

Effectiveness of a Self-Instructional Module on Knowledge Regarding Polycystic Ovary Syndrome (PCOS) among Adolescent Girls Studying in a Selected Nursing College at Madurai

Nivetha S¹, Poornima Sri S², Pragathi P³, Priya Dharshini B⁴,
Remitha K⁵, Sivaranjani S⁶

Meenakshi College of Nursing, Madurai, Tamil Nadu, India

Abstract

Background: Polycystic ovary syndrome (PCOS) is a common endocrine disorder affecting adolescent girls and may have important reproductive, metabolic and psychosocial consequences. Improving knowledge during adolescence may support early recognition and appropriate health-seeking behaviour.

Aim: To assess the effectiveness of a self-instructional module on knowledge regarding PCOS among adolescent girls studying in a selected nursing college at Madurai.

Methods: A quantitative evaluative approach with a pre-experimental one-group pre-test/post-test design was used. Fifty adolescent girls studying in II and III year B.Sc. Nursing at Meenakshi College of Nursing, Madurai, were selected by non-probability purposive sampling. A structured knowledge questionnaire was administered before the intervention and again after 7 days. The intervention was a self-instructional module covering the meaning, causes, risk factors, signs and symptoms, diagnosis, complications, treatment and preventive measures of PCOS. Descriptive statistics and paired t-test were used.

Results: In the pre-test, 36 (72%) participants had inadequate knowledge and 14 (28%) had moderate knowledge; none had adequate knowledge. In the post-test, all 50 (100%) participants had adequate knowledge. The mean pre-test knowledge score was 6.74 ± 3.59 and the mean post-test score was 21.00 ± 0.00 , with a mean improvement of 14.26 points. The paired t-test value was 28.10, indicating a highly statistically significant improvement. Pre-test knowledge was significantly associated with age, type of family, monthly family income, place of residence and exercise.

Conclusion: The findings indicate that the self-instructional module was effective in improving knowledge regarding PCOS among the adolescent nursing students included in the study.

Keywords: Polycystic ovary syndrome; PCOS; adolescent girls; knowledge; self-instructional module; nursing students.

Introduction

Polycystic ovary syndrome is an important health concern among adolescent girls. Awareness and knowledge regarding the condition can contribute to early recognition of symptoms, appropriate consultation and adoption of preventive and healthy lifestyle practices. Adolescence provides an important opportunity for health education because nursing students can also become future health educators and advocates for adolescent health.

The present study was undertaken to assess the effectiveness of a self-instructional module on knowledge regarding PCOS among adolescent girls studying in a selected nursing college at Madurai.

Aim

To assess the effectiveness of a self-instructional module on knowledge regarding polycystic ovary syndrome among adolescent girls studying in a selected nursing college at Madurai.

Objectives

To assess the pre-test level of knowledge regarding PCOS among adolescent girls.

To assess the post-test level of knowledge regarding PCOS among adolescent girls after administration of the self-instructional module.

To determine the effectiveness of the self-instructional module by comparing pre-test and post-test knowledge scores.

To determine the association between pre-test knowledge regarding PCOS and selected demographic variables.

Materials and Methods

A quantitative evaluative approach was adopted using a pre-experimental one-group pre-test/post-test design. The study was conducted at Meenakshi College of Nursing, Madurai, Tamil Nadu. The participants were 50 adolescent girls studying in II and III year B.Sc. Nursing. Non-probability purposive sampling was used.

A structured knowledge questionnaire was used to assess knowledge regarding PCOS. The self-instructional module included information on the meaning, causes, risk factors, signs and symptoms, diagnosis, complications, treatment and preventive measures of PCOS. The pre-test was followed by administration of the self-instructional module, and the post-test was conducted after 7 days using the same structured knowledge questionnaire.

Data were analysed using frequency, percentage, mean and standard deviation. A paired t-test was used to compare pre-test and post-test knowledge scores. Chi-square test was used to determine the association between pre-test knowledge and selected demographic variables.

Results

Table 1. Distribution of participants according to level of knowledge in pre-test and post-test

Knowledge level	Pre-test n	Pre-test %	Post-test n	Post-test %
Inadequate	36	72	0	0
Moderate	14	28	0	0
Adequate	0	0	50	100
Total	50	100	50	100

Table 2. Comparison of pre-test and post-test knowledge scores

Measure	Mean	SD	Paired t value
Pre-test	6.74	3.59	28.10
Post-test	21.00	0.00	28.10
Mean improvement	14.26	—	—

The mean post-test knowledge score was higher than the mean pre-test score by 14.26 points. The paired t-test value of 28.10 showed a highly statistically significant improvement in knowledge following the self-instructional module.

