PROJECT REPORT

ANXIETY AND DEPRESSION AMONG UNMARRIED WOMEN (YOUNG ADULTS) WITH PCOS AND THOSE WITHOUT PCOS

CHAPTER 1

INTRODUCTION

INTRODUCTION

PCOS stands for polycystic ovarian syndrome. This is the most common disorder affecting women. It is seen in about 5to 10%of women of reproductive age in the western world (Franks1995). The Indian fertility society reported a prevalence rate of 3.7% to22.5% of PCOS in India. PCOS is a genetic condition with multiple phenotypes and various appearances. Women affected by this have hormonal imbalance that causes infertility, obesity and excessive facial hair. It can also lead to severe mental problems including anxiety, depression, eating disorders and social isolation. Among the problems caused by PCOS, acne, obesity, hirsutism, infertility and menstrual irregularities have the most negative impacton the lives of women. Mental problems are seen more commonly in women of younger age suffering from PCOS.

Psychological problems arise in women with PCOS particularly due to obesity, excessivebody hair, infertility and changes in physical appearances. The women who are diagnosed to have PCOS are three times more likely to be diagnosed with anxiety and depression than women without PCOS. Studies show that around 27% to 50% of women with PCOS report depression as compared to 19% of women without PCOS.

One of the characteristics of PCOS is infertility and/or subfertility. Duration of infertility, duration of its treatment, types of treatment, and causes of infertility among the women who wish to have child create pressure on the couples. Also, child expectation of the society and expressing this expectation affect the depth and severity of psychiatric symptoms. However, the relevant literature is rather limited and contradictory. A meta-analysis published reported that depression frequency increases with PCOS. According to this meta-analysis, when previously published reviews and meta-analysis were examined, it was seen that almost all of these studies emphasized that the number of the groups was

small and they discussed PCOS as a whole but did not deal with its symptoms, and therefore, the concept of causality was lost.

SYMPTOMS: Hirsutism, acne and obesity are the important symptoms of PCOS and these impact women psychologically which further leads them to withdraw from society. Particularly among the adolescent girls it may lead to anxiety and depression caused mainly due to a negative body image and fear of dislike from society.

Anxiety is distinguished from fear, which is an appropriate cognitive and emotional response to a perceived threat and is related to the specific behaviours of fight-or-flight responses, defensive behaviour or escape. It occurs in situations only perceived as uncontrollable or unavoidable, but not realistically so. Barlow (2001) defined anxiety as "a future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative events," and that it is a distinction between future and present dangers which divides anxiety and fear. In positive psychology, anxiety is described as the mental state that results from a difficult challenge for which the subject has insufficient coping skills.

distorted.

Anxiety is considered to be a normal reaction to a stressor. It may help an individual to deal with a demanding situation by prompting them to cope with it. However, when anxiety becomes overwhelming, it may fall under the classification of anxiety disorder. Generally, it helps in improving the performance of an individual. It means anxiety should not cross its threshold value; otherwise, it will reach its abnormal level (National Institute of Mental Health, 2008).

Anxiety can be experienced with long, drawn out daily symptoms that reduce quality of life, known as chronic (or generalized) anxiety, or it can be experienced in short spurts with sporadic, stressful panic attacks, known as acute anxiety. Symptoms of anxiety can range in number, intensity, and frequency, depending on the person. While almost everyone has experienced anxiety at some point in their lives, most do not develop long-term problems with anxiety. Anxiety is particularly a human phenomenon and is considered to be a unique contribution of the 21st century to the mankind. The twenty

first century is also known as "the age of anxiety". Fear or anxiety has evolved over countless generations as an adaptive mechanism for coping with dangerous or threatening situation and both terms have been used synonymously. However, there is a distinction between fear and anxiety. The former is episodic whereas the latter is chronic (Jitender & Mona, 2015).

