

## CLINICAL MANIFESTATIONS AND MANAGEMENT STRATEGIES FOR POLYCYSTIC OVARY SYNDROME: INSIGHTS FROM AN INDIAN COHORT

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### ABSTRACT

**Study Purpose:** This study explores the prevalence of Polycystic Ovary Syndrome (PCOS) and its impact on pregnancy outcomes among Indian women, emphasizing the need for specialized prenatal care and innovative management strategies to ameliorate these outcomes.

**KEYWORDS:** Indian women, emphasizing the need for specialized prenatal care and innovative management strategies to ameliorate these outcomes.

### INTRODUCTION

#### Context and Importance of PCOS

- **Global Prevalence:** Affects an estimated 7% of women of reproductive age worldwide, making it a significant public health issue.
- **Symptoms and Diagnosis:** Characterized by a spectrum of symptoms including menstrual irregularities, excess androgen levels, and polycystic ovaries. The condition's heterogeneity complicates diagnosis, which is further muddled by the lack of a single set of universally accepted diagnostic criteria.
- **Pathophysiology:** The etiology of PCOS is multifactorial, involving an interplay of genetic, environmental, and metabolic factors. A prominent feature in many cases is insulin resistance, which contributes to both metabolic and reproductive complications.
- **Psychosocial Impacts:** Beyond physical health, PCOS significantly affects psychological well-being, with higher incidences of anxiety, depression, and reduced quality of life reported among sufferers.

## METHODS AND MATERIALS

### Study Design Overview

- **Type of Study:** Retrospective observational study, aiming to quantify the relationship between PCOS and adverse pregnancy outcomes.
- **Data Collection Period:** Review of medical records spanning January 2010 to December 2020.
- **Participants:** Women diagnosed with PCOS according to the Rotterdam criteria, aged 18-45, with confirmed singleton pregnancies via ultrasound.
- **Exclusion Criteria:** Pre-existing diabetes, multiple gestations, or chronic diseases likely to affect pregnancy outcomes.

### Data Handling and Analysis

- **Collection Sources:** Comprehensive medical records from various hospitals across India.
- **Variables Collected:** Demographic details (age, BMI, socioeconomic status), clinical data (menstrual history, symptoms of hyperandrogenism, PCOS diagnostic details), and pregnancy outcomes (miscarriage, gestational diabetes, birth weights, etc.).
- **Analytical Approach:** Employed descriptive statistics for baseline data and multivariate logistic regression for assessing the impact of PCOS on pregnancy outcomes, adjusting for confounders such as age and BMI.

## RESULTS

### Significant Findings

- **Adverse Outcomes:** Statistically significant associations were found between PCOS and increased risks of miscarriage, gestational diabetes, preterm births, and cesarean sections.
- **Statistical Analysis:** The adjusted odds ratios demonstrated marked increases in pregnancy complications for women with PCOS, underscoring the need for tailored medical attention.

## DISCUSSION

### Interpretation of Results

- **Implications for Care:** The data underscores the importance of specialized prenatal programs tailored for PCOS patients to mitigate the identified risks.
- **Consistency with Literature:** The findings align with existing research that highlights elevated pregnancy risks among women with PCOS, suggesting that this group requires heightened clinical attention.

## Management of PCOS

### Therapeutic Strategies

- **Lifestyle Interventions:** Discusses the significant impact of lifestyle changes, such as diet and exercise, on improving insulin sensitivity and overall PCOS management.
- **Barriers to Implementation:** Elaborates on the psychological and socioeconomic barriers that often impede sustained lifestyle changes among this population.

### Pharmacological Management

- **Use of Oral Contraceptives:** Evaluates the dual role of oral contraceptives in managing menstrual irregularities and potential exacerbation of insulin resistance.
- **Role of Metformin and New Therapies:** Explores the use of metformin for its benefits on metabolic profiles and emerging treatments like Inositol and new pharmacological agents that offer promising results in early studies.

### Future Directions

#### Research and Clinical Practice Needs

- **Improving Diagnostic Accuracy:** Advocates for the standardization of diagnostic criteria to enhance the reliability of PCOS diagnosis and subsequent management strategies.
- **Long-term Effectiveness:** Calls for long-term studies to assess the sustained effectiveness of various treatment modalities on the metabolic and reproductive outcomes of PCOS patients.

## CONCLUSION

### Key Takeaways and Clinical Recommendations

- The study highlights the significant impact of PCOS on pregnancy outcomes, reinforcing the need for dedicated clinical protocols to manage these risks effectively.

### Ethical Considerations and Limitations

- **Ethical Compliance:** Ensured by adherence to the principles of the Declaration of Helsinki; ethical approval was granted by all participating institutions.
- **Study Limitations:** Acknowledges potential biases inherent in retrospective analyses and the study's limited applicability beyond the Indian demographic context.