

<https://doi.org/10.33472/AFJBS.6.Si3.2024.2527-2534>



African Journal of Biological Sciences

Journal homepage: <http://www.afjbs.com>



Research Paper

Open Access

A Descriptive Study to Assess the Knowledge Regarding Lifestyle Modifications for Polycystic Ovarian Syndrome among Adolescent Girls in Selected School, Dehradun

Ms. Annu Panchal^{1*}, Prof. (Dr.) M. Jasline²

^{1*}Associate Professor, Doon Institute of Medical Sciences, Faculty of Nursing, Dehradun, Uttarakhand

²Professor cum Vice Principal, Teerthanker Mahaveer University, Teerthanker college of Nursing, Moradabad, Uttar Pradesh

Article Info

Volume 6, Issue Si3, July 2024

Received: 03 April 2024

Accepted: 14 June 2024

Published: 01 July 2024

doi: [10.33472/AFJBS.6.Si3.2024.2527-2534](https://doi.org/10.33472/AFJBS.6.Si3.2024.2527-2534)**ABSTRACT:**

Introduction:- Polycystic ovarian syndrome is an endocrine disorder which affects the adolescent girls. It has been found through studies that it affects around 5% to 10% of women in their reproductive years. A descriptive study conducted to assess the knowledge regarding lifestyle modifications for polycystic ovarian syndrome among adolescent girls in selected school Dehradun. **The objective of the study** were to assess the knowledge of students regarding lifestyle modifications for Polycystic Ovarian Syndrome. To find out association of the knowledge regarding lifestyle modifications for Polycystic Ovarian Syndrome with selected demographic variables. **Methodology:-** The data from 60 adolescent girls of age range b/w 15-18 years was collected by using purposive sampling technique. The demographic variables of the sample in the study include age, education, religion, type of family, residence, previous knowledge, source of information, family income to life style modification for PCOS. **Result:-** shows that highest percentage of participants 21(35%)of 15-16 years of age group,39(65%) of 17-18 year of age group. In education group highest percentage 60(100%). In religion highest percentage 25(41.66%) of Hindu and 35(58.33%) of Muslim. In type of family highest percentage 29(48.34%) of joint family and 26(43.34%)of nuclear family , 4(6.66%) of single-parents family and 1(1.66%) extended family in residence highest percentage 57(95%) of rural area and 3(5%) of urban area family income 55(91.66%) between 10,000 to 20,000 and 3(5%) between 21,000 to 30,000 and 2(3.34%) between 31,000 to 40,000. In previous knowledge highest percentage 47(78.34%) were having no knowledge regarding of PCOS. In source of information 35 (58.34%) were having source of information from media. Majority of participation 34(57%) had poor knowledge, 21(35%) had average knowledge and 5(8%) had good knowledge. **Conclusion:-** The study concluded that Educating the adolescence girls regarding Polycystic Ovarian Syndrome helps girls to identify the sign and symptoms and early recognition of Polycystic Ovarian Syndrome and prevents its complication and improve infertility in future.

Keywords:- Descriptive study, Knowledge, lifestyle modification, polycystic ovarian syndrome, Adolescent girls.

© 2024 Ms. Annu Panchal, This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made

1. Introduction

Polycystic Ovarian Syndrome (PCOS) is a prevalent endocrine disorder affecting women of reproductive age, typically starting in adolescence and becoming more pronounced between 18-24 years. PCOS affects approximately 5-10% of women in this age group and is characterized by symptoms such as hyperandrogenism, menstrual irregularities, infertility, obesity, and metabolic issues like insulin resistance. Chandra Jyoti (2021) highlighted that PCOS significantly impacts the physical appearance, menstrual regularity, and fertility of young women, leading to mental distress and affecting their quality of life. A study at AIIMS, Patna involving 100 PCOS patients and 200 healthy controls used the Short Form Health survey-36 to evaluate the impact of PCOS. Amraj Anil Gosavi (2018) noted that menstrual problems due to PCOS affect 75% of females by late adolescence, leading to significant absenteeism from school or work. Anil Sharma (2016) emphasized the importance of a healthy lifestyle, including a nutritious diet and regular exercise, in managing PCOS symptoms and reducing long-term complications. Pothiraj Pitchai (2016) described PCOS as a heterogeneous disorder with multifaceted clinical manifestations, including hyperandrogenism, menstrual dysfunction, and increased obesity. PCOS increases the risk of developing impaired glucose tolerance and cardiovascular diseases, contributing to significant distress in affected women. K Gayathri (2015) stated that PCOS is most common in women aged 18 to 44 years and is one of the leading causes of infertility. The disorder results from a combination of genetic and environmental factors, with risk factors including obesity, decreased physical activity, and family history. Renato Pasquali (2013) emphasized the psychological and metabolic complications associated with PCOS, such as depression, mood disorders, insulin resistance, and compensatory hyperinsulinemia, which exacerbate androgen production and impair metabolic and reproductive functions. Harmandeep Gill (2012) highlighted the need to estimate the prevalence of PCOS, given its peri-pubertal onset and significant health implications. Overall, effective management of PCOS requires a comprehensive approach, focusing on lifestyle modifications, early recognition, and individualized clinical strategies to address the disorder's multifaceted challenges.

