Original Article

Psychosocial Aspects of Women with Polycystic Ovary Syndrome from South India

PG Sundararaman*, Shweta***, GR Sridhar**

Abstract

Background: Polycystic ovary syndrome (PCOS), though initially manifesting with reproductive and cosmetic symptoms is a harbinger of insulin resistance syndrome. It is associated with psychological distress in both management as well as in its etiology. There are no Indian studies on psychological stress in women with PCOS.

Methods: Ninety nine women who presented with PCOS to the Endocrinology clinic were administered Goldberg's GHQ 28 (General Health Questionnaire) to assess psychological status, along with clinical, hormonal and ultrasound evaluation.

Results: Fifty four percent had a GHQ28 score >8 Among them 38% had a family size <4, 72% had obesity, 70% had hirsutism, 72% had a waist circumference >88cm and 69% had a F/G score >4 . All these variables were statistically significant; p<0.05 using Chi-square test.

Conclusion: Women presenting with PCOS had increased psychological distress, which was related to smaller size of family, and more severe physical manifestations of the condition.

INTRODUCTION

Polycystic ovary syndrome (PCOS), long considered a cosmetic and reproductive disorder in young women has been recognized to be a component of insulin resistance and its attendant complications. The adverse metabolic effects present much later in life. Biomedical management addresses symptoms such as hirsutism, acne, infertility or components of the metabolic syndrome. Being so externally obvious, and starting at an impressionable and vulnerable age, the condition has adverse psychosocial effects across many aspects. Not only do psychosocial adverse effects have to be managed for their own sake, but addressing them could indirectly mitigate some of the etiological factors in the pathogenesis of PCOS.

PCOS is common in India, even in the absence of obesity as defined by body mass index.1 Studies using PCOS-specific psychological instruments have established that quality of life was impaired across different domains. PCOS in Indian women sets in earlier, and is associated with increased intimal medial thickening, a surrogate for future vascular disease.1 In addition, women in general, and those with diabetes mellitus in particular have greater psychosocial stress compared with men.2 Similarly a variety of drugs can induce the changes of PCOS.3 Considering the adverse effects psychosocial stress can have in the etiology and management of PCOS, we addressed the issue of psychological distress in a cohort of women in south India presenting with PCOS using a generic psychological instrument.

MATERIALS AND METHODS

Subjects were recruited from the endocrinology outpatient department at the Institute of Obstetrics and Gynecology in Chennai, when they presented with clinical features of PCOS, and who met the criteria for entry. Ninety nine women were included between June 2004 and June 2005. The inclusion criteria were: clinical hyperandrogenemia, menstrual irregularity (oligomenorrhea) and ovarian polycystic changes on ultrasound. Exclusion criteria were prior diseases known to be associated with PCOS, prior psychological problems and family history of psychiatric diseases. Social history encompassed socioeconomic status, occupation, education, number of family members, and number of earning members. In addition, obstetric history and history of recurrent pregnancy loss was obtained in parous women. A detailed physical examination was done and anthropometric measures taken. Hirsutism was assessed by Ferriman-Gallway scoring. A score of 6 and above was considered significant.

Ultrasound of pelvis

Ultrasonogram of pelvic viscera was done using...
L&T ultrasound scanner. Patients were subjected to transabdominal scanning with a full bladder using linear transducer of frequency 3.5 mega hertz. Rotterdam’s consensus (2001) criteria used for diagnosis of polycystic ovaries: 12 or more follicles in each ovary measuring 2 to 9 mm in diameter and or having an increased volume of 10 ml or greater. Only one ovary meeting these criteria was necessary to meet the definition. The follicle distribution, stromal echogenicity and volume were not considered in diagnosis.

Hormonal Assay

TSH, prolactin assays were done in department of endocrinology by Radio immune assay using kits purchased from BARC Mumbai.

Goldberg’s GHQ 28 (General Health Questionnaire)

The Goldberg’s GHQ 28 psychometric instrument (4) analyzed patients and found whether they had Somatization, Anxiety, Social dysfunction and Depression through the questionnaire. A score of 8 and greater was taken as a case of psychological distress

Statistical Analysis

Chi-square test was used for comparing mean values of selected variables. A ‘p’ value of less than 0.05 was considered significant. All statistical analyses was-done on Epiinfo.

