



PREVALENCE OF POLYCYSTIC OVARIAN SYNDROME AMONG MEDICAL STUDENTS IN SOUTH KARNATAKA

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ABSTRACT

PCOS is the most common endocrine disorder of reproductive age group and the pathophysiology is heterogeneous in nature which includes metabolic dysfunction, genetic and environmental factors. **Aim:** To determine the prevalence and demographic characters of PCOS among medical students in South Karnataka and to assess the symptomatology of Polycystic Ovarian Syndrome among the diagnosed PCOS. **Materials and Methods:** This is an observational cross-sectional study conducted among 184 MBBS students from different medical colleges in South Karnataka from 01/07/2022 to 14/08/2022. Data were collected using close-ended questionnaire made in Google forms which analysed multiple parameters including Socio demographic profile and symptomatology among the participants. The data were analysed using IBM SPSS 28. The analysis included frequencies of discrete variables. **Results:** The results showed that the prevalence of PCOS among the participants is 15.13%. Among the participants more than half of the participants 62.7% belong to the age group 21-23 years. More than half of the participants 68.64% had ideal BMI of 18.5 to 24.9 kg/m². Most common symptom experienced among diagnosed PCOS in our study was excessive hairfall (44.86%) and the least common symptom experienced among them was hirsutism (29.18%). **Conclusion:** This study revealed that the prevalence of PCOS among medical students in South Karnataka is 15.13%. The prevalence of PCOS was found to be little higher compared to the other studies done in a similar setting among young female. Among the diagnosed PCOS, almost 44.86% of students had excessive hairfall followed by irregular menstrual cycle (39.45%) and weight gain. Hence awareness should be created among young females about the symptomatology of PCOS for early identification of the disease and prevent its progression.

KEYWORDS :**INTRODUCTION**

PCOS is a multisystem endocrine disorder among women of reproductive age group. Many factors such as genetics, environment, lifestyle changes and diet influence PCOS. Globally, prevalence of PCOS ranges from 2.2 % to 26%¹. According to Rotterdam's criteria, prevalence of PCOS was found to be 9.13% in South India.² The pathophysiology of PCOS is heterogeneous which is further complicated by varied clinical presentations between ethnicities. It includes hyperandrogenism, ovulatory dysfunction and aberrant GnRH pulsation which results in abnormal gonadotropin secretion. Intrinsic dysfunction of theca cells and disturbance in HPO axis causes hyperandrogenism..

According to Rotterdam criteria recommended from European countries³ which is being followed worldwide in categorizing PCOS includes presence of any 2 of the following conditions namely:

1. Hyperandrogenism
2. Ovulatory dysfunction/anovulation
3. Polycystic ovaries (detected by diagnostic procedures like USG).

The environmental factors plays a vital role in the development of PCOS than genetic factors, and may include intrauterine exposure to testosterone, follicular microenvironment and lifestyle after birth. PCOS can lead to long term complications like diabetes, heart diseases and metabolic syndrome if not diagnosed and treated at early stage.

MATERIALS AND METHODS

This is an observational cross-sectional study conducted among 184 MBBS students from different medical colleges in South Karnataka from 01/07/2022 to 14/08/2022. The participants recruited were female students from MBBS 1st year to final year and House surgeons who were willing to participate in the study. A convenience sampling technique was used to select the participants, 184 students responded for the questionnaire during data collection period of 45 days.

Data were collected using a close-ended questionnaire circulated

through Google forms. A pre-test survey was done among 25 participants, it led to rephrasing of several questions for better understanding. The participants used in pilot phase were excluded from the study.

Data analysis

Data were analysed using the SPSS version 24. The analysis included frequencies of discrete variables and descriptors and cross-tabulation of the variables using the Chi-square test, $P < 0.05$ was considered as statistically significant. Then all data were expressed as text, illustrated in tables and figures

RESULTS

The total responded participants in this study were 184 and the prevalence of PCOS among them was 15.13%. Among them more than half of the participants 62.7% belong to the age group 21-23 years, 25.4% belongs to age group 18-20 years and only 11.9% falls above 23 years of age. Almost half of the participants were final year MBBS (25.94%) and house surgeons (24.32%), rest half were MBBS 1st year to 3rd year. Majority were unmarried 97.83%. Based on dietary habits majority followed mixed diet 79.46% and only 20.54% were strict vegetarians. More than half of the participants 68.64% had ideal BMI of 18.5 to 24.9 kg/m². Most common symptom experienced by the diagnosed PCOS in our study population was excessive hair fall 44.86% and the least common symptom experienced among them was hirsutism 29.18%.

