

Emotion Regulation and Self Esteem Among PCOS and Non-PCOS Women

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Abstract

The present study aims to compare emotional regulation and self-esteem among PCOS women and non-PCOS women. A total of 42 clinically diagnosed PCOS women and 42 non-PCOS women were selected from various districts in Kerala. The participants were given the Emotional Regulation Questionnaire (ERQ) and Rosenberg Self-esteem Scale to measure emotional regulation and self-esteem respectively. After examining the normality, parametric statistics were used. The study result shows that there is no significant difference in emotional regulation and self-esteem among PCOs and non-PCOS women. Another finding that no significant relationship between emotional regulation and self-esteem among PCOS and non-PCOS women.

Keywords: Emotional regulation, self-esteem, PCOS women, non-PCOS women.

Polycystic ovarian syndrome (PCOS) is a very common hormone disorder affecting women in the premenopausal age group. In recent years, PCOS has come to light for various reasons. The incidence and prevalence of PCOS are on the rise globally. According to current statistics, around 1.55 million incident cases of PCOS were reported worldwide. In India, every 1 in 5 adolescent girls is invariably diagnosed with this syndrome. Hormone fluctuations and the resulting physical changes might affect a person's degree of emotional regulation, depression, and anxiety. The mental health and general well-being of people are frequently negatively impacted by this condition. Depression and persistent psychological distress might occur from the illness. The severe psychological discomfort experienced by women with polycystic ovary syndrome (PCOS) may trigger the hypothalamus-pituitary-ovary axis and worsen their physiological condition. International guidelines from 2018 and 2020 state that psychological comorbidities including depression, anxiety, and a lower quality of life should be assessed and considered when managing PCOS, and this is especially true when obesity or overweight is also present. Even though there has been much research conducted outside of India, there have been relatively few that focus on the relationship between psychiatric disease and patients' quality of life. For many women, self-esteem is based exclusively on their body image, and consequently, their social functioning and interpersonal relations are affected. It becomes even more complicated when the woman suffers physical changes or disfigurement due to an illness such as PCOS.

According to Rosenberg (1965) self-esteem is one's positive or negative attitude toward oneself and one's evaluation of one's thoughts and feelings overall in relation to oneself. Self-esteem implies an awareness of one's value system and one's emotional evaluation of one's self-worth (Schunk, 1985). An individual with high self-esteem and an individual with low self-esteem may respond similarly to

positive input, but they could exhibit different responses to negative input. Specifically, people with low self-esteem tend to exhibit negative responses, while those with high self-esteem tend to be less affected, as they are inclined to reject or restrict the scope of negative feedback (Brown and Mankowski, 1993). Because self-esteem affects an individual's success in social adaptation, reduced self-esteem can eventually lead to social maladjustment. In addition, self-esteem is a critical factor in personal well-being because an individual's self-esteem has a positive relationship with their psychological health, social adjustment, and quality of life (Boyd et al., 2014). As such, self-esteem is important on both personal and social axes in a social environment in which people live alongside others.

Need and Significance of the Study

This study explores the psychological aspects such as emotional regulation and self-esteem of women living with Polycystic Ovary Syndrome (PCOS) in comparison to women who do not have the condition. Polycystic Ovary Syndrome is a common endocrine disorder affecting women of reproductive age and is characterized by hormonal imbalances, cysts on the ovaries, and various physical symptoms. Emotional regulation refers to an individual's ability to manage and cope with their emotions effectively. Women with PCOS may experience hormonal fluctuations and other physical symptoms, which can impact their emotional well-being. This study can help shed light on how PCOS affects emotional regulation and how these women cope with their emotions compared to women without PCOS.

PCOS can lead to physical changes such as weight gain, acne, and excessive hair growth, which may negatively impact a woman's self-esteem. Understanding the relationship between PCOS and self-esteem can help identify potential interventions and support systems for women struggling with self-esteem issues. In the case of PCOS, hormonal imbalances and associated symptoms could impact emotional regulation, which might subsequently affect self-esteem. Understanding this relationship can provide insights into potential interventions or support strategies. Comparing married and unmarried women with and without PCOS can reveal whether marital status and PCOS status have any interaction effects on emotional regulation and self-esteem. This information can be used to provide tailored support and guidance based on the unique challenges faced by different groups.

