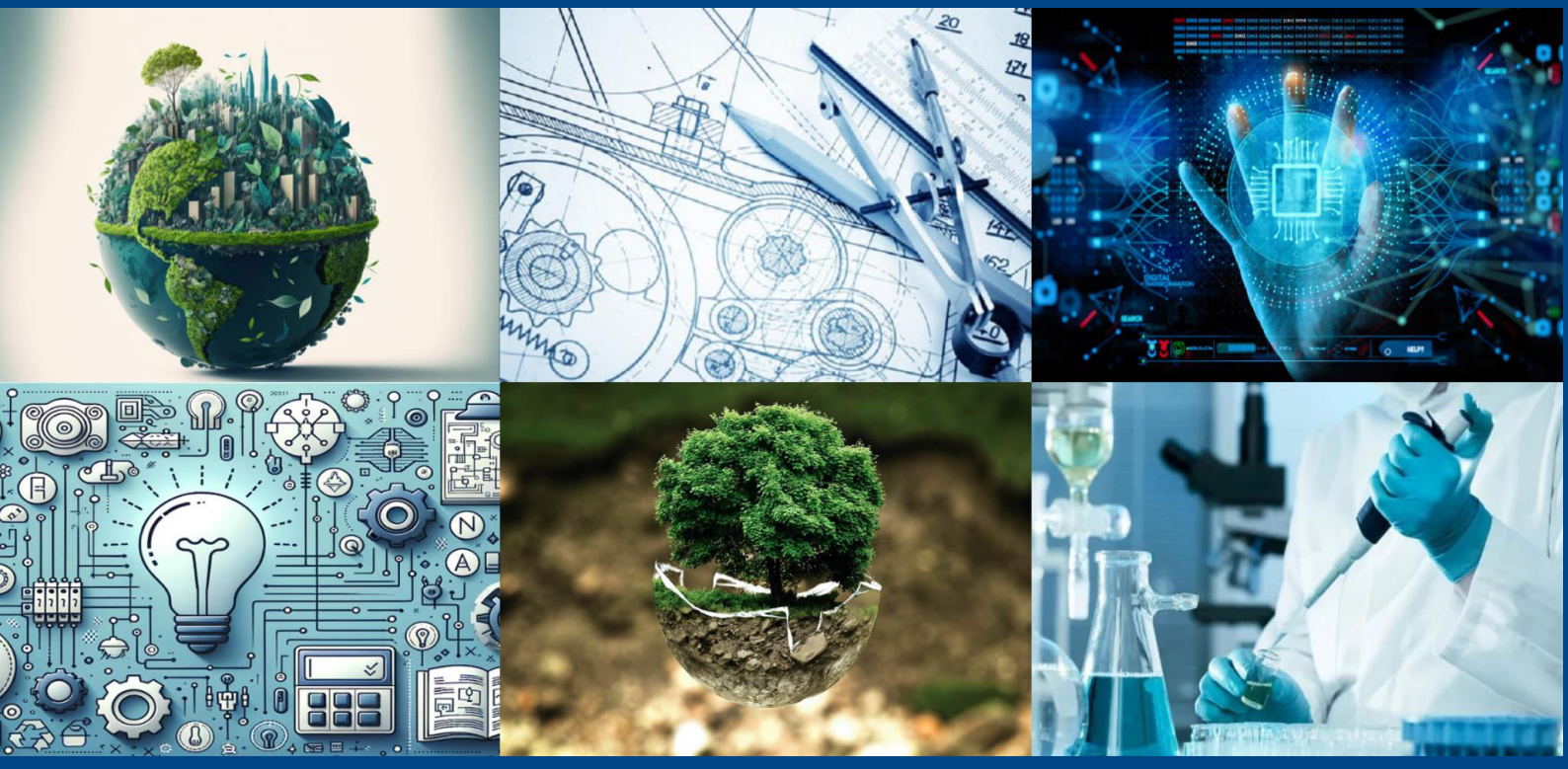
ISSN: 2582-7219

International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206 **Volume 8, Issue 4, April 2025**

© 2025 IJMRSET | Volume 8, Issue 4, April 2025| DOI:10.15680/IJMRSET.2025.0804510

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Bridging the Gap in PCOD and PCOS Care: A Comprehensive Health & Wellness Platform

Keerthi Spandana N, Leeshan Shetty, Manoj KS, Patnala Akanksha, Chandas E, Suparna Ghosal

MBA, CMS Business School, JAIN (Deemed-to-be University), Bengaluru, Karnataka, India

Adjunct Faculty, Marketing, Faculty of Management Studies, CMS Business School, JAIN (Deemed-to-be University), Bengaluru, Karnataka, India

ABSTRACT: This research examines the problems faced by women with PCOD (Polycystic Ovarian Disorder) and PCOS (Polycystic Ovary Syndrome) and examines the likely contribution of an e-healthcare platform, CystaCare, to addressing these challenges. PCOD and PCOS are endocrine disorders of significant complexity with profound effects on the reproductive, metabolic, and psychological health of women. Although there is an increasing prevalence of these conditions, there is still an enormous gap in the availability of expert care, and diagnosis is late, care is poor, and health outcomes are poor. Lack of organization of care is also a contributory factor, and it is hard for women to control their symptoms.

To better understand these issues, a quantitative survey was conducted through Google Forms among 100 women aged 14 to 45 years with a PCOD or PCOS diagnosis or suggestive symptoms of these diseases. The survey was done through a snowball sampling method to obtain a wide range of responses. Questions were framed to measure the participants' experience with symptom management, satisfaction with existing practices of treatment, perceived shortcomings in the healthcare system, and readiness to embrace digital health solutions. Data collected through the survey were analyzed through statistical analysis, such as chi-square tests, t-tests, and correlation analysis, to determine patterns and correlations. The results indicate that a high percentage of women report frequent symptoms such as irregular menstruation, weight gain, and acne, to some degree. However, no statistical correlation between PCOD/PCOS diagnosis and the presence of these symptoms was observed, suggesting the need for more research with larger sample sizes. The research also did not observe any correlation between PCOD/PCOS diagnosis and infertility, unlike common beliefs. The fact that no significant correlation was observed between the diagnosis and fertility issues reported suggests other causes of infertility, which must be determined.