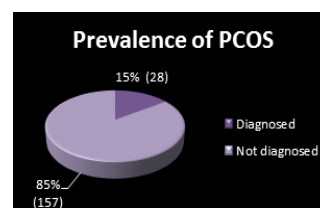
PREVALENCE OF PCOS IN THE STUDY POPULATION

TABLE 1: BASELINE CHARACTERISTICS OF THE STUDY POPULATION

SNO.	BASELINE CHARACTERISTICS	FREQUENCY
	AGE DISTRIBUTION	
1	18 – 20 Years	47 (25.40%)
2	21 – 23 Years	116 (62.70%)
3	> 23 Years	22 (11.89%)
	EDUCATION	
1	1 st MBBS	33 (17.83%)
2	2 nd MBBS	31 (16.75%)
3	3 rd MBBS	28 (15.13%)
4	4 th MBBS	48 (25.94%)
5	HOUSESURGEON	45 (24.32%)
	MARITAL STATUS	
1	Married	4 (2.16%)
2	Unmarried	181 (97.83%)
	BMI	
1	< 18.5 Kg/m ²	16 (8.64%)
2	18.5 – 24.99 Kg/m ²	127 (68.64%)
3	25 – 29.99 Kg/m ²	37 (20%)
4	30 – 34.9 Kg/m ²	5 (2.70%)
5	35 – 39.9 Kg/m ²	0 (0%)
6	≥40 Kg/m ²	0 (0%)
	DIETARY HABITS	
1	Vegetarian Diet	38 (20.54%)
2	Mixed Diet	147 (79.45%)

TABLE 2: SYMPTOMS EXPERIENCED BY PATIENTS WITH PCOS

SNO.	SYMPTOMS EXPERIENCED	NO. OF PATIENTS
1	Irregular Menstrual Cycles	73 (39.45%)
2	Excessive hair growth in face/chest/abdomen (hirsutism)	54 (29.18%)
3	Excessive facial acne	55 (29.72%)
4	Weight gain / Obesity	64 (34.59%)
5	Excessive hair fall	83 (44.86%)

DISCUSSION

In this study, 62.7% of the participants were within the age group 21-23 years. Almost half of the participants were final year MBBS (25.94%) and house surgeons (24.32%), rest half were MBBS 1st year to 3rd year. More than half of the participants 68.64% had ideal BMI of 18.5 to 24.9 kg/m². Based on dietary habits majority followed mixed diet 79.46% and only 20.54% were strict vegetarians.

A study done in Nepal shows that the mean age of patients with PCOS was 24 years indicating that it is a disease mainly of young age.⁴ Another study done in PCOS showed that out of 80 participants with PCOS, 59 % of patients were in the age group of 20-29 years which shows PCOS is a common disorder among young female.³ Hence, our study targeted this age group with an aim to screen and help in lifestyle modification to prevent lifelong complications.

A similar study conducted by K.C. et al. among 381 medical students in a tertiary care hospital in Nepal which showed the prevalence of PCOS as 9.18%⁶ which is lesser than this study. Another study conducted among young women in Bhopal where prevalence was found to be 8.2%⁷ which is also lesser than this study and hence there is geographical variation in the prevalence of PCOS among young female in India.

According to the study done by K.C. et al.⁶ in a tertiary care hospital, Nepal among medical students the most common symptom experienced by known PCOS was prolonged menses (n=80,20.99%) followed by obesity (n=79,20.73%) and hirsutism (n=28,7.34%). In our study most common symptom reported by diagnosed PCOS was excessive hairfall n=83 (44.86%) followed by menstrual irregularity n=73 (39.45%) and obesity n=64 (34.59%). Least common symptom being hirsutism n=54 (29.18%)

CONCLUSION

The prevalence of PCOS was found to be little higher compared to the other studies done in a similar setting among young female.

PCOS is one of the most common endocrinological problems among young females. Hence, early screening, lifestyle modification, and intervention are necessary to prevent lifelong complications. There is a paucity of research providing accurate data on the prevalence of PCOS in our country. Hopefully, this study will help to identify the proportion of PCOS cases so that they can be subjected to further diagnostic tests which helps in lifestyle modification and treatment as early as possible to prevent lifelong complications. The main limitation of the study is lesser number of study participants in one particular profession.

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