DEPRESSION

THE SYMPTOMS OF DEPRESSION

The severity of the symptoms also varies from person to person:

a) Persistent sad, anxious, or “empty” mood

b) Loss of interest or pleasure in your usual activities, including sex

c) Restlessness, irritability, or excessive crying

d) Feelings of guilt, worthlessness, helplessness, hopelessness, pessimism

f) Sleeping too much or too little, early morning awakening

g) Appetite and/or weight-loss or overeating and weight-gain

h) Decreased energy, fatigue, feeling of “slowed down”

i) Thoughts of death or suicide, or suicide attempts

j) Difficulty concentrating, remembering, or making decisions

Women with PCOS experience higher rates of depression and anxiety than women without PCOS. Therefore, Indian as well as international guidelines suggest that the psychological factors must be accounted as well as screened for in all women with PCOS. Two of the studies conducted assessed the prevalence of anxiety and depressive disorders among women with PCOS and found a prevalence of 28% and 39% for anxiety and 11% and 25% for depression. Many studies, for example, Hollinrake et al. (2007) found that anxiety and depression are higher in PCOS women than healthy women. Most studies have focused on depression but others, such as Månssonet al. (2008), found that anxiety

in PCOS is also an important issue. It has been suggested that mood problems in PCOS are caused by the distress associated with the symptoms often seen in PCOS (obesity, hirsutism etc.; Eggers and Kirchengast, 2001). In general, studies find that obesity is related to depression, both in healthy women (Stunkardet al., 2003) and in PCOS women (Rasgonet al., 2003). Women vary in how much their mood is affected by the various PCOS symptoms. For example, Farrell and Antoni (2010) suggest that PCOS symptoms that affect appearance are more likely to cause distress in younger women than older women. Because PCOS involves so many potentially distressing symptoms, it is difficult to identify the main cause of distress or the relative contribution of causal factors. In addition, PCOS is associated with obesity. It is therefore perhaps not surprising that women with PCOS experience mood dysfunction and psychiatric problems to a greater degree than women without PCOS (Farrell and Antoni, 2010). In a Brazilian cohort of women with PCOS, researchers found that approximately 58% had one depressive disorder, 78% had behavioral changes, 26% had major depressive disorder, and 11% had bipolar disorder. In addition, Weiss and Bulmer conducted a study assessing psychological characteristics of PCOS and found that 24% of women had mild depression, 5% of women had moderate depression, and 2% of women had severe depression. Thus, the present study will be an attempt in this direction.

CHAPTER 2

REVIEW OF RELATED LITERATURE

INTRODUCTION

"An essential aspect of a research project is review of related literature"

- J. Mouly (1979)

The review of related literature is as important as any other component of research process. It involves the systematic identification, location and anal ysis of documents containing information related to the research problem. The major purpose of reviewing the literature is to determine the study already been done that relates to one‟s problem. Another important function of review is how it helps in planning the present work or the resources, and specific procedures and meaning instruments that have been opted for this work. Being familiar with previous research also facilitates interpretation of the results of the study. Finally, these reviews give information which can either support or challenge the conclusions of the investigator‟s research and therefore provide clues to later research.

NEED FOR THE REVIEW OF LITERATURE

A thorough survey of literature can be of great help to the investigator to understand the problem from different dimensions. It enriches the study. It gives necessary insight to the research study by which one can think creatively.

PURPOSE OF THE REVIEW

1. The review of related literature enables the researcher to define the limits of his field. It helps the researcher to delimit and define his problem. The knowledge of related literature, brings the researcher up-to-date on the work which others have done and thus to state the objectives clearly and concisely.
2. By reviewing the related literature the researcher can avoid unfruitful and useless problem areas. He can select those areas in which positive findings are very, likely to result and his endeavors would be likely to add to the knowledge in a meaningful way.
3. Through the review of related literature, the researcher can avoid unintentional duplication of well established findings. It is no use to replicate a study when the stability and validity of its results have been clearly established.
4. The final and important specific reason for reviewing the related literature is to know about the recommendations of previous researchers listed in their studies for further research.

Studies related to Anxiety and depression among women due to PCOS

Aditi P (2018) studied 70 females of reproductive age group (18-45 years) having PCOS, as per Rotterdam criteria, and without any other psychiatric illness that could lead to anxiety and depression. They were rated as per Hamilton Rating Scale. Out of the 70 females,27 were found to be suffering from anxiety disorder, while 18 were found to be suffering from depression and 10females (14.3%) suffered from both anxiety and depression. They found the prevalence of anxiety to be about 38.6% and that of

depression about 25.7% in their study. 50% of the total sample, i.e., 35 females had neither anxiety nor depression. They also found that symptoms like infertility and alopecia contributed to anxiety, while acne contributed to depression. The Hamilton Rating Scale was used to measure anxiety and depression. The results showed 62.9% mild, 29.6% moderate and 7.4% severe cases of anxiety. In the case of depression, there were 50% mild, 38.8% moderate, 11.10% severe cases. The Indian study from Kashmir Hussain A, Chandel RK, Ganie MA, Dar MA, Rather YH, Wani ZA, et al. also found relation between PCOS and anxiety and depression. They pointed out about 39% and 27% respectively for anxiety and depression.

