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PREVALENCE AND RISK FACTORS OF POLYCYSTIC OVARY DISEASE (PCOD) AMONG STUDENTS IN SCHOOLS AND COLLEGES: A CROSS-SECTIONAL STUDY FOR DEVELOPING A RISK ASSESSMENT SCALE

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ABSTRACT

Polycystic ovary disease (PCOD) is indeed a complex condition that can involve multiple medical specialties due to its varied manifestations and systemic effects. PCOD primarily affects women of reproductive age and is characterized by hormonal imbalances, irregular menstrual cycles, and often the presence of cysts on the ovaries. This study aimed to develop a risk assessment tool for PCOD based on findings from schools and colleges. A set of questions that may assess the risk of PCOD based on various factors such as Menstrual irregularities, Signs of hyperandrogenism, Elevated BMI or increased waist circumference, Family history Insulin resistance, Evidence of polycystic ovaries on ultrasound examination, Metabolic disturbances where used and The data thus obtained were analysed statistically to evaluate the risk associated with PCOD from that we discovered 21.74% of the study participants comes under the risk category, then an awareness program was held so as to improve their knowledge about PCOD. The identified risk factors were then evaluated and incorporated into a comprehensive risk assessment tool. The resulting tool provides a user-friendly method for individuals to assess their risk of developing PCOD based on their demographic, clinical, and lifestyle characteristics.

KEYWORDS: Polycystic ovarian disease, Polycystic ovarian syndrome, Risk assessment scale.

INTRODUCTION

PCOD is a multifaceted endocrine and metabolic disorder, marked by irregular ovulation, infertility, obesity, insulin resistance, and the presence of multiple cysts on the ovaries.[2] The exact cause of PCOD remains unknown, but it is believed to be multifactorial. Hormonal imbalances, including elevated luteinizing hormone (LH) and normal or suppressed follicle-stimulating hormone (FSH), contribute to an altered LH/FSH ratio, which is often observed in individuals with PCOD.[3]

PCOD can manifest at any age, including adolescence with the onset of menarche, it is most commonly diagnosed in women between the ages of 20 and 30.2 Indeed, genetic predisposition and unhealthy behaviours play significant roles in the development of PCOD (polycystic ovary disease) among women. Unhealthy behaviours such as overeating, consumption of diets and drinks high in sugar, fructose, trans fats, animal fats, and processed foods contribute to overweight, obesity, insulin resistance, hyperinsulinemia, and hyperandrogenism, all of which are known risk factors for PCOD. Addressing these lifestyle factors through dietary modifications, exercise, and other healthy habits can help mitigate the risk of developing PCOD and improve overall health outcomes for women.[4]

Early detection and intervention are crucial for mitigating the long-term health risks associated with PCOD. While several risk factors for PCOD have been identified, there is a lack of standardised tools for assessing individual risk.

Developing a risk assessment scale based on the findings of the study can provide individuals with a tool to evaluate their risk of developing PCOD (polycystic ovary disease). This scale can incorporate various risk factors identified in the study, such as genetic predisposition, unhealthy behaviors, overweight, obesity, insulin resistance, and hyperandrogenism. By assessing their own characteristics and behaviors against the criteria outlined in the scale, individuals can determine whether they fall into a low, moderate, or high-risk category for PCOD. This information can then guide them in making lifestyle modifications and seeking appropriate medical advice for preventive measures and management strategies. This study aimed to address this gap by developing a comprehensive risk assessment tool for PCOD based on key risk factors identified.

We have identified 14 questions that appear to be associated with a higher risk of polycystic ovary disease (PCOD). Points have been assigned to each question based on their perceived

relevance or correlation with PCOD. Using this scoring system, we have created a scale where a score exceeding 18 indicates under risk category.

OBJECTIVES

Objective of this study is to develop the risk assessment scale for PCOD.

MATERIALS AND METHODS

Study design

This is a community based – cross sectional descriptive study. The study was conducted with 750 samples from schools and colleges. The sample size was determined as 750 by using the equation:

Sample size=1+z2*p (1-p)e2N

Where, N = Population Size, e = Margin of error, z = z score, p = Standard deviation

Study site

The study was conducted at schools and colleges in Thiruvalla taluk, Kerala, India after obtaining the approval from the Institutional Review Board of Nazareth College of Pharmacy.