KEY WORDS: PCOD/PCOS, AI in Healthcare, Lifestyle management, E-Healthcare, Personalized treatment.

I. INTRODUCTION

A challenging and common endocrine condition, polycystic ovary syndrome, significantly affects the psychological, metabolic, and reproductive functions of women. Although extremely common, patients mostly are self-managing with uncontrolled symptoms and little care; available healthcare procedures are mostly incomplete, individualized, and ongoing. The paper identifies shortcomings of available management procedures and explores CystaCare, an e-HealthCare program, for effective management of Polycystic Ovary Syndrome. The program has been designed to provide a holistic, patient-centered PCOS and PCOD management plan. From remote doctor consultations to web-based symptom management to customized lifestyle planning and AI interventions, CystaCare combines various aspects of care. The program bridges the available care gap by applying digital health technology. It thus enhances the outcomes of the patients through real-time monitoring, personalized treatment schedules, and ongoing interaction. The study emphasizes the need for a science-based, multi-disciplinary approach to treat overall well-being, metabolic wellness improvement, and hormone imbalance. Through technology innovation with patient education and lifestyle change, CystaCare is committed to enabling PCOS and PCOS women to manage their health and enjoy long-term benefits.

© 2025 IJMRSET | Volume 8, Issue 4, April 2025| DOI:10.15680/IJMRSET.2025.0804510

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Objectives

1. To Identify Gaps in Existing PCOD/PCOS Care Solutions.
2. To Develop a Comprehensive Digital Health Platform for PCOD/PCOS Management.
3. Evaluate the impact of digital healthcare solutions in improving women's health outcomes.

II. REVIEW OF LITERATURE

Polycystic Ovary Syndrome (PCOS) is a common endocrine disorder with infertility, irregular menstrual cycles, weight gain, and psychiatric comorbidities of depression, anxiety, and eating disorders, with potential genetic and hormonal underpinnings of such comorbidities (Standeven et al.). Mitigation of these issues necessitates continuous research into biological mechanisms, targeted therapies, and psychiatric treatment. Nevertheless, despite increased knowledge regarding PCOS, existing therapies have their limitations, with research into drug repurposing with the use of metformin and statins and phytochemistry with allegedly improved symptom control and reduced adverse effects (Kumbhar et al.). Patient dissatisfaction with healthcare experiences results in many turning to information on the internet, much of which is unhelpful, while variable knowledge among healthcare providers results in misdiagnosis and variable treatment modalities. Closing education gaps, culturally sensitive communication, lifestyle counseling, and mental health support have been recognized as key to improved patient outcomes and satisfaction (Chau Thien Tay et al.). Advances in genetics and epigenetics have also advanced knowledge regarding PCOS, but underfunding is a principal limitation to research and development of treatments, with the existing revision of the International Evidence-Based PCOS Guideline a resource-intensive endeavor requiring international collaboration (Tay et al.). With greater focus on early diagnosis, machine learning techniques have been applied to detect PCOD, comparing various health parameters to facilitate early intervention and management (A. Kumbhar et al.). The contribution of technological integration in healthcare is also highlighted by studies among Indian women, where communication of diagnosis, interaction with healthcare professionals, and coping mechanisms following treatment mirror the social and psychological burden of the disorder (Narula and Bharadwaj). Inconsistencies in diagnosis remain prevalent, as a study using the National Institutes of Health criteria reported an 11.33% pooled prevalence of PCOS among Indian women, with discrepancies arising due to differences in diagnostic methods and populations, necessitating standardized protocols and greater awareness among healthcare professionals and policymakers (Bharali et al.). Among adolescents aged 14-19 years, the prevalence of PCOS is even greater at 17.74%, with hospital-based studies reporting a 25% prevalence, necessitating the integration of health education and screening in adolescent health care programs (Sharma et al.). In India, where PCOS impacts an estimated 18% of women—up to 25% in certain states—concerns regarding its reproductive and metabolic effects, including diabetes, heart disease, and infertility, are increasing (Anjali C.S et al.). The emergence of new-age symptoms such as acne and hirsutism makes the condition more difficult, necessitating early treatment. Proper diagnosis, however, is difficult due to the advanced and sometimes costly diagnostic techniques used. Knowledge is poor, especially among young women, and therefore, health education is needed for early detection and treatment (Priyanka Shenoy and Dr. M. P. Brundha). This is especially needed because PCOD is common among young, unmarried women aged 18-25 years, who usually have irregular cycles, weight gain, acne, hirsutism, and infertility, but usually have variable treatment strategies (Anishka Pandey et al.). Pharmacovigilance is also needed in treating PCOD because awareness of the side effects of treatment medication can improve patient outcomes. Geographical considerations also impact well-being and quality of life since PCOS is influenced by genetic, environmental, and psychosocial factors, and thus, more patient-specific and patient-centric care strategies are needed (Ms. Lydia Binu Raj et al.). PCOS has a major impact on women's quality of life regarding health, as evidenced by research in Northern India with lower quality-of-life scores in women with PCOS compared to healthy controls (Tabassum et al.). Hormonal imbalance is at the epicenter, with research showing drastically changed levels of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) in PCOD patients, highlighting the contribution of hormonal evaluation to diagnosis and management (Jyoshna and Vijayasree). Besides its physical effects, PCOS is the origin of social distress and interpersonal problems, with research showing increased susceptibility to psychological distress in women with PCOS (U.K. Kamathenu et al.). In response to these issues, attempts at enhancing self-management and psychological functioning through digital health interventions have been undertaken, with qualitative research informing the creation of a web-based self-management program for PCOS patients (Percy et al.). Complementary medicine has also been investigated, with Ayurvedic therapies like Yagya Therapy showing potential therapeutic effects in managing both PCOD and related conditions like OCD (Shrivastava et al.).