Livadas S (2011) conducted a study on Anxiety is associated with hormonal and metabolic profile in women with polycystic ovarian syndrome. Increased prevalence of psychological morbidities, including anxiety, depression and eating disorders, has been reported in women with polycystic ovary syndrome (PCOS) in comparison with normal ovulating, non hyperandrogenemic women. The objective of the study was to investigate the relationship between the degree of anxiety, depression and eating disorders via self-reported symptoms and the severity of hormonal and metabolic aberrations in women with PCOS. For this purpose, the PCOS cohort was subdivided into three subgroups according to the degree of anxiety. One hundred and thirty women with PCOS of similar age and BMI were studied. In each subject, hormonal and metabolic status as well as psychological profile was assessed with the use of specific questionnaires. Specifically, anxiety (trait and state) was assessed with the use of STAI-T and STAI-S, while depression and eating disorders were evaluated with the use of the Beck Depression Inventory and the Eating Attitudes test, respectively.

The study revealed that the subgroups did not differ in age and BMI. Subjects with the highest STAI-S compared with those with the lowest STAI-S displayed significantly higher the homeostasis assessment model-insulin resistance (HOMA-IR) and free androgen index values ($P < 0{\cdot}05$), respectively. Regarding trait anxiety, assessed by STAI-T, HOMA-IR values were significantly elevated ($P < 0{\cdot}05$) in the subgroup with the higher STAI-T score compared with the HOMA-IR in the group with the lower STAI-T score.

In women with PCOS, the degree of anxiety, state and trait (STAI-S, STAI-T) appears to vary in a pattern similar to that of hyperandrogenemia and insulin resistance, independently of age and BMI. The pathophysiological mechanisms underlying the association of psychological morbidities with androgen excess and insulin resistance in PCOS remain to be elucidated.

CHAPTER 3

SIGNIFICANCE OF THE STUDY

SIGNIFICANCE OF THE STUDY

With the help of this study, early intervention can be given to women having PCOS thereby improving their quality of life. Psychological health is related to the management of polycystic ovary syndrome (PCOS) and is an essential component of self-efficacy and enjoying a healthy lifestyle. There is a need to formulate a plan to improve the psychological health of women with PCOS.

Mental health is fundamental to good health and wellbeing and influences social and economic outcomes across the lifespan and it is one of the most important indicators of the quality of health care in society. Many chronic illnesses have mental health impacts. In PCOS, symptoms and co-morbidities increase the risk of adverse psychological health consequences. While, mental health is particularly related to the management of polycystic ovary syndrome and is an essential component of self-efficacy and enjoying a healthy lifestyle .Lifestyle modification is the priority in the management of polycystic ovary syndrome, since small changes in these women's lifestyle and a balanced weight, can improve symptoms, and increase ovulation and improve fertility .However, mental disorders including depression or anxiety reduce these critical components and prevent of lifestyle modification and subsequently the disease will show negative clinical outcomes . There has been little attention paid to the mental health of women with PCOS, and it is necessary to evaluate and manage the mental health among this group of women. Therefore, this study was conducted to improve the psychological health for women with PCOS.

CHAPTER 4
METHODOLOGY

RESEARCH METHODOLOGY

Research is a systematic attempt to obtain answers to meaningful questions about phenomenon or events through the application of scientific procedures. It an objective, impartial, empirical and logical analysis and recording of controlled observation that may led to the development of generalizations, principles or theories, resulting to some extent in prediction and control of events that may be consequences or causes of specific phenomenon. Research is a systematic and refined technique of thinking, employing specialized tools, instruments and procedures in order to obtain a more adequate solution of a problem than would be possible under ordinary mean. Thus, research always starts from question. There are three objectives of research factual, practical and theoretical, which gives rise to three types of research: historical, experimental and descriptive.

