International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

A Silent Battle: Uncovering the Prevalence of Polycystic Ovarian Disease (PCOD) Among Students in Schools and Colleges

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ABSTRACT:
PCOD/PCOS stands out as a prevalent endocrine and metabolic disorder frequently observed in women of reproductive age. This condition, characterised by symptoms of androgen excess and ovarian dysfunction in the absence of other diagnoses, presents a varied profile. While its exact cause remains unclear, emerging evidence suggests it as a complex condition influenced by multiple genes and significant epigenetic and environmental factors, including dietary and lifestyle elements. Menstrual irregularities and reproductive issues are primary manifestations of PCOS, often leading to infertility. Moreover, PCOS patients face a heightened risk of cardiovascular disease, hypertension, lipid metabolism disorders, and endometrial cancer, with incidences two to six times higher compared to the general population. Fortunately, PCOS diagnosis and management are straightforward, involving the prudent use of established diagnostic tests and targeted interventions to address hyperandrogenism, ovarian dysfunction, and associated metabolic irregularities.

Keywords: Polycystic ovarian disease, Polycystic ovarian syndrome, Prevalence of PCOD, Endocrine abnormalities.

INTRODUCTION:

Polycystic ovarian disease (PCOD) or Polycystic ovary syndrome (PCOS) is a prevalent endocrine condition among females of reproductive age and is one of the leading causes for infertility.(**1**)PCOD/PCOS typically begins in adolescence but clinically presents during the reproductive years, carrying long-term risks such as diabetes, hypertension, dyslipidemia, and cardiovascular disease, collectively known as syndrome X. This syndrome encompasses a blend of clinical, biochemical, and ultrasound criteria reflecting ovarian morphology.(**2**)

PCOD/PCOS is defined by the ovaries generating numerous small fluid-filled sacs known as follicles but not releasing eggs consistently. Common indicators encompass irregular or absent menstrual cycles and manifestations of hyperandrogenism like acne, oily skin, excessive hair growth (hirsutism), hair loss (alopecia), and occasionally more pronounced masculinization symptoms, coupled with the identification

of polycystic ovaries through pelvic ultrasound. Recently, it has been associated with obesity, insulin resistance (IR), and a heightened susceptibility to developing Type 2 diabetes mellitus.(**3**,**4**)

Studies suggest that women diagnosed with PCOD encounter a notable decrease in their quality of life (QOL), compromised emotional well-being, and reduced sexual contentment. Furthermore, they demonstrate heightened levels of depression and psychological anguish, primarily linked to the visible outcomes of hyperandrogenism, including obesity, excessive hair growth, cystic acne, oily skin, and hair loss. These visible symptoms may influence their sense of feminine identity, potentially worsening their psychological challenges.(**5**)

People diagnosed with polycystic ovarian disease (PCOD), also known as functional ovarian hyperandrogenism, ovarian hyperthecosis, and sclerocystic ovary syndrome, experience the formation of multiple small cysts within their ovaries. These cysts arise due to disruptions in the usual hormonal fluctuations of a regular menstrual cycle. Consequently, the ovaries enlarge and generate elevated levels of androgen and oestrogen hormones. This hormonal imbalance, combined with the absence of ovulation, can result in infertility among affected individuals.(**6**)

OBJECTIVES:

To assess the prevalence of PCOD/PCOS among students in schools and colleges.

MATERIALS AND METHODS:

Study design:

Cross sectional descriptive study

Study Duration:

6 months (December 2022 – May 2023)

Sample Size:

Total sample size is 750. The sample size was calculated using standard statistical formula:

$$sample\ size = 1 + \frac{z^2 * p(1-p)}{e^2 N}$$

N = Population Size

e = Margin of error

z = z score

p = Standard deviation

Study Criteria:

The study will be carried out by considering the following criteria.

Inclusion Criteria:

- Population of age between 14-25.
- PCOD/PCOS diagnosed patients.

Exclusion Criteria:

Menarche attained within one year.

Study Source:

The data required for our study were collected from the schools and colleges.

Study Materials:

Pre-designed data collection form.