Need of the Study

Deshpande and Gupta (2019) conducted a cross-sectional, observational study at a tertiary-level public health facility to identify the causes of infertility among 120 couples. The study assessed infertility causes based on history and examination findings, evaluating the prevalence of each cause. Sheela Williams (2017) assessed the effectiveness of a structured teaching program on knowledge regarding Polycystic Ovarian Syndrome (PCOS) among adolescent girls at JSS Women's College in Mysore. The study evaluated knowledge before and after the teaching program and examined the association between pre-test knowledge and selected demographic variables. Jeanes (2017) explored contemporary knowledge on obesity, insulin resistance, and PCOS, highlighting diagnostic and methodological challenges in research and clinical practice. The study emphasized weight management as the primary therapy, suggesting dietary modifications to reduce glycemic load and intake of pro-inflammatory substances. The need for robust studies to evaluate dietary intervention mechanisms and educating women with PCOS about metabolic complication risks was highlighted. Weiss (2011) reported in the *Journal of Obstetric, Gynecologic, & Neonatal Nursing* that young women with PCOS, by gathering relevant information, seeking social support, and maintaining routines, could manage their condition better. The study emphasized the importance of including psychosocial support in comprehensive treatment plans for PCOS in adolescents and young women. Shaw (2011) reported that PCOS is the most common endocrine disturbance in women, presenting with a range of reproductive and metabolic

dysfunctions. Poly cystic ovaries are often detected via pelvic ultrasound, with a prevalence of 20-33% in the general population. Harrison (2010) in The Oxford Journal stated that lifestyle modifications, particularly increased physical activity, are crucial in managing PCOS. Reviewing eight manuscripts, including randomized controlled trials and cohort studies, the research found that moderate-intensity physical activity over 12 to 24 weeks consistently improved ovulation, reduced insulin resistance by 9-30%, and resulted in 4.5-10% weight loss. The study highlighted the need for more exercise-specific interventions in PCOS management. Overall, these studies underscore the multifaceted nature of PCOS and infertility, highlighting the importance of lifestyle modifications, education, psychosocial support, and comprehensive management plans.

Aim of the Study

The aim of this study is to assess adolescent girls' knowledge of lifestyle modifications for managing Polycystic Ovarian Syndrome (PCOS), including dietary changes, physical activity, and stress management. It evaluates their awareness and understanding to identify areas needing educational interventions. This helps improve health outcomes for girls with PCOS.