Research Problem

Research Problem

The research problem for the present study is to compare anxiety and depression level among women with PCOS and to compare it with Women without PCOS. This study also aims to compare the other factors such as marital, employment for women with PCOS

Objectives

To compare anxiety level in women with and without PCOS

To compare depression level in women with and without PCOS

To compare anxiety, depression with PCOS with and without employment

Hypotheses

There is significant difference in the anxiety level of women with PCOS and without PCOS

There is significant difference in the depression level of women with PCOS and without

PCOS

There is significant difference in the level of anxiety and depression level of women with PCOS with employment.

Operational definitions

PCOS: It is a "syndrome" or a group of symptoms that affects the ovaries and ovulations. It has three main features:

- Cysts in ovaries
- High level of male hormones
- Irregular or skipped periods

ANXIETY: Anxiety is an unpleasant feeling of nervousness, fear or worry that something bad is happening or about to happen. For some people, these feelings can become persistent and extreme. Ongoing feeling of anxiety can interfere with daily life, have physical effects, and can require treatment.

DEPRESSION: It is a serious and common illness that negatively affects the way a person thinks, feels, and acts. People with depression have persistent extreme negative feelings and thoughts. Depression can affect people both physically and emotionally and leads to hindrance of day-to-day activities.

Depression and anxiety affect the quality of life in several ways:

- Physically- by disrupting eating and sleeping patterns.
- Psychologically-by reducing motivation and increasing feeling of worthlessness.
- Socially- by affecting relationships.

Sample

The sample were matched for their income , socio economic background , education of the study was 120 women (unmarried and employed) out of which 60 was diagnosed with PCOS and 60 diagnosed without PCOS.

Sampling criteria

The sampling techniques in our study, we was used purposive sampling, i.e., seeking out individuals that meet certain criteria. There was 120 women (unmarried and employed), out of which 60 diagnosed women with PCOS and 60 women without PCOS

Inclusion Criteria –

1)Women diagnosed with PCOS by professional gynaecologist

2) Young Adult (female) in reproductive age group (21 to 25 years)

3)Person willing to give informed consent

4)Unmarried females

5)Employed women

Exclusion Criteria –

1)Women who have any psychiatric disorders and medical conditions which could lead to anxiety and depression problems.

2)Women having a concurrent, significant medical illness.

3)Women Below 21 and above 25

4) Married Women

5)Unemployed women

Research Design

Research Design is the framework of research methods and techniques chosen by a researcher. In the present study, the aim is to find out whether there is any relation between anxiety and depression and PCOS in women. So, we followed the approach of correlational research design to find out whether there was positive, negative, or zero correlation between our two variables, without controlling them in any way. In this study:

Variable of the study

Independent Variable – PCOS

Dependent Variable – Anxiety and Depression

Tools Used-

Socio-Demographic Sheet and Consent Form

To collect the information about the social and demographic factors such as name, Age, gender, and other demographic details of the participants. As an ethical practice, consent was taken from the participants and they was informed about the study. They was eligible to participate only if they sign the informed consent voluntarily.

BECK DEPRESSION INVENTORY (ORIGINAL BDI, BECK ET AL., 1961)

The BDI was first introduced in 1961, and it has been revised several times since (Beck et al., 1988). The BDI has been widely used as an assessment instrument in gauging the intensity of depression in patients who meet clinical diagnostic criteria for depressive

syndromes. However, the BDI has also found a place in research with normal populations, where the focus of use has been on detecting depression or depressive ideation.

The acceptable reliability and validity of the BDI have helped make it a widely used objective index of depressive thinking among clinicians. Perhaps the most obvious use of the BDI is as an index of change in the level or intensity of depression. With an increasing focus on managed healthcare and accountability by psychotherapeutic service providers, the BDI offers a reliable and valid index of depressive symptoms and attitudes which can be used effectively to document changes brought about in therapy.

Original BDI is a self-administered scale, and it takes approximately 15 minutes to complete, although clients require a fifth – sixth grade reading age to adequately understand the questions. These 21-item scale including mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self- dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido.

It should be mentioned that instrument was used in study (BDI) is a self-reported instrument, and the researcher had no interference in self- observations.

Validity

The average correlation of the BDI total scores with clinical ratings of depression was > .90 for both psychiatric patients and normal adults. The BDI discriminates among subtypes of mood disorders, such as dysthymia and major depression, and symptoms, such as sadness and loss of libido. The BDI also differentiates psychiatric outpatients who are diagnosed with major depression and generalized anxiety disorders.

