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Original Research Article

Clinical and Reproductive Profile of Women with Polycystic Ovarian Syndrome Attending the Department of Obstetrics and Gynecology: A Retrospective Hospital-Based Study

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Abstract:

Background: Polycystic Ovarian Syndrome (PCOS) is one of the most common endocrine disorders affecting women of reproductive age and is characterized by ovulatory dysfunction, hyperandrogenism, and polycystic ovarian morphology. It is associated with menstrual irregularities, infertility, obesity, metabolic disturbances, and long-term reproductive and psychological complications. Understanding the clinical and reproductive profile of women with PCOS is essential for early diagnosis and appropriate management.

Aim: To evaluate the clinical and reproductive profile of women diagnosed with polycystic ovarian syndrome attending the Department of Obstetrics and Gynecology at a tertiary care hospital.

Methodology: This retrospective hospital-based study was conducted in the Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Patna, Bihar, India, over a period of one year. A total of 95 women diagnosed with PCOS according to the Revised Rotterdam Criteria (2003) were included. Demographic, clinical, reproductive, anthropometric, and ultrasonographic data were collected from medical records and analyzed using SPSS version 25.0.

Results: Many participants belonged to the 21–25 years age group (36.8%). Menstrual irregularities were the most common clinical presentation (86.3%), with oligomenorrhea accounting for 48.4% of cases. Hirsutism was observed in 57.9%, acne in 50.5%, obesity in 45.2%, and acanthosis nigricans in 30.5% of women. Infertility was present in 47.4% of participants. Bilateral polycystic ovarian morphology was identified in 71.6% of cases on ultrasonography.

Conclusion: PCOS is a heterogeneous disorder with significant reproductive and metabolic implications. Menstrual disturbances, hyperandrogenic manifestations, obesity, and infertility were highly prevalent among affected women. Early identification and comprehensive management are essential to improve reproductive health outcomes and reduce long-term complications.

Keywords: Polycystic Ovarian Syndrome, PCOS, Reproductive Profile, Clinical Characteristics, Infertility, Hyperandrogenism, Menstrual Irregularities, Obesity.

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Introduction

Polycystic ovarian syndrome (PCOS) is one of the most common endocrine disorders affecting women of reproductive age and is a major public health concern due to its reproductive, metabolic and psychological consequences. The estimated prevalence of this condition is about 6–10% worldwide, but it can vary with the diagnostic criteria used and the population studied. The prevalence of PCOS has been on the rise in recent years, with reports of prevalence rates between 8.7% and 17.8% among women of reproductive age. Nidhi et al. in a prospective study in India found the prevalence of 9.13% among adolescent girls aged 15–18 years [1]. This highlights the increasing burden of this disorder in the Indian population.

PCOS is a heterogenous endocrine and metabolic disorder characterized by a combination of reproductive dysfunction, hyperandrogenism and polycystic ovarian morphology. First described in 1935 by Irving Stein and Michael Leventhal, the syn-

drome was characterized by a constellation of amenorrhea, hirsutism, obesity and enlarged polycystic ovaries in affected women. Therefore, the condition was initially named Stein-Leventhal syndrome [2]. Since then, much has been learned about pathophysiology, clinical manifestations and long-term health implications.

PCOS is characterised by chronic anovulation, menstrual irregularities and hyperandrogenism. Hyperandrogenism is regarded as the most consistent clinical feature in adolescent and adult women with PCOS [3] . Oligomenorrhea, amenorrhoea, infertility, hirsutism, acne, androgenic alopecia, seborrhoea, and obesity are the most common presentations in women with the syndrome. These manifestations have a significant impact on quality of life and reproductive health. In women presenting for infertility treatment, PCOS is one of the most common endocrine disorders diagnosed because of its association with chronic anovulation and ovulatory dysfunction.

The pathogenesis of PCOS is complex and multifactorial involving genetic, hormonal , metabolic and environmental factors . The syndrome's development and progression are centrally related to insulin resistance. The association of glucose intolerance with hyperandrogenism was initially described by Archard and Thiers in 1921. The increased insulin production with insulin resistance stimulates ovarian androgen production and development of hyperandrogenic features. The prevalence of insulin receptor abnormalities and insulin resistance was found to be increased in Indian women with PCOS in comparison with white women, which predisposes them to metabolic complications [4].

