

PCOS and Women's Health: Examining the Influence of Modern Living Conditions in Coimbatore City

Dr.P.Manochithra

Assistant Professor Department of Corporate Secretaryship Sri Ramakrishna College of Arts & Science
Coimbatore-641006

Abstract- Polycystic Ovary Syndrome (PCOS) is one of the most common endocrine disorders affecting women of reproductive age worldwide. Characterized by irregular menstrual cycles, hormonal imbalances, and the presence of ovarian cysts, PCOS has become a significant health concern, particularly in urban areas where modern lifestyle habits are rapidly evolving. This study focuses on understanding the prevalence and impact of PCOS among women in Coimbatore City, Tamil Nadu, and examines how modern living conditions—such as dietary habits, stress levels, sedentary behavior, and environmental factors—contribute to the onset and progression of the condition. Data was collected through surveys and interviews with healthcare professionals and affected individuals. The findings suggest a strong correlation between lifestyle factors and the increasing incidence of PCOS. This study highlights the need for greater awareness, early diagnosis, and lifestyle interventions to manage and prevent PCOS-related complications.

Keywords - PCOS, Women's Health, Lifestyle Disorders, Urban Living, Hormonal Imbalance, Coimbatore, Modern Lifestyle, Reproductive Health.

I. INTRODUCTION

Polycystic Ovary Syndrome (PCOS) is an increasingly prevalent health disorder among women, particularly in urban and semi-urban settings. It is a complex condition associated with reproductive, metabolic, and psychological implications. Women diagnosed with PCOS often experience irregular menstruation, excessive androgen levels, insulin resistance, weight gain, acne, and infertility. The rise in PCOS cases has been closely linked with modern living conditions, including poor dietary choices, lack of physical activity, increased stress, and disrupted sleep patterns.

In recent years, Coimbatore—one of the fastest-growing cities in Tamil Nadu—has witnessed a noticeable increase in PCOS diagnoses. The urban lifestyle, while offering convenience and opportunities, also exposes women to multiple risk factors that contribute to hormonal and metabolic imbalances. The purpose of this study is to explore the relationship between modern lifestyle factors and the incidence of PCOS among women in

Coimbatore. Through this research, we aim to shed light on the underlying causes, awareness levels, and potential interventions that can mitigate the impact of PCOS on women's health.

Women's Health

Women's health encompasses the physical, mental, and social well-being of women at various stages of life. Unlike men, women face unique health challenges due to biological, hormonal, reproductive, and social factors. As the nurturers of future generations, it is imperative for women to maintain good health. Historically, women's health concerns were often neglected or misunderstood. However, recent decades have witnessed significant progress in medical research and healthcare tailored specifically to women's needs.

Reproductive health is a vital component of women's health, addressing issues such as menstruation, contraception, pregnancy, childbirth, and menopause. Over time, the transition of women's health from traditional to modern contexts reflects advancements in medical knowledge and shifting societal attitudes. In ancient societies, women's health was often shaped by cultural and religious

beliefs, with treatments rooted in folk medicine. Childbirth was a high-risk event, often fatal.

The emergence of scientific medicine brought significant changes. With the development of medical institutions and growing research, female anatomy and reproductive health began to receive focused attention. In the modern era, women have gained greater control over their reproductive choices. Conditions like Polycystic Ovary Syndrome (PCOS), endometriosis, and menopause-related symptoms are now key areas of gynecological research. Public awareness campaigns and education have helped to reduce stigma and encourage open dialogue about these once-taboo subjects.

Polycystic Ovary Syndrome (PCOS)

Polycystic Ovary Syndrome (PCOS) is among the most prevalent hormonal disorders affecting women of reproductive age. It is a complex condition involving the ovaries and hormone levels, leading to irregular menstrual cycles, infertility, and long-term health risks. The symptoms and severity of PCOS can vary greatly, making diagnosis and treatment challenging. Globally, PCOS affects approximately 5–10% of women, while the prevalence in India ranges from 3.7% to 22.5%. Despite its widespread occurrence, PCOS often remains underdiagnosed due to the diversity of its symptoms.

