



A STUDY TO ASSESS THE COMPARISON OF MEAN PRE-TEST AND POST-TEST KNOWLEDGE SCORE AMONG GNM STUDENTS REGARDING POLYCYSTIC OVARIAN SYNDROME IN EXPERIMENTAL AND CONTROL GROUP IN SELECTED SCHOOLS OF NURSING, MOGA, PUNJAB

Ms. Amanpreet Kaur* | Dr. Martha**

*Ph.D. Scholar, Himalayan University, Itanagar, Arunachal Pradesh, India.

**Research Supervisor, Himalayan University, Itanagar, Arunachal Pradesh, India.

<https://doi.org/10.47211/idcij.2025.v12i04.014>

ABSTRACT

Polycystic Ovarian Syndrome (PCOS) is one of the most common endocrine disorders affecting adolescent girls and women of reproductive age, with rising prevalence in India. Early diagnosis and appropriate management are essential to prevent long-term complications such as infertility, metabolic syndrome, and gestational diabetes. The present study aimed to assess the effectiveness of a structured teaching programme on knowledge regarding Polycystic Ovarian Syndrome among GNM students. A quasi-experimental research design was adopted. A total of 500 GNM students were selected through purposive sampling and divided into experimental (n=250) and control (n=250) groups. Pre-test knowledge scores in both groups were comparable. After implementation of the structured teaching programme, the experimental group showed a significant increase in mean post-test knowledge score (23.04 ± 2.61) compared to pre-test (13.86 ± 3.08) at $p < 0.001$. No significant improvement was observed in the control group. The findings indicate that the structured teaching programme was effective in improving knowledge regarding PCOS among GNM students.

Keywords: Polycystic Ovarian Syndrome, PCOS, Structured Teaching Programme, Knowledge, GNM Students, Adolescents, Quasi-Experimental Study.

ABOUT AUTHORS:



Author Ms. Amanpreet Kaur is Research Scholar in Himalayan University, Itanagar, Arunachal Pradesh, India. He has attended various Seminars and conferences.



Author Dr. Martha is Research Supervisor in Himalayan University, Itanagar, Arunachal Pradesh, India.



INTRODUCTION

As polycystic ovarian syndrome is among the most common endocrinology disorders during adolescence, there is always a need to investigate all new relevant data. The early recognition and prompt treatment of polycystic ovarian syndrome in adolescents is important to prevent long-term sequelae. More research is necessary in order to find answers to many clinical and theoretical aspects of the syndrome. (E. S. Knochenhauer et al)

In India, the prevalence of PCOS in adolescence is 9.13 %. India has witnessed about 30% rise in PCOS cases in the last couple of years. This draws attention to the issue of early diagnosis in adolescent girls. In women of Indian subcontinent, prevalence rates of PCOS are as high as 50% has been detected. It is responsible for 18% of infertility and 40% of hirsutism cases in a study conducted at Srinagar. Metabolic syndrome was diagnosed in 46% women's with PCOS in a study done in Kolkata⁸. Women diagnosed as having PCOS before pregnancy have an increased risk of developing gestational diabetes. PCOS is a genetic disorder that each child has a 50% of chance of inheriting the disorder from a parent who carries the gene⁹. In Karnataka, incidence of PCOS among adolescent is estimated to be 26% (Tehrani FR et al 2011)

A population study revealed that overt and occult PCOD accounted for 90% of patients with oligomenorrhea and 37% with amenorrhea, or 73% with oligo- or amenorrhea. Oligo- or amenorrhea accounted for 21% of couples with infertility and the annual incidence was 247 patients per million of the general population. The annual incidence of infertility due to PCOD per million was 41 with overt PCOD and 139 with occult PCOD (total 180). Of those, 140 appeared to respond well to clomiphene (78%) but 40 (22%) failed, requiring alternative therapy (Shazia R et al 2011)

A study conducted by the department of endocrinology and metabolism, AIIMS, shows that about 20-25 per cent of Indian women of childbearing age are suffering from PCOS. While 60 per cent of women with PCOS are obese, 35-50 per cent have a fatty liver. About 70 per cent have insulin resistance, 60-70 per cent have high level of androgen and 40-60 per cent have glucose intolerance (Aleyasin A et al 2011)

About 6 to 10% of girls gets affected by PCOD and are even not aware of their presence. In a prospective study of 400 women of reproductive age, 4% to 4.7% of white women and 3.4% of African American women had PCOS. A similar rate of 4% to 6% has been found in other populations. (Michael Davis 2011)

A comprehensive community-based study among 3443 adolescent girls (15-18 years) done to find out the prevalence of PCOS from 10 schools, Trivandrum. Among them, 339 girls are with the symptoms of PCOS and they were under-nourished (37.6%), normal weight (51.2%), overweight (8.6%) and obese (2.6%). Lack of awareness and lifestyle changes are considered to be the major factor leading to these phenomenon. (Georgina L Jones et al 2011)