Reliability

Internal consistency for the BDI ranges from .73 to .92 with a mean of .86 (Beck, Steer, & Garbin, 1988) The BDI demonstrates high internal consistency, with alpha coefficients of .86 and .81 for psychiatric and non-psychiatric populations, respectively (Beck et al., 1988)

Scoring

When the test is scored, a value of 0 to 3 is assigned for each answer and then the total

score is compared to a key to determine the depression's severity. The standard cut-offs are as follows: 0-9 indicates that a person is not depressed, 10-18 indicates mild-moderate depression, 19-29 indicates moderate-severe depression and 30-63 signifies severe depression. Higher total scores indicate more severe depressive symptoms.

STATE TRAIT ANXIETY INVENTORY (STAI)

The STAI was developed by Spielberger et al. (1970) to measure anxiety from the perspective of states vs. traits. The state measurement assesses how the individual feels "right now" or at this moment. Subjects are asked to rate the intensity of their anxious feelings on a four point scale as to their experience of feelings in terms of: not at all, somewhat, moderately so, or very much so. The trait anxiety measure addresses how the individuals generally feel by rating themselves on a four-point scale: almost never, sometimes, often, or almost always.

Reliability: This standardized tool was tested in the locality by many researchers. Split-half reliability was 0 .89 for State anxiety and 0.79 for Trait anxiety.

Validity: The correlation coefficient obtained for State inventory was 0.84 and for Trait inventory was 0.86. Face validity was also assured by item analysis. Cronbach's alpha, in the previous study was >0.88 for state anxiety and >0.83 for trait anxiety.

Scoring: The range of possible scores of STAI varies from minimum score of twenty to maximum score of 80 in both State and Trait subscales. Clients respond to each STAI item by rating themselves on a four-point scale as described below :

State Anxiety	**Trait Anxiety**
1. Not at all	1. Almost never
2. Somewhat	2. Sometimes
3. Moderately so	3. Often
4. Very much so	4.Almost always

The total score of 160 is considered as the maximum scores for STAI and in this study STAI score of < 50% will be considered as mild anxiety, 50-70% as moderate anxiety and above 70% scores as severe anxiety.

STATISTICAL TECHNIQUES

The data was analysed by using descriptive statistics and inferential statistic i.e., t' test.

Descriptive statistics was used to arrange the data in the form of tables, graphs, and figures, by using mean, standard deviation, frequency, and percentage.

Inferential statistics was used to test the hypothesis by using, t-test.

T Test was used to study the significant difference in the anxiety and depression level of women with PCOS and without PCOS. Further, t test was used to study the significant difference in the level of anxiety and depression level of women with PCOS with employment.

CHAPTER 5
REUSLTS & DISCUSSION

RESULTS & DISCUSSION

Keeping in view the objectives of the study and their corresponding hypotheses, the data was statistically processed using appropriate design and technique. Hence, after the data has been collected this must be processed an analyzed to draw proper inference.

Thus, the analysis of data means studying the tabulated material in order to determine inherent factors or meanings. It involves breaking down the existing complex factors into simpler parts and putting the parts together in new arrangement for the purpose of interpretation.

Interpretation is the most important step in the total research process. It calls for a critical examination of the results of one's analysis in the light of all limitations of data gathered. Thus analysis and interpretations of data help researchers to attack the related

problems with appropriate statistical techniques to avoid the unnecessary labour. For ANXIETY AND DEPRESSION AMONG UNMARRIED WOMEN (YOUNG ADULTS) WITH PCOS AND THOSE WITHOUT PCOS, the data analysis and interpretation was calculated as follows:

A total of 120 women were included in the final analysis of study among which 60 women were in PCOS group and 60 women were in Non PCOS group. Initially, 60 women with PCOS were screened for anxiety and depression. The mean age (years) in PCOD group was 24.99 (SD±6.17) and in control group was 25.00 (SD±6.58). The sociodemographic, details of the study population are given in Table 1.