The exact cause of PCOS is not fully understood, but it is believed to result from a combination of genetic and environmental factors. A key feature of PCOS is elevated androgen levels, which disrupt ovulation and lead to symptoms such as acne, hirsutism, and weight gain. Many women with PCOS experience insulin resistance, increasing the risk of obesity, diabetes, and cardiovascular disease. Weight management is often particularly difficult for those with PCOS.

Fortunately, PCOS can be effectively managed through lifestyle changes, medication, and consistent medical care. Early diagnosis is essential in preventing complications such as infertility, metabolic syndrome, and mental health issues. While there is no single test to diagnose PCOS, a

combination of clinical symptoms, hormone tests, and ultrasound imaging is typically used.

In today's fast-paced, urbanized world, fertility challenges are rising, and PCOS has emerged as a major public health concern for women of childbearing age. This study seeks to explore the impact of PCOS on women's health in Coimbatore, particularly in the context of modern lifestyle and environmental influences.

Statement of the Problem

PCOS is one of the most widespread endocrine disorders affecting women of reproductive age worldwide. With rapid urbanization and lifestyle shifts in cities like Coimbatore, the incidence of PCOS is on the rise. Factors such as high stress levels, unhealthy diets, sedentary behavior, and environmental pollution significantly contribute to the condition's severity and complications. These issues can adversely affect physical, mental, and reproductive health. This study aims to assess the impact of PCOS on women's health in the context of modern urban living and propose effective lifestyle and healthcare strategies for better management and prevention.

Scope of the Study

This study examines the relationship between PCOS and women's health within the urban environment of Coimbatore. It explores how lifestyle factors—such as diet, physical activity, stress, and environmental influences—contribute to the development and severity of PCOS. The research also evaluates awareness levels among women regarding PCOS, and the availability and effectiveness of healthcare services for diagnosis and treatment. By gathering insights from healthcare professionals, patients, and secondary sources, the study provides actionable recommendations for improving health outcomes for women affected by PCOS.

Objectives of the Study

- To analyse how dietary habits and a sedentary lifestyle influence the development and severity of PCOS.

- To identify the role of modern lifestyle factors in worsening PCOS symptoms and complications.
- To investigate the psychological impact of PCOS, including anxiety, depression, and body image concerns, in relation to societal pressures.
- To propose effective healthcare strategies and interventions tailored to the needs of women with PCOS in today's context.

Research Methodology

Research methodology refers to the systematic approach employed to investigate the research problem scientifically. This study analyses the impact of PCOS on women's health in Coimbatore, particularly as influenced by modern lifestyles.

Research Design

The study adopts a mixed-methods research design, integrating both quantitative and qualitative techniques to provide a holistic understanding of PCOS and its effects.

Data Collection Methods

- Primary Data:
 - Collected through structured questionnaires distributed via Google Forms to women diagnosed with PCOS and other target groups.
- Secondary Data:
 - Sourced from academic journals, research articles, reports, and credible online platforms.

Sample

The sample includes women diagnosed with PCOS, healthcare professionals, and women in the reproductive age group residing in Coimbatore.

Sample Size

A total of 100 respondents from Coimbatore city participated in the study.

Sampling Methods

- Stratified random sampling was used for selecting survey respondents.
- Purposive (judgmental) sampling was used for selecting participants for in-depth interviews.

Statistical Tools Used

- Simple Percentage Analysis
- Rank Correlation
- Chi-Square Test

Limitations of the Study

- The study is geographically limited to Coimbatore city.
- It focuses only on urban women, excluding rural populations.
- It does not include clinical diagnoses or in-depth medical evaluations of respondents.

II. LITERATURE REVIEW

Teede, H. J. et al. (2018) In a global guideline by the International PCOS Network, the authors emphasized that lifestyle factors, including poor diet and physical inactivity, play a central role in the onset and progression of PCOS. They recommended lifestyle interventions as the first-line treatment for managing PCOS symptoms.