Study Procedure:

The study was conducted in schools and colleges. Data collection forms were given to obtain sufficient data and then an awareness program was held so as to improve their knowledge about PCOD/PCOS. After the pre-assessment, secondly a similar form was given to evaluate their understanding about the so held programme. The data thus obtained were analysed statistically to evaluate the prevalence of PCOD/PCOS among the study population.

Data Analysis:

Data was entered in Microsoft Excel – 2013 version and results were analysed using SPSS 28 and were presented in tabular forms and graphical representations.

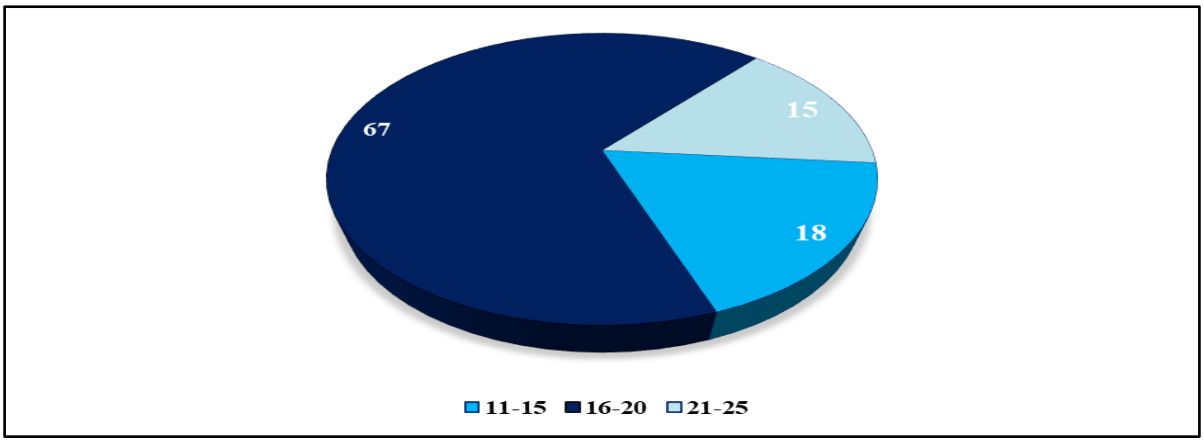
OBSERVATIONS AND RESULTS:

The study aimed to obtain data and to assess the prevalence of females with PCOD/PCOS. This was a cross sectional study conducted in schools and colleges. The data was collected using a questionnaire.

TABLE 1: DISTRIBUTION OF AGE GROUP

Sl. No	Age Group	Frequency	Percentage
1	11-15	135	18
2	16-20	502	67
3	21-25	113	15
	Total	750	100