The multifactorial etiology of PCOS necessitates an interdisciplinary approach, and lifestyle, environmental toxins,

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

genetics, and gut dysbiosis play a role in its pathogenesis, which necessitates personalized treatment (Singh et al.). Digital health interventions have been encouraging, and a study comparing the efficacy of a WeChat-based intervention and metformin treatment for PCOS-induced insulin resistance showed digital interventions to be as effective as pharmacotherapy (Diliqingna Dilimulati et al.). Likewise, a mobile health app based on the Transtheoretical Model (TTM) showed enhanced lifestyle behavior, decreased BMI, and decreased levels of depression and anxiety, pointing toward the potential of theory-informed behavioral interventions (Wang et al.). The 2023 International PCOS Guideline reiterates lifestyle modification, evidence-based medical treatment, and individualized treatment and is a useful guide for standardizing care protocols (Teede et al.).

The application of artificial intelligence and the Internet of Things (IoT) in the management of polycystic ovary syndrome (PCOS) is increasingly recognized, as research categorizes digital interventions into mobile apps, wearable devices, machine learning systems, websites, and telephone support, showing their promise for real-time monitoring and personalized interventions (Graca et al.). Artificial intelligence and machine learning have been proven to be most beneficial in improving diagnostic accuracy and personalizing treatment regimens, thereby opening new doors for individualized PCOS care (Barrera et al.). Some machine learning models, including ensemble learning techniques like Random Forest, have been proven to be highly accurate in predicting PCOS and polycystic ovarian disease (PCOD), further highlighting the potential of technology in enhancing diagnosis and management (Lakshmi et al.). With the rising incidence of PCOS, the integration of digital health platforms, artificial intelligence, and machine learning into healthcare systems offers a revolutionary opportunity to enhance patient outcomes and advance the science of PCOS research and treatment.

III. IDENTIFICATION OF RESEARCH GAP

Despite the huge amount of research that has been conducted on PCOD and PCOS, huge gaps between knowledge and the treatment of the two conditions are evident. Previous research has **focused almost exclusively on the reproductive and physiological impact of PCOS, not the emotional and psychological difficulties**. Furthermore, despite the fragmented and episodic medical model provided by traditional medical models, **limited evidence exists to indicate the success of digital health platforms in offering whole-person care.**

The existing literature does not discuss the role of patient-centered solutions in delivering continuous and individualized care. Most healthcare systems are structured to treat acute symptoms instead of delivering holistic and preventive care for chronic conditions such as PCOS. Therefore, women are likely to endure longer durations, misdiagnosis, and low-quality medical care. Additionally, the link between PCOS/PCOD and infertility is established, but the evidence **is not conclusive about the long-term reproductive outcomes of women who utilize integrated digital health systems**. Little has been investigated to evaluate how virtual consultations, remote monitoring, and AI-based health monitoring might enhance fertility outcomes and reproductive health. Patient compliance with digital health interventions and the psychological effects of self-monitoring devices are also areas that require investigation. Although early results indicate promise, there is no empirical evidence to back these assertions using varied population samples. In addition, the availability and affordability of virtual healthcare services for women in rural and poverty communities remain uncertain.

The literature is lacking in a comprehensive examination of the main symptoms that women with PCOS/PCOD must live with, and how these symptoms affect their quality of life. While narrative evidence suggests that irregular menstrual cycles, weight gain, and hormonal changes are common, **strong evidence that comparatively examines the frequency and severity of such symptoms is quite scarce.**
Furthermore, little is understood about the promise of personalized lifestyle interventions and mental health treatment built into digital interventions to reduce these symptoms. The potential of technology to enable women to track their symptoms, guide their health choices, and achieve better health outcomes is not well-researched.

IV. THEORETICAL UNDERPINNINGS

1. Health Belief Model (HBM)

The Health Belief Model (HBM) functions as a vital theory of foundation that provides profound insight into how women perceive their medical conditions, the danger posed, and the benefits that result from obtaining the appropriate medical help. Polycystic Ovary Disorder/Polycystic Ovary Syndrome (PCOD/PCOS) tends to be characterized by

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

underdiagnosis or mismanagement mainly because of a general lack of information and prevailing misinformation about the disease. The HBM model is crucial in facilitating the study to further examine how perceived susceptibility to the disease and its severity are key factors in determining the odds that individuals will seek medical help. Moreover, an evaluation of the perceived benefits of treatment, as well as the obstacles to receiving healthcare, can be systematically assessed to determine the gaps that currently exist in the prevailing healthcare system. By fully applying the principles of HBM, this study has the potential to critically examine the significant role that health literacy and targeted campaigns of awareness play in promoting the urgency of early diagnosis and timely intervention among the afflicted population.

2. Social Cognitive Theory (SCT)

Social Cognitive Theory (SCT) is a key paradigm that focuses on the intricate dynamic relationship between a variety of personal, behavioral, and environmental factors that collectively determine health management. PCOD/PCOS women are frequently exposed to not just social stigma but also to extreme psychological distress that goes on to affect their overall well-being. SCT is a vital model for considering how social support groups, models, and perceived self-efficacy can help shape their health-related behaviors and decisions. SCT is a highly insightful theoretical framework that provides crucial insights into how positive reinforcement and social support can promote effective compliance with prescribed treatment regimens, enhance healthy lifestyle changes, and enable the generation of effective coping mechanisms. The SCT paradigm can also be used to examine the significant role played by online support groups and peer networks in examining the critical role of social interaction in the management of the challenges of PCOD/PCOS.

3. Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is of great significance when considering the alterations in health-related behaviors of women who are struggling with Polycystic Ovarian Disease or Polycystic Ovary Syndrome, also known as PCOD/PCOS. This specific theory indicates that the intentions of one's behaviors are formed and molded by three major elements: personal attitudes towards the behavior, the subjective norms regarding what is acceptable or expected by society, and the perceived control one feels they have over their actions. Through the application of the TPB framework, the research hopes to explore how women's perceptions of the efficacy of treatment options, the support they get from family members or health practitioners, and their self-efficacy in controlling the symptoms of this condition are significant factors in dictating their health-related choices. An understanding of the various factors that are significant in promoting healthy behavior can be significant in informing the design and delivery of effective awareness campaigns and holistic counseling programs aimed at helping these women.