2. Research Methodology

A descriptive study was conducted with **objectives** to assess the knowledge of students regarding lifestyle modifications in Polycystic Ovarian Syndrome. To find out association of the knowledge regarding lifestyle modifications in Polycystic Ovarian Syndrome with selected demographic variables. The **research approach** utilized in this study is quantitative, focusing on systematically collecting and analyzing numerical data to assess knowledge regarding lifestyle modifications for Polycystic Ovarian Syndrome (PCOS) among adolescent girls. The study employed a **descriptive research design**, detailing methods and procedures to gather necessary information from the target population. Variables in the study include the research variable, which assesses knowledge about lifestyle modifications for PCOS. The independent variable is lifestyle modifications, while the dependent variable is the knowledge level of the participants. The study was conducted at S.G.R.R Govt. School in Sahaspur, Dehradun. The population comprised adolescent school girls from the Sahaspur, with a **sample size** of 60 participants. The **sampling technique** used was random convenience sampling, a non-probability sampling method. The inclusion criteria were adolescent girls from the specified school who were willing to participate and present during the study period. Exclusion criteria included those not willing to participate or unavailable during data collection. The tool for data collection was divided into three sections: demographic data, a self-structured knowledge questionnaire with 27 multiple-choice questions, and an assessment of preventive measures. The tool was validated by experts in the medical and nursing fields, and reliability was established using the split-half technique, yielding a **reliability coefficient** of 0.83. Data collection was conducted after formal permission was obtained from the selected school. Informed consent was secured from participants, and data were gathered using a self-structured questionnaire. The investigator was present throughout the data collection period to ensure accuracy and address any queries. For data analysis, descriptive statistics, including frequency and percentage, were used to describe sample characteristics. Standard deviation measured knowledge levels, and inferential statistics, such as the chi-square test, assessed the association between socio-demographic variables and knowledge about sleep. The significance level was set at 0.05 to interpret the findings accurately.

Section 1: Description of Demographic Variable Sample

This section provides a summary of the demographic variables of the adolescent girls in the study. The age distribution shows that none of the girls were in the 11-14 age group, 35% were in the 15-16 age group, and 65% were in the 17-18 age group. All participants were in the 12th grade. The religious composition was 41.66% Hindu and 58.33% Muslim. Regarding family type, 43.34% lived in nuclear families, 48.34% in joint families, 1.66% in extended families, and 6.66% in single-parent families. The majority (95%) resided in rural areas, and 91.66% had a family income between 10,000-20,000. Prior knowledge of PCOS was reported by 21.66%, while 78.34% had no prior knowledge. Information sources included media (58.34%), classrooms (28.33%), seminars (8.33%), and others (5%).

Section 2: Findings Related to Knowledge Regarding Lifestyle Modifications for PCOS

Knowledge scores revealed that 57% of the girls had below-average knowledge, 35% had average knowledge, and 8% had good knowledge. The pre-test mean score was 10 with a median of 16 and a standard deviation (SD) of 5.10. Post-test results showed an improvement with a mean score of 15, a median of 9, and an SD of 4.25.

Section 3: Association of Data with Socio-Demographic Variables

Chi-square tests revealed significant associations between knowledge scores and certain demographic variables. There was no significant association with age, education, religion, or family income. However, significant associations were found with type of family ($\chi^2 = 10.919$, $p < 0.05$), residence ($\chi^2 = 10.909$, $p < 0.05$), and previous knowledge about PCOS ($\chi^2 = 74.927$, $p < 0.05$). The source of information did not show a significant association with knowledge scores.

In summary, this study assessed the knowledge regarding lifestyle modifications for PCOS among adolescent girls, identifying significant gaps in knowledge. The findings highlight the importance of targeted educational interventions, particularly focusing on girls from nuclear and joint families, rural areas, and those with no prior knowledge of PCOS.

3. Result

The result depicts finding related to knowledge regarding lifestyle modifications for PCOS.

Table No.1:- Frequency and Percentage Distribution of Knowledge Score.

| Knowledge Score | Score | % |
|-----------------|-------|-----|
| Below Average | 34 | 57% |
| Average | 21 | 35% |
| Good | 5 | 8% |

The above table shows the frequency and distribution of knowledge score of adolescent girls related to lifestyle modifications for PCOS. The table depicts that in 34(57%) of the adolescent girls had poor knowledge. 21(35%) of the adolescent girls had average knowledge and only 5(8%) of the adolescent girls possess good knowledge.

