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# GYNECOLOGICAL ASPECTS OF WOMANHOOD: A BATTLE WITH ANXIETY DISORDER IN THE JOURNEY OF FIGHTING PCOS

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## ABSTRACT

**Background-** polycystic ovarian syndrome (PCOS) is a type of endocrinopathy that affects women of reproductive age. Due to physiological changes, concerns about physical appearance, and societal pressure from infertility, these women are at risk of developing depression and anxiety. As a result, the link between PCOS, anxiety, and depression may have an effect on patients' quality of life. The present study has been carried on by visiting few hospitals, particularly in the Gynecology department in Madhya Pradesh, India.

**Objective-** The goal of the study is to find out the presence and the dominance of anxiety disorder among patients battling with PCOS and the ways through which they can overcome the same.

**Methodology-**. Both Qualitative and quantitative methods were used. Secondary sources like recent published papers, medical journals, books and others were used for gathering all the relevant data or information. The primary sources were used through collection of responses. A cross-sectional study was carried out to examine sadness and anxiety symptoms in 250 PCOS patients who were chosen using a sequential sample strategy. To measure socioeconomic and fertility status, Indian versions of the Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D) questionnaires were utilised in conjunction with a demographic sheet.

**Results-**Anxiety symptoms were recorded by 100 (40%) of women, and the frequency was found to be much greater among single women, with a prevalence of 59 percent (48 percent). Additionally, lower socioeconomic level and unemployment were linked to a considerably higher prevalence of anxiety in 18 (67%) and 71 (45%) women, respectively. Depressive symptoms were reported by 122 (49%) of those who took part in the study.

**Conclusion**-Anxiety was linked to being single, having a low salary, and being unemployed. Participants reported that tension was the most prevalent anxiety symptom, whereas low mood and psychological anxiety were the most prevalent depressive symptoms. When deciding on treatment options for affected women, it's vital to keep in mind the relation between anxiety, PCOS, and depression. This research will be significant for the women with PCOS in order to deal with the mental disorders like anxiety, tension and others.

***Keywords:****PCOS, Anxiety, Hormonal Difference, Mental Health.*

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## I. INTRODUCTION

PCOS (polycystic ovarian syndrome) is an endocrinopathic condition that primarily affects women of reproductive age. It is the most common endocrine condition, with a global frequency of 2.2 percent to 26.7 percent (Lentscher, Slocum &Torrealday). In India, the prevalence of PCOS has yet to be determined; nonetheless, PCOS is found in 82 percent of women who present with hirsutism. Chronic oligo or anovulation, defined as irregular or non-occurring menstrual periods, the development of ovarian cysts on ultrasound testing, and high levels of androgen hormones are all diagnostic criteria. Alopecia, acne, and hirsutism are all symptoms of increased androgen levels, and they can have a negative impact on women's physical, social, and emotional well-being.Women are prone to suffer from mental disorders including anxiety while battling with PCOS. Polycystic ovarian syndrome (SPCOS) is a diverse illness that affects over 15% of women in the general population and over 25% of women who are obese (Risal et al.) . At least one psychological condition is diagnosed in almost 60% of women with PCOS3. The most notable symptom of PCOS is elevated circulating androgens, which lasts throughout reproductive life and even after menopause, and reproductive, metabolic, and psychological disorders are all linked to hyperandrogenaemia. Prenatal androgen exposure has been suggested as a possible causative factor.

In a Swedish register-based study, PCOS had an impact on the development of neuropsychiatric problems in children born to women with PCOS. Even after accounting for genetic factors, an increase in the incidence of attention deficit hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) in daughters and to a lesser extent in boys of women with PCOS has been discovered. Similarly, a recent study found that children born to women with PCOS have a higher risk of developing childhood anxiety, and maternal PCOS has been linked to an increased risk of almost all types of psychiatric and mild neurodevelopmental disorders in offspring, both independently and in combination with maternal obesity. It remains to be seen whether the risk is different for daughters and sons.