Study criteria

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

Inclusion criteria

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

Exclusion criteria

- Menarche attained within one year

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. 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 risk factors associated in PCOD among the study population.

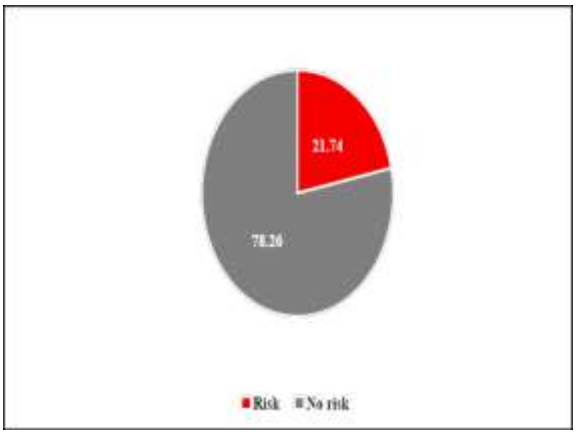
OBSERVATION

The study aimed to obtain data about the risk factors of PCOD and to develop a risk assessment tool for PCOD. This was a cross sectional study conducted in schools and colleges of Thiruvalla, taluk. The data was collected using a Questionnaire.

Polycystic ovarian disease risk assessment scale

Table 1: Risk categorisation based on the risk assessment tool.

SI. No	Risk category	Frequency	Percentage
1	Risk	163	21.74
2	No risk	587	78.26
	Total	750	100



From our study, we discovered that 21.74% of the study participants comes under the risk category based on the risk assessment tool.

DISCUSSION

The development of a risk assessment tool for PCOD represents a significant step towards early detection and preventive interventions for this common endocrine disorder. By providing individuals with a user-friendly tool to assess their PCOD risk, healthcare providers can facilitate targeted screening and intervention efforts. Moreover, the risk assessment tool can serve as a valuable resource for public health initiatives aimed at raising awareness of PCOD risk factors and promoting healthy lifestyle behaviours. Factors includes Demographic Information such as Age, Ethnicity, Body Mass Index (BMI). Symptoms and Clinical Indicators such as Menstrual irregularities, Hirsutism (Excessive hair growth), Acne, Obesity, Presence of ovarian cysts on ultrasound.

Family History. Lifestyle Factors such as Sedentary lifestyle, Unhealthy diet (high in refined sugars and processed foods), Elevated levels of androgens (e.g., testosterone) and Insulin resistance. The aim of this study to create a risk assessment tool for PCOD The study population consists of 88 PCOD diagnosed students from schools and colleges. The study conducted was a cross-sectional study. In our investigation, we observed that a significant proportion of families with individuals diagnosed with PCOD had at least one member affected by type 2 diabetes. Specifically, our findings indicated that 60.22% of PCOD patients had a family history of type 2 diabetes. The identification of a familial history of PCOD in a significant proportion of patients underscores the complex interplay of genetic and environmental factors in the development of this condition and highlights the importance of a holistic approach to its diagnosis, management, and prevention. From this study The discovery that 22.72% of the PCOD patients had a family history of PCOD and These findings suggest that a considerable proportion of the patients in the study consumed junk food regularly, with a majority consuming it either daily or weekly. This information is relevant for assessing lifestyle factors and potential dietary influences on the prevalence and management of PCOD. It highlights the importance of addressing dietary habits, including junk food consumption, as part of PCOD management and prevention strategies.

CONCLUSION

The development of a risk assessment tool for PCOD tailored to adolescents based on findings from a school and college-based study offers a promising approach to early detection and prevention of this prevalent endocrine disorder. By empowering adolescents to assess their PCOD risk and make informed decisions about their health, the tool has the potential to reduce the burden of PCOD-related complications and improve long-term health outcomes in this vulnerable population. Further research and validation of the tool are warranted to optimize its utility in clinical practice and public health interventions. Based on the study findings, approximately 21.7% of the PCOD patients were classified as being in the risk category. This suggests that a significant proportion of PCOD patients exhibited risk factors that were identified and weighted in the developed scale, indicating a higher likelihood of PCOD development or complications associated with the condition.

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