4. The Field of Feminist Theory

Feminist Theory offers a most useful framework by which to explore the diverse and gender-specific experience and discrimination that arises in the diagnosis and treatment of conditions like PCOD, Polycystic Ovarian Disease, or PCOS, Polycystic Ovary Syndrome. The theory in particular details the widespread gender discrimination that is so often the cause of undue delays in the diagnosis of these conditions, the minimizing of symptoms that may be presented by women, and the general failure to provide the right kind of medical care that can be extended to those who are suffering from them. The research systematically applies feminist theory in analyzing how deeply entrenched societal conventions, gendered norms, and subconscious biases very significantly affect the health experiences of women who are suffering from PCOD or PCOS.

5. Quality of Life (QoL) Assessment Framework

The Quality of Life (QoL) Framework has an important role to play in studying and measuring how much Polycystic Ovary Disease (PCOD) and Polycystic Ovary Syndrome (PCOS) impact different important areas in a woman's life. This multi-dimensional framework is used to measure a range of different dimensions, from physical health, emotional functioning, and social relationships, to satisfaction with life in general. With the use of the QoL framework in this study, the researchers can study in-depth how the different PCOD/PCOS symptoms, such as irregular menstrual cycle, weight gain, and infertility-related problems, impact the everyday experience and activities of a woman. In addition, it recognizes some areas where specific interventions can be introduced to maximize overall well-being and build the resilience of women with these conditions.

6. Self-Determination Theory (SDT)

It is a psychological theory applied to extensively study the pivotal role of motivation and the central element of autonomy in self-management of Polycystic Ovarian Disease, or PCOD, or Polycystic Ovary Syndrome, or PCOS.

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Women possessing intrinsic motivation and perceiving a high degree of control in health-related choices are far more likely to adopt, implement, and sustain healthy habits in the long run. The SDT theory provides valuable insights into how empowerment can be achieved successfully through knowledge gain, increased access to necessary resources, and the presence of supportive healthcare systems, all of which are essential determinants of effective self-management. Further, this extensive study also examines the influence of various external determinants, including societal norms and family dynamics complexities, on the motivation of women to adhere successfully to prescribed treatment regimens.

V. SCOPE OF THE STUDY

The scope of research is to investigate the effects of PCOD/PCOS on women's health and evaluate the effectiveness of an online healthcare platform for managing the condition. The research identifies and examines the most significant symptoms of women suffering from PCOD/PCOS. It also examines the impact such symptoms have on their physical, psychological, and reproductive well-being. The purpose of this research is to find out the extent to which Polycystic Ovarian Disease/Polycystic Ovarian Syndrome plays a role in reproductive complications.

This research intends to undertake a comprehensive and detailed investigation into the far-reaching effects that PCOD, or polycystic ovarian disease, or PCOS, or polycystic ovarian syndrome, has on the health of women. The investigation will go way beyond the conventional and normally restricted analysis of merely the physical symptoms of this syndrome. Instead, it will look deeper to investigate the complex psychological problems, reproductive problems, and lifestyle problems that women with PCOD/PCOS are known to face in their daily lives. One of the major objectives of this research is to determine and emphasize the most significant and common symptoms that afflict such women, as well as to comprehensively review their prevalence and severity across various populations, along with an understanding of their wider implications on overall health and quality of life. In addition to this, this extensive research will also investigate the relationship between PCOD/PCOS and infertility, as it investigates the many reproductive problems that are caused by this syndrome. The research will also determine the efficacy of a variety of various management techniques that are used to enhance fertility outcomes among such women with this syndrome.

Future research tries to extensively investigate the intricate way in which various symptoms, social stigma, and emotional problems exert their influence over mental health as well as the social relationships of individuals. Through a detailed investigation of the intricate psychological and social problems that are intrinsically associated with PCOD, also known as Polycystic Ovarian Disease, or PCOS, its more widely used acronym, this research hopes to gain insightful knowledge regarding the significant role played by these variables in determining the overall quality of life experienced by individuals afflicted by the condition. Besides this, the research is going to make a detailed comparative study of traditional methods of healthcare that are currently being practiced, to gain deeper knowledge regarding the prevailing methods utilized in the management of PCOD/PCOS symptoms and the resulting impact that these methods have on health outcomes for individuals with the condition.

Framing of Hypothesis

H1 - Women diagnosed with PCOD/PCOS are significantly more likely to experience infertility

H2 - Certain symptoms, such as irregular periods, weight gain, or acne, are significantly more prominent among women diagnosed with PCOD/PCOS.

VI. RESEARCH DESIGN

This research uses a mixed-methods approach to gain an in-depth understanding of the experiences of women with PCOD and PCOS, to investigate the challenges they encounter, and to assess the potential effectiveness of e-Health or digital healthcare solutions to treat the condition. The research is exploratory and seeks to uncover gaps in current PCOD/PCOS care solutions while informing potential interventions that may improve the health outcomes of those with the condition.

A quantitative survey was conducted via a structured questionnaire, filled in by 100 PCOD/PCOS women via an online platform. The survey used a snowball sampling technique to get a representative sample of participants, recording variations in symptoms, treatment history, and lifestyle management. The questionnaire comprised closed-ended and

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Likert-scale questions to measure key variables like symptom prevalence, treatment adherence, and perceived efficacy of accessible healthcare solutions.
In addition to the quantitative data collection, open-ended question responses were used to collect qualitative data, where participants were able to report their own experiences, issues, and views regarding accessible healthcare options. This mixed-method approach allows us to better understand the lived experience of PCOD/PCOS women, where statistical patterns and personal narratives are laid out.

To analyze the sustainability of e-healthcare solutions, the study also measures awareness, adoption likelihood, and perceived usefulness of e-health solutions for PCOD/PCOS treatment. Statistical tests like chi-square tests, independent t-tests, and correlation tests are used to find out the existence of correlations between significant variables like the impact of PCOD/PCOS on infertility, symptom salience, and efficacy of healthcare solutions. Furthermore, the study investigates potential gaps in PCOD/PCOS treatment by analyzing participant feedback on access, affordability, doctor visits, and symptom management habits. The findings of this study will inform the development of a more patient-centered healthcare model that utilizes digital solutions where appropriate.