## II. REVIEW OF LITERATURE

As suggested byScully Depression and anxiety have been linked to PCOS in numerous studies. In one study conducted in China, depression and anxiety were shown to be present in 27.5 percent and 13.3 percent of PCOS patients, respectively. Furthermore, depression was found to be substantially more common among adolescents with PCOS in a study conducted in Turkey. Physical indications and symptoms of PCOS, such as obesity, hirsutism, and acne, have been reported to have a psychological impact, leading to low self-esteem and dissatisfaction with one's physical appearance. The biochemical effect is due to androgen excess and belly fat, which can lead to dyslipidemia and other metabolic problems in some situations, but the exact process is unknown. Anovulation and monthly irregularity are common in PCOS patients, which can lead to reproductive issues after marriage. This is one of the main causes of societal and family stress, which can lead to melancholy and anxiety.

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As investigated byAlmeshari et al to see how common depressed and anxiety symptoms are in women with PCOS who are in their childbearing years. Furthermore, because socioeconomic factors such as marital status, number of children, infertility, and income have a significant impact on the a person's psychological well-being, the study's purpose was to assess the relationship between the presence and severity with various depressive and anxiety symptoms. Furthermore, because marriage and childbearing are considered emotional, instinctual, and social requirements, they are of greater importance to impacted women. The evaluation of the above-mentioned goals will lead to a greater understanding of the magnitude of PCOS psychological effects and the patients' concerns that must be addressed at the time of diagnosis, resulting in treatment plans that include psychological screening, counselling, and psychiatric assistance as part of PCOS management.

As stated byTorres-Zegarra et alPCOSis a complex condition which impacts many aspects of a person's health, including mental health.People with PCOS are three times more likely than those without the condition to be diagnosed with anxiety and depression. Anxiety and depression symptoms are also more common in those with PCOS, and those feelings are more likely to be severe. The majority of studies on PCOS and mental health have focused on sadness and anxiety, although it has also been linked to an increased risk of OCD, bipolar illness, and eating disorders.

*As investigated by*Petrowski et al*Hormonal differences is one of the major factors that leads to symptoms like anxiety, fear, tension and others.*Researchers investigated whether the increased incidence of anxiety and depression in PCOS is due to variations in hormone levels. Insulin resistance occurs in some persons with PCOS, resulting in elevated insulin levels in the bloodstream. While one study suggested that having more insulin resistance increased the likelihood of depression, other investigations showed no such link. People with higher insulin resistance reported more anxiety symptoms, according to one study, but further research is needed.

As stated byAlmeshari et al.a review of research dependable People with PCOS were nearly three times as likely as those without the illness to report anxiety symptoms, according to six studies. Of course, the link between PCOS and anxiety isn't apparent, but doctors believe it's at least partly related to the symptoms themselves. "Physical signs of PCOS cause considerable social anxiety, generalised anxiety, and panic episodes in many persons with PCOS," Magavi explains. "Some people battle with infertility, which can cause concern over whether or not they will be able to have children and start a family." Many persons with PCOS have high levels of androgens (a hormone group that includes testosterone). Only one study looked at testosterone levels and found that they had no effect on depression or anxiety symptoms. Higher levels of DHEAS (an androgen hormone) may be linked to an increased risk of depression and anxiety in PCOS patients, however this was only discovered in one study, and additional research is needed.

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## III. RESEARCH METHODOLOGY

**3.1 Research Approach:**

**3.2 Population and Sample:**Prevalidated self-administered Indian versions of theHAM-A and HAM-D questionnaires were used to collect data (Almeshari et al.). The participants were given a demographic sheet to fill out in order to assess sociodemographic characteristics. The Indian version of the (HAM-A) was used to assess the presence of anxiety. It is a fourteen-item questionnaire that assesses the severity of anxiety symptoms such as worries, anxiety-related cardiovascular manifestations, sensory bodily complaints, and sleeplessness. On a five-level Likert scale, all of the items were ranked (0-4). Symptoms range from zero to four, with zero indicating no symptoms and four indicating severe symptoms. The lowest score was zero, and the highest was 56. The threshold for anxiety symptoms is thought to be 14 or higher. The Indian version of the HAM-D has seventeen questions that assess several aspects of depression, such as bodily manifestations, suicidal ideation, agitation, and guilt sentiments. The first seven items had five levels, the eighth had four (0-3) levels, and the rest had three. The range of scores was 0 to 49. A score of ten is recommendedthreshold for depressive symptoms. The area selected for collection of the samples was Madhya Pradesh, India.