PCOS is increasingly recognised as a lifelong metabolic disorder in addition to reproductive abnormalities. Women with PCOS are at increased risk of obesity, dyslipidemia, impaired glucose tolerance, type 2 diabetes mellitus, hypertension and metabolic syndrome. The syndrome is also associated with long term complications such as cardiovascular disease, endometrial hyperplasia, endometrial carcinoma and some other malignancies. Additionally, psychological disorders such as depression, anxiety, body image disturbances and low self-esteem are common in affected women, indicating the multi-dimensional impact of the disease [5].

Diagnosis of PCOS has changed dramatically through the ages. The clinical picture is heterogeneous and uniform diagnostic criteria have been difficult to establish. The most widely used criteria for diagnosis are the Rotterdam criteria revised in 2003. Diagnosis of PCOS can be made on the basis of the above criteria when at least 2 of the following 3 features are present after exclusion of other etiology oligo- and/or anovulation, clinical and/or biochemical signs of hyperandrogenism and polycystic ovaries on ultrasonography [6]. These criteria recognize the broad range of phenotypic manifestations and continue to be the mainstay of clinical diagnosis. More recently, in 2018, the International Evidence-Based Guidelines for the Assessment and Management of PCOS were revised, and the recommendations for the diagnosis, evaluation and management of affected women were updated [7].

The clinical presentation of PCOS often occurs in adolescence, but diagnosis in this period can be difficult because many of the features are similar to normal pubertal development. Irregular menstrual cycles, acne, and multimolecular ovarian morphology may be physiologic in adolescence and may be difficult to distinguish from pathologic conditions However, it has been demonstrated that most adolescent girls with menstrual disturbances and increased luteinizing hormone (LH) levels remain with ovulatory dysfunction as adults. Hence early identification and management is important to reduce future reproductive and metabolic complications [8].

Despite the high prevalence of PCOS and its great impact on women health, the pattern and the frequency of clinical and reproductive manifestations vary widely among populations and ethnic groups. Grasping these differences is essential to improve diagnostic accuracy, patient counselling and tailored management strategies. Hospital based studies provide useful information on the clinical profile of women presenting with PCOS in specific geographical and health care settings [9].

Therefore, this retrospective hospital-based study was carried out in the Department of Obstetrics and Gynecology to assess the clinical and reproductive profile of women diagnosed with PCOS attending a tertiary care hospital during the study period. The results of this study are expected to contribute to a better understanding of the clinical spectrum of PCOS and help clinicians in the early recognition and management of this common endocrine disorder.

Methodology

Study Design: This study was a retrospective, cross-sectional, observational hospital-based study conducted to evaluate the clinical and reproductive profile of women diagnosed with polycystic ovarian syndrome (PCOS).

Study Area: The study was conducted in the Department of Obstetrics and Gynecology, Patna Medical College and Hospital (PMCH), Patna, Bihar, India.

Study Duration: The study was carried out over a period of one year, from March 2025 to February 2026.

Sample Size: A total of 95 women diagnosed with polycystic ovarian syndrome (PCOS) were included in the study.

Sample Population: The study population comprised women of reproductive age attending the outpatient and inpatient services of the Department of Obstetrics and Gynecology who had been diagnosed with PCOS according to the Revised Rotterdam Criteria (2003). Medical records of eligible patients were reviewed retrospectively for collection of demographics, clinical, and reproductive data.

Data Analysis: All collected data were systematically entered into a Microsoft Excel spreadsheet and checked for completeness, consistency, and accuracy. The demographic, clinical, and reproductive variables of the study participants were categorized and coded appropriately. Clinical characteristics including menstrual irregularities, infertility, obesity, hirsutism, acne, and ultrasonographic findings were analyzed to determine their frequency and distribution among women with PCOS. The data were subsequently organized into tables and charts to facilitate interpretation and presentation of the findings.

