Research Article

Prevalence of anxiety and depression in polycystic ovarian syndrome

Suneet Kumar Upadhyaya, Archana Sharma, Atul Agrawal

Department of Psychiatry, GMERS Medical College, Patan, Gujarat, India.
Department of Obstetrics and Gynecology, GMERS Medical College, Gandhinagar, Gujarat, India.
Department of Psychiatry, Gajra Raja Medical College, Gwalior, Madhya Pradesh, India.
Correspondence to: Suneet kumar upadhyaya, E-mail: dr_suneet12@yahoo.com

Received July 30, 2015. Accepted September 14, 2015

Abstract

Background: Patients of polycystic ovarian syndrome (PCOS) often suffer from psychiatric co morbidities, such as anxiety and depression. Indian literature regarding prevalence of these disorders in PCOS patients is scanty.

Objective: To assess prevalence of anxiety and depression in patients of PCOS.

Materials and Methods: It was a cross-sectional observational study, which was conducted in obstetrics and gynecology department of tertiary care centre. Patients of PCOS were assessed on hospital anxiety depression scale and sociodemographic and clinical information was gathered using semi-structured questionnaire. Data are expressed as proportions.

Result: The prevalence of anxiety of 28% and depression 11% were observed.

Conclusion: PCOS patients have high prevalence of anxiety and depression.

KEYWORDS: Psychiatric morbidity, PCOS, psychological problems

Introduction

Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in women of reproductive age.[1] It affects 5–10% women in reproductive age group.[2] It is characterized by amenorrhea, oligomenorrhea, anovulation, infertility, obesity, hirsutism, and acne. These symptoms lead to anxiety, depression, impaired sexual functioning, and marital and social maladjustment.[3]

Prevalence of anxiety in women with PCOS ranges from 34% to 57%.[4,5] Prevalence of depression in PCOS varies from 28% to 64%.[6,7] This wide range of prevalence rates might be due to different ethnicities, different sociocultural characteristics of the study populations, or use of different methodologies to assess psychiatric morbidity.

Development of anxiety and depression in PCOS is considered as multifactorial. Some researchers have suggested that physical symptoms, such as acne, hirsutism, and obesity, are linked to these psychiatric morbidities. There is paucity of Indian research assessing prevalence of anxiety and depression in PCOS. This study was planned to fill the gap.

Access this article online	
Website: http://www.ijmsph.com	Quick Response Code:
DOI: 10.5455/ijmsph.2016.30072015110	

Materials and Methods

This cross-sectional study was conducted among 200 patients of PCOS from the Department of Gynecology, VCSG Government Medical Sciences and Research Institute, Uttarakhand, India. Patients who had confirmed diagnosis of PCOS were explained details of the study and were invited to participate. Written consent was obtained from those who agreed to participate. Eligibility criteria were age 15–40 years; married; and following Rotterdam criteria: (1) visualization of

polycystic ovaries on ultrasound scan, (2) clinical signs of hyperandrogenism, and (3) >35 days interval between menstrual periods and/or amenorrhea defined as absence of vaginal bleeding for at least 6 months. Exclusion criteria were having adrenal hyperplasia, thyroid dysfunction, psychiatric diagnosis or taking psychiatric medications, and hyperprolactinemia.

Measures

Hospital anxiety and depression scale (HADS) was used to assess anxiety and depression.[8] HADS is a reliable instrument to screen for clinically significant anxiety and depression in patients attending a general medical clinic. It is also a valid measure of the severity of these mood disorders. This questionnaire contains 14 questions, including 7 each for rating anxiety and depression. The scale has been found to be equivalent to Hamilton anxiety or depressive scales in reliability and validity. A score of 0–7 on either subscale is regarded as normal, 8–10 as suggestive of presence of mild alterations, and that of 11 or higher indicates probable presence of the particular mood disorder or anxiety disorder. HADS has a correlation of 0.6–0.8 with other questionnaires for anxiety and depression, such as Beck Depression Inventory and Clinical Anxiety Scale. A Hindi version was used, though it has not been validated.

A semi-structured questionnaire was used to gather information about socioeconomic status and clinical symptoms. Clinical symptoms assessment included menstrual history; reproductive history; BMI; body hair, which were assessed using Ferriman–Gallwey scoring system[9]; and acne, which were assessed on global acne grading system (GAGS).[10] Data were expressed as proportions.

Table 1: Sociodemographic and clinical variables

Variables	
Age (years)*	25.42 (3.68)
Domicile **	
Rural	190 (95)
Urban	10 (5)
Education (years)**	
1–5	26 (13.0)
6–9	37 (18.5)
10–12	79 (39.5)
>12	58 (29.0)
Duration of marriage (years)*	7.25 (3.6)
Clinical	
Hirsutism score	6.32 (4.4)
Acne score	9.34 (6.23)
Interval between menstruation days**	
< 21	6 (3.0)
21–34	71 (35.0)
35–60	12 (6.0)
>199	23 (11.5)
Variable	89 (44.5)
Reproductive history **	
Never pregnant	140 (70)
Has been pregnant : all births, no losses	18 (9)
Has been pregnant : some births, some losses	15 (7.5)
Has been pregnant : no births, all loses	27 (13.5)
BMI (kg/m^2)**	
<25	78 (39)
25–30	87 (43.5)
>30	35 (17.5)

*Means (SD), **N(%)

Result

In this study of 200 women of PCOS mean age (SD) was 25.42 (3.68) and most of women had education level of 10–12 years. Interval between menstruation days was variable in majority and more than two-thirds had never been pregnant. Sociodemographic and clinical characteristics are shown in Table 1.