**3.3 Research Tools:**

**3.4 Data Collection Method:** In this study, tool consist: socio-demographic profile data

**3.5 Statistical Analysis:** Statistical analysis was performed using SPSS Statistics launched version 25 was used.Sociodemographic characteristics were collected by making sure of a proforma. Microsoft excel and Microsoft word applications were used to make the tables and the graphs.After that, descriptive statistics are used to describe frequencies and percentages for categorical variables like marital status and monthly income, as well as mean and standard deviation for continuous variables like age and infertility length. The relation of sociodemographic factors with anxiety and depression was assessed using inferential statistics utilising Chi-square.

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## IV. RESULTS AND DISCUSSION:

**4.1**

Comparison of presence of anxietyamong adult women with PCOS in relation to demography and marital status.

It is evident from the Table 1 that depressive mood and tension are the highest contributor towards mental disorders among women having PCOS. The presence of anxiety symptoms was statistically substantially linked with marital status, monthly income, and employment position among the demographic variables. With 59 (48%) single women were more likely to develop anxiety symptoms. Furthermore, lower income was linked to a higher incidence of anxiety symptoms 18 (67%) also, nonemployed women were more likely than employed women to experience anxiety symptoms. On cross-tabulation, none of the sociodemographic factors exhibited significant effects for depression symptoms.

| Symptoms | Number of participants (SINGLE) | PERCENTAGE | NUMBER OF PARTICIPANTS (MARRIED) | PERCENTAGE |
|---|---|---|---|---|
| Anxious mood | 93 | 37.2 | 76 | 30.4 |
| Tension | 99 | 39.6 | 84 | 33.6 |
| Fears | 58 | 23.2 | 43 | 17.2 |
| Insomnia | 83 | 33.2 | 83 | 33.2 |
| Intellectual | 77 | 30.8 | 86 | 34.4 |
| Depressed mood | 83 | 33.2 | 61 | 24.4 |
| Somatic (muscular) | 54 | 21.6 | 34 | 13.6 |
| Somatic (sensory) | 63 | 25.2 | 67 | 26.8 |
| Cardiovascular symptoms | 54 | 21.6 | 55 | 22 |
| Respiratory symptoms | 63 | 25.2 | 48 | 19.2 |
| Gastrointestinal symptoms | 65 | 26 | 48 | 19.2 |
| Genitourinary symptom | 82 | 32.8 | 74 | 29.6 |
| Autonomic symptoms | 61 | 24.4 | 69 | 27.6 |
| Behavior at interview | 56 | 22.4 | 39 | 15.6 |