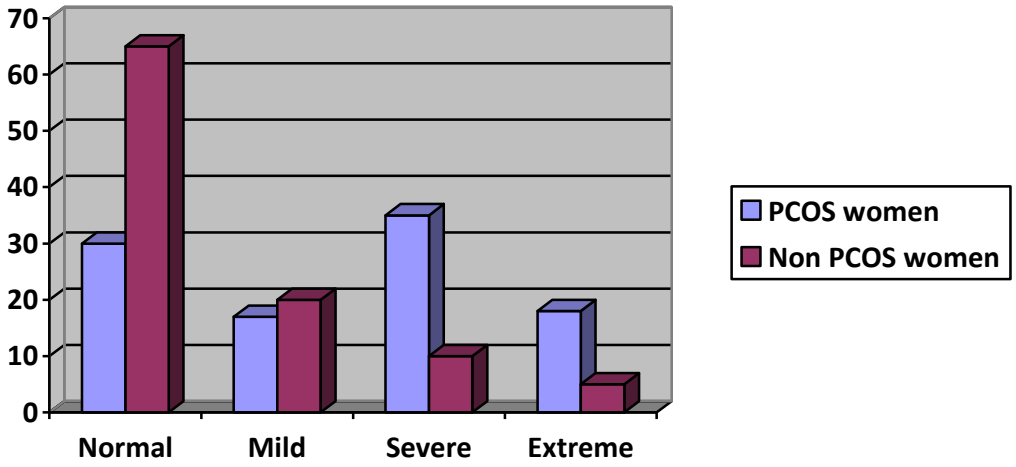
Table 1: Showing the Socio demographic details of the respondent

Variables	**Women with PCOS (N=60)**	**Women without PCOS (N=60)**
Age (years)*	24.99	25.00
Marital status		
Married	30	35
Unmarried	10	5
Education level		
Less than high school	10	11
High school and above	30	29
Menstrual cycle abnormalities (N/%)		

Normal	32%	70
Oligomenorrhoea	(57%)	(19%)
Secondary amenorrhea	(7%)	(2%)
Irregular cycles	(4%)	(9%)
Clinical and radiological studies (N/%)		
Hirsutism	(82%)	(32.%)
Acne	(29%)	(14%)
Acanthosis nigricans	(8%)	(3%)
Polycystic ovarian morphology (USG)	(63%)	(9%)

Table 2: Distribution of participants according to the levels of anxiety

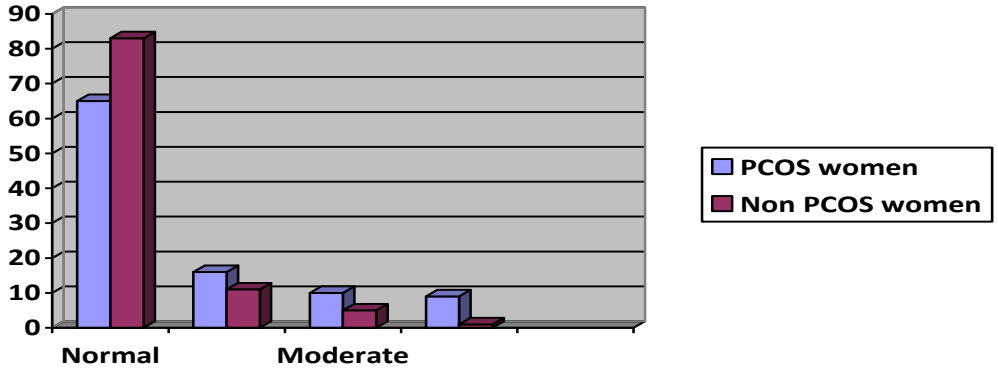
Anxiety Scoring	Normal range	Mild to moderate anxiety	severe Anxiety	Extreme anxiety
PCOS	(30%)	(17%)	(35%)	(18%)
Women without PCOS	(65%)	(20%)	(10%)	(5%)



In PCOS group, No anxiety was found in 30% women, moderate in 17% and extreme anxiety was found in 18% of women. Whereas in Women without PCOS, only 5 % faces extreme anxiety and in 65% women no anxiety symptoms were found.

Table 3: The distribution of participants according to levels of depression

Depression Level	Normal	Mild depression	Moderate	Severely Depression
PCOS group	(65%)	(16%)	(10%)	(9%)
Women without PCOS	(83%)	(11%)	(5%)	1%



No Depressive illness was found in 65% of women with PCOS and 1% in women with no PCOS. Mild depression was found in 16%, moderate depression in 10%, and severe depression in 9% of women with PCOS.