Of the participants, 28% (56) demonstrated increased anxiety scores (HADS anxiety subscale ≥11) and 11% (22) showed increased depression scores (HADS depression subscale ≥11). There were 17% (34) who scored above the cutoff for both anxiety and depression subscales.

Discussion

Goal of this study was to assess prevalence of anxiety and depression in PCOS patients. We found high prevalence of depression in PCOS. Earlier studies have also reported similar findings. Rassi et al.[11] observed depression in 26% patients whereas Hollinrake et al.[12] found 21% prevalence of depression in PCOS. Some authors have reported depression prevalence as high as 40–45%.[13,14] In an Indian study, 23% PCOS patients had major depressive disorder compared to 7.5% controls.[15] Depression in PCOS may be related to change in physical appearance as obesity, acne, and hirsutism lead to negative perception of self and social withdrawal, which culminates into depression.

Our study observed high prevalence of anxiety disorder in PCOS. Similar findings have been observed by earlier researchers.[13,14] High anxiety level in PCOS may be due to infertility, loss of sexuality, acne, hirsutism, and obesity.[16–18]

Conclusion

Our study demonstrates high level of anxiety and depression in PCOS patients.

References

1. Azziz R, Carmina E, Dewailly D, Diamanti-Kandarakis E, Escobar-Morreale HF, Futterweit W, et al. The Androgen Excess and PCOS Society criteria for the polycystic ovary syndrome: the complete task force report. Fertil Steril 2009;91:456–88.
2. Ehrmann DA. Polycystic ovary syndrome. N Engl J Med 2005;352:1223–36.
3. Hahn S, Janssen OE, Tan S, Pleger K, Mann K, Chedlowski M, et al. Clinical and psychological correlates of quality-of-life in polycystic ovary syndrome. Euro J Endocrinol 2005;153:853–60.
4. Deeks A, Gibson-Helm M, Teede H. Anxiety and depression in polycystic ovary syndrome: a comprehensive investigation. Fertil Steril 2010;93:2421–3.
5. Benson S, Arck P, Tan S, Hahn S, Mann K, Rifaie N, et al. Disturbed stress responses in women with polycystic ovary syndrome. Psychoneuroendocrinology 2009;34:727–35.
6. Bhattacharya SM, Jha A. Prevalence and risk of depressive disorders in women with polycystic ovary syndrome (PCOS). Fertil Steril 2010;94:357–9.
7. Laggari V, Diareme S, Christogiorgos S, Deligeoroglou E, Christopoulos P, Tsiantis J, et al. Anxiety and depression in adolescents with polycystic ovary syndrome and Mayer-Rokitansky-Kuster-Hauser syndrome. J Psychosom Obstet Gynaecol 2009;30:83–8.
8. Herrmann C. International experiences with the Hospital Anxiety and Depression Scale: a review of validation data and clinical results. J Psychosom Res 1997;42:17–41.
9. Ferriman D, Gallwey JD. Clinical assessment of body hair growth in women. J Clin Endocrinol Metab 1961;21:1440–7.
10. Lever WF, Schaumburg-Lever G. Acne vulgaris. Histopathology of the skin, 7th edn. Philadelphia, PA: Lippincott, 1990. pp. 218–9.
11. Rassi A, Veras AB, dos Reis M, Pastore DL, Bruno LM, Bruno RV, et al. Prevalence of psychiatric disorders in patients with polycystic ovary syndrome. Compr Psychiatry. 2010;51:599–602.
12. Hollinrake E, Abreu A, Maifeld M, Van Voorhis BJ, Dokras A. Increased risk of depressive disorders in women with polycystic ovary syndrome. Fertil Steril. 2007;87:1369–76.
13. Månsson M, Holte J, Landin-Wilhelmsen K, Dahlgren E, Johansson A, Landén M. Women with polycystic ovary syndrome are often depressed or anxious – a case control study. Psychoneuroendocrinology 2008;33:1132–8.
14. Kerchner A, Lester W, Stuart SP, Dokras A. Risk of depression and other mental health disorders in women with polycystic ovary syndrome: a longitudinal study. Fertil Steril 2009;91: 207–12.
15. Hussain A, Chandel RK, Ganie MA, Dar MA, Rather YH, Wani ZA, et al. Prevalence of psychiatric disorders in patients with a diagnosis of polycystic ovary syndrome in Kashmir. Indian J Psychol Med 2015;37:66–70.
16. Lipton MG, Sherr L, Elford J, Rustin MH, Clayton WJ. Women living with facial hair: the psychological and behavioral burden. J Psychosom Res 2006;61:161–8.
17. Yazici K, Baz K, Yazici AE, Köktürk A, Tot S, Demirseren D, et al. Disease-specific quality of life is associated with anxiety and depression in patients with acne. J Eur Acad Dermatol Venereol. 2004;18:435–9.
18. Petry NM, Barry D, Pietrzak RH, Wagner JA. Overweight and obesity are associated with psychiatric disorders: results from the National Epidemiologic Survey on alcohol and related conditions. Psychosom Med 2008;70:288–97.

How to cite this article: Upadhyaya SK, Sharma A, Agrawal A. Prevalence of anxiety and depression in polycystic ovarian syndrome. Int J Med Sci Public Health 2016;5:681-683

Source of Support: Nil, **Conflict of Interest:** None declared.