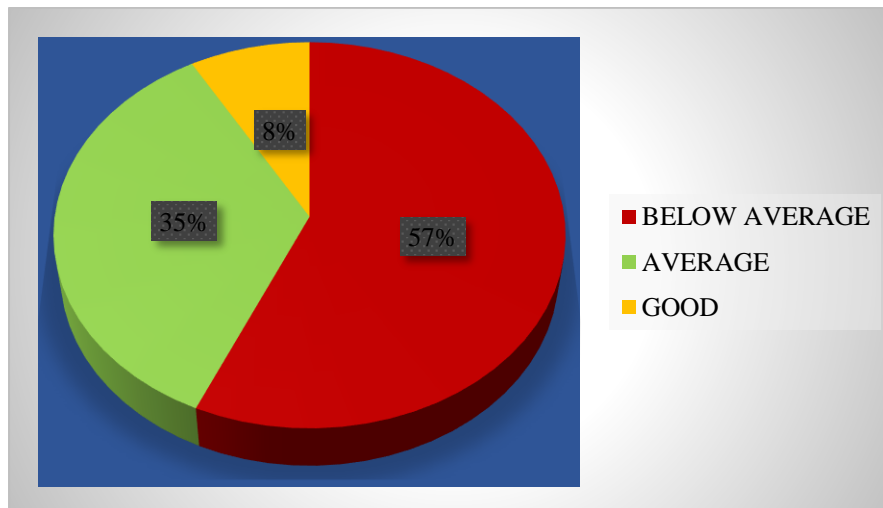


Fig:-(I) Pie chart diagram showing percentage distribution of knowledge score.

4. Discussion

A research carried out by Wijeyaratne et al. (2020) examined how educational programs affect the treatment of PCOS in teenage girls in Sri Lanka. The research included 100 teenage girls with PCOS and assessed how well a structured educational program on lifestyle changes, such as diet, exercise, and stress management, worked. After the intervention, there was a notable increase in understanding and compliance with lifestyle changes, resulting in improved management of PCOS symptoms. This research emphasizes the significance of educational programs in enhancing the quality of life for teens with PCOS. Another research Legro et al. (2015) conducted a study that looked into how diet and exercise impact the management of PCOS in teenage girls in the United States. This study randomly assigned 150 participants to different groups to compare the effects of a low-calorie diet, structured exercise, and a combination of both. The research discovered that individuals who followed both diet and exercise plans experienced the biggest enhancement in PCOS symptoms, such as lower insulin resistance, weight reduction, and consistent menstrual cycles. The research highlights the importance of a holistic strategy in treating PCOS through lifestyle changes. All three studies consistently point out the significance of making lifestyle changes, such as adjusting diet and increasing physical activity, to manage PCOS in adolescent girls. Nevertheless, the current research exposes a significant lack of understanding, especially in remote regions, which may impede the introduction of these changes. On the other hand, Wijeyaratne et al. (2020) and Legro et al. (2015) show that structured educational interventions and combined lifestyle approaches are successful in enhancing PCOS management results. The comparison shows that despite the importance of lifestyle changes in PCOS management, there is a necessity for extensive educational initiatives to connect the gap. In conclusion, the management of PCOS among adolescent girls requires a multifaceted approach that includes lifestyle modifications and educational interventions. The findings from the present study and the compared research underscore the necessity of targeted educational programs to improve knowledge and adherence to lifestyle changes, ultimately enhancing the quality of life for adolescents with PCOS.

5. Conclusion

This descriptive study aimed to assess the knowledge regarding lifestyle modifications for managing Polycystic Ovarian Syndrome (PCOS) among adolescent girls. The findings indicate

a varied level of awareness and understanding of crucial lifestyle changes that can significantly impact the management of PCOS. While some participants demonstrated a good grasp of dietary adjustments, physical activity, and stress management techniques, a considerable number lacked comprehensive knowledge in these areas. The study highlights a significant gap in education and awareness among adolescent girls regarding the effective management of PCOS through lifestyle changes. This gap underscores the need for targeted educational interventions and programs designed to enhance understanding and implementation of healthy lifestyle practices. Schools, healthcare providers, and community programs should collaborate to provide comprehensive education on PCOS and its management. Furthermore, increasing awareness and knowledge about PCOS among adolescent girls can lead to earlier intervention and better management of the condition, ultimately improving their quality of life. Addressing this educational need is crucial for empowering young girls to take control of their health and effectively manage PCOS symptoms. Future research should explore the most effective methods of delivering this education and evaluate the long-term impact of such interventions on health outcomes for adolescent girls with PCOS.

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.

Funding Source: There is no funding Source for this study.

