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"QUALITY OF LIFE OF SCHOOL GOING GIRLS WITH POLYCYSTIC OVARY DISEASE."

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ABSTRACT

Introduction: Polycystic ovarian Disease is an endocrine disorder commonly affecting the adolescent girls. Globally, the prevalence rate is around 4 to 12% and it affects 5 to 10% women in their reproductive age group. Quality of life is an important aspect of health and well-being. Quality of life is reduced in women with polycystic ovary Disease, but there is limited data in school going girls. **Aim:** This study aimed to assess the quality of life of School going girls with polycystic ovary Disease and exploring the association between selected demographic variables and Quality of life. **Methodology:** A descriptive study with a quantitative approach was conducted in two schools of Gurugram. A total of 100 girls aged 13–18 years with diagnosed polycystic ovary Disease were selected using purposive sampling. Data were collected by using a semi structured questionnaire that included demographic details and the World Health Organization Quality of Life (WHO QoL-BREF) questionnaire with four domains (physical, psychological, social, and environment). The reliability of tools were established (Cronbach's alpha = 0.94). Data were analyzed using descriptive and inferential statistics. **Results:** The study revealed that 36% of participants were aged 13–14 years, 44% followed a sedentary lifestyle, and 54% were overweight. Menstrual irregularities (51%) and painful periods (89%) were common, while 60% of participants were undergoing treatment for polycystic ovary Disease. Quality of Life scores were compromised across all domains, with the highest mean score in social relationships (14.27±3.82) and the lowest in the physical domain (12.22±3.28). There was a significant association found between psychological health domain score with selected demographic variables i.e. Body Mass Index: ($\chi^2 = 6.32$, $p = 0.04$), Age at Menarche ($\chi^2 = 8.14$, $p = 0.04$) and Type of Menstruation ($\chi^2 = 4.56$, $p = 0.03$) whereas other Quality of Life domain like physical health, environment, and social relationship domain were not significantly associated with selected demographic variables. **Conclusion:** Polycystic ovary Disease significantly impacts the Quality of Life of School going girls across all four domains but social domain was the most severely impacted the Quality of Life, followed by environmental and psychological health, which may be exacerbated by symptoms such as irregular menstrual cycles, weight gain, and excess hair growth. The results also concluded that overweight and sedentary lifestyle behaviors, early onset of menarche, and type of menstruation are significant factors influencing the psychological health of

these adolescents. So, Empowering school going girls with autonomy and enhancing their ability to manage polycystic ovary Disease symptoms can lead to better long-term outcomes.
Keywords: Polycystic ovarian Disease, Polycystic Ovary Syndrome, School going girl, quality of life.

INTRODUCTION

Two prevalent conditions that impact women of reproductive age are Polycystic Ovary Syndrome (PCOS) and Polycystic Ovarian Disease (PCOD). Despite the fact that they are both ovarian-related and may have comparable symptoms, they are not the same. The entire endocrine system is impacted by Polycystic Ovarian Disease. Women who have Polycystic Ovarian Disease are more likely to experience diabetes, obesity, cardiovascular disease, and even endometrial cancer and may experience infertility. [1]

Almost 10% of the women in the world is suffering from Polycystic Ovarian Disease and is therefore the most common disorder in women. Due to the modern lifestyle, Polycystic Ovarian Disease is commonly seen in the adolescent age group. Polycystic ovarian disease, is a medical condition/ hormonal imbalance in which a woman's ovaries produce an excessive amount of immature or partially mature eggs, that lead to hormonal imbalances and swollen ovaries which eventually develop into ovarian cysts or sacs filled with fluids. [2]

The disruption of ovulation affects the levels of hormones including progesterone, Follicle-stimulating Hormone, Luteinizing Hormone and testosterone. Low-grade inflammation, excess testosterone, excess insulin, and heredity are some of the factors that are involved. [3] This results in enlargement of the ovaries and increased secretion of androgens, the male hormone responsible for infertility, irregular menstrual cycles, hair loss, and abnormal weight gain. [2]

The physical and emotional health of women is frequently negatively impacted for some time by the symptoms of Polycystic Ovarian Disease. It is estimated that approximately 34% of women with Polycystic Ovarian Disease also experience anxiety, and nearly 45% experience depression. Numerous women who are diagnosed with Polycystic Ovarian Disease also have poor quality of life due to mood swings, negative social relationships, low self-confidence, and negative self-image. alterations in eating and sleeping schedules, poor drive. [4] In addition to the hormonal imbalance, lifestyle factors such as diet, exercise, and mental health play a significant role in managing the condition. While lifestyle modifications are widely recommended as the first line of treatment for adolescent PCOD, there is a need to understand how these changes influence the quality of life of affected girls.