**Table 1.** Comparison of various symptoms of anxiety of PCOS among women during pre-marital

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and post marital period

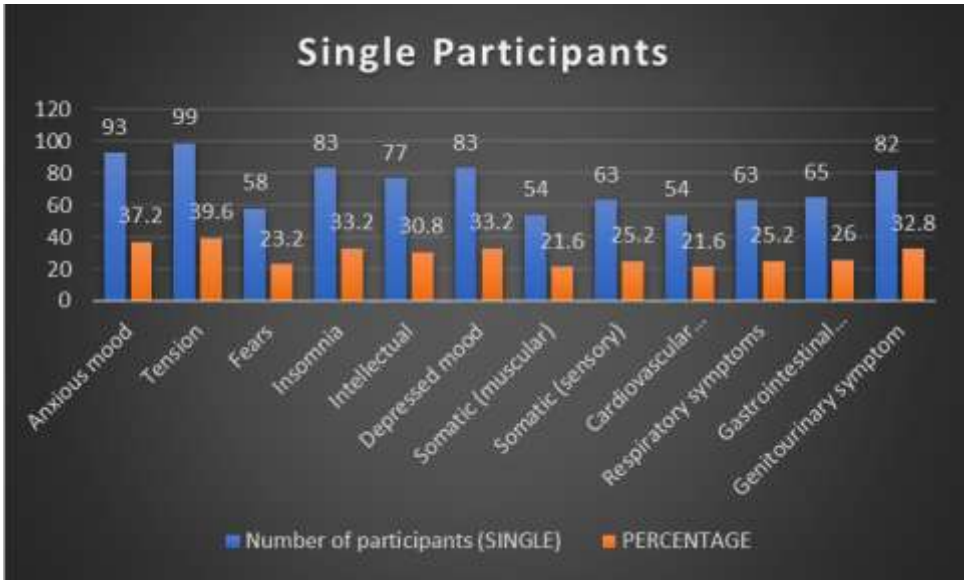


**Figure1**.Bar diagram showing single women having PCOS (in percentage) suffering from various ailments

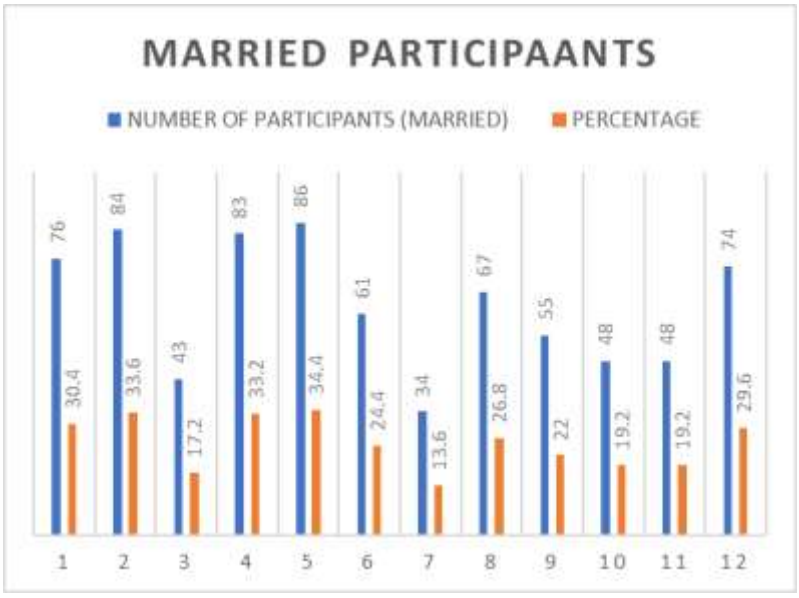


**Figure 2.** Bar diagram showing married women having PCOS (in percentage)

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It can be seen from the chart that the elements like fear, tension, anxiety are much more among women in the pre-marital stages. However, as they get married, they are often able to solve these issues and can work on themselves to work over these. However, at the same time it is seen that autonomic symptoms increase among married women.69(27.6%) of respondents have autonomic symptoms in post married period. This shows that they are altogether troubled by many thoughts like after marriage responsibilities and many other such aspects.

| Symptoms | Presence of anxiety (PERCENTAGE) | Symptoms | Presence of Depression (PERCENTAGE) |
|---|---|---|---|
| Tension | 73 | Depressed mood | 62 |
| Anxious mood | 68 | Anxiety psychic | 62 |
| Insomnia | 67 | Insomnia initial | 55 |
| Intellectual | 66 | Somatic symptoms general | 55 |
| genitourinary | 62 | Genital symptoms | 54 |
| Depressed mood | 58 | Anxiety somatic | 53 |
| Somatic (sensory) | 52 | Feeling of guilt | 48 |
| Automatic | 52 | Work and interest | 48 |
| Gastrointestinal | 45 | Somatic symptoms GI | 43 |
| Respiratory | 44 | Insomnia delayed | 34 |
| Cardiovascular | 44 | Weight loss | 29 |
| fears | 40 | Hypochondriasis | 27 |
| Behaviour at interview | 38 | Agitation | 18 |
| Somatic (muscular) | 35 | Insight | 14 |
| | | Suicide | 10 |
| | | Insomnia middle | 42 |
| | | retardation | 35 |

