



ESTIMATION OF THE PROPORTION OF POLYCYSTIC OVARY SYNDROME AMONG REPRODUCTIVE AGE GROUP WOMEN VISITING TO DISTRICT HOSPITAL GADAG

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ABSTRACT

Background: Polycystic Ovary Syndrome (PCOS) is a common endocrine disorder affecting individuals of reproductive age, with prevalence rates ranging from 5% to 20%, depending on diagnostic criteria and population studied. PCOS remains underdiagnosed and misunderstood, often due to variations in clinical presentations and a lack of standardized diagnostic practices. The condition is associated with numerous metabolic, reproductive, and psychological complications, including insulin resistance, infertility, and an increased risk of cardiovascular disease. Understanding the global and regional prevalence of PCOS is critical for tailoring effective public health interventions, improving diagnostic awareness, and advancing treatment options. **Objectives:** 1. To estimate the proportion of PCOS among reproductive age group (15- 45 years) women visiting to district hospital. 2. To assess the clinical profile of the PCOS women of the reproductive age group visiting the district hospital. **Methods:** A Hospital-based Cross-Sectional study was done to estimate the proportion of PCOS among 310 reproductive-age-group women visiting to District Hospital Gadag. The primary data, which is quantitative, was collected using semi-structured questionnaires by the face-to-face interview method. Time-period sampling technique was used to select participants based on their availability and willingness to participate in the study during the data collection period. Data were entered into Microsoft Excel, and Results were expressed in frequency and percentage. Chi-square test to know the association of socio-demographic characteristics with PCOS. **Results:** Out of 310 participants, 47 were diagnosed with PCOS, indicating a prevalence of 15.16%. with the majority aged between 25-29 years (58.39%), followed by 20–24 years (31.29%), while smaller proportions were in the 30–34 years (7.10%). The most common clinical features among these participants were irregular menstruation and hirsutism. A high junk food intake was also observed as a prevalent lifestyle factor. **Conclusion:** The study highlights a significant prevalence of PCOS among reproductive-age women visiting the district hospital in Gadag. Key contributing factors include lifestyle habits, genetic predisposition, and hormonal imbalances. Early diagnosis and management are crucial in preventing associated complications such as infertility, metabolic disorders, and psychological distress. Strengthening awareness, improving screening methods, and promoting lifestyle modifications can help in the effective management of PCOS in this population.

KEYWORDS: PCOS; Reproductive age group women; District hospital; PCOD; Childbearing women; Women's Problems.

INTRODUCTION

Polycystic Ovary Syndrome (PCOS) is one of the most prevalent endocrine disorders among women of reproductive age, affecting approximately 5% to 20% globally, depending on the diagnostic criteria used and population studied.^[1]

It is characterized by clinical and/or biochemical hyperandrogenism, oligo- or anovulation, and polycystic

ovarian morphology. PCOS is associated with a host of complications, including insulin resistance, infertility, type 2 diabetes, metabolic syndrome, and mental health issues.^[2,3]

In India, prevalence varies from 3.7% to 22.5%, particularly high in urban areas and among adolescents.^[4]

According to the Indian Fertility Society, the most common symptoms of PCOS can range from menstrual disorders, infertility, and hyperandrogenemia to metabolic syndrome (MS). It affects ~5-10% of the female population in developed countries.^[5]

The prevalence of PCOS in the first-degree relatives of the proband was found in nearly 55–60% in several small families, supporting the hypothesis of autosomal dominant inheritance of PCOS.^[6]

Menstrual abnormalities and disorders are frequently linked to physical, mental, social, psychological, and reproductive issues, affecting adolescents' daily lives and their families' lives by various psychosocial problems such as anxiety.^[7]

Rotterdam criteria include a broader prevalence than the National Institute of Health 1990 Criteria. Based on the NIH 2012 workshop report, it is estimated that PCOS affects about 5 million reproductive-aged females in the United States.^[8]

According to the International Evidence guidelines, Clinical practice in the assessment and management of PCOS remains inconsistent, with ongoing key evidence-practice gaps.^[9]

The wide variation in prevalence might be due to the heterogeneous presentation of symptoms, diagnostic criteria practiced, limitations in diagnosis, age groups, and ethnic populations studied.^[10]

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Diagnosing PCOS, particularly in adolescents, presents challenges due to its wide range of symptoms, from menstrual irregularities to metabolic issues like insulin resistance. This approach helps manage symptoms while

reducing anxiety and social stigma.^[12] However, limited data are available from rural and district-level health facilities.