This study aims to provide an exhaustive overview of PCOD/PCOS management by bringing together quantitative data and qualitative findings to ensure the promotion of better healthcare solutions that are tailored to the requirements of women affected by this disorder.

Data Collection Method

Primary Data:
Google Forms Survey was used to gather data from 100 PCOD and PCOS-diagnosed women. Questions such as “What are the symptoms, “What treatment were they given when they were diagnosed with PCOD/PCOS, and “What did they do to keep the symptoms in check”
Also, “What type of features would they want to see in an app that targets PCOD/PCOS,” “What problems do they face to keep the condition under control,” and “Whether PCOD/PCOS is impacting their fertility.”
Secondary Data:

Review of the current literature, research articles, and medical journals to understand traditional PCOD/PCOS management strategies and their limitations.

Sampling technique
Snowball Sampling Technique was used to extend coverage of the study, where Google Form survey links were first sent to participants, who further sent the links to their acquaintances in their respective networks. The sample size was one hundred women in the age group of 14 to 45 years.

Scope and Limitations
The research provides valuable information on the existing gaps in healthcare and the future of digital health solutions according to participants. Findings are restricted in their potential for generalizability because of sample size, self-report, and the employment of a non-random sampling procedure. Future studies with larger and more representative samples might provide further validation.

VII. DATA ANALYSIS

1. Most Common Symptoms Experienced by Women Diagnosed with PCOD/PCOS

Symptom	Count
Difficulty conceiving	31
Irregular periods	31
Excess hair growth	29

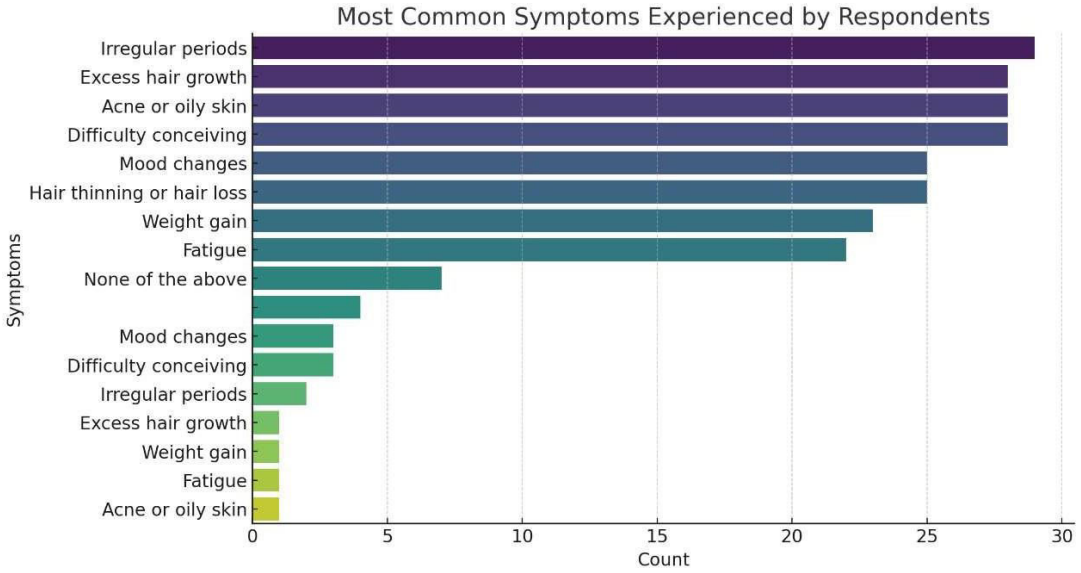
© 2025 IJMRSET | Volume 8, Issue 4, April 2025| DOI:10.15680/IJMRSET.2025.0804510

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Acne or oily skin	29
Mood changes	28
Hair thinning or hair loss	25
Weight gain	24
Fatigue	23
None of the above	11



Interpretation:

The most frequently reported symptoms of PCOS by respondents are irregular periods (29 responses), usually associated with hormonal imbalance in ovulation.

Excess hair growth (28 responses), or hirsutism, is usually due to high levels of androgens, and acne or oily skin (28 responses) also occurs due to increased androgens stimulating the production of oil.

Difficulty getting pregnant (28 responses) is a common problem, probably due to irregular ovulation or anovulation. Mood swings (25 responses), such as anxiety and depression, are frequently regulated by hormone changes.

Thinning or loss of hair (25 responses) is frequently linked with androgenic alopecia, whereas weight gain (23 responses) is associated with insulin resistance, which is one of the frequent concerns related to PCOS.
Fatigue (22 responses) could be due to hormonal imbalance, insulin resistance, or chronic inflammation. Although there were some inconsistencies in responses, these symptoms align with known PCOS patterns.

© 2025 IJMRSET | Volume 8, Issue 4, April 2025| DOI:10.15680/IJMRSET.2025.0804510