RESULTS

Age group ranged from 20-36 years, with half of them in socioeconomic class 4, 5 and half were working. More than half had four or more members in the family, nearly two thirds had a single family member. Of the PCOS phenotype, all had oligomenorrhea, 36% weight gain, 33% hirsutism, 23% acne and 39% infertility. 13.51% had their weight’s in the range of 51-60kg and BMI of 20-29. Nearly two third were married, 25% had history of miscarriage  and 17% of women had sisters with PCOS (Figs. 1 and 2, Table 1).

Thirty one percent had a WHR >0.85 , 36% had waist circumference >88cms. Thirty percent had a F/G score 4-8 and 6% had a F/G score 9-12.

Fifty four percent had a GHQ28 score >8 Among them 38% had a family size<4, 72% had obesity, 70% had hirsutism, 72% had a waist circumference >88cm and 69% had a F/G score>4. All these variables were statistically significant; p<0.05 using Chi-square test.

DISCUSSION

PCOS is a common reproductive and cosmetic disorder of women in reproductive age, that also has adverse psychological manifestations. Distress can be caused by a variety of factors including changes in appearance, menstrual irregularities, infertility and adverse influence on feminine body identity.

There could be cultural differences in the way women respond to physical and emotional stresses brought about by PCOS; hence the present study was performed to document the psychosocial stresses in PCOS women from south India who presented for management of physical manifestations of the condition. Considering that features of PCOS set in early and Indian women have greater psychosocial distress due to chronic diseases such as diabetes mellitus, this first Indian study sought to provide pilot results. Quality of life is increasingly becoming an outcome measure in the long-term management of chronic conditions that demand coping strategies. It is recognized that clinical criteria per se do not 'capture the physical, emotional and social effects' on those living with the condition.

Previous studies showed that there may not be a direct relation between clinical severity of PCOS and quality of life. The General health Questionnaire (GHQ-28) is a validated psychological instrument with stable scales specifically in the social dysfunction and depression domains. The instrument was shown to be as efficient in developing countries also. There was no effect of age or educational level in its validity and could be used as a case detector. Generic psychological instruments have also been employed to assess women with PCOS including SF-36, alone or in combination of
disease-specific instruments.\textsuperscript{5,9} Disease-specific quality of life questionnaires\textsuperscript{10} showed that women with PCOS have impaired quality of life in different domains.\textsuperscript{6} A recent study observed that women with PCOS had higher depression and greater body dissatisfaction.\textsuperscript{11} A generic psychological instrument also showed that women with PCOS had greater disturbances on obsessive-compulsive, interpersonal sensitivity, depression, aggression and psychoticism.\textsuperscript{9} This did not show a correlation between physical attributes and degree of psychological distress. A more recent study showed that PCOS had a negative impact on psychosocial and emotional well-being, with subclinical levels of distress being common.\textsuperscript{5} There is a suggestion that monoamine imbalances following stress could mediate at least in part the etiology of PCOS.\textsuperscript{6} Similarly a comparison of psychological distress between different ethnic groups with PCOS suggested there could be cultural differences in the perception of stress: native Austrian women had overweight as a significant source of stress compared to immigrant Moslem women who rated infertility as being more stressful. Therefore it is important to pay attention to psychosocial dimensions in management of PCOS and to use cognitive-behavioural therapy where indicated.\textsuperscript{5,14}

In conclusion, the present study documents the pronounced psychological and psychosocial problems affecting the quality of life of patients with PCOS. A summary of psychological distress studies in PCOS subjects, predominantly done in western societies, reveals that globally, weight concerns have a negative impact.\textsuperscript{13} In contrast women from non-western backgrounds rank infertility as being more stressful. Therefore it is important to pay attention to psychosocial dimensions in management of PCOS and to use cognitive-behavioural therapy where indicated.\textsuperscript{5,14}