Inclusion Criteria

- Women of reproductive age diagnosed with PCOS according to the Revised Rotterdam Criteria (2003).
- Patients attending the Department of Obstetrics and Gynecology during the study period.
- Availability of complete medical records required for analysis.

Exclusion Criteria

- Pregnant women.
- Women with known systemic disorders such as liver disease, renal disease, cardiovascular disease, or other severe chronic illnesses.
- Women with endocrine disorders that could mimic PCOS, including thyroid dysfunction, hyperprolactinemia, congenital adrenal hyperplasia, and Cushing's syndrome.
- Incomplete or missing medical records.

Procedure: The study was conducted by retrospectively reviewing the medical records of women diagnosed with polycystic ovarian syndrome (PCOS) who attended the Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Patna, Bihar. Diagnosis of PCOS was established according to the Revised Rotterdam Criteria (2003), requiring the presence of at least two of the following features: oligo-ovulation and/or anovulation, clinical and/or biochemical evidence of hyperandrogenism, and polycystic ovarian morphology on ultrasonography, after excluding other related disorders. Relevant information regarding demographic characteristics, menstrual and reproductive history, infertility status, clinical manifestations such as hirsutism, acne, alopecia, obesity, and acanthosis nigricans, as well as anthropometric measurements and ultrasonographic findings, was extracted from patient records using a structured data collection proforma. The collected data were then compiled and verified for completeness and accuracy before analysis.

Statistical Analysis: Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) software version 25.0. Continuous variables were summarized as mean and standard deviation (SD), while categorical variables were expressed as frequencies and percentages. Associations between categorical variables were assessed using the Chi-square test or Fisher's exact test, as appropriate. Statistical significance was determined at a p-value of less than 0.05. The analyzed results were presented in the form of tables and graphical representations to provide a comprehensive overview of the clinical and reproductive profile of women with polycystic ovarian syndrome".

Result

Table 1 shows the socio-demographic and reproductive characteristics of women with PCOS included in the study. The majority of the participants were in the age group of 21-25 years (36.8%) followed by the age group of 26-30 years (29.5%), indicating a high prevalence of PCOS among young women of reproductive age. Majority of the study participants were married (61.1%) while 38.9% were unmarried. The majority of the married women (62.1%) were nulliparous suggesting a significant reproductive impact of PCOS. In addition, nearly half of the participants (47.4%) were infertile and primary infertility (29.5%) was more common than secondary infertility (17.9%).

Table 1: Socio-demographic and Reproductive Characteristics of Study Participants (N=95)

Characteristic	Number (n)	Percentage (%)
Age Group (Years)		
18–20	12	12.6
21–25	35	36.8
26–30	28	29.5
31–35	15	15.8
>35	5	5.3
Marital Status		
Married	58	61.1

Unmarried	37	38.9
Parity (Married Women, n=58)		
Nulliparous	36	62.1
Multiparous	22	37.9
Infertility Status		
Primary infertility	28	29.5
Secondary infertility	17	17.9
No infertility	50	52.6

Table 2 Distribution of study participants according to body mass index (BMI) The most common BMI categories were obesity (45.2% of women), normal BMI (25.3%), and overweight status (21.1%). 8.4% of the participants were underweight. The results indicate that PCOS is strongly associated with increased body weight, but a significant number of women with normal BMI were also affected, highlighting the fact that PCOS is not a disorder of obese women only.

Table 2: Distribution of Participants According to Body Mass Index (BMI) (N=95)		
BMI Category (kg/m²)	**Number (n)**	**Percentage (%)**
Underweight (<18.5)	8	8.4
Normal (18.5–22.9)	24	25.3
Overweight (23–24.9)	20	21.1
Obese (≥25)	43	45.2

In Table 3, you can see the physical signs that women with PCOS have. The most common clinical feature was menstrual irregularities in 86.3 percent of participants. Oligomenorrhea (48.4%) was the most common complaint among menstrual disturbances followed by irregular menstrual cycles (22.1%) and amenorrhea (15.8%). Hirsutism was the most common hyperandrogenic manifestation seen in 57.9% women. Acne was present in 50.5% of the participants, obesity in 45.2%, oily skin in 35.8%, acanthosis nigricans in 30.5%, and alopecia in 27.4%. These findings mirror the varied clinical presentation of PCOS with reproductive, dermatological and metabolic features.