NEED OF THE STUDY

Polycystic Ovarian Disease (PCOD), or Polycystic Ovary Syndrome (PCOS), is a prevalent endocrine disorder affecting 5–10% of women in the reproductive age group globally, with varying incidence in India ranging from 2.2% to 26%. [5,6] The condition is characterized by hormonal imbalances, leading to symptoms such as irregular periods, weight gain, acne, and infertility, significantly impacting physical, emotional, and social well-being.

One of the studies reported around 5 million young women are affected with Polycystic ovarian syndrome in the United States of America. [7] Another study done in Pakistan highlighted 17.5% participants were suspected with Polycystic ovarian syndrome, 3.5% were diagnosed with Polycystic ovarian syndrome on the basis of signs and symptoms, and 5.5% were already

diagnosed with Polycystic ovarian syndrome.[8] While PCOD is commonly diagnosed in adult women, its effects on adolescents, particularly school-going girls, remain underexplored, especially in India.[9]A pilot cross-sectional study conducted in Tamil Nadu assessed young adolescent females and found that PCOD prevalence in adolescent girls in India ranges from 9.13% to 18%, with urban areas showing higher rates.[10]

The condition's symptoms can affect academic performance, self-esteem, and social interactions, leading to a reduced quality of life (QoL). Furthermore, while lifestyle modifications such as diet and exercise are crucial in managing PCOD, there is insufficient data on their impact on the QoL of adolescents.

As adolescence is a sensitive stage where physical and emotional health are significantly shaped, and the onset of PCOD can disrupt daily life, academic performance, and social interactions. In most cases, adolescent girls with Polycystic Ovarian Disease have reduced Quality of life when compared to healthy girls. Due to the rising prevalence of Polycystic Ovarian Disease (PCOD) among adolescent girls in India and the limited research on its specific impact on their quality of life, the researcher decided to assess the Quality of Life of school going girls with Polycystic Ovarian Disease (PCOD) which will ultimately contributing to better management strategies and improved health outcomes for this vulnerable population.

AIM OF THE STUDY

This study aimed to assess the quality of life of School going girls with polycystic ovary Disease and exploring the association between selected demographic variables and Quality of life.

RESEARCH METHODOLOGY

This study employs a **quantitative approach** with a **descriptive research design** to analyze specific characteristics and patterns among **school-going girls aged 13 to 18 years**. A total of **100 participants** will be selected using a **purposive sampling technique**, ensuring that the sample specifically represents individuals relevant to the study's objectives. The research aims to systematically describe and quantify various aspects related to the target group, providing measurable insights based on collected data.

Tool Description:

The tools consisted of:

Section A

It consisted of demographic variables of sample like age, education, organization, socio economic condition, lifestyle, Body mass index, age at menarche, menstrual cycle, types of menstruation, treatment undertaken for Polycystic Ovarian Disease and family history of Polycystic Ovarian Disease

Section B

WHO QOL-BREF

The WHO QOL -BREF on Polycystic Ovarian Disease contains a total of 26 items, it developed in December 1996. The WHO QOL instrument has four domains physical, psychological, social and environment. Quality of life score was assessed using 26 items, categorized under 4 domains namely physical (7items), psychological (6items), social (3items), and environment (8 items), obtained score of the best Quality of life domain will be marked under raw score data (0-100).

Reliability: Cronbach's alpha was used to find the reliability. The tools were found reliable (0.94) and internal consistency was measured by using Cronbach's alpha (0.94)

PILOT STUDY

Prior permission was obtained from the dean and principal of selected school, Gurugram. The pilot study conducted on 2nd week of June 2024. The tools were administered to 10 samples. There was no difficulty in answering the questions. The pilot study did not show any problem. The research tools were found to be feasible, practicable, and acceptable.

RESULT

SECTION- 1: DESCRIPTION OF SOCIO DEMOGRAPHIC PROFILE OF SCHOOL GOING GIRLS WITH POLYCYSTIC OVARIAN DISEASE

This section showed that majority of the school going girls (36%) were in the age group of 13-14 years. In term of education, 36% were studying in 9th class. Assessing socio economic condition, half (50%) rated them as good. Approx 44% of the school going girls belongs to sedentary lifestyle category. More than half (54%) of them were overweight based on BMI (25-29.9). More than half (61%) of these girls attained menarche at the age between 10- 12 years. The manifestation of Polycystic Ovarian Disease primarily presented as irregular menstrual cycle (51%). Majority (89%) of the girls have painful period and 60% were undergoing treatment for Polycystic Ovarian Disease symptoms. More than half (65%)of school going girls did not have a family history of Polycystic Ovarian Disease.