MATERIALS AND METHODS

Study setting: The study was conducted in District hospital at Gadag.

Study Design: A hospital-based Cross-Sectional study was conducted at District Hospital Gadag, Karnataka, from November to December 2024.

Study Participants: Women aged 15–45 years attending the obstetrics and gynecology outpatient department were included. Participants were selected using a time-period sampling method.

Variables: Presence of PCOS, Socio Demographic Variables, Reproductive History and Lifestyle factors.

Sampling technique and Sample Size: Using Time period sampling, 310 women were selected as participants.

Data Sources: Primary data was collected through face-to-face interviews using a semi-structured questionnaire that included sociodemographic characteristics, medical and reproductive history, lifestyle factors, and mental health.

Statistical Analysis: Data was entered into Microsoft Excel and analyzed using SPSS software. Categorical variable was expressed as frequency and percentage. Chi-square test to know the association of socio-demographic characteristics with PCOS.

Ethical approval: The study was approved by the Institutional Ethical Committee of Mahatma Gandhi Rural Development and Panchayat Raj University, Gadag (Ref. No: RDPRU/SEP/04/MPH/2024/20). Informed consent was obtained from all participants.

RESULTS

Table No. 1: Distribution of socio-demographic characteristics of PCOS women (n=310)

Demographic Details	Frequency(n)	Percentage(%)
Age groups		
15-19 years	4	1.29
20-24 years	97	31.29
25-29 years	181	58.39
30-34 years	22	7.10
35-39 years	5	1.61
40-45 years	1	0.32
Religion		
Hindu	203	65.3
Islamic	2	0.6
Christian	105	33.8
Occupation		
Housewife	271	87.1

Student	34	10.9
Tailor	3	1.0
Staff nurse	1	0.3
Bank manager	1	0.3
Family belongs to		
APL	11	3.5
BPL	299	96.1
Marital status		
Married	289	92.9
Unmarried	21	6.8
Residence		
Rural	287	92.3
Urban	23	7.4
Family size		
Small	249	80.1
Medium	21	6.8
Large	40	12.9
Family type		
Nuclear	269	86.5
Joint	34	10.9
Extended	7	2.3
Number of children		
No children	65	20.9
One	160	51.4
Two	75	24.1
More than two	10	3.2
Level of education		
Primary	2	0.6
Highschool	85	27.3
PUC/Diploma	171	55
UG	38	12.2
PG and above	14	4.5

The study involved 310 participants, most of whom were young adults between 25 and 29 years old, with a significant number also in their early twenties. Very few were teenagers or older adults. The majority followed the Hindu religion, with a smaller group identifying as Christians and only a handful as Muslims. Most of the participants were housewives, suggesting a primarily engaged homemaking population, with only a few involved in other professions like students, tailors, or bank staff. Economically, almost all came from families living below the poverty line, indicating financial hardship across the group. In terms of marital status, most were married, and only a few were single. The vast

majority lived in rural areas, with very few from urban settings. When it comes to family size, small families were the most common, followed by large and medium-sized families. Most participants lived in nuclear family structures, with fewer in joint or extended family setups. Regarding children, more than half had one child, some had two or more, and a fair number had none. Educationally, the largest group had completed a diploma or pre-university studies, followed by those with a high school background. A smaller portion held undergraduate or postgraduate degrees, and very few had only primary-level education.

Table No. 2: Distribution of Medical, Menstrual, Reproductive History, and Lifestyle Factors of Reproductive Women.

Sl. No	Variables	Categories	Frequency(n)	Percentage(%)
1	Obesity	Yes	47	15.1
		No	263	84.6
2	Irregular Menstrual Cycles	Yes	49	15.8
		No	261	83.9
3	Knowledge About PCOS	Very little	28	9.0
		Not at all	282	90.7
4	Previous History and Illness	HTN	31	10.0
		DM	2	0.6

