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ORIGINAL ARTICLE

OCCURRENCE OF ANXIETY, DEPRESSION AND QUALITY OF LIFE OF WOMEN WITH POLYCYSTIC OVARIAN SYNDROME

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ABSTRACT

Background and Aim: Polycystic Ovarian Syndrome is an endocrine problem and its prevalence is on rise day by day in Pakistan, so the study aimed to determine occurrence of Anxiety and Depression among women with Polycystic Ovarian Syndrome and to check whether quality of life gets poor or not in relation to Polycystic Ovarian syndrome.

Methodology: It was a descriptive cross-sectional study, data was sampled using non-probability convenient sampling technique and analyzed on SPSS v. 20.0. Study was done on 150 participants, from Fauji Foundation Hospital and different private setups of Rawalpindi/Islamabad. Data was collected through Beck Depression Inventory, Beck Anxiety Inventory and SF-36 Questionnaires respectively.

Results: Mean age of the all patients was (24.7±5.9), and BMI was (23±5.1). Out of 150 participants, (40%) were normal, (20.60%) had mild mood disturbance, (17.3%) had moderate depression and (2.66%) had extreme depression. Similarly, (69.3%) of the participants had normal anxiety level and only (6.60%) had potentially concerning levels of anxiety. Mean and standard deviation for different domain of SF-Questionnaire was: physical functioning (70.1±25), physical health limitations were (50±34), emotional problems limitations (42.9±37), energy/fatigue (49.7±15.2), for emotional wellbeing was (55±14.7), for social functioning was (65±24.5), pain (65.6±23), and general health were (51.2±18) respectively.

Conclusion: Study concluded that occurrence of anxiety and depression among women with poly cystic ovarian syndromes was low, hence and their quality of life was not much affected.

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Introduction

Anxiety is defined as an immoderate and improper concern that is continuous and incapacitating[1]. Epidemiological surveys have found that one third population is affected by Anxiety during their life time. Its prevalence was found to be highest during the midlife, and is more common in women[2].The possible causes of anxiety among women with PCOS include obesity, social phobia, hirsutism, panic attacks, infertility and obsessive compulsive disorder that may require further screening[3]. By definition, depression is an illness that involves the body, mood, and thoughts and that affects the way a person eats, sleeps, feels about himself of ineffectiveness and dependence with narcissistic desires[4].Exercise has found to have a major antidepressant effect upon people with depression[5].

Polycystic Ovarian Syndrome (PCOS) is an endocrine condition with multiple characteristic signs and symptoms that are grouped together into a disorder with varying presentation among different individuals. The primary features of PCOS are irregular menstruation, high levels of androgens, and PCOS. Affected individuals presents with infrequent menstruation or absence of menstruation, excess body hair, increased weight and inability to conceive[6]. It involves several body systems that are responsible for metabolic and reproductive complications risk factors associated with PCOS includes type 2 DM, cardiovascular events (hypertension) and mental health problems, depression and anxiety etc.[7].Occurrence of PCOS is found to be notably high in women in Pakistan [8] The prevalence of PCOS among females in Pakistan is 52% higher as compared to white population (20-25% in UK)[9]. The frequency of Polycystic Ovarian Syndrome extends between 66-10% according to the National Institute of Health[10]. The Rotterdam diagnostic criteria established in 2003 aiming to guide the clinicians a proper diagnosis of PCOS, according to which a PCOS patient must present with at least two of these three symptoms (anovulation or oligo ovulation, polycystic ovaries on ultrasonography, biochemical or clinical signs of hyperandrogenism) [11]. Females with Polycystic Ovarian Syndrome have high possibility of developing clinically relevant anxiety, comorbid anxiety and depression, anxiety has found to be contributing to impaired QOL among PCOS population[12]. Another study had reported that females with Polycystic Ovarian Syndrome have increased chance for acquiring depression related problems[13]. Another study also showed that PCOS women, were associated with high probability of mood swings, along with high risk for depression[14]. Another study suggested that depression and anxiety is more common in females with PCOS as compared to the healthy females, and depression may be associated with obesity, metabolic abnormalities including dyslipidemia and insulin resistance[15] Women afflicted with PCOS suffer from mental health problems, which ultimately affect their functioning in activities of daily living. Poor psychological QOL was found to be associated with hirsutism, anxiety and depression among PCOS women[16]. Both weight loss and use of oral contraceptive pills lead to significant changes in multiple physical and mental realms linked to QOL syndromes of depression and anxiety disorders, and combined treatments offer additional benefits for overweight/obese females with PCOS[17]. A cohort study conducted in 2017, found strong association between MDD (major depressive disorder), Neuroticism with Polycystic Ovarian Syndrome[18]. A longitudinal review conducted on January 2020 also concluded that females with PCOS complain of poor life satisfaction, decreased HRQOL and inferior health status[19]. Another study conducted in year 2019, also concluded that, occurrence of depression and anxiety in females with PCOS was greater compared to the non-PCOS women. Moreover, increased testosterone levels were correlated with mood disorders and anti-androgen treatment tended to reduce emotional processing in women with PCOS[20] A study conducted in year 2020 stated, that aerobic exercise tends to improve sexual function and also enhances individual's psychological state by reducing anxiety and depression among PCOS women[21].