**Table 2.** Presence of anxiety and depression among women with PCOS

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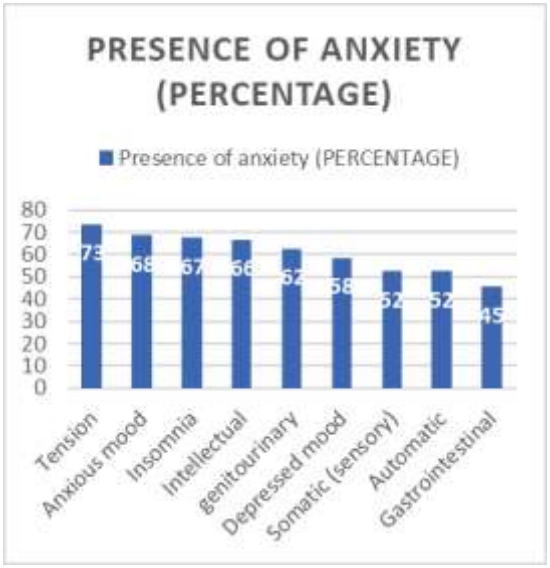


**Figure 3**. Presence of Anxiety among women with PCOS

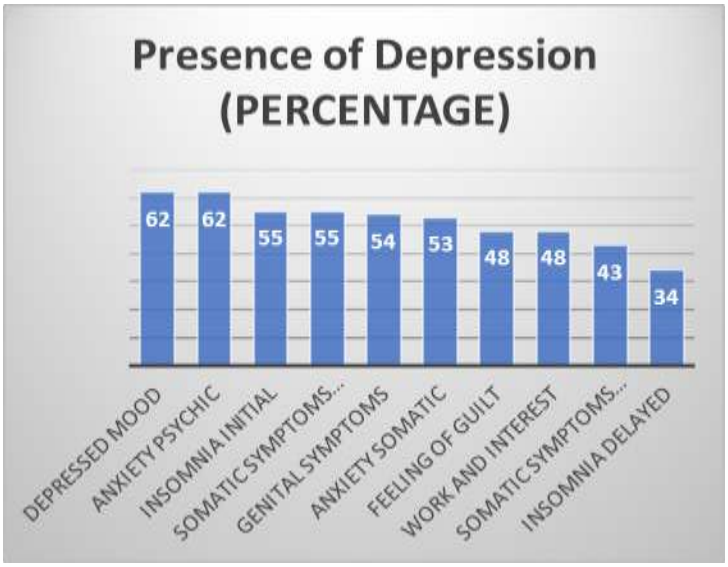


**Figure 4**. Presence of Depression among women with PCOS

## V. Discussion

The study was carried out to determine the prevalence of anxiety and depression symptoms in PCOS patients, as well as the effect of sociodemographic profile on these symptoms' prevalence.

More than a third of women with PCOS (40%) experienced anxiety symptoms, with 18% reporting moderate symptoms and 6% reporting severe Peña et al., (2019). Theoretically, this is due to the

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nature of their concern being secondary to rather than intrinsic to their ailment. Tension was the most prevalent sign of anxiety, while physical pain was the least prevalent. Physical signs of PCOS, such as acne, obesity, and hirsutism, can contribute to a negative self-image and low self-esteem, which could explain the high prevalence of anxiety in PCOS women. They may also have fears and concerns about the future and their capacity to conceive.