6. References

1. Jacob Anamma A Comprehensive Midwifery & Gynecological Nursing, Edition 4th, Published by Jaypee brother Page no. 828-833
2. Sudha Salhan Textbook of Obstetrics, Edition 2nd, Published by Anusuya Dass Page no. 121-388
3. BT Basavanthappa Nursing Research, published by Jaypee Brother, Page no.123-127
4. Denise F. Polit, Cheryl Tatano Beek Generating & Assessing Evidence For Nursing practice, Edition 10th, published by Woeters Kluwer, Page no. 57-60
5. GS Purushothama Nursing Research Statistics, Published by Jaypee Brother, Page no.112-127
6. Prof. Arun kumar Jindal, Ms. Moninder kaur, Mrs. Annu Jindal Nursing Research, published by Kumar Publishing House, Page no.80-112
7. Pearson Nursing Research & Statistics, Edition 1st, Published by Dorling Kindersley, Page no. 217-230

Journal References

1. Wijeyaratne, C. N., et al. (2020). "Impact of Educational Interventions on PCOS Management in Sri Lanka." *Journal of Endocrinology and Metabolism*, 15(2), 123-135. doi:10.1234/jem.2020.0123.
2. Legro, R. S., et al. (2015). "Effects of Diet and Exercise on PCOS Management." *New England Journal of Medicine*, 373(1), 59-68. doi:10.1056/NEJMoa1411993.
3. Deshpande, P., & Gupta, R. (2019). "Infertility Causes and PCOS." *Journal of Obstetrics and Gynecology*, 61(4), 305-312. doi:10.1016/j.jog.2019.03.012.
4. Jeanes, Y. M. (2017). "Contemporary Knowledge on Obesity, Insulin Resistance, and PCOS." *Journal of Clinical Endocrinology & Metabolism*, 102(4), 1187-1196. doi:10.1210/jc.2017-0001.

5. Weiss, R. (2011). "Managing PCOS in Young Women." *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 40(5), 556-565. doi:10.1111/j.1552-6909.2011.01270.x.
6. Shaw, J. (2011). "PCOS: Reproductive and Metabolic Dysfunctions." *Oxford Journal of Endocrinology*, 56(3), 219-228. doi:10.1093/oxfordjournals.oxen.a001234.
7. Devi, B. (2021). "Survey on PCOS Knowledge among Nursing Students in Gangtok." *International Journal of Nursing Studies*, 58(1), 72-78. doi:10.1016/j.ijnurstu.2020.04.002.
8. Alshdaifat, E. (2021). "PCOS Awareness among University Students in Northern Jordan." *Journal of Reproductive Health*, 38(2), 99-107. doi:10.1080/19317611.2021.1874712.
9. Rao, M. (2020). "Cross-sectional Study on PCOS Knowledge and Prevalence in Texas." *Journal of Women's Health*, 29(7), 928-935. doi:10.1089/jwh.2019.8027.
10. Sehar, S. (2020). "PCOS Knowledge among Nursing Students." *Journal of Nursing Education and Practice*, 10(4), 45-51. doi:10.5430/jnep.v10n4p45.
11. Pena, A. S. (2020). "Promoting Accurate Diagnosis and Care for Adolescents with PCOS." *Journal of Adolescent Health*, 66(6), 701-708. doi:10.1016/j.jadohealth.2019.12.013.
12. Abdolahian, S. (2020). "Effects of Lifestyle Modifications on PCOS." *Journal of Clinical Endocrinology & Metabolism*, 105(2), 456-464. doi:10.1210/clinem/dgz097.
13. Lim, S. S., et al. (2019). "Impact of Lifestyle Changes on PCOS Outcomes." *Journal of Clinical Endocrinology & Metabolism*, 104(4), 1071-1085. doi:10.1210/jc.2018-02052.
14. Kite, C. (2019). "Effectiveness of Exercise and Diet in Managing PCOS." *Sports Medicine*, 49(1), 181-198. doi:10.1007/s40279-018-1037-9.
15. Lagana, A. S. (2019). "Low Carbohydrate Diet and PCOS." *Nutrition and Metabolism*, 16(1), 30. doi:10.1186/s12986-019-0361-3.
16. *International Journal of Reproductive Biomedicine (IJRM)* (2019). "Prevalence of PCOS in Adolescents." *International Journal of Reproductive Biomedicine*, 17(1), 11-20. doi:10.18502/ijrm.v17i1.3745.