(Source: Journal of Clinical Endocrinology & Metabolism)

Azziz, R. et al. (2016) This study identified that PCOS affects approximately 10% of women worldwide and is commonly associated with obesity, insulin resistance, and infertility. The authors emphasized early diagnosis and awareness as crucial for improving health outcomes. (Source: Human Reproduction Update)

Joshi, B. et al. (2014) In a study conducted in India, the prevalence of PCOS among young women was found to be significantly rising. The study highlighted that stress, junk food consumption, and sedentary behavior were key contributors to hormonal imbalance. (Source: Indian Journal of Endocrinology and Metabolism)

Mohan, V. et al. (2019) Their urban health study showed a direct link between insulin resistance, urban diet patterns, and PCOS in women living in metropolitan areas. The research underlined that women in cities are at a higher risk due to lifestyle modifications. (Source: Diabetes Research and Clinical Practice)

March, W. A. et al. (2010) This longitudinal study tracked PCOS patients over 10 years and found that

untreated PCOS increases the risk of developing type 2 diabetes and cardiovascular issues. Lifestyle modifications were key in reducing these risks. (Source: Fertility and Sterility)

Data Analysis and Interpretation

Table: Distribution of Respondents Towards Knowledge About Pcos

S.N O.	KNOWLEDGE ABOUT PCOS	NUMBER OF RESPONDENTS	PERCENTAGE
1.	Yes	47	47
2.	Somewhat	37	37
3.	No	16	16
TOTAL		100	100

Source : Primary Data

Interpretation

The above table depicts the data collected from 100 respondents in total, in which 47% of them have the knowledge about PCOS, 37% of them have the knowledge about PCOS up to some extent and 16% of them do not have the knowledge about PCOS. Majority of the respondents have the knowledge about PCOS (84%).

Table: Distribution of Respondents Towards Experience of Symptoms Related to Pcos

S.N O.	EXPERIENCE OF SYMPTOMS	NUMBER OF RESPONDENTS	PERCENTAGE
1.	Daily	4	4
2.	Weekly	13	13
3.	Monthly	28	28
4.	Rarely	55	55
TOTAL		100	100

Source : Primary Data

Interpretation

The above table depicts the data collected from 100 respondents in total, in which 4% of the them experience the symptoms related to PCOS daily, 13% of the them experience it weekly, 28% of them experience it monthly and 55% of them experience it rarely. Majority of the respondents experience those symptoms rarely (55%).

Data of Pcos Diagnosed Respondents

Table: Distribution of Respondents Towards Pcos Diagnosed Age

S.NO.	DIAGNOSED AGE	NUMBER OF RESPONDENTS	PERCENTAGE
1.	Under 18	6	6
2.	18 – 24	17	17
3.	25 – 34	6	6
4.	35 – 44	4	4
5.	45 and above	1	1
TOTAL		34	34

Source : Primary Data

Interpretation

The above table depicts the data of 34 respondents diagnosed with PCOS out of 100 respondents, in which 6% of them were diagnosed with PCOS under 18, 17% of them were diagnosed in the age group of 18 – 24, 6% of them were diagnosed in the age group of 25 – 34, 4% of them were diagnosed in the age group of 35 – 44 and 1% of them have been diagnosed in the age group of 45 and above. Majority of the respondents have been diagnosed with PCOS in the age group of 18 – 24 (17%).

Data of Respondents Taking Treatment for Pcos

Table: Distribution of Respondents Towards Type of Treatment Taken

S.NO.	TYPE OF TREATMENT	NUMBER OF RESPONDENTS	PERCENTAGE
1.	Allopathy	1	1
2.	Homeopathy	3	3
3.	Sidha	3	3
4.	Ayurveda	4	4
5.	Unani	1	1
TOTAL		12	12

Source : Primary Data

Interpretation

The above table depicts the data of 12 respondents who are taking treatment for PCOS out of 34 diagnosed respondents out of the overall 100 respondents, in which 1% them are taking Allopathy treatment, 3% of them are taking Homeopathy treatment, 3% of them are taking Sidha treatment,

4% of them are taking Ayurveda treatment and 1% of them are taking Unani treatment. Majority of the respondents are taking Ayurveda treatment (4%).