Table 3: Clinical Manifestations among Women with PCOS (N=95)		
Clinical Feature	**Number (n)**	**Percentage (%)**
Menstrual irregularities	82	86.3
Oligomenorrhea	46	48.4
Amenorrhea	15	15.8
Irregular menstrual cycles	21	22.1
Hirsutism	55	57.9
Acne	48	50.5
Acanthosis nigricans	29	30.5
Alopecia	26	27.4
Oily skin	34	35.8
Weight gain/Obesity	43	45.2

Table 4 shows the reproductive profile of PCOS-affected women. A high burden of reproductive dysfunction was reported in women with the syndrome, with infertility reported in 47.4% of participants. Previous abortion was documented in 12.6% of women and 37.9% were nulliparous. Also, 21.1% of the subjects had received treatment for subfertility. Irregular menstrual cycles were very common (86.3%) and emphasised the close association between ovulatory dysfunction and reproductive complications in PCOS.

Table 4: Reproductive Profile of Women with PCOS (N=95)		
Reproductive Characteristic	**Number (n)**	**Percentage (%)**
Infertility	45	47.4
Previous abortion history	12	12.6
Nulliparity	36	37.9
History of subfertility treatment	20	21.1
Menstrual disturbances	82	86.3

Table 5 shows the severity of hirsutism and ultrasonographic findings in women with PCOS. Hirsutism was observed in 55 (57.9%) participants, 60.0% had mild hirsutism and 40.0% had severe hirsutism based on the Modified Ferriman-Gallwey scoring system. On ultrasonographic examination, 71.6% of women had bilateral polycystic ovarian morphology and 20.0% had unilateral polycystic ovaries. Only 8.4% of the participants had normal ovarian morphology despite meeting the diagnostic criteria for PCOS. The predominance of bilateral polycystic ovarian morphology supports the important role of ultrasonography in the evaluation and diagnosis of PCOS.

Table 5: Hirsutism Severity and Ultrasonographic Findings among Women with PCOS (N=95)

Variable	Number (n)	Percentage (%)
Severity of Hirsutism (n=55)		
Mild (FG Score 8–15)	33	60
Severe (FG Score >15)	22	40
Ultrasonographic Findings (N=95)		
Bilateral polycystic ovaries	68	71.6
Unilateral polycystic ovary	19	20
Normal ovarian morphology	8	8.4

Discussion

Polycystic ovarian syndrome (PCOS) is a complex reproductive endocrine disorder affecting women of reproductive age with reproductive, metabolic and hyperandrogenic features. The present retrospective hospital-based study was performed to evaluate the clinical and reproductive profile of 95 women diagnosed with PCOS attending the Department of Obstetrics and Gynecology, Patna Medical College and Hospital. The findings provide useful information on the demographic characteristics, reproductive abnormalities and clinical manifestations associated with PCOS in the study population".

In the present study majority of the women were in the age group of 21-25 years (36.8%) followed by 26-30 years age group (29.5%). These results are consistent with the findings of Tabassum (2014) who reported that PCOS was common among women aged 15-24 years and less prevalent among women in the older age groups [10]. Likewise, Nidhi et al. (2011) reported the prevalence of 9.13% in Indian adolescent girls and indicated that PCOS begins in adolescence and continues in the reproductive years. The predominance of young women in the present study indicates the early onset and chronicity of the disorder.

Infertility is one of the major reproductive sequelae of PCOS. In the current study 47.4% women had infertility out of which primary infertility was 29.5% and secondary infertility was 17.9%. This prevalence, although lower than that reported by Joham et al. (2015) who found infertility in approximately 72% of women with PCOS, nonetheless reflects the significant impact of chronic anovulation on reproductive outcomes. Melo et al. (2015) also reported that ovulatory dysfunction is the cause of infertility in almost 70–80% of women with PCOS [11]. The lower levels of infertility found in the present study than in other studies may be due to differences in health care-seeking behaviour, study design and population characteristics.