### Reference


### Table 1 : Prevalence of depression (GHQ 28) according to selected characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Prevalence among exposed (GHQ Score 8)</th>
<th>Prevalence among unexposed (GHQ Score &lt; 8)</th>
<th>Prevalence ratio</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># / Total (%)</td>
<td># / Total (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age &gt;27</td>
<td>22 / 42 (52%)</td>
<td>31 / 57 (54%)</td>
<td>0.96</td>
<td>0.66-1.40</td>
</tr>
<tr>
<td>SES=4,5</td>
<td>13 / 26 (50%)</td>
<td>39 / 72 (54%)</td>
<td>0.92</td>
<td>0.59-1.43</td>
</tr>
<tr>
<td>Working women</td>
<td>24 / 49 (49%)</td>
<td>29 / 50 (58%)</td>
<td>0.84</td>
<td>0.58-1.22</td>
</tr>
<tr>
<td>Education up to 10 standard</td>
<td>17 / 39 (44%)</td>
<td>36 / 60 (60%)</td>
<td>0.73</td>
<td>0.49-1.11</td>
</tr>
<tr>
<td>Family members &gt; 4</td>
<td>21 / 56 (38%)</td>
<td>32 / 43 (74%)</td>
<td>0.50*</td>
<td>0.34-0.74</td>
</tr>
<tr>
<td>Earning member</td>
<td>36 / 63 (57%)</td>
<td>18 / 36 (50%)</td>
<td>1.18</td>
<td>0.79-1.76</td>
</tr>
<tr>
<td>Obese</td>
<td>26 / 36 (72%)</td>
<td>27 / 63 (43%)</td>
<td>1.69*</td>
<td>1.19-2.39</td>
</tr>
<tr>
<td>Hirsutism</td>
<td>23 / 33 (70%)</td>
<td>30 / 66 (45%)</td>
<td>1.56*</td>
<td>1.10-2.22</td>
</tr>
<tr>
<td>Presence of acne</td>
<td>14 / 23 (61%)</td>
<td>39 / 76 (51%)</td>
<td>1.20</td>
<td>0.81-1.79</td>
</tr>
<tr>
<td>Infertility</td>
<td>22 / 39 (56%)</td>
<td>31 / 60 (52%)</td>
<td>1.09</td>
<td>0.76-1.58</td>
</tr>
<tr>
<td>Sister has PCOS</td>
<td>9 / 17 (53%)</td>
<td>44 / 82 (54%)</td>
<td>0.99</td>
<td>0.60-1.61</td>
</tr>
<tr>
<td>BMI &gt;30</td>
<td>9 / 17 (53%)</td>
<td>44 / 82 (54%)</td>
<td>0.99</td>
<td>0.60-1.61</td>
</tr>
<tr>
<td>WHR &gt;0.85</td>
<td>31 / 68 (46%)</td>
<td>22 / 31 (71%)</td>
<td>0.64</td>
<td>0.46-0.91</td>
</tr>
<tr>
<td>Waist circumference &gt; 88 cm</td>
<td>26 / 36 (72%)</td>
<td>27 / 63 (43%)</td>
<td>1.69*</td>
<td>1.19-2.39</td>
</tr>
<tr>
<td>Hirsutism score &gt; 4</td>
<td>25 / 36 (69%)</td>
<td>28 / 63 (44%)</td>
<td>1.56*</td>
<td>1.10-2.22</td>
</tr>
<tr>
<td>Polycystic ovaries according to USG</td>
<td>41 / 77 (53%)</td>
<td>12 / 22 (55%)</td>
<td>0.98</td>
<td>0.63-1.51</td>
</tr>
</tbody>
</table>

These variables were statistically significant; p< 0.05 using Chi-square test.

---

**Announcement**

**8th International Symposium on Diabetes**

Website: www.idsi.in

Venue: Hotel Grand Hyatt, Santacruz (E), Mumbai 400055.

Date: 24th & 25th January 2009

Theme: Diabetes Update 2009

**Course Directors:**
- Prof. K. Sreekumaran Nair, David Murdock Dole Professor and Professor of Medicine, Division of Endocrinology, Mayo Clinic, 200 First Street S.W. Rochester, MN 55905 USA.
- Dr. AK Das, Additional Director of Health Services and Director, Department of Medicine JIPMER, Pondicherry.

CME credits will be awarded

For further details contact: Dr. Shashank R Joshi, Joshi Clinic, 12, Golden Palace, Turner Road, Bandra (W), Mumbai – 400 050 / Dr. Bansi Saboo, Ahmedabad - Mobile : 98240 47676.
Tel: 91-22-26402769; Fax: 91-22-26443572   Email: srjoshi@vsnl.com

For registration visit our Website : www.idsi.in

The Demand Draft should be in favour of ‘Events in Mumbai’ payable at Mumbai.