Methodology

Study Design
It was a descriptive cross sectional study.

Study Duration
Study was held within duration of 6 months, i.e. July 2019-December 2019.

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Study Setting
The data was collected from Fauji Foundation Hospital and different private setups within Rawal-pindi and Islamabad.

Sampling Technique
Non-probability purposive sampling was performed.

Inclusion Criteria
Females medically diagnosed with PCOS (conferring to Rotterdam Criteria a female should have 2 of the following 3 attributes): Raised androgenic hormonal levels, distended ovaries containing at least 12 follicles each, ovulatiory Irregularities, Females belonging to the reproductive age group of 18 to 35 years old.

Exclusion Criteria
Females not medically diagnosed with Polycystic Ovarian Syndrome or not belonging to the reproductive age group of 18 to 35 years old.

Data Collection Tools

Beck Depression Inventory (BDI): It is a 21 itemed questionnaire, used for measuring depression, each of the questions had 4 options with a scoring ranging from (0-3), and the higher the score the greater would have been depression, it had helped classifying depression into six levels based on scores: • 1-10: Normal • 11-16: Mild Mood Disturbance • 17-20: Borderline Clinical Depression • 21-30: Moderate Depression • 1-40: Severe Depression • 40: Extreme.

Beck Anxiety Inventory (BAI): It is a 21 itemed questionnaire, used to measure anxiety levels, each of the questions had 4 options with a scoring ranging from (0-3), and the higher the score the greater would have been anxiety, it had helped classifying anxiety into three levels based on scores: • Low Anxiety • Moderate Anxiety • Potentially Concerning Levels of.

Short Form Survey (SF36) RAND: The tool comprises of eight domains concluding two main measures: physical and mental health. Physical health included four scales of physical functioning (10 items), bodily pain (2items), general health (5 items) and role physical (4 items). The mental health comprised of social functioning (2 items), role emotional (3 items), vitality (4 items) and mental health (5 items). The scoring was done using a standardized scoring algorithm to obtain scoring ranging from 0 to 100. The greater the scores the better will be the Quality of Life.

Data Collection Procedure
Research Committee of Foundation University Islamabad gave ethical approval for the study. Then, an official permission letter was attained by Institutional Research Committee. After collecting the informed consent and providing explanation regarding the study.

Data Analysis Procedure
Statistical Analysis was done using SPSS v. 21.

Ethical Concerns
As per university guidelines, "The ethical review committee of Foundation University" made sure that there were no ethical violations in the research. In addition, ethical principles of honesty, consistency and consent form an integral part of research safety, for which informed consent was obtained from our study participants. Before acquiring data from individual participants, permission was taken from HOD's of respective hospitals. Participants were given complete freedom to withdraw from the study.

Results

Total numbers of study participants were 150. It was female (women) based study.

DEMOGRAPHIC VARIABLES	MEAN ± SD
Patient Age (Years)	24.7±5.9
BMI (Kg/m ^{2})	23.6±5.1
Weight of Patient (Kg)	62.7±11.8
Height of Patient (cm)	163.6±8.6

Table 1:   Demographics

BDI included six categories and our results showed the percentages as: 40% normal, 20.67% mild mood disturbance, 9.33% borderline clinical depression, 17.33% severe depression and 10% extreme depression respectively.
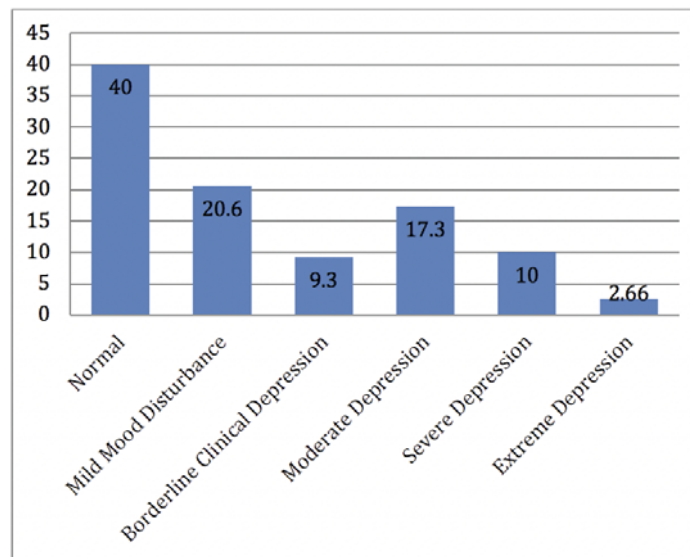