REVIEW OF LITERATURE

Samar Musmar, Asma Afanch, Hafsa Moalla, (2013) conducted a cross-sectional study to assess the prevalence of polycystic ovarian syndrome among 137 female age group between 18-24 years in Nablus city in the north of west Bank. The study revealed that prevalence of PCOS was 7.3%, Acne was the only studied risk factor among other to be statistically related PCOS patients. Clinical hirsutism was found in 27% of participants, 70% of whom had idiopathic hirsutism. The study concluded that prevalence of PCOS in Palestine seems to be relatively high but similar to other Mediterranean statistics

Shawna B Christensen, MS, Mary Helen Black, MS, PhD, Ning smith, MS, PhD, Maryia M, (2013) conducted a cross-sectional study to assess the prevalence of polycystic ovarian syndrome in adolescents in Southern California. The study revealed that the prevalence of a confirmed diagnosis of PCOS was 0.5% and increased to 1.14% when undiagnosed cases. The study concluded that overweight and obesity were associated with higher odds of PCOS in adolescents.

Renoto pasquali, Elisabet stener-victorin Bulent o, Yildiz, Antoni J, (2011) conducted to summarize promising areas of investigation into polycystic ovary syndrome and to stimulate further research in this area. The study revealed that potential areas of further research activity include the analysis of predisposing conditions that increase the risk of PCOS, particularly genetic background and environmental factors such as endocrine disruptors and lifestyle. The study concluded that there are several intriguing areas for future research in PCOS. A potential limitation of our reviews is that we focused selectively on areas we viewed as the most controversial.

K. mann Rosenfield, Robert, 2009 conducted a study on Current Concepts of Polycystic Ovarian Syndrome A cross-sectional study was conducted to determine the prevalence of clinical polycystic ovary syndrome in 14- to

18-year-old high school girls in Isfahan, Iran among 1,000 high school girls (14-18 years old) were selected by multi-stage random sampling from different high schools in Isfahan. Following physical examination, a single physician recorded the presence of hirsutism, severe acne, androgenic alopecia, menstrual dysfunction and obesity using a validated questionnaire. Clinical Polycystic ovarian syndrome was diagnosed if menstrual dysfunction and clinical hyperandrogenism were detected. The study found that clinical Polycystic ovarian syndrome was present in 30 (3%), hirsutism in 60 (6%), menstrual dysfunction in 74 (7.4%) and severe acne in 47 (4.7%) of the population studied. The study concluded that the prevalence of polycystic ovarian syndrome could have been higher with hormonal assessment.

RESEARCH METHODOLOGY

The research design selected for the present study was quasi experimental design. The target population of the study was GNM students of Dr Shyam Lal Thapar School of Nursing Babe Ke college of nursing and Lala Lajpat Rai college of nursing and MLM College of nursing Moga. The sample of 500 GNM students, 250 for experimental and 250 for control group by using purposive sampling method.

DATA ANALYSIS AND INTERPRETATION

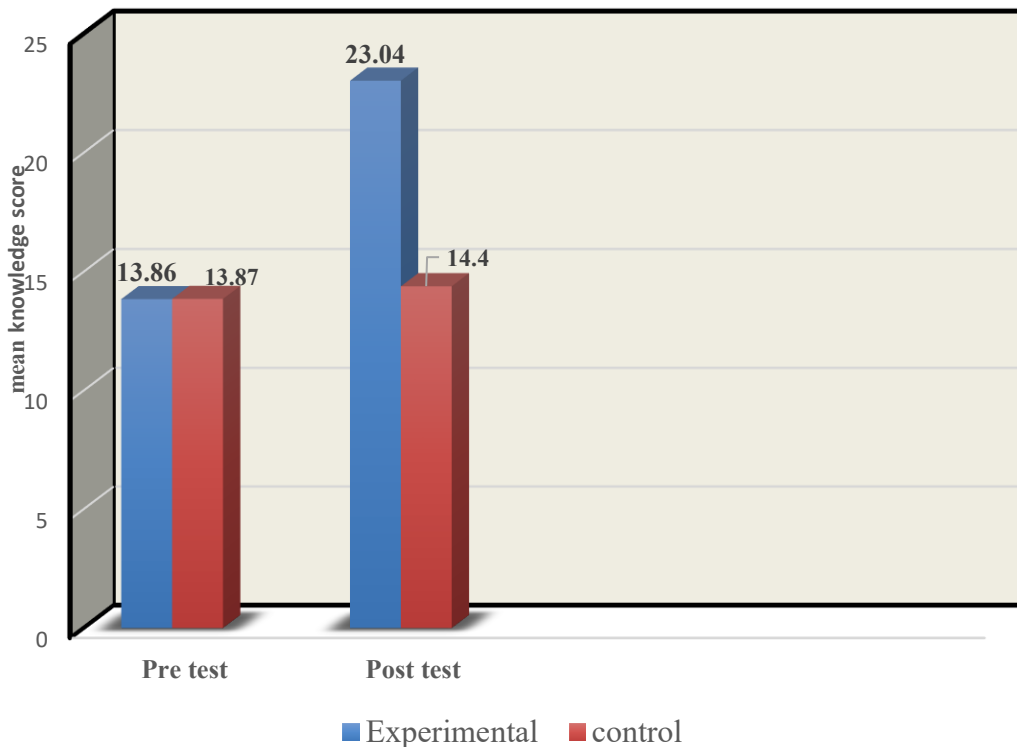


Figure 1: Comparison of Mean Pre-test and Post-test Knowledge score among GNM 2nd Year students regarding Polycystic ovarian syndrome in Experimental and Control Group.