PCOS is not just a physical health issue, it also has psychological implications. Women with PCOS may experience higher levels of anxiety, depression, and stress due to the complex interplay between hormonal imbalances and the social stigma associated with the condition. This study can provide insights into the psychological well-being of women with PCOS and help design appropriate psychological support services.

By understanding the emotional regulation and self-esteem differences between PCOS and non-PCOS women, healthcare providers can tailor their support services to meet the unique needs of women with PCOS. This may involve offering counselling, mental health support, or other interventions to enhance emotional well-being and self-esteem. Researching the psychological aspects of PCOS can increase awareness about the condition and its impact on women's mental health. It can also help advocate for better support and resources for women with PCOS, encouraging a more holistic approach to managing the condition.

Ultimately, the study aims to improve the quality of life for women with PCOS. By understanding how PCOS influences emotional regulation and self-esteem, healthcare professionals and policymakers can develop targeted interventions that address the mental health challenges faced by these women, thereby improving their overall well-being and quality of life. This study on emotional

regulation and self-esteem among PCOS and non-PCOS women is crucial for advancing our understanding of the psychological impact of PCOS. It can lead to the development of tailored interventions, support services, and awareness campaigns to improve the mental health and well-being of women living with this condition.

Objectives

1. To study the emotional regulation among PCOS and non-PCOS women.
2. To study the self-esteem among PCOS and non-PCOS women.
3. To study the emotional regulation among married and unmarried PCOS women
4. To study the emotional regulation among married and unmarried Non PCOS women
5. To study the self-esteem among married and unmarried PCOS women
6. To study the self-esteem among married and unmarried Non PCOS women.
7. To study the relationship between emotional regulation and self-esteem among PCOS women
8. To study the relationship between emotional regulation and self-esteem among Non PCOS women.

Methodology

The sample was restricted to 42 clinically diagnosed PCOS and 42 non-PCOS women. The clinically diagnosed PCOS women were only included in this study and also excluded that the Patients having cognitive /developmental disabilities, aged before the menarche or menopause. After the informed consent, a voluntary agreement to participate in research, and whether the participant was diagnosed with PCOS, the data was collected individually.

Measures of the study

The Emotion Regulation Questionnaire (ERQ) was developed by (Gross, 2013) of Stanford University based on the Process Model of Emotion Regulation. The scale contains ten items, divided into two dimensions: cognitive reappraisal and expressive inhibition, with six items for cognitive reappraisal and four for expressive inhibition. The frequency of use of the emotion regulation strategy was positively correlated with the score. The internal consistency coefficient of the cognitive reappraisal dimension in this study was 0.78, and the internal consistency coefficient of the expressive suppression dimension was 0.80.

Rosenberg self-esteem scale, Rosenberg (1955) developed a scale to create a one-dimensional measure of overall self-esteem based on the Guttman model. The scale has a high level of reproducibility at 0.93 and item scalability at 0.73.

Research design

This is comparative research because the problem of the study is to compare the two variables of the population to another, study will follow a quantitative research design, in that the data collected by providing a questionnaire and using t-test analysis for analysis of the data. Scales of variables are used for data collection as the scales are highly reliable and valid for the measurement of respective characteristics.

Procedure for data collection

A quantitative study aims to compare emotional regulation and self-esteem among PCOS and Non-

PCOS women. It is a comparative study and gathered information using valid and reliable scales of variables, emotional regulation, and self-esteem. Women with and without PCOS in Kerala were chosen as the sample. The consent form was given prior and included only those who are willing to take part in the research. Data was collected from the participants through an online medium using a Google Form. There were a total of 42 clinically diagnosed and 42 non-PCOS women who had to respond. The data obtained from the google form were then scored, coded and transferred to excel sheet and the data were analysed using SPSS.