Figure 1: Beck Depression Inventory: Percentage of Depression among women with PCOS

69.33% of the participants had low anxiety, 24% had moderate anxiety and 6.6% had potentially concerning levels of anxiety.
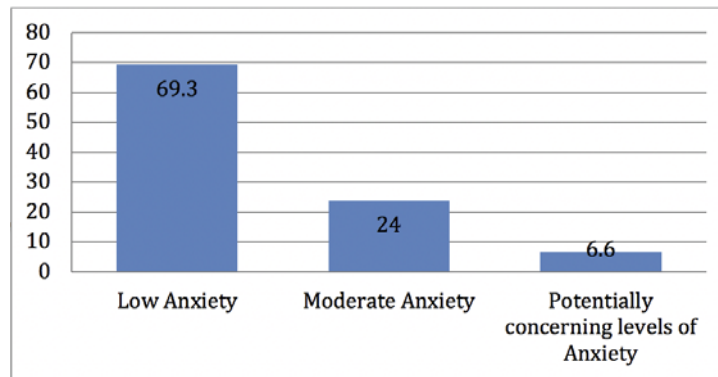

Figure 2: **BECK ANXIETY INVENTORY:** *Percentage Of Anxiety Among Women With PCOS*

DOMAINS OF SF 36	MEAN ± SD
Physical Functioning	70.1 ± 25
Role limitations due to Physical Health	50 ± 34
Role limitations due to emotional problems	42.9 ± 37
Energy/Fatigue	49.7 ± 15.2
Emotional Wellbeing	55 ± 14.7
Social Functioning	65 ± 24.5
Pain	65.6 ± 23
General Health	51.2 ±1 8

Table 2: Short Form Survey (SF36)

RAND 36-Item Health Survey was used to asses' quality of life, lowest and highest possible scores of each domain range from 0 to 100 and higher scores indicate more satisfactory health status. The results of this study showed that, mostly affected domain with comparatively low scores were role limitations due to emotional problems with mean ± standard deviation of 42.9 ± 37, followed by energy and fatigue of 49.7 ± 15.2 and least affected domain with better functional outcomes was physical functioning with mean ± standard deviation of 70.1 ± 25.

OUTCOME MEASURES (TOOLS)
• Beck Depression Inventory (BDI)
• Beck Anxiety Inventory (BAI)
• Short Form Survey (SF36) RAND

Discussion

According to this study, prevalence of anxiety was found to be less, with only 7% within females suffering from PCOs. A similar study conducted on prevalence of anxiety, cognitive and depression evaluation among young adolescents and healthy girls with PCOS, revealed that, anxiety and depression among them was found to be low[1]. The findings of which directly correspond with our study results.

Otherwise, according to latest evidences from various studies people with PCOS suffer from increased occurrence of depression and anxiety, social phobia and poor quality of life[2]. Also females with PCOS are at an increased jeopardy of anxiety linked mood disorders; which pose them to have increased risk of generalized anxiety disorders[3]. Women with PCOs are more likely to develop clinically relevant anxiety, comorbid anxiety and depression, anxiety among these contributing conditions, stands out to be most closely linked to impaired QOL among PCOS population[4]. Another similar study, showed increased mood disorders risk (as per DIAGNOSTIC AND STATISTIC MANUAL IV) and concluded with high rates of depression in females with PCOS[5]. Evidences also report that, increased risk of anxiety and depression among women with PCOs is correlated directly with emerging signs and symptoms such as infertility, hirsutism and obesity. Therefore, majority of PCOS females present with obesity, social phobia, hirsutism, panic attacks, infertility and obsessive compulsive disorders[6]. These symptoms ultimately tend to weaken or reduce patient's self-esteem, moral and social confidence, which in turns poorly affect their health status and Quality of life in general[7]. So, altogether, all of these studies' findings contradict with the findings of our study.

Hence, it can be commented on the fact that, if stress levels get higher, quality of life gets poor ultimately but in our PCOS population, contradictory results were found in this regard, as levels of depression and anxiety were found to be low that's why they had good quality of life as well yet.

Conclusion

The findings of our research have concluded that occurrence of anxiety and depression is low in the population particularly in Rawalpindi and Islamabad which might be due to increasing awareness among women regarding this disease. As a result, their QOL in females with PCOS, includ-

ing physical, psychological, social, sexual and medical aspects, is not as severely compromised as previous studies around the globe have shown.

Acknowledgement

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