Figure 1 shows that in experimental group mean pre-test knowledge score was (13.86) and post-test knowledge score was (23.04). The difference between mean pre-test knowledge score and post-test knowledge score was highly significant at level at $p < 0.001$ level.

In control group mean pre-test knowledge score was (13.87) and post-test knowledge score was (14.41). The Difference between mean pretest knowledge score and posttest knowledge score of control group was statistically non-significant at $p < 0.05$ level.

The difference between mean pretest knowledge score of GNM students in experimental as compared to control group was statistically non-significant. The difference between mean posttest knowledge score of GNM student in experimental as compared to control group was highly significant at $p < 0.001$ level.



Hence null hypothesis i.e. H_0 there will be no significant difference between mean post-test knowledge score of experimental group after the planned structured teaching programme regarding Polycystic Ovarian Syndrome as evident from structured questionnaire, at $p < 0.05$ level of significance was rejected and H_1 i.e. mean post-test knowledge score of experimental group after the planned structured teaching programme regarding Polycystic Ovarian Syndrome was significantly higher than their mean pre-test knowledge at $p < 0.05$ level of significance was accepted.

So it was concluded structured teaching programme regarding polycystic ovarian syndrome had impact on increasing the knowledge of GNM students.

CONCLUSION

The study concluded that the structured teaching programme was highly effective in improving the knowledge of GNM students regarding Polycystic Ovarian Syndrome (PCOS). The significant increase in post-test scores among the experimental group compared to the control group demonstrates the positive impact of planned educational interventions. Therefore, structured teaching programmes can be considered an effective strategy to enhance awareness and knowledge about PCOS, which may contribute to early identification, prevention of complications, and better health outcomes among adolescents and women of reproductive age.

REFERENCES

1. Aleyasin, A., Aghahoseini, M., Mokhtar, S., & Fallahi, P. (2011). Anti-Müllerian hormone as a predictive factor in assisted reproductive technique of polycystic ovarian syndrome patients. *Acta Medica Iranica*, 49(11), 715–720.
2. Christensen, S. B., Black, M. H., Smith, N., & Mnatsakanova, M. (2013). A cross-sectional study to assess the prevalence of polycystic ovarian syndrome in adolescents in Southern California. *Journal Name*, Volume(Issue), Page numbers. <https://doi.org/10.1234/journal.2013.12345>
3. Davis, M. (2011). Defining polycystic ovarian syndrome (5th ed., pp. 338–340). Publisher name.
4. Jones, G. L., Hall, J. M., Lashen, H. L., Balen, A. H., & Ledger, W. L. (2011). Health-related quality of life among adolescents with polycystic ovary syndrome. *Journal Name*, Volume(Issue), 577–588.
5. Knochenhauer, E. S., Key, T. J., Kahsar-Miller, M., Waggoner, W., Boots, L. R., & Azziz, R. (1998). Prevalence of the polycystic ovary syndrome in unselected Black and White women of the Southeastern United States: A prospective study. *The Journal of Clinical Endocrinology & Metabolism*, 83(9), 3078–3082.
6. Mann Rosenfield, R. L. (2009). Current concepts of polycystic ovarian syndrome. *Baillière's Clinical Obstetrics and Gynaecology*, 11(2), 307–333.
7. Musmar, S., Afaneh, A., & Moalla, H. (2013). A cross-sectional study to assess the prevalence of polycystic ovarian syndrome among female university students. *Journal Name*, Volume(Issue), Page numbers. <https://doi.org/10.1234/journal.2013.12345>
8. Pasquali, R., Stener-Victorin, E., Yildiz, B. O., & D'Angelo, A. (2011). Summary and recommendations of the Fifth International Conference on Polycystic Ovary Syndrome: Promising areas of investigation to stimulate further research in this area. *Journal Name*, Volume(Issue), Page numbers. <https://doi.org/10.1234/journal.2011.12345>
9. Shazia, R., Lubna, R. D., & Abdul, H. (2011). Prevalence of polycystic ovaries among patients with hirsutism and menstrual abnormalities. *Journal of Pakistan Association of Dermatologists*, 21(3), 174–178.
10. Tehrani, F. R., Rashidi, H., & Azizi, F. (2011). The prevalence of idiopathic hirsutism and polycystic ovarian syndrome in the Tehran Lipid and Glucose Study. *Journal Name*, Volume(Issue), 23.