

# Effectiveness of Computer Assisted Teaching Module on Knowledge Regarding Polycystic Ovarian Disease and Lifestyle Modification Among Late Adolescent Girls

Magaret Gently<sup>1</sup>, Beulah Mercy Mary T<sup>2</sup>

<sup>1</sup>Associate Professor, OBG Nursing Department, AECS Pavan College of Nursing, Bangalore Chennai By-Pass Road, Harohalli, Kolar – 563101, Karnataka, India

<sup>2</sup>Principal, Vatsalya Institute of Nursing & Paramedical Sciences, Shillong, Meghalaya, India

**Abstract:** ***Background:** Polycystic Ovarian Disease (PCOD) is one of the most common endocrine disorders affecting adolescent girls. Increasing prevalence of PCOD is associated with sedentary lifestyle, unhealthy dietary habits, stress, and hormonal imbalance. Lack of awareness among adolescents leads to delayed diagnosis and increased risk of complications such as infertility, obesity, diabetes mellitus, and cardiovascular diseases. Health education through Computer Assisted Teaching Module can improve awareness and promote lifestyle modification. **Methods:** A pre-experimental one group pre-test post-test design was adopted for the study. The study was conducted among 60 late adolescent girls aged 17–21 years in a selected college. Convenient sampling technique was used to select participants. Structured knowledge questionnaire was used for data collection. Computer Assisted Teaching Module was administered after pre-test and post-test was conducted after intervention. Data were analyzed using descriptive and inferential statistics. **Results:** The mean pre-test knowledge score was 13.88 and the mean post-test knowledge score increased to 24.12 indicating improvement in knowledge level. The calculated paired t-test value was 12.45 which was statistically significant at 0.05 level. The findings revealed that Computer Assisted Teaching Module was effective in improving knowledge regarding PCOD and lifestyle modification. **Conclusion:** The study concluded that Computer Assisted Teaching Module significantly improved knowledge among late adolescent girls. The study recommends implementation of regular health education programmes to prevent PCOD and its complications.*

**Keywords:** Polycystic Ovarian Disease; Computer Assisted Teaching Module; Late Adolescent Girls; Lifestyle Modification; Knowledge; Health Education

## 1. Introduction

Adolescence is an important transitional period characterized by rapid growth and development involving physical, emotional, psychological, and hormonal changes. According to World Health Organization, adolescence is defined as the age group between 10 and 19 years. Late adolescence ranges from 17 to 21 years and represents a crucial period where reproductive health awareness becomes essential.

Reproductive health problems during adolescence can have long-term consequences on women's health. One of the most common endocrine disorders affecting adolescent girls is Polycystic Ovarian Disease (PCOD). PCOD is characterized by hormonal imbalance, irregular menstrual cycles, enlarged ovaries with multiple cysts, and increased androgen levels.

The prevalence of PCOD among adolescents is increasing worldwide. Studies report prevalence ranging from 5% to 20% depending on diagnostic criteria. In India, prevalence of PCOD among adolescents is reported to be between 9% and 22%. Increasing obesity, sedentary lifestyle, unhealthy diet, and stress contribute significantly to development of PCOD.

PCOD affects multiple systems in the body and leads to complications such as:

- Menstrual irregularities
- Infertility
- Obesity

- Insulin resistance
- Type 2 diabetes mellitus
- Hypertension
- Cardiovascular diseases
- Acne and hirsutism
- Psychological problems such as anxiety and depression

Lifestyle modification plays an important role in prevention and management of PCOD. Regular exercise, balanced diet, stress management, and weight control can significantly reduce symptoms and complications.

Computer Assisted Teaching Module is an effective educational method that uses multimedia elements such as videos, animations, images, and audio to enhance learning. It improves understanding and retention among students. Hence, the present study was undertaken to assess effectiveness of Computer Assisted Teaching Module on knowledge regarding PCOD and lifestyle modification among late adolescent girls.