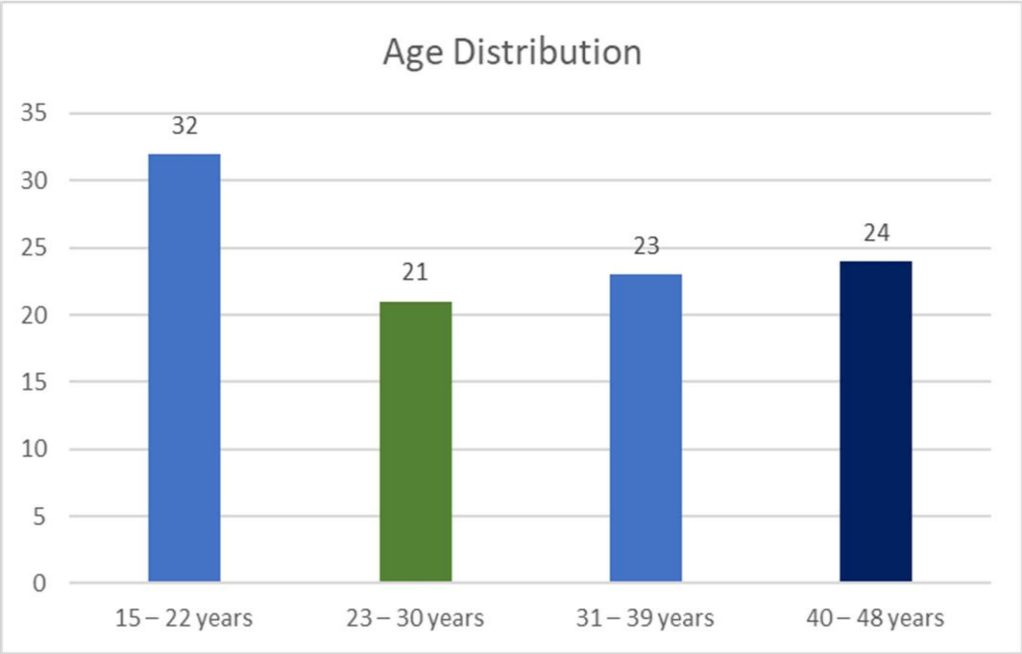
ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

2. Age Distribution

Age Group	No. of Respondent
15 – 22 years	32
23 – 30 years	21
31 – 39 years	23
40 – 48 years	24
Total	**100**



Interpretation:

Younger Age Dominance: The 15–22 years category has the highest number of respondents (32), probably because of heightened awareness, early diagnosis, and a healthy lifestyle following.

Middle Age Balance: The 23–30 years (21) and 31–39 years (23) categories represent even levels, reflecting continued diagnosis and symptom management.

Older Age Presence: The 40–48 years (24) respondents emphasize that PCOS issues extend beyond childbearing years, possibly because of health effects over the long term.

© 2025 IJMRSET | Volume 8, Issue 4, April 2025| DOI:10.15680/IJMRSET.2025.0804510

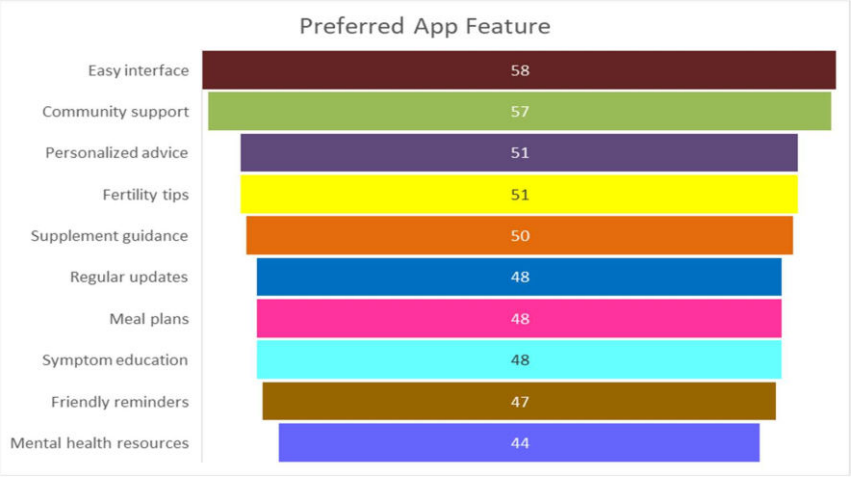
ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

3. Preferred App Features

Feature	Respondents
Easy interface	58
Community support	57
Personalized advice	51
Fertility tips	51
Supplement guidance	50
Regular updates	48
Meal plans	48
Symptom education	48
Friendly reminders	47
Mental health resources	44



Interpretation:

Simple Interface: 58 individuals (58%) liked a straightforward interface. Community Support: 57 people (57%) valued help and interaction with others. Individualized Advice: 51 participants (51%) wanted individualized health advice. Fertility Tips: 51 individuals (51%) asked for reproductive health information.
Supplement Advice: 50 of the respondents (50%) sought individualized supplement advice.

Regular Updates: 48 individuals (48%) enjoyed monitoring their health improvement and getting reminded.
Meal Plans & Symptom Education: 48 individuals (48%) favored these for their management of health.
Friendly Reminders: 47 individuals (47%) requested reminders for medicines, water, and visits to the doctor.
Mental Health Resources: 44 participants (44%) reported that they require assistance with mental health.

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

The measures of central tendency for Age

Mean Age: 30.10 years Median Age: 26.5 years Mode Age: 18.5 years
The mean (average) age is 30.10 years, i.e., the total sum of all the ages divided by the number of respondents. That is, on an average, the respondents in the study are about 30 years of age. The mean is, however, prone to the influence of outliers, i.e., if there are some older respondents (e.g., 50 and above), then they may be inflating the mean.

The middle value, or the 26.5 if the ages are ordered from lowest to highest, is 26.5 years. The median is less affected by outliers than the mean, so it is a truer measure of the "typical" participant. The fact that the median is less than the mean tells us the distribution of ages is right-skewed, and there are a couple of older participants who are skewing the mean higher.

Mode age, or the most common age (or age group), is 18.5 years. This indicates that a majority of the respondents are late teens, and this could be a reflection of the overrepresentation of the young in the data set. If the data set concerns health conditions such as PCOS (Polycystic Ovary Syndrome), then this could be an indication that the young are more actively completing questionnaires or being diagnosed younger.

The standard deviation of 6.94 years is the amount of variation there is in age. Because the number is so big, it indicates that participants vary quite a lot from young (teenagers) to middle-aged or older adults. If we had a low standard deviation, it would indicate that most of the participants bunched up around the mean (30 years), but with the higher standard deviation here, we have a more dispersed dataset.