Obesity is still one of the most common metabolic disorders associated with PCOS. In the present study, 45.2% women were obese and 21.1% women were overweight, which means that about two-thirds of the study population had excess body weight. These findings are similar to Ramanand et al. (2013) who reported obesity and overweight in 75% of Indian women with PCOS. However, our results are different from the results of Kalra et al. (2006) where 44.6% of study population were overweight women, 15.4% were obese women and 40% were normal weight women. These discrepancies may be due to variations in the criteria used to classify BMI, ethnicity, diet, lifestyle factors, and regional variation. Notably, 25.3% of women in the present study had normal BMI, suggesting that PCOS is not limited to obese women and can also affect lean women [12].

In the present study, menstrual dysfunction was the most common clinical presentation seen in 86.3% of participants. The most common abnormality of menstruation was oligomenorrhea (48.4%), followed by irregular menstrual cycles (22.1%) and amenorrhoea (15.8%). Upadhya et al. (2020) reported similar findings with menstrual complaints in 88% of women with PCOS and oligomenorrhea being the most common complaint in 49% of the participants. The high prevalence of menstrual irregularities reflects the underlying ovulatory dysfunction, which is a central feature of PCOS, and often the primary reason for seeking medical attention [13].

In the present study, hyperandrogenic manifestations were highly prevalent. Hirsutism was the most frequent clinical sign of hyperandrogenism found in 57.9% of women. Modified Ferriman-Gallwey scoring system revealed mild hirsutism in 60.0% women and severe hirsutism in 40.0% women. Our findings were similar to the findings of Upadhya et al. (2020), where they found the incidence of hirsutism was

59% in women with PCOS. Ramanand et al. (2013) found a slightly lower prevalence of 44% indicating that ethnicity and genetics may play a role in the manifestation of hyperandrogenic features. In the present study, the prevalence of acne was found to be 50.5% in women which is comparable to 48% prevalence reported by Majumdar and Singh (2009). Alopecia was also noted in 27.4% of women, which is comparable to the 31% noted in the same study [14].

Acanthosis nigricans, which is a known clinical marker of insulin resistance, was observed in 30.5% of participants. This finding is similar to that reported by Majumdar and Singh (2009) and Upadhya et al. (2020) with the prevalence of 30–33%. The high prevalence of acanthosis nigricans in almost one-third of the participants underscores the important role of insulin resistance in the pathophysiology of PCOS. Schmidt et al (2016) recommended that hirsutism and acanthosis nigricans are among the most reliable dermatological indicators of PCOS and should be carefully assessed during clinical examination [15].

Ultrasonographic assessment showed bilateral polycystic ovarian morphology in 71.6% of the women and unilateral involvement in 20.0%. These findings reinforce the value of pelvic ultrasonography as an essential diagnostic part of the Rotterdam criteria. However, a small percentage of women (8.4%) showed normal ovarian morphology although they met the diagnostic criteria, emphasizing the heterogeneous nature of PCOS and the idea that diagnosis should be based on a combination of clinical, biochemical and imaging findings rather than ultrasonography alone [16].

Some limitations of the present study are there. As a retrospective hospital-based study, the results may not be representative of the general population. The relatively small sample size and the use of data from medical records may also limit the generalizability of the results. However, the study provides useful information about the clinical and reproductive profile of women with PCOS in a tertiary care setting and adds to the growing body of evidence regarding this increasingly common endocrine disorder.

Conclusion

The present retrospective hospital-based study highlights that polycystic ovarian syndrome (PCOS) is a common endocrine disorder affecting predominantly young women in reproductive age group and is associated with wide spectrum of clinical and reproductive manifestations. The most common presenting complaints were menstrual irregularities, especially oligomenorrhea, followed by hyperandrogenic features such as hirsutism and acne. A high proportion of women were overweight or obese pointing to the close association of PCOS with the metabolic abnormality. Infertility was seen in almost half of the study population highlighting the significant reproductive burden of the disorder. The commonest ultrasonographic finding was bilateral polycystic ovarian morphology which supports its diagnostic significance. The study also found that a significant number of patients showed clinical markers of insulin resistance like acanthosis nigricans. In conclusion, the findings further support that PCOS is a heterogeneous disorder with diverse clinical presentations requiring early diagnosis, comprehensive evaluation and multidisciplinary management to improve reproductive outcomes and minimize long-term metabolic complications among affected women.

