

Clinical profile of 500 cases of Polycystic Ovary Syndrome in a Tertiary Hospital

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Abstract:

Background: Polycystic ovary syndrome (PCOS) is a common condition affecting 4% to 18% of women. It has been suggested that this condition occurs in as many as 4-10% of women of reproductive age. PCOS is associated with significant reproductive morbidity, including infertility, abnormal uterine bleeding, miscarriage and other complications of pregnancy.

Method: This cross-sectional study was carried out in the Department of Obstetrics and Gynaecology of Z.H. Sikder Women's Medical College & Hospital, Dhaka from January, 2013 to December, 2016 over a period of 4 years with the objective to find out various clinical presentations, endocrine status, the menstrual abnormalities and sonographic findings of the patients with PCOS. During the study period a total number of 1600 patients were examined for infertility in the Outpatient and in Inpatient Department. Out of these 1600 infertility patients, 500 cases were found to have polycystic ovary syndrome. Detailed information about the patients were collected in a predesigned data collection sheet.

Result: Out of 500 PCOS patients, 360 (72.0%) had primary sub-fertility and 140 (28.0%) had secondary sub-fertility. Age of the patients ranged between 25 and 35 years. Duration of infertility was between 5 to 18 years. Prevalence of menstrual disturbances was found in 78.0 percent of PCOS patients, of which 90 (18.0%) had amenorrhoea, 250 (50.0%) had oligomenorrhoea, 50 (10.0%) had a heavy menstrual bleeding and 110 (22.0%) had normal menstrual cycle. Among those patients, 210 (42.0%) were obese, 230 (46.0%) had normal BMI and 60 (12.0%) were under weight.

Conclusion: The prevalence of PCOS in this study was 31.25% among infertility patients. Among them 72.0% had primary sub-fertility and 28.0% had secondary sub-fertility. Prevalence of menstrual disturbances was found in 78.0% of PCOS patients, of which 18.0% had amenorrhoea, 50.0% had oligomenorrhoea and 10.0% had heavy menstrual bleeding.

Keywords: PCOS, infertility, oligomenorrhoea, amenorrhoea.

Introduction:

Polycystic ovary syndrome (PCOS) is one of the most frequently encountered endocrine disorders. It is a metabolic syndrome, characterized by anovulation, hyperandrogenism and polycystic ovary. PCOS exists commonly among women at reproductive age with an incidence rate of 6-10%. Prevalence of PCOS varies from 4-10%, depending on the diagnostic

criteria used.^{1,2} By the Rotterdam criteria, the prevalence is five times higher than that defined by the criteria of the NIH.³ In Bangladesh, 22.0% women of reproductive age suffer from PCOS.⁴ Nidhi, *et al.*⁵ prospectively studied 460 girls aged 15-18 years from a residential college in Andhra Pradesh, South India. The authors have reported a prevalence of PCOS in 9.13% of the Indian adolescents. In 1935,

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Stein and Leventhal⁶ described the syndrome as having pathognomonic ovarian findings and the clinical trial of hirsutism, amenorrhea, and obesity. The clinical manifestation of PCOS includes oligomenorrhea, infertility, acne, hirsutism and fat.^{7,8}

Only one third of the patients have the classical form of the syndrome described by Stein and Leventhal. Therefore, in 1990, the National Institutes of Health (NIH) suggested new diagnostic criteria. In 2003, a new consensus was established by the European Society for Human Reproduction and Embryology and the American Society for Reproductive Medicine, which defined the syndrome as the presence of two or more manifestations that included the presence of polycystic ovaries on ultrasound.⁹

Methods:

This cross-sectional study was carried out in the Department of Obstetrics and Gynaecology of Z.H. Sikder Women's Medical College (ZHSWMC) & Hospital, Dhaka from January, 2013 to December, 2016 over a period of 4 years. During the study period a total number of 1600 patients were examined for infertility in the Out Patient Department and also in Inpatient Department. Out of these 1600 infertility patients, 500 cases were found to have polycystic ovarian syndrome. The detailed information about the patients was collected in a predesigned data collection sheet. PCOS was diagnosed by history taking, physical examination, hormonal investigations and also by laparoscopy in Obs. & Gynae Department of ZHSWMC & H within 4 years period.

