0.955 | 50 | 0.055 |
| Quality of Life | 0.974 | 50 | 0.321 |

Table 2.1.1: Normality testing of the obtained data.

Multiple regression analysis was conducted to study the impact of coping styles: approach i.e. engagement coping and avoidant i.e. disengagement coping on depression, anxiety, stress, and quality of life. Table 2.1.2 is model summary 1 which describes the regression analysis where the dependent variable was Depression and the independent variables were Approach and Avoidant coping.

Here, model a comprises Depression and Avoidant coping. The F-value of model a was 26.970 at 0.00 level of significance indicating a good model fit and the ability of Avoidant coping to reliably predict Depression. Model b comprises Depression, Approach, and Avoidant coping. The F-value of model b was 4.385 at 0.042 level of significance indicating a good model fit. These results indicate that when measured together, the coping styles reliably predict depression.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|-------|-------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .600a | 0.36 | 0.346 | 10.25766 | 0.36 | 26.97 | 1 | 48 | 0 |
| 2 | .644b | 0.414 | 0.389 | 9.91401 | 0.055 | 4.385 | 1 | 47 | 0.042 |

Table 2.1.2: Model summary 1: the DV was Depression and IVs were Approach and Avoidant coping

Table 2.1.3 is the coefficient table 1 of the regression analysis where the dependent variable was Depression and independent variables were Approach and Avoidant coping. The t-value of Avoidant was 5.641 at 0.000 level of significance whereas the t-value of Approach coping was -2.094 at 0.042 level of significance.

Since these t-values are significant at levels smaller than 0.05, the null hypothesis is rejected. The obtained results imply that coping styles impact the levels of depression amongst Indian women with PCOS.

| Model | Unstandardized Coefficients | | Standardized Coefficients Beta | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | |
|-------|-----------------------------|------------|-----------------------------------|--------|--------|---------------------------------|-------------|--------------|---------|--------|--------|
| | B | Std. Error | | | | Lower Bound | Upper Bound | Zero-order | Partial | Part | |
| 1 | (Constant) | -5.886 | 5.295 | | | | | | | | |
| | Avoidant | 1.101 | 0.212 | 0.6 | 5.193 | 0 | 0.675 | 1.527 | 0.6 | 0.6 | 0.6 |
| 2 | (Constant) | 6.454 | 7.805 | | 0.827 | 0.412 | -9.247 | 22.156 | | | |
| | Avoidant | 1.171 | 0.208 | 0.638 | 5.641 | 0 | 0.753 | 1.589 | 0.6 | 0.635 | 0.63 |
| | Approach | -0.402 | 0.192 | -0.237 | -2.094 | 0.042 | -0.788 | -0.016 | -0.134 | -0.292 | -0.234 |

a Dependent Variable: Depression

Table 2.1.3: Coefficient table 1: DV was Depression and IVs were Approach and Avoidant Coping

Table 2.1.4 is the Model summary 2 which depict results of regression analysis where the dependent variable was Stress and the independent variables were Approach and Avoidant coping. Model a comprises Stress and Avoidant coping. The F-value of model a was 31.035 at 0.00 level of significance indicating a good model fit and the ability of Avoidant coping to reliably predict Stress.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|-------|-------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .627a | 0.393 | 0.38 | 9.03374 | 0.393 | 31.035 | 1 | 48 | 0 |

a Predictors: (Constant), Avoidant

Table 2.1.4: Model summary 2: the DV was Stress and IVs were Approach and Avoidant coping

Table 2.1.5 depicts the coefficients of regression analysis where the dependent variable was Stress and the independent variables were Approach and Avoidant coping. The t-value of Avoidant model was 5.571 at 0.00 level of significance.

Since the level of significance of the obtained t-value is lesser than 0.05, the null hypothesis is rejected. The obtained results imply that coping styles impact the levels of stress amongst Indian women with PCOS.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | |
|-------|-----------------------------|------------|---------------------------|--------|-------|---------------------------------|-------------|--------------|------------|---------|-------|
| | B | Std. Error | | | | Beta | Lower Bound | Upper Bound | Zero-order | Partial | Part |
| 1 | (Constant) | -1.944 | 4.663 | -0.417 | 0.679 | -11.32 | 7.432 | | | | |
| | Avoidant | 1.04 | 0.187 | 0.627 | 5.571 | 0 | 0.665 | 1.416 | 0.627 | 0.627 | 0.627 |

a Dependent Variable: Stress

Table 2.1.5: Coefficient table 2: DV was Stress and IVs were Approach and Avoidant Coping

Table 2.1.6 is the Model summary 3 which depict results of regression analysis where the dependent variable was Anxiety and the independent variables were Approach and Avoidant coping. Model a comprises Anxiety and Avoidant coping. The F-value of model a was 11.208 at 0.002 level of significance indicating a good model fit and the ability of Avoidant coping to reliably predict Anxiety.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|-------|-------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .435a | 0.189 | 0.172 | 9.54025 | 0.189 | 11.208 | 1 | 48 | 0.002 |

a Predictors: (Constant), Avoidant

Table 2.1.6: Model summary 3: DV was Anxiety and IVs were Approach and Avoidant coping

Table 2.1.7 depicts the coefficients of regression where the dependent variable was Anxiety and the independent variables were Approach and Avoidant coping. The t-value of Avoidant model was 3.348 at 0.002 level of significance.