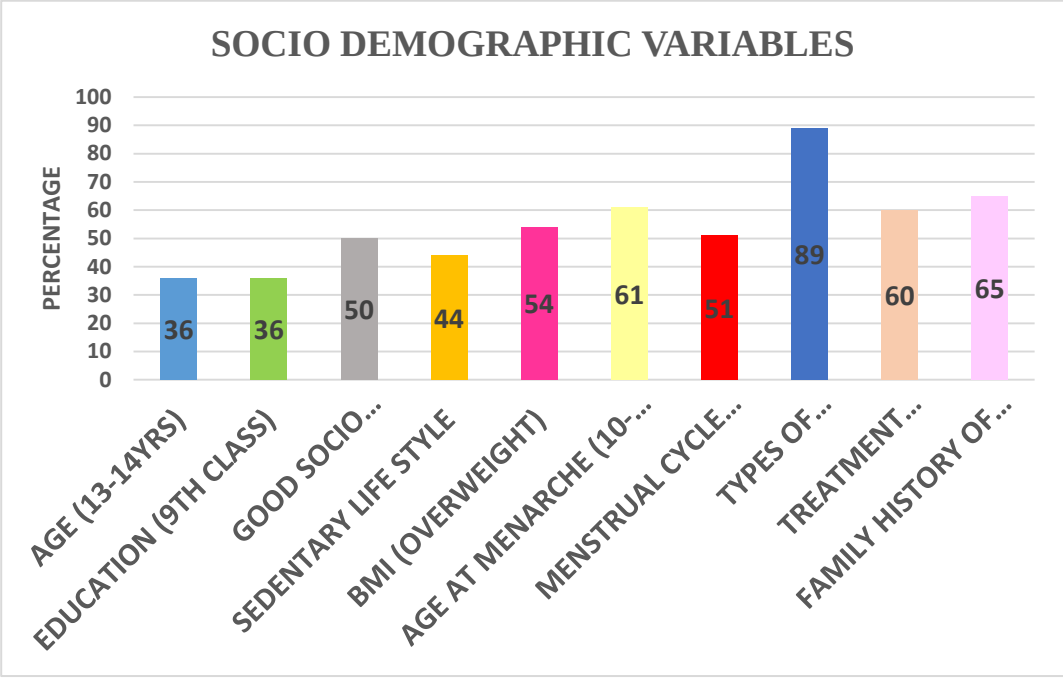

Fig 1: Frequency and percentage distribution of socio-demographic characteristics of School going girls with Polycystic Ovarian Disease

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SECTION - 2: TO ASSESS THE QUALITY OF LIFE OF SCHOOL GOING GIRLS WITH POLYCYSTIC OVARIAN DISEASE

Table 1: - Mean, Standard Deviation of domain of quality of life score of school going girls with Polycystic Ovarian Disease. N = 100

Quality of Life domain	Max Score	Mean	SD
1. Physical health	100	12.22	3.28
2. Environment	100	13.71	4.00
3. Social Relationship	100	14.27	3.82
4. Psychological health	100	13.67	3.06

Table 1 explained the value of descriptive statistics (Mean and Standard Deviation) on Quality of Life of school going girls with Polycystic Ovarian Disease. This table revealed that the mean quality of life score was compromised in all domain. The highest in the social relationship (14.27±3.06) domain followed by environmental (13.71±4.00), psychological health (13.67±3.06) and lowest in the physical (12.22±3.28) domain of quality of life.

SECTION – 3: TO FIND ASSOCIATION BETWEEN QUALITY OF LIFE AND SELECTED DEMOGRAPHIC VARIABLES OF SCHOOL GOING GIRLS WITH POLYCYSTIC OVARIAN DISEASE.

There was no statistically significant association between physical health domain and selected demographic variables i.e. Age ($\chi^2 = 2.35$, $p = 0.31$), Education ($\chi^2 = 1.87$, $p = 0.39$), Body Mass Index: ($\chi^2 = 0.93$, $p = 0.82$), Menstrual Cycle ($\chi^2 = 0.27$, $p = 0.604$), Age at Menarche ($\chi^2 = 0.98$, $p = 0.81$) and Type of Menstruation ($\chi^2 = 0.56$, $p = 0.45$).