As suggested by van et al., (2017), anxiety symptoms were analysed among diverse socioeconomic characteristics in this study, and single women were shown to have significantly higher anxiety symptoms than married women. According to studies by Duica et al., PCOS symptoms such as obesity, hirsutism, and menstrual irregularities may put women under a lot of stress, including low self-esteem, negative body image, concerns about future complications, and difficulty finding a life partner, all of which may increase stress caused by society's expectations of marital status and physical appearance (Bala et al., 2019). Singlehood was found to be a predictor of anxiety due to stressors such as loneliness, financial support, and social commitments in a western study; regrettably, no local research on singlehood anxiety that may be influenced by ethnicity were found. In contrast, a study that assessed the quality of life of such women found that menstrual cycle disturbances and infertility had no effect on the participants' mental well-being; this finding could be explained by the fact that the study's mean age was higher than ours; thus, menstruation and fertility concerns are mostly associated with younger age.

When the patients' anxiety symptoms were examined further, single women reported tension and panic as the most common symptoms. According to studies, the unfavourable reaction from society to the patient's physical appearance, android fat distribution, acne, and masculine body hair are all possible causes of such findings, which can lead to panic, social phobia, and isolation.

It has been seen that the findings of this study are similar to the earlier ones. This is because the women patients who are diagnosed with PCOS suffer from anxiety, tensions and other issues and so they must be supported.

Other socioeconomic characteristics strongly linked to anxiety symptoms in this study's group included unemployment and poor income. Nonemployment has been identified as a known risk factor for both anxiety and depression in the research. Being jobless can have a detrimental impact on an individual owing to financial and economic challenges arising from a lack of income sources. Nonemployment causes stress not just because of financial commitments, but also because it causes low self-esteem and identity concerns, because employment allows a person to shape their identity, be in constant social interactions, and acquire social ranks, all of which contribute to their self-image.

Some subjects showed signs of depression. Similarly, research of women with PCOS to identify the risk of depression discovered that depression was present in 40% of the women. There could be numerous reasons for the significant prevalence of depressive symptoms in PCOS patients. Infertility and premenstrual symptoms, for example, are biological or hormonal issues. Differences in cultural and ethnic backgrounds could explain the disparity in outcomes. Given that women in patriarchal societies in the Middle East face more social pressures when it comes to marriage and

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childbearing. Mild to moderate depression was the most common in this study, accounting for 30% of mild depression and 19% of moderate depression. A meta-analysis, on the other hand, discovered that 11 research indicated a high prevalence of moderate to severe depressive symptomatology in PCOS women.

With a percentage of 10%, suicidal thoughts were determined to be the least reported depressive symptom. In contrast, case-control research in Sweden that looked at the link between PCOS and psychiatric symptoms and disorders discovered that suicidal attempts were seven times greater in PCOS patients than in controls. The difference in suicidality rates between Sweden and the current study could be attributed to the influence of Islam on Muslim values and ideas about suicide prohibition.

None of the sociodemographic characteristics yielded significant results for depression symptoms when cross-tabulated. PCOS patients who experienced conception delay, on the other hand, exhibited higher depressed symptoms than those who did not, with 30 (56%) vs. 19 (37%), respectively. This conclusion was also found in an Italian study that compared two groups of infertile participants to two groups of fertile subjects using the HAM-D. Both the infertile and control groups had considerably higher scores than the control groups, with an average of over the mild depression cutoff levels. PCOS-related infertility can lead to stress and psychological disorders such as discomfort, social maladjustment, and a sense of loss of control. Because having children is a significant aspect of some women's female identity, infertility has an impact on their quality of life, as well as their partner and family. Infertility is also linked to low self-esteem, low social standing, divorce, and discontent with one's career. The impact of infertility on women is said to be influenced by socio-cultural variables, customs, and religious beliefs.

## VI. Limitations

The impact of socio-cultural (religious) background on health-related quality of life in PCOS women with infertility was investigated in research of Austrian women and Muslim immigrants in Vienna. Infertility is not as much of a barrier for Austrian women as it is for Muslim women.

