International Journal of Humanities Social Science and Management (IJHSSM)
Volume 5, Issue 4, Jul. - Aug., 2025, pp: 290-293 ISSN: 3048-6874
www.ijhssm.org

"Systematic Review of Literature: Prevalence of PCOD by Age Group"

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Date of Submission: 05-07-2025 Date of Acceptance: 16-07-2025

Abstract
Polycystic Ovarian Disease (PCOD) is one of the most common endocrine disorders affecting women of reproductive age worldwide. This systematic review aimed to examine the prevalence of PCOD across different age groups, highlighting which age ranges are most commonly affected. Studies published between 2021 and 2025 were reviewed, encompassing cross-sectional surveys, cohort studies, and retrospective analyses from India, China, Saudi Arabia, the United States, and the United Kingdom. Findings consistently demonstrated the highest prevalence among women aged 20–29 years, with rates ranging from 10% to 16% across regions. Notably, there is also a rising trend of early onset among adolescents aged 14–19 years. These results underscore the need for early screening, awareness programs, and timely interventions to improve reproductive and metabolic health outcomes in young women.

I. Introduction

Polycystic Ovarian Disease (PCOD), also referred to as Polycystic Ovary Syndrome (PCOS), is an endocrine-metabolic disorder characterized by hyperandrogenism, chronic anovulation, and polycystic ovarian morphology. It is recognized as a leading cause of infertility, menstrual irregularities, and metabolic disturbances such as insulin resistance and obesity. Globally, PCOD affects approximately 6–20% of women of reproductive age, depending on diagnostic criteria and population characteristics.

Understanding which age groups are most commonly affected by PCOD is critical for planning effective screening, prevention, and management strategies. Over the last decade, several studies have suggested that the syndrome increasingly affects adolescents and young women. However, there has been limited synthesis of recent literature specifically analyzing prevalence trends by age group.

This systematic review was conducted to consolidate current evidence published between 2021 and 2025 regarding the prevalence of PCOD across different age categories. The objective was to identify the age range in which PCOD is most prevalent, thereby guiding clinical practice and public health interventions targeting early diagnosis and management.

II. Review of Literature

Author (Year)	Objective	Methodology	Sample Size & Age Group	Key Findings	Conclusion
March et al. (2010)	Estimate PCOS prevalence in Australian women	Cross-sectional community-based study	728 women, 18–45 years	15% prevalence; highest in 20–29 years	PCOD most common in early reproductive years
Nidhi et al. (2011)	Assess prevalence and risk factors of PCOS in Indian adolescents	Cross-sectional school survey	460 adolescent girls, 15–18 years	9.13% prevalence	Adolescents increasingly affected
Bozdag et	Global prevalence	Systematic	Multiple	6–20% prevalence,	Young women

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Author (Year)	Objective	Methodology	Sample Size & Age Group	Key Findings	Conclusion
al. (2016)	and phenotypes of PCOS	review	studies, women 15–44 years	depending on criteria	commonly affected
Sharma et al. (2021)	PCOD prevalence in Indian urban adolescents	Cross-sectional study	600 girls, 14–19 years	11.2% prevalence; peak at 17–19 years	Early screening recommended
Chen et al. (2022)	PCOD prevalence and metabolic risk in China	Multicenter cohort study	1,200 women, 18–35 years	14.8% prevalence; peak in 20–25 years	Young adulthood highest risk
Patel & Rathi (2022)	PCOD in rural Indian women	Community-based study	500 women, 18–35 years	12.4% prevalence; peak 20–25 years	Rural prevalence comparable to urban
Al-Mutairi et al. (2023)	PCOD in Saudi reproductive-age women	Cross-sectional survey	800 women, 18–40 years	16.5% prevalence; majority in 21–30 years	PCOD a major reproductive health concern
Smith et al. (2024)	PCOS prevalence in USA	National Health Survey data analysis	3,000 women, 18–40 years	10.2% prevalence; highest in 20–29 years	Early reproductive age critical
Ahmed et al. (2025)	PCOD diagnosis trends in UK primary care	Retrospective cohort study	1,500 women, 16–35 years	13.6% prevalence; peak in 20–25 years	Early adulthood critical for early detection
Li et al. (2017)	PCOS prevalence and age distribution in Chinese women	Large cross-sectional study	1,500 women, 15–40 years	13.4% prevalence; peak in 20–29 years	Confirms early adulthood peak
Kaur et al. (2019)	PCOS among adolescent girls in North India	School-based screening	700 girls, 13–19 years	10.5% prevalence; increasing with age	Rising adolescent rates
Gupta & Singh (2020)	PCOS prevalence in urban and rural India	Community comparative study	1,000 women, 18–35 years	Urban 14%, rural 11%; peak in 20–29 years	Urbanization influences prevalence
Al-Hussaini et al. (2018)	PCOS among young women in Gulf countries	Multicenter observational study	900 women, 18–35 years	15.7% prevalence; highest in 20–29 years	Similar patterns in Middle East
Farooq et al. (2019)	PCOS prevalence and symptoms in Pakistani women	Cross-sectional hospital-based study	500 women, 15–35 years	12.8% prevalence; peak in 21–29 years	High burden in young reproductive women

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Author (Year)	Objective	Methodology	Sample Size & Age Group	Key Findings	Conclusion
Wekker et al. (2021)	Age-related metabolic changes in PCOS	Cohort study	400 women, 18–40 years	Younger women showed more hyperandrogenism; older more metabolic issues	Age impacts symptom profile

III. Summary:

- Across different populations and methodologies, PCOD prevalence consistently peaks in women aged 20–29 years.
- Increasing diagnosis rates among adolescents aged 13–19 years highlight the trend of earlier onset.
- Prevalence rates range approximately from 9% to 17% depending on region and diagnostic criteria.
- Urbanization and lifestyle factors contribute to variation in prevalence.
- Age-related changes affect clinical presentation, with younger women presenting more with hormonal symptoms and older women with metabolic complications.
- Early screening and intervention targeting adolescents and young adults are critical to reduce long-term health consequences

IV. Conclusion

The systematic review of recent literature clearly demonstrates that Polycystic Ovarian Disease (PCOD) predominantly affects women in their early reproductive years, with the highest prevalence consistently observed between the ages of 20 and 29 across diverse populations and geographic regions. Emerging evidence also highlights a concerning rise in diagnosis among adolescents aged 13 to 19 years, indicating an earlier onset of the syndrome than previously recognized. Prevalence rates vary between approximately 9% and 17%, influenced by factors such as diagnostic criteria, lifestyle, and urbanization. Furthermore, the clinical presentation of PCOD appears to evolve with age, with younger women exhibiting more hormonal symptoms and older women experiencing greater metabolic complications. These findings underscore the critical importance of implementing early screening and intervention programs targeting adolescents and young adults to prevent long-term reproductive and metabolic consequences. Future research should focus on longitudinal studies to better understand the progression of PCOD across different age groups and to evaluate the efficacy of early preventive and therapeutic strategies.

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