Statistical analysis

The whole data collected was analysed using SPSS (Statistical Packages for Social Sciences) software. The Pearson correlation coefficient test is used to compute the relationship between emotion regulation and self-esteem in the respective population. An Independent sample t-test was used to compare the means of emotional regulation and self-esteem between married and unmarried PCOS and Non-PCOS women.

Ethical considerations

To ensure the utmost confidentiality for the respondents and the data that was provided by them as well as reflecting on the ethics practised in this study, the research was guided by the principles of respect for people. The researcher ensured participants' rights, including the right to be informed about the study, the right to freely decide whether to participate in the study and the right to withdraw at any time without penalty was considered. The participants were requested to sign an informed consent assuring them that all data collected was coded to protect their identity and privacy.

Result and discussion

The study aims to understand the comparison between emotional regulation and self-esteem among PCOS and Non-PCOS women. A total of 84 participants were taken for the study from Kerala. Data collection was done through Emotional regulation (ERQ) (Gross, 2013) and Rosenberg's self-esteem scale (Rosenberg, 1955). Socio- demographic data were also collected.. The data obtained from the participants were consolidated and subjected to inferential statistical procedures for testing the tenability of the hypotheses of the study.

The collected data from PCOS and non-PCOS women were subjected to statistical analysis using SPSS 25 (Statistical Packages for Social Sciences). Normality was tested using the Shapiro-Wilk test to find whether the samples taken belong to the same population or not and it was found that data appears to be normally distributed. Therefore, the present study was subjected to a parametric test. Pearson correlation was done to assess whether there is a significant correlation between emotional regulation and self-esteem within the PCOS group and the non-PCOS group separately.

An independent sample t-Test was done to compare the means of emotional regulation and self-esteem between the PCOS and non-PCOS groups to determine if there are significant differences in these variables between the two groups.

The detailed result and discussion of the analyses done are discussed below:

Table 1: Result of Shapiro-Wilk test of Normality

| | Statistic | df | Sig. |
|-------------------------------|-----------|----|------|
| <i>Emotional regulation</i> | .988 | 84 | .610 |
| <i>Cognitive reappraisal</i> | .983 | 84 | .345 |
| <i>Expressive suppression</i> | .973 | 84 | .076 |
| <i>Self-esteem</i> | .975 | 84 | .096 |

Table 1 show that the significance level is greater than 0.05 in emotional regulation and its subdivision of cognitive repression. It means that there is no significant difference in the normality of the population. In expressive suppression and self-esteem, the Sig. value is lesser than 0.05. Since the two Sig. values indicated that there is no difference, parametric tests are conducted in the present study which is explained below in detail.

Table 2 : The relationship between emotion regulation and self-esteem among PCOS women.

| | | emotion regulation | Cognitive reappraisal | Expressive suppression | Self-esteem |
|------------------------|---------------------|--------------------|-----------------------|------------------------|-------------|
| emotional regulation | Pearson Correlation | | | | |
| | Sig. (2-tailed) | | | | |
| Cognitive reappraisal | Pearson Correlation | .839** | | | |
| | Sig. (2-tailed) | .000 | | | |
| Expressive reappraisal | Pearson Correlation | .769** | .298 | | |
| | Sig. (2-tailed) | .000 | .052 | | |
| Self-esteem | Pearson Correlation | -.237 | -.368* | .016 | |
| | Sig. (2-tailed) | .126 | .015 | .919 | |

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 3 shows the relationship between emotional regulation and self-esteem in the PCOS group. Pearson correlation was used to analyse the relationship between emotional regulation and self-esteem because the data on emotional regulation and self-esteem were normally distributed. The result indicated that emotional regulation showed a significant positive correlation with its dimension, cognitive reappraisal ($r=.839$, $p<0$). Emotional regulation has a positive correlation with another dimension, expressive suppression ($r=.769$, $p<0.01$). This could imply that females with PCOS may use both emotional regulation strategies more frequently, perhaps as a means of coping with the challenges posed by the condition. Women with PCOS might use a combination of these strategies as part of their overall coping mechanisms for dealing with the emotional aspects of the condition. They might use cognitive

reappraisal to alter their perceptions of the situation and then utilize expressive suppression to control their outward emotional displays in social settings. Women with PCOS might use a combination of these strategies as part of their overall coping mechanisms for dealing with the emotional aspects of the condition. They might use cognitive reappraisal to alter their perceptions of the situation and then utilize expressive suppression to control their outward emotional displays in social settings.