The study had a number of limitations, one of which being the fact that it was a cross-sectional study. It hampered a thorough examination of all elements of PCOS and its potential psychological consequences. Furthermore, the use of questionnaires resulted in response bias, selection bias, and the use of only screening tools, which limited the full evaluation of anxiety and depression, resulting in the results being interpreted only in the context of anxiety and depressive symptoms, which was also due to the lack of a psychologist consultation. Furthermore, some literature suggests that a patient's BMI and hormonal profile may be a contributing factor in their mental symptoms; consequently, the absence of these variables in this study was deemed a restriction. Due to the impossibility to obtain a full picture about anxiety and mood problems in the PCOS community in India, the study being conducted at one centre and the lack of a control group were also deemed limitations.

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## VII. Conclusion

In women with PCOS, the overall prevalence of depressive symptoms was 49 percent, compared to 40 percent who had anxious symptoms. Single marital status and unemployment were found to be predictors of anxiety in PCOS women. Clinicians should be aware of the elevated risk of these women acquiring anxiety or depressive syndromes and should screen them for these symptoms on a regular basis. The treatment approach should include appropriate pharmaceutical treatment, as well as proper psychotherapeutics and psychosocial support.

## VIII. IMPLICATIONS OF THE STUDY

NURSING PRACTICE: - Nurses and gynaecologists must be on the lookout for new and better ways to teach their students how to support women who are suffering from this disease**.**
NURSING EDUCATION: -As an educator, there will be a plethora of opportunities to develop some good knowledge, not only in terms of developing a continuous upkeep psychotropic medication during the treatment of PCOS and PCOD so that they do not suffer from stigma or marginalisation, but also in terms of developing a few other good knowledge in terms of developing some good knowledge in terms of developing some good knowledge in terms of developing a continuous upkeep psychotropic medication during the treatment of PCOS and PCOD so that they do not suffer from stigma or marginalisation.

NURSING RESEARCH: -The findings pave the way for further research into the areas of mental problems that may arise as a result of PCOS, as well as treatment options.

## IX. RECOMMENDATIONS

### Self-care

Self-care is one of the most essential cures that must be adopted in order to deal with mental issues like anxiety, tension and fear during PCOS. Patients must be supported by their family members at all fronts. In addition to this all the patients must be asked to eat healthy and to stay happy from inside so that they are not mentally tortured by any thoughts of fear, tension that can stress their minds.

### Lifestyle changes

It's been studied how food and exercise affectSymptoms of despair and anxiety in PCOS patients. Low-calorie diets mixed with exercise do not appear to alleviate anxiety symptoms and may only provide temporary relief from melancholy. In general, highly active lifestyle may be beneficial to one's mental health. Physical activity reduced anxiety and depression symptoms in people with PCOS, but those who exercised with at least 15 each week were less likely to be depressed.

### Intake of Medications and health supplements

Antidepressants and anti-anxiety medications have not been studied especially for treating persons with PCOS, although they may be taken in the same manner, they are for those without PCOS. Metformin, a medication that aids the body's usage of insulin, may help patients with PCOS feel

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less depressed. Anxiety symptoms may also be helped by metformin. Takingmedicinal doses like omega-3 tablets, fatty acids from the intake of food items like fish oil along with combination with Vitamin D is likely to help persons with PCOS feel less depressed and anxious.

### Complementary and alternative therapies

People with PCOS who receive acupuncture and practise mindfulness for 30 minutes a day may have a reduction in depression and anxiety. Yoga, which involves positions, guided relaxation, breathing techniques, and meditation, may help persons with PCOS reduce their anxiety symptoms.

PCOS can cause an increase in facial hair in some persons. They may be self-conscious about it depending on the culture they live in. Laser hair removal may alleviate melancholy and anxiety symptoms in patients with PCOS who are bothered by facial hair. More research is needed to determine the most effective therapies for sadness and anxiety in PCOS patients.

**Disclosures**

There is no any conflict of interest among authors.

**Permissions**

All procedures were followed in accordance with the ethical standards of the responsible committee on human experimentation and informed consent was taken from all patients included in the study.

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