Table: Distribution of Respondents Towards Level of Effectiveness of Treatment

S.N O.	LEVEL OF EFFECTIVENESS OF TREATMENT	NUMBER OF RESPONDENTS	PERCENT AGE
1.	Excellent	3	3
2.	Good	6	6
3.	Moderate	2	2
4.	Fair	1	1
TOTAL		12	12

Source : Primary Data

Interpretation

The above table depicts the data of 12 respondents who are taking treatment for PCOS out of 34 diagnosed respondents out of the overall 100 respondents, in which 3% of them experience excellent effectiveness, 6% of them experience good effectiveness, 2% of them experience moderate effectiveness and 1% of them experience fair effectiveness of the treatment taken. Majority of the respondents have stated that they experience good effectiveness for the treatment taken (6%).

Table : Distribution of Respondents Towards Recurrence of Pcos After Medication

S.N O.	RECURRENCE OF PCOS AFTER MEDICATION	NUMBER OF RESPONDENTS	PERCENTAGE
1.	Yes	5	5
2.	No	7	7
TOTAL		12	12

Source: Primary Data

Interpretation

The above table depicts the data of 12 respondents who are taking treatment for PCOS out of 34 diagnosed respondents out of the overall 100 respondents, in which 5% of them have experienced its recurrence after medication and 7% of them have

not experienced its recurrence after medication. Majority of the respondents have not experienced the recurrence of PCOS after medication (7%).

Association Between Age and Knowledge of Pcos

Hypothesis Testing

Null Hypothesis (H0)

There is no association between the age and knowledge of PCOS.

Alternate Hypothesis (H1)

There is an association between the age and knowledge of PCOS.

Table : Crosstabulation of Age And Knowledge of Pcos

AGE	KNOWLEDGE OF PCOS			GRAND TOTAL
	Yes	Somewhat	No	
18 – 30	34	27	12	73
31 – 40	7	5	3	15
41 – 50	6	5	1	12
TOTAL	47	37	16	100

Source : Computed Data

Interpretation

The above table indicates that out of 100 respondents, 47% of them have knowledge about PCOS, 37% them have knowledge about PCOS up to some extent and 16% of them have no knowledge about PCOS.

CHI – SQUARE TEST

	Value	df	Asymp.Sig. (2 Sided)
Pearson Chi - square	0.751	4	0.945
No. of Valid Cases	100		

Interpretation

The Chi – square static is 0.751. The p-value is 0.945. It is greater than 5% (0.05) of the significance level. Hence, the Null Hypothesis is accepted and there is no association ($\chi^2=0.751$, $p = 0.945$) between the age and knowledge of PCOS.

Association Between Marital Status and Pcos
Diagnosis

Hypothesis Testing

Null Hypothesis (H0)

There is no association between the marital status and PCOS diagnosis.

Alternate Hypothesis (H1)

There is an association between the marital status and PCOS diagnosis.

Source : Computed Data

Interpretation

The above table indicates that out of 100 respondents, 34% of them are diagnosed with PCOS and 66% of them are not diagnosed with PCOS.

CHI – SQUARE TEST

	Value	df	Asymp.Sig. (2 Sided)
Pearson Chi - square	11.356	2	0.003
No. of Valid Cases	100		

Table : Crosstabulation of Marital Status and Pcos
Diagnosis

MARITAL STATUS	PCOS DIAGNOSIS		GRAND TOTAL
	Yes	No	
Unmarried	16	48	64
Married	12	17	29
Divorced	6	1	7
TOTAL	34	66	100

Interpretation

The Chi – square static is 11.356. The p-value is 0.003. It is lesser than 5% (0.05) of the significance level. Hence, the Null Hypothesis is rejected and there is an association (x11.356, p = 0.003) between the marital status and PCOS diagnosis.

Table: Distribution of Respondents Towards Opinion On Effectiveness of Self – Care Practices Followed to Manage the Pcos Symptoms

SELF-CARE PRACTICES	NO. OF RESPONDENTS AND RANK					TOTAL	WEIGHTED VALUE	WEIGHTED AVERGAE	RANK
	1	2	3	4	5				
Physical Exercise	8	15	19	23	35	100	362	3.62	I
Proper Sleeping Patterns	10	27	26	20	17	100	307	3.07	V
Diet Control	5	18	29	30	18	100	338	3.38	II
Weight Management	8	27	21	34	10	100	311	3.11	IV
Stress Relief Practices	18	19	15	26	22	100	315	3.15	III

Source: Primary Data

management ranked fourth and Proper sleeping patterns ranked fifth.