A significant negative correlation was also found between self-esteem and cognitive reappraisal ($r = -.368, p < 0.05$). There is no significant relationship between emotional regulation and self-esteem was found. There are no other studies supporting or contradicting this result yet.

Table 3: The relationship between emotion regulation and self-esteem among non-PCOS women.

| | | Emotion regulation | Cognitive reappraisal | Expressive suppression | Self-esteem |
|------------------------|---------------------|--------------------|-----------------------|------------------------|-------------|
| Emotion regulation | Pearson Correlation | | | | |
| | Sig. (2-tailed) | | | | |
| Cognitive reappraisal | Pearson Correlation | .833** | | | |
| | Sig. (2-tailed) | .000 | | | |
| Expressive suppression | Pearson Correlation | .822** | .370* | | |
| | Sig. (2-tailed) | .000 | .019 | | |
| Self-esteem | Pearson Correlation | .180 | .125 | .175 | |
| | Sig. (2-tailed) | .265 | .443 | .281 | |

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 4 shows the relationship between emotional regulation and self-esteem among non-PCOS women. The result shows that there is a significant positive correlation between cognitive reappraisal and emotional regulation in non-PCOS women. The result also indicated that there is a significant positive correlation between expressive suppression and emotional regulation. Also, there is a significant positive correlation between emotional suppression and cognitive reappraisal. There was no other significant relationship found between emotional regulation and self-esteem among non-PCOS women.

Table 4 : Result of the t-test showing the differences in emotion regulation among PCOS and non-PCOS women

| | PCOS/Non-PCOS | N | M | SD | t | Sig. |
|-----------------------|---------------|----|------|-------|-------|------|
| Emotional regulation | pcos | 42 | 45.2 | 10.25 | .322 | .748 |
| | Non-pcos | 42 | 44.5 | 9.37 | | |
| Cognitive reappraisal | pcos | 42 | 28.2 | 6.96 | -.375 | .709 |
| | Non-pcos | 42 | 28.7 | 5.77 | | |

| | | | | | | |
|------------------------|----------|----|------|------|------|------|
| | | | | | | |
| Expressive suppression | pcos | 42 | 17 | 5.79 | .970 | .335 |
| | Non-pcos | 42 | 15.7 | 5.67 | | |

Table 4 shows the mean and standard deviation and t value of PCOS and non-PCOS women. The mean values of emotion regulation for PCOS and non-PCOS women were 45.2 and 44.5, respectively, and their significance value is .748, which is greater than 0.05. Hence, there is no significant difference between PCO women and non-PCO women in emotional regulation. Meenakshi & Fenn (2021) conducted a study on the topic of “emotional regulation and distress among PCOS women”. The result of this study indicated that, when compared to women without PCOS, people with PCOS had significantly lower levels of emotional regulation. The present study result is contradictory to the current study result.

The mean and value of cognitive reappraisal in PCOS women and non-PCOS women were 28.2 and 28.7 respectively, and their significance value is .709, which indicated that no significant difference was found between PCOS and non-PCOS women. The mean value of expressive suppression in PCOS women and non-PCOS women were 17 and 15.7 respectively and their significance value is .335, which indicated that there is no significant difference between PCOS and non-PCOS women in expressive suppression. A study conducted by Javed et al (2022) on the topic of Resilience and emotional regulation predicting marital satisfaction in females diagnosed with Polycystic ovary syndrome, reveals that expressive suppression was high in females who had PCOS. Thus, the obtained result opposes the existing study.