Results:

A total number of 1600 patients were examined for infertility during this study period (from January, 2013 to December, 2016) out of which, 500 patients were found to have polycystic ovarian syndrome by history, clinical examination, hormonal investigations, as well as by laparoscopic examination. The occurrence of PCOS in this study was 31.25% (Table I).

In this study, out of total 500 PCOS patients, 360 (72.0%) had primary subfertility and 140 (28.0%) had secondary subfertility. Age of the patients was 25-35 years. Duration of infertility was 5-18 years (Table I).

Menstrual disturbances was found in 78 percent of study group, of which - 90 (18.0%) had amenorrhoea, 250 (50.0%) had oligomenorrhoea, 50 (10.0%) had metropathic attack and 110 (22.0%) had normal

menstrual cycle. Among those patients, 210 (42.0%) were obese, 230 (46.0%) had normal BMI, 60 (12.0%) were under weight (Table II).

Serum FSH: LH>2 in 280 (56.0%) patients, FSH: LH (normal) in 220 (44.0%) patients. Serum testosterone was high in 150 (30.0%) patients and normal in 350 (70.0%) patients. Regarding TV scan, 210 (42.0%) showed features of PCOS and 140 (28.0%) showed normal features (Table 3).

Table-I
Occurrence of PCOS

	Number (n)
Total population	1600
Number of PCOS	500
Occurrence of PCOS	31.25
Primary infertility	360 (72.0%)
Secondary infertility	140 (28.0%)

Table-II
Clinical presentation of PCOS patients (n=500)

Clinical presentation	Number of patients	Percentage
Menstrual disturbance		
Oligomenorrhoea	250	50
Amenorrhoea	90	18
Heavy menstrual Bleeding	50	10
Normal cycle	110	22
Hirsutism	220	44
BMI		
Obesity	210	42
Thin	60	12
Normal BMI	230	46

Table-III
The result of investigation

	Number (n)	Percentage
Serum LH: FSH=		
>2:1	280	56.0
Normal	220	44.0
TV Scan		
PCO	210	42
Normal	140	28
Not done	150	30
Serum testosterone		
High	150	30
Normal	350	70

TV Scan = Trans vaginal ultrasonography.

Discussion:

The polycystic ovarian syndrome clearly includes a spectrum of disease. In our study, we found 31.25 percent of women show the features of PCOS. Several studies estimated the prevalence of PCOS in normal adult women and found 4.0% – 22.0%.^{1,2,4}

The prevalence of various clinical features found in our study was menstrual disturbance in the form of oligomenorrhoea (50.0%), amenorrhoea (18.0%), hirsutism (44.0%) and obesity (42.0%). Oligomenorrhoea was present in 65.0% patients in the study of Ramanand et al.¹⁰ and 28.0% in the study of Anwary et al.¹¹. Amenorrhea is a very common symptom of PCOS, along with other types of menstrual irregularities. Amenorrhea can be a major concern because absence of menstruation can create infertility issues.

Balen et al.¹² found 38.4% overweight (BMI > 25 kg/m²) patients among PCOS. Weight gain was observed among 26.6% patients and hirsutism was found in 44.2% cases in the study of Ramanand et al.¹⁰ Anwary et al.¹¹ found hirsutism in 50.0% of their study subjects.

Serum LH:FSH>2:1 in 280 (56.0%) patients, FSH:LH was normal in 22(44.0%) patients, serum testosterone was high in 150 (30.0%) patients and normal in 350(70.0%) patients. This is consistent with findings of other authors they found. LH:FSH ratio of polycystic ovary patients was elevated in comparison to that of normal patients.¹³ The median LH/FSH ratio for individual subjects did not differ significantly between the PCOS and the non-affected group. Only 7.6% of samples from PCOS patients had an LH/FSH ratio above three, compared with 15.6% of samples from normal subjects.¹⁴

Transvaginal scan was done in 350 patients, out of which 210 (42%) showed features of PCOS, 140 (28.0%) showed normal features. Serum testosterone level was significantly higher in PCOS patients comparing healthy control which is consistent with findings similar study.¹⁵

Conclusion: The prevalence of PCOS in this study was 31.25% among infertility patients. Among them 72.0% had primary subfertility and 28.0% had secondary subfertility. Prevalence of menstrual disturbances was found in 78.0 percent of PCOS patients, of which 18.0% had amenorrhoea, 50.0%

had oligomenorrhoea and 10.0% had heavy menstrual bleeding.

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