Correlation Analysis

Age vs Prevalence of PCOD/PCOS Correlation Coefficient: -0.0603
p-Value: 0.5514

The negative correlation coefficient indicates a very weak inverse relationship between age and PCOD/PCOS prevalence. The p-value is also very high, meaning the correlation is not significant. This implies that age is not a good predictor of PCOD/PCOS prevalence in this data.
Menstrual Irregularities vs PCOD/PCOS Prevalence
Correlation Coefficient: 0.038
p-Value: 0.7074

The correlation coefficient is very weakly positive, implying that individuals diagnosed with PCOD/PCOS may have slightly more menstrual irregularities. However, the high p-value indicates that this finding is not statistically significant.

Statistical Analysis

Chi-Square Test: Fertility issues vs PCOD/PCOS Diagnosis

H_0: There is no significant relationship between PCOS/PCOD and infertility

H_1: Women diagnosed with PCOD/PCOS are significantly more likely to experience infertility

Result:
The p-value of 0.78 is far higher than the usual significance level ($\alpha = 0.05$). This indicates that there is no statistical association with significance between the diagnosis time and experienced fertility issues. Since the p-value is greater than the significance level, we are not in a position to reject the null hypothesis (H0). This means that there is not sufficient evidence to conclude a significant association between the diagnosis time and fertility issues in women with PCOD/PCOS from this data.

T-test: Symptoms vs PCOD/PCOS

H_0: Certain symptoms, such as irregular periods, weight gain, or acne, are not significantly prominent among women diagnosed with PCOD/PCOS.

© 2025 IJMRSET | Volume 8, Issue 4, April 2025| DOI:10.15680/IJMRSET.2025.0804510

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

H_1: Certain symptoms, such as irregular periods, weight gain, or acne, are significantly prominent among women diagnosed with PCOD/PCOS.

Result

Irregular Periods Tstatistic: -0.41
p-Value: 0.68 Weight Gain
t-Statistic: 0.24
p-Value: 0.81

Acne or Oily Skin t-Statistic: -0.59
p-Value: 0.56

All three p-values (0.68, 0.81, 0.56) are larger than the typical significance level (0.05).

This indicates no statistically significant difference in the incidence of irregular periods, weight gain,or acne between women with a PCOD/PCOS diagnosis and those without.
The t-statistic values are very small, indicating poor evidence against the null hypothesis.

A negative t-statistic (e.g., -0.41 and -0.59) means that respondents who are not diagnosed tend to report these symptoms, but the differences are not significant.
Because all the p-values are larger than 0.05, we fail to reject the null hypothesis for all of the symptoms. We have no significant evidence to determine that symptoms such as irregular menstruation, weight gain, or acne are more prevalent in women with PCOD/PCOS.

Findings

1. Most women with PCOD/PCOS report classic symptoms such as irregular menses, weight gain, and acne.
2. There was no statistical correlation between the diagnosis of PCOD/PCOS and reported infertility, and this indicates the necessity for further studies on causative factors for infertility.
3. PCOD/PCOS women have expressed low levels of satisfaction with the existing health system, predominantly because of fragmented care delivery and the absence of specialist care.
4. There was no significant difference in symptom frequency between diagnosed and undiagnosed women, which points to the challenge of delayed diagnosis.
5. The suggested CystaCare platform was well accepted by participants, with most showing interest in adopting a healthcare digital solution in symptom management.
6. Privacy, affordability, and accessibility were seen as major hurdles to the adoption of digital healthcare solutions.
7. The findings of the study highlight the need for a multidisciplinary and patient-centered model of treatment for PCOD/PCOS, integrating digital health innovations into care to address existing gaps in care.

VIII. CONCLUSION

The study yielded tremendous insight into the lives and struggles of women with PCOD and PCOS. Key findings indicated that most women are not content with the healthcare they receive, thereby highlighting a glaring lack of available and proper medical care.
Most of the participants indicated that they had experienced frequent symptoms like menstrual irregularities, weight gain, and mood swings. Moreover, the absence of regular consultations with healthcare providers and the absence of comprehensive management plans indicated the need for a more personalized and supportive strategy.

The need for such features as personalized health advice, social support, fertility help, and mental health care indicates the strong need for an e-health intervention. CystaCare, with the described application features, can meet these gaps by offering personalized care plans, frequent monitoring, expert advice, and a social support network.

By offering an easy-to-use interface, symptom-tracking capabilities, notification features, and educational information, CystaCare can improve the quality of life of women who have PCOD and PCOS. The site can give users informative knowledge, encourage positive healthcare behaviors, and increase overall health outcomes.

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

In conclusion, the research validates the establishment of CystaCare as an integrated digital health platform with a potential value proposition in addressing the unmet needs of women with PCOD and PCOS.