There was no statistically significant association between environmental domain score of school going girls and selected demographic variables i.e. Age ($\chi^2 = 1.14$, $p = 0.56$), Education ($\chi^2 = 3.56$, $p = 0.17$), Body Mass Index: ($\chi^2 = 0.79$, $p = 0.85$), Menstrual Cycle ($\chi^2 = 0.18$, $p = 0.67$), Age at Menarche ($\chi^2 = 0.51$, $p = 0.98$) and Type of Menstruation ($\chi^2 = 0.39$, $p = 0.53$).

There was no statistically significant association between social relationship domain score and selected demographic variables i.e. Age ($\chi^2 = 0.72$, $p = 0.69$), Education ($\chi^2 = 2.46$, $p = 0.29$), Body Mass Index: ($\chi^2 = 1.68$, $p = 0.64$), Menstrual Cycle ($\chi^2 = 1.34$, $p = 0.23$), Age at Menarche ($\chi^2 = 2.23$, $p = 0.53$) and Type of Menstruation ($\chi^2 = 0.98$, $p = 0.32$).

There was a statistically significant association between psychological health domain score of school going girl and selected demographic variables i.e. Body Mass Index: ($\chi^2 = 6.32$, $p = 0.04$), Age at Menarche ($\chi^2 = 8.14$, $p = 0.04$) and Type of Menstruation ($\chi^2 = 4.56$, $p = 0.03$) whereas Age ($\chi^2 = 0.72$, $p = 0.69$), Education ($\chi^2 = 2.46$, $p = 0.29$), Menstrual Cycle ($\chi^2 = 1.34$, $p = 0.23$) were not statistically significant associated with psychological health domain.

DISCUSSIONS

This research explored quality of life of School going girls with polycystic ovary disease**.** In this study, the demographic variables result showed that the majority of participants were aged 13–14 years, with 54% classified as overweight and 44% leading sedentary lifestyles. These findings align with a previous study by Balaji et al. (2020), which reported a similar prevalence of overweight adolescents with Polycystic ovarian disease (PCOD), emphasizing the critical role of lifestyle factors in disease progression. [10]

Irregular menstrual cycles were the most common symptom (51%), consistent with observations by Khan et al. (2023), who identified menstrual irregularities as the earliest presenting symptom in adolescents with Polycystic ovarian disease (PCOD).[9]

The absence of a family history in 65% of participants is noteworthy, mirroring findings from Ferrer et al. (2020), who highlighted that environmental factors such as lifestyle choices and possibly stress might play a more significant role in Polycystic ovarian disease (PCOD) among adolescents than genetic predisposition. [2]

The findings highlight the significant impact of Polycystic ovarian disease (PCOD) on the physical, environmental, psychological, and social domains of Quality of Life, particularly for School going girl. Our results revealed compromised Quality of Life scores across all domains, with the highest mean score in the social relationship domain (14.27±3.06). This suggests that adolescents may rely on peer support to manage the stress associated with Polycystic ovarian disease. Similar findings were reported by Kalra et al. (2022), who emphasized the role of social relationships in mitigating psychological distress among Indian adolescents with Polycystic ovarian disease (PCOD). [9] However, the lowest mean score in the physical domain (12.22±3.28) underscores the physical burden of the disease, particularly in relation to obesity and dysmenorrhea. This is consistent with a study by D'Souza et al. (2022), which highlighted the negative impact of physical symptoms on overall Quality of Life in individuals with Polycystic ovarian disease. [11]

CONCLUSION

Polycystic Ovarian Disease is linked to intricate symptoms that detrimentally impact the overall quality of life and well-being of affected women across physical, mental, and social dimensions within society The study findings indicate that these adolescents experience a compromised quality of life across all four domains: physical, psychological, social, and environmental. The social domain was the most severely impacted the QOL, followed by environmental and psychological health, which may be exacerbated by symptoms such as irregular menstrual cycles, weight gain, and excess hair growth. The results also suggest that overweight and sedentary lifestyle behaviors, early onset of menarche, and type of menstruation are significant factors influencing the psychological health of these adolescents. In conclusion, addressing both physical symptoms and psychosocial well-being through comprehensive interventions is essential to improving the overall QoL of adolescents with PCOD. Adopting a healthy lifestyle, incorporating a balanced diet, and engaging in regular physical activity can assist in managing the troublesome symptoms of PCOS, thereby enhancing overall quality of life. In instances of emotional difficulties, seeking psychological support is equally important, and the significance of support and acceptance from loved ones should not be overlooked. Future research should focus on developing and implementing targeted lifestyle interventions and psychological support systems for young girls with PCOD to promote better long-term outcomes.

CONFLICT OF INTEREST:

The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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