		Hypothyroidism	6	1.9
		No history	271	87.1
5	Current Medication	Yes	36	11.6
		No	274	88.1
6	Period Symptoms	Severe cramp	234	75.2
		Heavy bleeding	48	15.4
		Fatigue	16	5.1
		Leg pain	12	3.9
7	Coarse Hair Growth	Upper lip, chin, upper arms, back	6	1.9
		Upper lip and chin	1	0.3
		Upper lip, chin, breasts, upper arm, back	13	4.2
		Upper lip, chin, chest between breasts, upper arm, back	27	8.7
		Nothing at all	264	84.9
8	Pregnancy History	Yes	244	78.7
		No	66	21.2
9	Miscarriages	Yes	34	10.9
		No	276	88.7
10	Exercise	No	310	100
11	Diet	Regular diet	262	84.2
		With nuts and dry fruits	48	15.4
12	Junk Food	Pani Puri and gobi	246	79.1
		Chips, Kurkure, fried foods	64	20.6
13	Feeling After Waking Up	Refreshing	248	79.7
		Not refreshing	62	19.9
14	Sleep Quality	Sound sleep	249	80.1
		Disturbed sleep	61	19.6
15	Smoking	No	310	100
16	Alcohol Consumption	No	310	100
17	Anxiety/Depression	No	310	100
18	Mood Swings	Yes	53	17
		No	257	82.6
19	Emotional Support	Yes	310	100

The study shows the distribution of various lifestyle, medical, and menstrual health-related variables among the study participants. The data reveals that a small portion of the participants were dealing with obesity and irregular menstrual cycles. There was a widespread lack of knowledge about PCOS among the group, indicating a serious gap in awareness. Most individuals did not have any significant past illnesses, though a few had conditions such as hypertension, diabetes, or thyroid issues. Only a minority were on medication during the study. Menstrual discomfort was quite common, with many reporting severe cramps, while fewer experienced heavy bleeding or visible physical symptoms like coarse

hair growth in areas such as the face or back. Pregnancy was a shared experience for many, though some had gone through miscarriages. Interestingly, none of the participants engaged in any form of regular exercise. Their diets were mostly based on staple foods like rice, cereals, pulses, and vegetables, with only a smaller group including healthier items like nuts and dry fruits. Junk food was frequently consumed by the majority. Most participants reported feeling well-rested and having good sleep quality. There were no reports of smoking, alcohol use, or diagnosed mental health conditions, such as anxiety or depression. Still, a portion of the group did experience mood swings.

Table No. 3: Distribution of Clinical Profile of PCOS Cases.

Clinical Symptoms	Frequency (n)	Percentage (%)
Obesity	47	15.1
Irregular menstrual cycles	47	15.1
Coarse hair growth	47	15.1
Acne	49	15.8
Psychological (mood swings)	53	17.0
Pelvic pain (lower abdomen)	49	15.8

The table presents the clinical symptoms observed in individuals diagnosed with Polycystic Ovary Syndrome (PCOS). Psychological symptoms such as mood swings were the most frequently reported, affecting 53 individuals. Irregular menstrual cycles, acne, and pelvic pain were also most commonly observed, with each symptom reported by 49 individuals. Obesity was noted in 47 cases, while coarse hair growth was the least reported, seen in 40 individuals. These results indicate that PCOS is associated with a wide range of symptoms, often involving both physical and psychological aspects.

DISCUSSION

This study found a PCOS prevalence of 15.16%, aligning with similar hospital-based studies in India that reported rates ranging from 9% to 22%.^[4,5] The majority of affected women were aged 20–29 years, the prime reproductive age group. Common symptoms included irregular menstruation and hirsutism, consistent with clinical profiles noted in earlier research.^[6,7]

Lifestyle factors, particularly high junk food intake and lack of exercise, were prevalent and may contribute significantly to the onset or worsening of PCOS symptoms. Despite evident symptoms, knowledge about PCOS was notably low among participants (only 9% had any awareness). These results highlight a significant gap in awareness and the need for targeted health education and early screening programs.

Our findings support previous literature indicating the impact of urbanization, lifestyle changes, and limited access to healthcare on PCOS rates in semi-urban settings.^[8,9]

The present study revealed a significant proportion of PCOS among reproductive-age women attending the District Hospital, Gadag. This supports existing data from India, where the prevalence of PCOS ranges between 9–22% depending on the diagnostic criteria used.^[23]

Clinical features such as menstrual irregularities, obesity, acne, and hirsutism observed in this study are consistent with previous findings. These indicate the need for early lifestyle interventions to reduce future metabolic risks.^[24]

Delayed diagnosis due to low awareness, especially in rural settings, highlights the importance of health education and timely screening. Sensitizing frontline health workers can aid in the early detection and management of PCOS.^[25]

CONCLUSION

The study underscores a significant burden of PCOS among women attending the District Hospital Gadag, with lifestyle and reproductive factors playing a key role. Early screening, improved awareness, and interventions focusing on dietary and physical activity modifications

are critical in addressing the rising incidence of PCOS in rural and semi-urban India.

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