REFERENCES

1. Anishka Pandey, et al. "A Review on Health Care Surveillance of PCOD." *PriMera Scientific Medicine and Public Health*, vol. 3, no. 6, 8 Nov. 2023, primerascientific.com/pdf/psmph/PSMPH-03-102.pdf, https://doi.org/10.56831/psmph-03-102. Accessed 12 May 2024.
2. Anjali C.S, et al. "PCOD in Female Reproductive Age - Review." *World Journal of Pharmaceutical Research*, vol. 9, no. 1, 2018, pp. 677–684, https://doi.org/10.20959/wjpr20201-16443.
3. Barrera, Francisco J, et al. "Application of Machine Learning and Artificial Intelligence in the Diagnosis and Classification of Polycystic Ovarian Syndrome: A Systematic Review." *Frontiers in Endocrinology*, vol. 14, 18 Sept. 2023, https://doi.org/10.3389/fendo.2023.1106625.
4. Bharali, Mintu Dewri, et al. "Prevalence of Polycystic Ovarian Syndrome in India: A Systematic Review and Meta-Analysis." *Cureus*, vol. 14, no. 12, 9 Dec. 2022, https://doi.org/10.7759/cureus.32351.
5. Chau Thien Tay, et al. "Bridging the Information Gap in Polycystic Ovary Syndrome: A Narrative Review with Systematic Approach." *Seminars in Reproductive Medicine*, vol. 41, no. 01/02, 1 Mar. 2023, pp. 012–019, https://doi.org/10.1055/s-0043-1777086.
6. Diliqingna Dilimulati, et al. "Efficacy of WeChat-Based Digital Intervention versus Metformin in Women with Polycystic Ovary Syndrome: Randomized Controlled Trial." *Journal of Medical Internet Research*, vol. 26, 2 Oct. 2024, pp. e55883–e55883, pubmed.ncbi.nlm.nih.gov/39357046/, https://doi.org/10.2196/55883. Accessed 17 Oct. 2024.
7. Graca, Sandro, et al. "Polycystic Ovary Syndrome and the Internet of Things: A Scoping Review." *Healthcare*, vol. 12, no. 16, 21 Aug. 2024, pp. 1671–1671, www.mdpi.com/2227- 9032/12/16/1671, https://doi.org/10.3390/healthcare12161671.
8. Jyoshna, P, and Padma Vijayasree. "Hormonal Profile in PCOD Patients: A Case-Control Study at a Tertiary Care Center." *IOSR Journal of Dental and Medical Sciences*, vol. 22, 2023, pp. 49–54, https://doi.org/10.9790/0853-2202034954. Accessed 18 Feb. 2025.
9. Kumbhar, Amruta, et al. "Detection and Prediction of PCOD in the Early Stage of Women by Using Machine Learning: A Proposed System." 2023.
10. Kumbhar, Popat S, et al. "Bridging Gap in Treatment of Polycystic Ovarian Syndrome through Drug Repurposing: What We Achieved and Where We Are?" *Naunyn-Schmiedeberg S Archives of Pharmacology*, 9 Nov. 2024, https://doi.org/10.1007/s00210-024-03578-7. Accessed 17 Feb. 2025.
11. Lakshmi, M J, et al. "Prediction of PCOS and PCOD in Women Using ML Algorithms." *Smart Innovation, Systems and Technologies*, 1 Jan. 2023, pp. 97–115, https://doi.org/10.1007/978-981-99-3982-4_9. Accessed 3 May 2024.
12. Ms Lydia Binu Raj, et al. "Exploring the Geographical and Psychological Dimensions of PCOS/PCOD: Bridging Gaps in Diagnosis and Treatment." *Journal of Propulsion Technology*, vol. 44, no. 5, 2023, pp. 1819–1837.
13. Narula, Namita , and Ishita U. Bharadwaj. "Exploring the Experiences of Indian Women in Diagnosis and Treatment of PCOS/PCOD." *Indian Journal of Health, Sexuality & Culture*, vol. 10, no. Special, 2024, pp. 25–32, www.iisb.org, https://doi.org/10.5281.
14. Percy, Carol, et al. "Developing a Novel Web-Based Self-Management Support Intervention for Polycystic Ovary Syndrome: Mixed Methods Study with Patients and Health Care Professionals." *JMIR Formative Research*, vol. 8, no. 1, 7 Mar. 2024, p. e52427, formative.jmir.org/2024/1/e52427/, https://doi.org/10.2196/52427.
15. Priyanka Shenoy, and Dr M P Brundha. "Awareness of Polycystic Ovarian Disease among Females of Age Group 18 - 30." *Journal of Pharmaceutical Sciences and Research*, vol. 8, no. 8, 2016.
16. Sharma, Megha, et al. "Polycystic Ovary Syndrome among Indian Adolescent Girls – a Systematic Review and Metanalysis." *Nepal Journal of Epidemiology*, vol. 11, no. 3, 30 Sept. 2021, pp. 1063–1075, https://doi.org/10.3126/nje.v11i3.38460.
17. Shrivastava, Vandana, et al. "Management of Symptoms Associated with Obsessive- Compulsive Disorder (OCD) and PolyCystic Ovarian Disease (PCOD) through an Integrated Approach Including Yagya Therapy." *Interdisciplinary Journal of Yagya Research*, vol. 2, no. 1, 13 May 2019, pp. 39–51, https://doi.org/10.36018/ijyr.v2i1.28. Accessed 2 Dec. 2021.
18. Singh, Samradhi, et al. "Polycystic Ovary Syndrome: Etiology, Current Management, and Future Therapeutics."

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Journal of Clinical Medicine, vol. 12, no. 4, 11 Feb. 2023, p. 1454, www.mdpi.com/2077-0383/12/4/1454, https://doi.org/10.3390/jcm12041454.

19. Standeven, Lindsay R, et al. "Bridging the Gap: Integrating Awareness of Polycystic Ovary Syndrome into Mental Health Practice." *Focus/Focus (American Psychiatric Publishing. Online)*, vol. 22, no. 1, 1 Jan. 2024, pp. 53–62, https://doi.org/10.1176/appi.focus.20230024.
20. Tabassum, Fauzia, et al. "Impact of Polycystic Ovary Syndrome on Quality of Life of Women in Correlation to Age, Basal Metabolic Index, Education and Marriage." *PLOS ONE*, vol. 16, no. 3, 10 Mar. 2021, p. e0247486, https://doi.org/10.1371/journal.pone.0247486.
21. Tay, Chau Thien, et al. "PCOS: International Collaboration to Translate Evidence and Guide Future Research." *Journal of Endocrinology*, vol. 257, no. 3, Mar. 2023, https://doi.org/10.1530/joe-22-0232.
22. Teede, Helena J., et al. "Recommendations from the 2023 International Evidence-Based Guideline for the Assessment and Management of Polycystic Ovary Syndrome." *The Journal of Clinical Endocrinology and Metabolism*, vol. 108, no. 10, 18 Sept. 2023, pp. 2447–2469, pubmed.ncbi.nlm.nih.gov/37580314/, https://doi.org/10.1210/clinem/dgad463.
23. U K Kamathenu, et al. "Social Anxiety and Interpersonal Relationship of Women with PCOD." *Medico-Legal Update*, vol. 21, no. 3, 4 May 2021, https://doi.org/10.37506/mlu.v21i3.3040.
24. Wang, LianHong, et al. "Transtheoretical Model-Based Mobile Health Application for PCOS." *Reproductive Health*, vol. 19, no. 1, 12 May 2022, https://doi.org/10.1186/s12978- 022-01422-w.

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com