CHAPTER 6
CONCLUSION & IMPLICATION

MAJOR FINDINGS

- The comparison of scores of PCOS and Women without PCOS on anxiety level, which shows that there is significant difference between PCOS women and Women without PCOS (t=2.99, df=118, significant at 0.01 level of significance). Thus, the hypothesis state that there is significant difference in the anxiety level of women with PCOS and without PCOS is accepted.
- The comparison of scores of PCOS and Women without PCOS on depression level, which shows that there is significant difference between PCOS women and Women without PCOS (t=2.15, df=118, significant at 0.05 level of significance). Thus, the hypothesis state that there is a significant difference in the depression level of women with PCOS and without PCOS is accepted.
- The comparison of scores of women with PCOS on depression level and anxiety level, which shows that there is significant difference between women with PCOS on depression level and anxiety level (t=2.45, df=118, significant at 0.05 level of significance). Thus, the hypothesis state that there is significant difference in the level of anxiety and depression level of women with PCOS with employment is accepted.

CONCLUSION

Polycystic ovarian syndrome (PCOS) is the most common endocrine disorder among women of reproductive age, affecting approximately 5%–10% of women in the Western world. The Indian Fertility Society reported a prevalence of 3.7%–22.5% in India. Women with PCOS exhibit a wide range of symptoms such as amenorrhea, oligomenorrhea, hirsutism, subfertility or infertility, anovulation, weight gain or obesity, acne vulgaris, and androgenic alopecia.

PCOS is closely associated with psychological impairment with important implications that necessitate diagnosis and treatment of the disorders. The high prevalence rate of depression and anxiety in this population suggests that initial evaluation of all women with PCOS should also include assessment of mental health disorders. Psychological support assumes an important role in the management of the affected patients. This should not suggest that medical treatment of PCOS is not required but a thorough cooperation between medical treatment and psychological support would improve the situation PCOS affected women. Increased level of free androgen and history of menstrual irregularities were associated with mood dysfunction. The clinician should further pay attention to religious and cultural background of their patients especially in view of the factors influencing psychological well-being.

From this study, we conclude that women with PCOS are more prone to anxiety and depression with higher prevalence of moderate to severe anxiety and depression than those without PCOS.

In conclusion, the results of this study highlight the significance of screening all women with PCOS for emotional, behavioral, and psychological concerns as there is an increased risk for psychological disorders.

IMPLICATION

It is evident that due to the high prevalence of associated anxiety and depression in women with PCOS, the physical and psychological concerns of these patients should be addressed in numerous ways. First, health care providers in primary care and endocrinology clinics must consider mental health assessment and screening of adolescent girls with PCOS besides the routine physical and laboratory examination, in order to evaluate and identify potential psychological disorders. Second, identified patients must be referred to specialists for more-in-depth evaluation, diagnosis, counseling sessions, and treatment. However, access to evidence based psychological treatments is often limited in underserved settings, such as the geographic area where this study was conducted. Medical specialists treating PCOS in adolescents should identify appropriate local referral sources for patients to receive appropriate psychological treatments. Third, it would be important to educate families about PCOS and associated psychological disorders to reduce the stress, anxiety, and depression in this group of young patients. Cognitive behavioral treatments and relaxation techniques have been adapted to treat psychological symptoms in women with PCOS and could be modified to address developmental specific differences in adolescents. Group support groups and treatments in PCOS-specific practices may also help patients improve coping with their medical and psychological symptoms. Other medical treatments, such as medication, weight loss, and treatment of specific PCOS symptoms may also result in reduced symptoms of anxiety and depression. Thus, assessment of psychological symptoms should occur throughout the medical treatment to determine whether additional psychological treatments may be necessary.

CHAPTER 7
DELIMITATION & SUGGESTIONS

DELIMITATION OF THE STUDY

- The study will be delimited to Delhi only.
- The study will be delimited to 60 PCOS and 60 women without PCOS
- Further, the study will be delimited to women of age group 21-25 years

SUGGESTIONS FOR FURTHER RESEARCH STUDY

- It will be useful to include objective and subjective measures of stress that may help in understanding the mechanisms.
- A long-term follow-up and measures of cognitive changes may be studied.
- Longer duration of follow up with continued home practice for about six months

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