Interpretation

The above table reveals that the respondents follow Physical exercise as the first most preferred and best self – care practice for managing the PCOS symptoms, followed by Diet control ranked second, stress relief practices ranked third, Weight

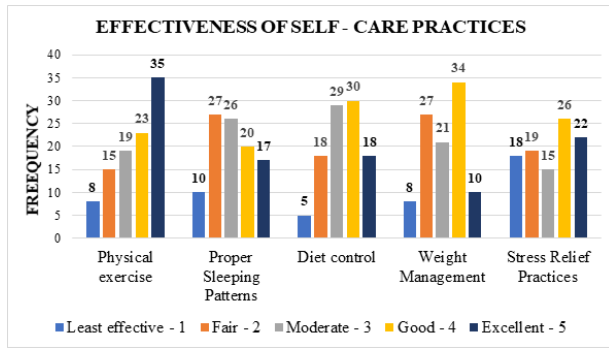


Table: Distribution of Respondents Towards Opinion on Factors of Modern Lifestyle Affecting Reproductive Health

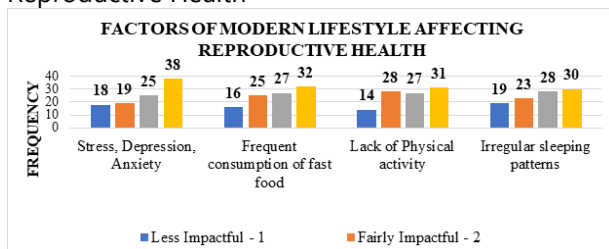
FACTORS AFFECTING REPRODUCTIVE HEALTH	NO. OF RESPONDENTS AND RANK				TOTAL	WEIGHTED VALUE	WEIGHTED AVERAGE	RANK
	1	2	3	4				
Stress, Depression, Anxiety	18	19	25	38	100	283	2.83	I
Frequent consumption of fast food	16	25	27	32	100	275	2.75	II
Lack of physical activity	14	28	27	31	100	275	2.75	II
Irregular sleeping patterns	19	23	28	30	100	269	2.69	III

Source: Primary Data

Interpretation

The above table reveals that the respondents' opinion on factors of modern culture affecting the reproductive health, Stress, Depression and Anxiety is ranked first, Frequent consumption of fast food and Lack of physical activity are ranked second and Irregular sleeping pattern is ranked third.

Chart: Distribution of Respondents Towards Opinion on Factors of Modern Lifestyle Affecting Reproductive Health



Findings

- Most women with PCOS are between 21–25 years old.
- A majority of the respondents are students.
- Most of the women are unmarried.
- Around 80% of women were unaware of PCOS before being diagnosed.
- Irregular periods are the most common symptom.
- Weight gain, acne, and hair loss are also experienced by many.
- Stress, poor diet, and lack of exercise are seen as major causes.
- Only a few women visit doctors regularly for PCOS.
- Many women do not follow a regular diet or fitness routine.
- Support from family and awareness in society is very low.

Suggestions

- Health awareness programs about PCOS should be conducted in colleges and workplaces.
- Women should be encouraged to do regular exercise and eat a healthy diet.
- Schools and colleges should include PCOS education in health talks.
- Women should be motivated to go for regular health check-ups.
- Counselling and emotional support should be provided to those with PCOS.
- The government and NGOs can support with free or low-cost medical camps.
- Use of social media can help in spreading awareness messages.
- Families should be educated to support women facing PCOS.

III. CONCLUSION

- PCOS is a common problem affecting many young women in Coimbatore.
- Most women are not aware of PCOS until they face serious symptoms.
- Modern lifestyle factors like stress, unhealthy food, and lack of activity play a big role.
- Early detection, proper care, and awareness can help in managing PCOS better.
- By spreading knowledge and giving support, we can help improve women's health and confidence.

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