FIGURE 1: DISTRIBUTION OF AGE GROUP

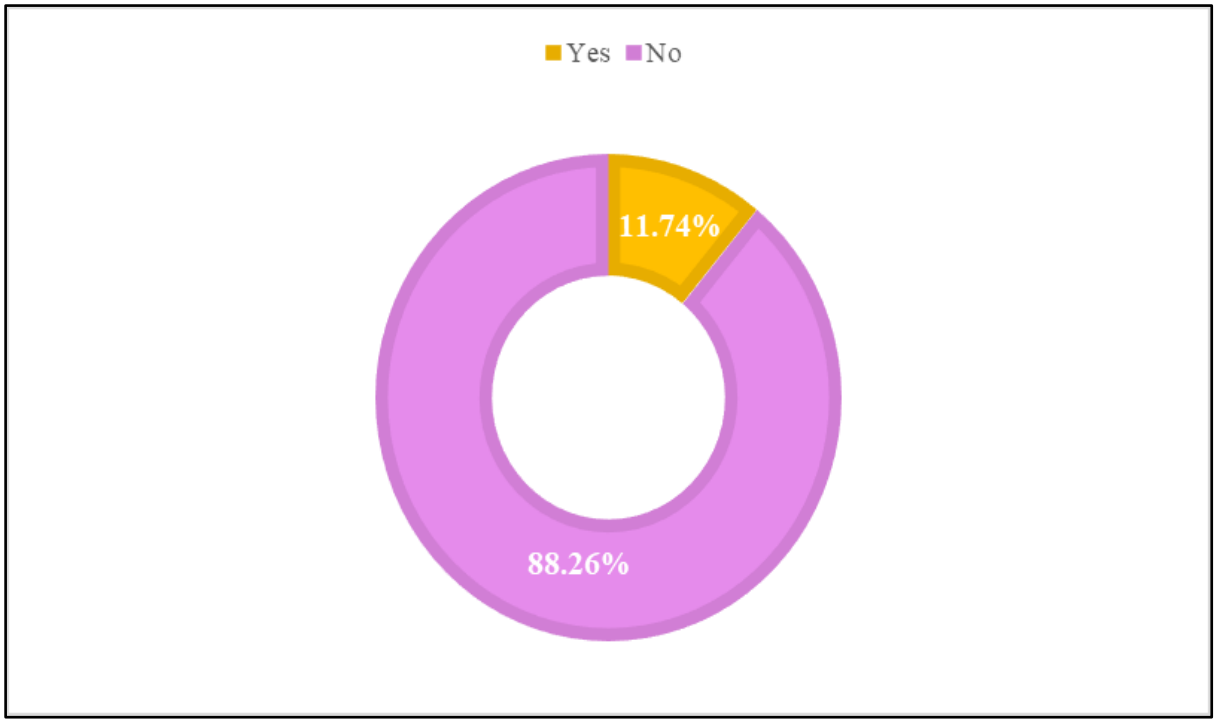


The graph above demonstrates how the 750 study participants were divided into three age groups, with the 16 to 20 age group receiving the majority of responses.

TABLE 2: DISTRIBUTION OF PCOD/PCOS DIAGNOSED PATIENTS AMONG THE STUDY POPULATION

Sl. No	Response	Frequency	Percentage
1	Yes	88	11.74
2	No	662	88.26
	Total	750	100

FIGURE 2: DISTRIBUTION OF PCOD/PCOS DIAGNOSED PATIENTS AMONG THE STUDY POPULATION



11.74% diagnosed with PCOD/PCOS among the total subject population.

DISCUSSION:

Polycystic ovarian disease is the most common hormonal disorder in females of reproductive age and is a condition in which ovaries produce many immature or partially mature eggs. The exact cause of PCOD/PCOS is unknown but poor lifestyle, obesity, stress, and hormonal imbalance are commonly seen in aetiology and there is no cure for PCOD/PCOS but we can manage it by lifestyle modifications but many are not aware about it. The prevalence rate of PCOD is unknown because of lack of studies related to this topic. The aim of this study was to determine the prevalence of PCOD/PCOS among individuals in schools and colleges. The study population consists of 750 students from schools and colleges. The study was a cross sectional study. The data of the patients were collected using structured questionnaires and google forms. From our study it was found that out of 750 population, 88 subjects were diagnosed with PCOD. The prevalence of PCOD was found to be 11.7% in our study. Regarding the distribution of age groups, it was observed that since PCOD typically manifests in childhood, many young adults struggle with this issue. Here in this study, it was found that the 750 study participants were separated into three age groups, with the 16-20 age group obtaining the bulk of responses.

This increase in rate can be attributed to various factors like living a sedentary lifestyle, stress, food habits etc. To prevent further complications, the children should be given proper health education and they should be insisted to lead a healthy lifestyle.

CONCLUSION:

PCOD leads to many complications like diabetes, Metabolic X syndrome, cardiovascular complications, breast cancer, endometrial cancer and depression. Kerala is considered as the diabetic capital in India. There are several risk factors like family history, lack of exercise, stress, and high carbohydrate diet. A

screening programme for PCOD/PCOS is essential to prevent the sequelae. (**7**)Despite this, the understanding of its impact on adolescent girls remains limited due to scarce research in this area. Thus, its significance remains largely unexplored in current literature.(**1**)Polycystic Ovarian disease requires "control" rather than "cure", the treatment decisions depend on symptoms, age, whether or not the women want to become pregnant.(**8**)

Many studies have suggested that lifestyle modification and dietary treatment of women with PCOD/PCOS was the best initial management for obese women seeking to improve their reproductive function.(**6**)

LIST OF ABBREVIATIONS:

PCOD: Polycystic Ovarian Disease
PCOS:Polycystic ovary syndrome
IR: Insulin Resistance
QOL: Quality of life

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