References

1. Stein IF, Leventhal ML. Amenorrhea associated with bilateral polycystic ovaries. American journal of obstetrics and gynecology. 1935 Jan 1;29(2):181-91.
2. Archard C, Thiers J. Le virlisme pilaire et son association a l'insuffisance glycolytique (diabe 'te des femmes a barb). Bull Acad Natl Med. 1921;86(51-64).
3. Azziz R, Carmina E, Dewailly D, Diamanti-Kandarakis E, Escobar-Morreale HF, Futterweit W, Janssen OE, Legro RS, Norman RJ, Taylor AE, Witchel SF. The Androgen Excess and PCOS Society criteria for the polycystic ovary syndrome: the complete task force report. Fertility and sterility. 2009 Feb 1;91(2):456-88.
4. Teede HJ, Misso ML, Costello MF, Dokras A, Laven J, Moran L, Piltonen T, Norman RJ. Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome. Human reproduction. 2018 Sep 1;33(9):1602-18.
5. Nidhi R, Padmalatha V, Nagarathna R, Amritanshu R. Prevalence of polycystic ovarian syndrome in Indian adolescents. Journal of pediatric and adolescent gynecology. 2011 Aug 1;24(4):223-7.
6. Dunaif A, Segal KR, Futterweit W, Dobrjansky A. Profound peripheral insulin resistance, independent of obesity, in polycystic ovary syndrome. Diabetes. 1989 Sep 1;38(9):1165-74.
7. ESHRE TR, ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. Fertility and sterility. 2004 Jan 1;81(1):19-25.
8. Teede HJ, Misso ML, Costello MF, Dokras A, Laven J, Moran L, Piltonen T, Norman RJ. Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome. Human reproduction. 2018 Sep 1;33(9):1602-18.
9. Blackmore R, Boyle JA, Fazel M, Ranasinha S, Gray KM, Fitzgerald G, Misso M, Gibson-Helm M. The prevalence of mental illness in

refugees and asylum seekers: A systematic review and meta-analysis. PLoS medicine. 2020 Sep 21;17(9):e1003337.
10. Thalamati S. A comparative study of combination of Myo-inositol and D-chiro-inositol versus Metformin in the management of polycystic ovary syndrome in obese women with infertility. Int. J. Reprod. Contracept. Obstet. Gynecol. 2019 Mar 1;8(3):825-9.
11. Nidhi R, Padmalatha V, Nagarathna R, Amritanshu R. Prevalence of polycystic ovarian syndrome in Indian adolescents. Journal of pediatric and adolescent gynecology. 2011 Aug 1;24(4):223-7.
12. Joham AE, Teede HJ, Ranasinha S, Zoungas S, Boyle J. Prevalence of infertility and use of fertility treatment in women with polycystic ovary syndrome: data from a large community-based cohort study. Journal of women's health. 2015 Apr;24(4):299-307.
13. Melo AS, Ferriani RA, Navarro PA. Treatment of infertility in women with polycystic ovary syndrome: approach to clinical practice. Clinics. 2015 Nov;70(11):765-9.
14. Ramanand SJ, Ghongane BB, Ramanand JB, Patwardhan MH, Ghanghas RR, Jain SS. Clinical characteristics of polycystic ovary syndrome in Indian women. Indian journal of endocrinology and metabolism. 2013 Jan 1;17(1):138-45.
15. Kalra A, Nair S, Rai L. Association of obesity and insulin resistance with dyslipidemia in Indian women with polycystic ovarian syndrome. Indian journal of medical sciences. 2006 Nov 1;60(11):NA-.
16. Schmidt TH, Khanijow K, Cedars MI, Huddleston H, Pasch L, Wang ET, Lee J, Zane LT, Shinkai K. Cutaneous findings and systemic associations in women with polycystic ovary syndrome. JAMA dermatology. 2016 Apr;152(4):391-8.