



PREVALENCE OF POLYCYSTIC OVARIAN SYNDROME IN RAIGAD DISTRICT-A COMPARATIVE CROSS-SECTIONAL STUDY

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ABSTRACT

Polycystic Ovarian Syndrome (PCOS) is a common endocrine disorder in women of reproductive age, characterized by hyperandrogenism, menstrual irregularities, and insulin resistance. It increases the risk of long-term health issues like diabetes, cardiovascular disease, and endometrial cancer. Diagnosis is based on criteria including hyperandrogenism, anovulation, and polycystic ovaries as per Rotterdam Criteria. Prevalence varies from region to region average incidence being 6%. Out of 262 participants 204 belonged to urban region and 58 were from rural areas.

KEYWORDS : polycystic ovaries, prevalence, oligo-anovulation, urban, rural

INTRODUCTION

Polycystic Ovarian Syndrome (PCOS) is a common endocrine disorder in women of reproductive age, with a prevalence of 5-6%. It is characterized by hyperandrogenism, menstrual irregularities, and insulin resistance. PCOS increases the risk of long-term health issues like diabetes, cardiovascular disease, and endometrial cancer. [1]

The diagnostic criteria for Polycystic Ovarian Syndrome (PCOS) are based on three main sets of guidelines: the **1990 NIH Criteria**, the **2003 Rotterdam Criteria**, and the **2006 Androgen Excess & PCOS Society (AE-PCOS) Criteria**. [2] While each set has slightly different requirements, the core diagnostic features include:

- 1. Hyperandrogenism** (excess male hormones), which can lead to clinical signs such as hirsutism (excessive hair growth), acne, and male-pattern baldness. This can be confirmed either clinically or through laboratory tests.
- 2. Oligo-anovulation** (irregular or absent ovulation), which often leads to menstrual irregularities or infertility.
- 3. Polycystic Ovaries** (multiple small cysts on the ovaries), visible on ultrasound, with the hallmark "string of pearls" appearance. This is a diagnostic feature in the Rotterdam and AE-PCOS criteria, but not required in the NIH criteria.

Diagnosis is typically confirmed after ruling out other conditions with similar symptoms, such as thyroid disorders or adrenal disorders. Additional tests may include blood tests for hormone levels (like testosterone, LH, FSH, insulin) and an ultrasound to assess ovarian appearance. [3]

The primary objective of this study is to determine the prevalence of Polycystic Ovarian Syndrome (PCOS) in Raigad district. Given the growing incidence of PCOS in rural areas, it would be insightful to compare the results between rural and urban populations.

CASE STUDY

The primary objective of this study is to assess the prevalence of PCOS among females aged 13 to 40 years in the Raigad district and to compare the prevalence between rural and urban populations. Females having other gynecological pathology like large Fibroid/ovarian cyst/ uterine anomalies/ tumors, Ultrasonographic findings suggestive of any adrenal pathology which may cause Hyperandrogenism and females

having increased Serum Prolactin levels were excluded from this study.

Study Setting-

The study was conducted at MGM Hospital, Navi Mumbai, a tertiary care hospital that serves both urban and rural populations, making it an ideal setting for comparing the prevalence and clinical manifestations of PCOS in these two groups. The study included 262 females, with two comparison groups formed: rural and urban populations.

Clinical Evaluation: Each participant underwent a detailed clinical evaluation based on the inclusion criteria. Symptoms such as menstrual irregularities, excessive hair growth, acne, and other signs of hyperandrogenism were noted.

Ultrasonographic Evaluation: An ultrasound was performed to check for the characteristic features of PCOS, such as the "string of pearls" appearance of the ovaries, with multiple small cysts arranged peripherally

Rural vs. Urban Classification: The health Infrastructure in Rural areas has been developed as a three-tier system and is based on the following population norms

Females coming to MGM Hospital from areas where they have access to this Health care facility were considered as Rural population and females coming from areas where they have access to other higher centers in their area were considered as Urban population

Centre	Plain Area	Hilly /Tribal area
Sub-centre	5000	3000
Primary Health Centre	30000	20000
Community Health centre	120000	80000

Prevalence Calculation: The prevalence of PCOS in both groups was calculated by dividing the number of diagnosed cases by the total number of participants in each group

RESULT:

Out of total 262 diagnosed cases of polycystic ovarian syndrome 58 females were from rural areas where as 204 belong to urban areas

The calculated prevalence in urban and rural females were 15.6% and 4.4% respectively

Table 1.: Distribution According To Number Of PCOS Cases From Urban And Rural Areas

Population	PCOS Cases
Rural	58 (22.13%)
Urban	204(77.86%)
Total	262(100%)

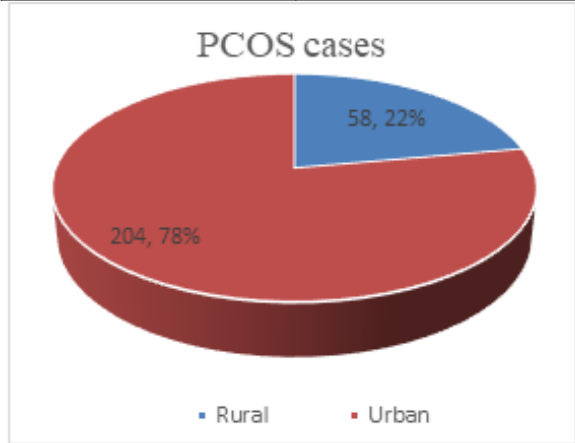


Figure 1

CONCLUSION

Diagnosis of PCOS primarily relies on three key features: oligo-anovulation, hyperandrogenism, and the presence of peripherally arranged follicles. In our study, out of 262 participants, 204 (77.86%) were from urban areas, while 58 (22.13%) were from rural areas, as shown in Table 1 and Figure 1. Based on the NIH (National Institute of Health), Rotterdam, and AES (Androgen Excess Society) criteria. The calculated prevalence in urban and rural females were 15.6% and 4.4% respectively. In a study conducted in Haryana the prevalence of PCOS in the urban population was 7.1% (n=67), while in the rural population, it was 2.9% (n=27).[4] These variations in prevalence are attributed to several factors, including lifestyle, geographical distribution, genetic factors, and dietary habits, all of which contribute to hyperinsulinemia, hyperandrogenism, and ovulatory dysfunction.

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