Since the level of significance of the obtained t-value is lesser than 0.05, the null hypothesis is rejected. The obtained results imply that coping styles impact the levels of anxiety amongst Indian women with PCOS.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | |
|-------|-----------------------------|------------|---------------------------|-------|-------|---------------------------------|-------------|--------------|------------|---------|-------|
| | B | Std. Error | | | | Beta | Lower Bound | Upper Bound | Zero-order | Partial | Part |
| 1 | (Constant) | 0.824 | 4.925 | 0.167 | 0.868 | -9.078 | 10.726 | | | | |
| | Avoidant | 0.66 | 0.197 | 0.435 | 3.348 | 0.002 | 0.264 | 1.057 | 0.435 | 0.435 | 0.435 |

a Dependent Variable: Anxiety

Table 2.1.7: Coefficient table 3: DV was Anxiety and IVs were Approach and Avoidant coping

Table 2.1.8 is the Model summary 4 which depict results of regression analysis where the dependent variable was Quality of life and the independent variables were Approach and Avoidant coping. Model a comprises Anxiety and Avoidant coping. The F-value of model a was 23.498 at 0.00 level of significance indicating a good model fit and the ability of Avoidant coping to reliably predict Quality of life amongst Indian women with PCOS.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|-------|-------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .573a | 0.329 | 0.315 | 42.24354 | 0.329 | 23.498 | 1 | 48 | 0 |

a Predictors: (Constant), Avoidant

Table 2.1.8: Model summary 4: DV was Quality of Life and IVs were Approach and Avoidant coping

Table 2.1.9 depicts the coefficients of regression where the dependent variable was Quality of life and the independent variables were Approach and Avoidant coping. The t-value of Avoidant model was -4.847 at 0.00 level of significance.

Since the level of significance of the obtained t-value is lesser than 0.05, the null hypothesis is rejected. The obtained results imply that coping styles impact the quality of life amongst Indian women with PCOS.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Correlations | | | |
|-------|-----------------------------|------------|---------------------------|--------|--------|---------------------------------|-------------|--------------|---------|--------|--------|
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound | Zero-order | Partial | Part | |
| 1 | (Constant) | 253.339 | 21.806 | | 11.618 | 0 | 209.495 | 297.183 | | | |
| | Avoidant | -4.232 | 0.873 | -0.573 | -4.847 | 0 | -5.988 | -2.477 | -0.573 | -0.573 | -0.573 |

a Dependent Variable: QoL

Table 2.1.9: Coefficient table 4: DV was Quality of Life and IVs were Approach and Avoidant coping

The obtained results imply that coping styles, especially disengagement coping style, has a significant impact on the levels of depression, anxiety, stress, and quality of life amongst Indian women with PCOS. These results can be explained by the existing literature discussed in the next section.

Discussion

Coping styles, especially disengagement coping style, has a profound impact on various facets of mental health. For instance, lower self-control was found to be associated with disengagement coping, which in turn was found to be associated with poor mental health (Boals et al, 2011). Frequent use of avoidant coping strategies accelerates stress and lowers wellbeing (Chao, 2011). Disengagement coping was also found to mediate between stress and history of victimization amongst victims of bullying (Newman et al, 2010). Disengagement coping mediates between stress and depressive emotional coping (Young and Limbers, 2017).

Along with other themes such as lack of social support and emotional hardships, disengagement coping was found to be a recurrent theme in the emotional and coping processes amongst transgender population (Budge et al, 2012). Avoidant coping was found to be significantly associated with anxiety and poorer physical functioning amongst heart failure patients (Eisenberg et al, 2012).

The findings of current research are in line with the existing research literature highlighting the impact of coping style, especially disengagement coping style, on key factors of mental health such as depression, stress, anxiety, and quality of life.

Conclusion

PCOS is a complex disorder. It manifests itself in a complex, heterogeneous fashion making it difficult to diagnose, treat, and study. This study attempted to study how coping styles impact the psychological outcomes of this complex disorder amongst a population that hasn't really been studied before. In the process, this study has been marred with several limitations, the biggest one being a small sample size.

The findings of this study are of great value in the realm of intervention and health management since PCOS is a complex, long-term illness that can't be cured but only maintained. There's no treatment modality or standard protocol in place due to the heterogeneity of the disorder. Therefore, treatment and therapy should be tailored according to each patient's need and therapeutic goal (Orio and Palomba, 2013).

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