Table 5 Result of the t test showing the differences in self-esteem among PCOS and non-PCOS women.

| Variable | Group | N | M | SD | ‘t’ | Sig. |
|-------------|----------|----|------|-----|------|------|
| | | | | | | |
| Self-esteem | PCOS | 42 | 22.3 | 4.2 | 1.28 | .204 |
| | Non-PCOS | 42 | 21.1 | 4.4 | | |

The mean value of self-esteem in PCOS and non-PCOS women were 22.3 and 21.1 respectively and their significance value was .204, which is greater than 0.05, and it indicated that there is no significant difference in self-esteem among PCOS and non-PCOS women. Zachurzok et al (2021) conducted a study on the topic of depression, anxiety and self-esteem in adolescent girls with polycystic ovary syndrome, the result of the study concluded that the self-esteem score is higher in women with PCOS than in the control group. Thus, the obtained result opposed the existing study.

Table 6 : Results of the t-test show differences in emotion regulation among married and unmarried PCOS women.

| Variable | group | N | M | SD | t | Sig. |
|----------------------|---------|----|------|------|-------|-------|
| Emotional regulation | Married | 19 | 46.9 | 8.44 | 1.143 | 0.260 |

| | | | | | | |
|------------------------|-----------|----|------|-------|-------|-------|
| | Unmarried | 24 | 43.3 | 11.54 | | |
| Cognitive reappraisal | Married | 19 | 28.7 | 5.56 | 0.455 | 0.651 |
| | Unmarried | 24 | 27.7 | 7.92 | | |
| Expressive suppression | married | 19 | 18.3 | 5.97 | 1.479 | 0.147 |
| | Unmarried | 24 | 15.6 | 5.68 | | |

Table 6 shows the result of t-test differences in emotional regulation among married PCOS and unmarried PCOS women. The significance value of married PCOS and unmarried PCOS women on emotional regulation, cognitive reappraisal and expressive suppression were 0.260, 0.651 and 0.147 respectively. The result reveals that there is no significant difference was observed among married PCOS and unmarried PCOS women on emotional regulation. Whether a woman with PCOS is married or unmarried does not appear to have a substantial impact on her capacity to manage and regulate her emotions. Individual personality traits, social support, coping strategies, or hormonal fluctuations might have a more pronounced influence on emotional regulation abilities than marital status alone.

A study conducted by Meenakshi & Fenn (2021) on the topic of emotional regulation and distress in PCOs women and it was found that their level of emotional regulation, in those with PCOS was significantly lower than those without PCOS. Thus, the findings of the present study contradict the existing evidence.

Table 7 : Results of the t-test show differences in self-esteem among married and unmarried PCOS women.

| Variable | Group | N | M | SD | 't' | Sig. |
|-------------|-----------|----|------|------|--------|-------|
| | | | | | | |
| Self-esteem | Married | 19 | 21.7 | 3.51 | -0.750 | 0.457 |
| | unmarried | 24 | 22.7 | 4.69 | | |

Table 7 shows the result of t-test differences in self-esteem among married PCOS and unmarried PCOS women. The significance value of married PCOS and unmarried PCOS women on self-esteem was 0.457, indicating that was greater than the significance level of 0.05. This suggests that there is no statistically significant difference between married PCOS and unmarried PCOS women on self-esteem. Being married or unmarried does not lead to a statistically detectable variation in how women with PCOS view themselves. Self-esteem might be influenced more by individual factors, coping mechanisms, personality traits, and other life experiences than by whether someone is married or unmarried.