Table 3. Association between pre-test knowledge and selected demographic variables

Variable	Association	Interpretation
Age	Significant	Associated with pre-test knowledge
Type of family	Significant	Associated with pre-test knowledge
Monthly family income	Significant	Associated with pre-test knowledge
Place of residence	Significant	Associated with pre-test knowledge
Exercise	Significant	Associated with pre-test knowledge
Previous knowledge	Not significant	No significant association
Food habits	Not significant	No significant association
Age at menarche	Not significant	No significant association

Discussion

The study demonstrated a marked improvement in knowledge regarding PCOS following administration of the self-instructional module. Before the intervention, 72% of participants had inadequate knowledge and 28% had moderate knowledge, while none had adequate knowledge. After the intervention, all participants achieved an adequate level of knowledge.

The increase in the mean knowledge score from 6.74 ± 3.59 in the pre-test to 21.00 ± 0.00 in the post-test, with a mean improvement of 14.26, indicates the effectiveness of the educational intervention in the study group. The paired t-test value of 28.10 further supports the observed improvement.

Significant associations were identified between pre-test knowledge and age, type of family, monthly family income, place of residence and exercise. Previous knowledge, food habits and age at menarche were not significantly associated with pre-test knowledge.

Limitations

The study was conducted in only one nursing college.

The sample size was limited to 50 participants.

Non-probability purposive sampling limits generalisability of the findings.

The study assessed knowledge and did not assess attitude or practice.

The post-test was conducted after a short follow-up period of 7 days.

There was no control group.

Implications for Nursing

The findings support the use of structured educational materials for improving knowledge about PCOS among adolescent nursing students. PCOS education may be incorporated into nursing education and adolescent health programmes. Nurses can play an important role in health education, early identification, counselling and promotion of healthy lifestyle practices related to PCOS.

Recommendations

Similar studies may be conducted with larger samples in different settings.

Comparative studies may be undertaken using different teaching strategies.

Future studies may include longer follow-up periods to assess retention of knowledge.

Further research may assess attitudes, practices and lifestyle-related outcomes.

Experimental studies with control groups may be conducted to strengthen evidence regarding effectiveness.

Conclusion

The study findings indicate that the self-instructional module was effective in improving knowledge regarding polycystic ovary syndrome among the adolescent girls included in the study. The substantial increase in post-test knowledge and the statistically significant paired t-test result support the usefulness of the module as an educational intervention in this setting.

BOOK REFERENCES

1. Basavanthappa BT. *Nursing Research*. 3rd ed. New Delhi: Jaypee; 2019.
2. Basavanthappa BT. *Textbook of Midwifery and Reproductive Health Nursing*. 2011.
3. Berek JS. *Berek & Novak's Gynecology*. 16th ed. Wolters Kluwer; 2020.
4. Bobak IM, Lowdermilk DL, Jensen MD. *Maternity and Women's Health Care*. 10th ed. Mosby; 2012.
5. Burns N, Grove SK. *The Practice of Nursing Research*. 9th ed. Elsevier; 2021.
6. Cunningham FG, et al. *Williams Obstetrics*. 26th ed. McGraw-Hill; 2022.
7. Doenges ME, et al. *Nursing Care Plans*. 10th ed. F.A. Davis; 2019.
8. Dutta DC. *Textbook of Gynecology*. 8th ed. Jaypee; 2022.
9. Dutta DC. *Textbook of Obstetrics*. 10th ed. Jaypee; 2023.
10. Edmonds DK. *Dewhurst's Textbook of Obstetrics and Gynaecology*. 9th ed. Wiley-Blackwell; 2018.
11. Fraser DM, Cooper MA. *Myles Textbook for Midwives*. 17th ed. Elsevier; 2020.
12. Guyton AC, Hall JE. *Textbook of Medical Physiology*. 14th ed. Elsevier; 2021.
13. Jacob A. *A Comprehensive Textbook of Midwifery*. 4th ed. Jaypee; 2022.
14. Kothari CR. *Research Methodology: Methods and Techniques*. 2nd ed. New Age; 2004.
15. Lowdermilk DL, et al. *Maternity and Women's Health Care*. 12th ed. Elsevier; 2020.
16. Park K. *Park's Textbook of Preventive and Social Medicine*. 27th ed. 2023.
17. Polit DF, Beck CT. *Nursing Research*. 11th ed. Wolters Kluwer; 2021.
18. Potter PA, Perry AG. *Fundamentals of Nursing*. 11th ed. Elsevier; 2025.
19. Sharma SK. *Nursing Research and Statistics*. 3rd ed. Elsevier; 2021.

20. Wong DL, Hockenberry MJ. *Wong's Essentials of Pediatric Nursing*. 11th ed. Elsevier; 2022.

JOURNAL REFERENCES

1. Azziz R, et al. The Androgen Excess and PCOS Society criteria for PCOS. *Fertil Steril*. 2009;91:456-488.
2. Barnard L, et al. Quality of life and psychological well-being in PCOS. *Hum Reprod*. 2007;22:2279-2286.