Table 8: Results of the t-test show differences in emotion regulation among married and unmarried non-PCOS women.

| | Marital status | N | M | SD | t | Sig. |
|-----------|----------------|----|----|------|--------|-------|
| emotional | Married | 16 | 44 | 8.76 | -0.202 | 0.841 |

| | | | | | | |
|------------------------|-----------|----|------|-------|---------------------|-------|
| regulation | Unmarried | 24 | 45 | 10.06 | | |
| Cognitive reappraisal | Married | 16 | 28.5 | 5.83 | -0.132 | 0.896 |
| | Unmarried | 24 | 28.8 | 5.89 | | |
| Expressive suppression | Married | 16 | 15.9 | 4.15 | -0.204 ^a | 0.839 |
| | Unmarried | 24 | 16.3 | 6.51 | | |

^aLevene’s test is significant ($p < 0.05$), suggesting a violation of the assumption of equal variances

Table 8 shows the result of the t-test difference in married non-PCOS women and unmarried non-PCOS women. The result indicated that the significance value of married and unmarried non-PCOS women on emotional regulation, cognitive reappraisal and expressive suppression were 0.841, 0.896 and 0.839 respectively, the result reveals that there is no significant difference was observed among married non-PCOS and unmarried non-PCOS women on emotional regulation. The lack of significant difference in emotional regulation between married and unmarried women might be influenced by the complexity and interplay of various individual, relational, and contextual factors. The quality of the marital relationship plays a significant role in emotional regulation. Supportive, respectful, and communicative relationships tend to foster better emotional regulation as spouses can provide each other with comfort, validation, and a safe space to express their feelings.

Table 9 : Results of the t-test show differences in self-esteem among married and unmarried non-PCOS women.

| Variable | group | N | M | SD | ‘t’ | Sig. |
|-------------|-----------|----|------|------|-------|-------|
| Self-esteem | Married | 16 | 21.8 | 2.65 | 1.044 | 0.303 |
| | Unmarried | 24 | 20.3 | 4.97 | | |

Table 9 shows the result of the t-test difference in married non-PCOS and unmarried non-PCOS women on self-esteem. The significance value of married non-PCOS and unmarried non-PCOS women on self-esteem was 0.303, indicating that was greater than the significance level of 0.05. This suggests that there is no statistically significant difference between married non-PCOS and unmarried non-PCOS women.

Conclusion and major findings

The present study aims to investigate emotional regulation and self-esteem among PCOS and non-PCOS women. The research was conducted among 42 PCOS and 42 non-PCOS women in Kerala. The following finding observed from the study,

1. Emotional regulation in PCOS and non-PCOS women is similar.
2. Self-esteem in PCOS and non-PCOS women is similar.
3. Emotional regulation between married and unmarried PCOS is not related.
4. Emotional regulation between married and unmarried non-PCOS women is not related.
5. There is no difference between married and unmarried PCOS women on self-esteem. Self-esteem among married and unmarried PCOS is similar.
6. There is no difference between married and unmarried non-PCOS women on self-esteem. Self-esteem among married and unmarried non-PCOS women is similar.
7. In PCOS women, as cognitive reappraisal increases, self-esteem tends to decrease, and vice versa.
8. In non-PCOS women, emotion regulation and self-esteem are not related.
9. In non-PCOS women, emotion regulation and self-esteem are found to be related.

Implication of the study

These results could challenge existing stereotypes or assumptions about the emotional well-being and self-esteem of women with PCOS. It suggests that PCOS does not necessarily lead to lower emotional regulation or self-esteem, as might have been assumed previously. PCOS women may have developed effective coping strategies to manage the emotional challenges associated with the condition. This could have implications for counselling and support programs for PCOS patients. Findings of this study suggest that PCOS itself, regardless of marital status, doesn't inherently affect emotional regulation and self-esteem in women. This could be valuable information for clinicians and psychologists working with PCOS patients, helping them focus on other factors that might influence emotional well-being and self-esteem. The lack of a significant difference between married and unmarried PCOS women could guide treatment approaches. It might imply that addressing emotional regulation and self-esteem issues in PCOS patients should not be tailored differently. The study findings could be used as a baseline for future research to explore more deeply the nuances of this relationship. Study can act as a foundation for future research. Researchers might be inspired to investigate other variables that could contribute to emotional regulation and self-esteem differences in PCOS patients, such as socioeconomic factors, cultural influences, or the presence of other medical conditions.

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