## 2. Need for the Study

Polycystic Ovarian Disease is becoming increasingly common among adolescent girls due to modern lifestyle changes. Adolescents are more likely to consume junk food, avoid physical activity, and experience high levels of stress. These factors increase the risk of hormonal imbalance and PCOD.

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Many adolescent girls lack awareness regarding symptoms of PCOD such as irregular menstruation, weight gain, acne, and excessive hair growth. Due to lack of knowledge, adolescents often ignore early symptoms leading to delayed diagnosis and complications.

Early identification and lifestyle modification can prevent long-term complications such as infertility, diabetes, and cardiovascular diseases. Health education plays a vital role in improving awareness.

Computer Assisted Teaching Module is an innovative method of teaching that improves knowledge effectively. Therefore, the researcher felt the need to assess effectiveness of Computer Assisted Teaching Module among late adolescent girls.

### 3. Statement of the Problem

A study to assess the effectiveness of Computer Assisted Teaching Module on knowledge regarding Polycystic Ovarian Disease and lifestyle modification among late adolescent girls in a selected college.

#### Objectives

- 1) To assess pre-test knowledge regarding Polycystic Ovarian Disease and lifestyle modification among late adolescent girls
- 2) To evaluate effectiveness of Computer Assisted Teaching Module
- 3) To find association between knowledge and selected demographic variables

#### Hypotheses

H1: There will be significant difference between pre-test and post-test knowledge scores among late adolescent girls

H2: There will be significant association between knowledge scores and selected demographic variables

#### Operational Definitions

- Effectiveness: Refers to significant improvement in knowledge scores following Computer Assisted Teaching Module.
- Computer Assisted Teaching Module: Structured multimedia based educational programme designed to improve knowledge regarding PCOD.
- Knowledge: Awareness regarding causes, symptoms, complications, and prevention of PCOD.
- Late Adolescent Girls: Girls aged between 17 and 21 years studying in selected college.

#### Assumptions

- Late adolescent girls may have inadequate knowledge regarding PCOD
- Computer Assisted Teaching Module may improve knowledge
- Participants will cooperate during study

#### Delimitations

- Study limited to selected college
- Sample limited to 60 participants
- Study limited to late adolescent girls

### 4. Review of Literature

The review of literature is organized under following headings:

- Studies related to prevalence of PCOD
- Studies related to knowledge of adolescents
- Studies related to effectiveness of educational intervention

Various studies reported increasing prevalence of PCOD among adolescent girls. Studies also indicated lack of awareness regarding PCOD symptoms and complications. Educational interventions showed significant improvement in knowledge among adolescents.

### 5. Methodology

#### Research Approach

Evaluative research approach was adopted to assess effectiveness of Computer Assisted Teaching Module.

#### Research Design

Pre-experimental one group pre-test post-test design.

#### Setting of Study

Selected degree college.

#### Population

Late adolescent girls aged 17-21 years.

#### Sample Size

- 60 participants.
- Sampling Technique
- Convenient sampling technique.

#### Criteria for Sample Selection

##### Inclusion Criteria

- Late adolescent girls
- Willing to participate
- Available during data collection

##### Exclusion Criteria

- Absent during data collection

#### Description of Tool

Section A: Demographic variables

Section B: Knowledge questionnaire consisting of multiple questions regarding PCOD

#### Data Collection Procedure

Permission obtained from authorities. Pre-test conducted using structured questionnaire. Computer Assisted Teaching Module administered. Post-test conducted after intervention.

#### Plan for Data Analysis

Descriptive statistics and inferential statistics used.

### 6. Results

The collected data were analyzed using descriptive and inferential statistics. The findings are presented in the following sections.

Section I – Demographic Variables Section II – Pre-test Knowledge Level Section III – Post-test Knowledge Level Section IV – Comparison of Pre-test and Post-test Section V – Association with Demographic Variables

**Section I: Demographic Variables**

**Table 1:** Distribution of Late Adolescent Girls by Age

Age (Years)	Frequency	Percentage
17	17	28.3%
18	18	30.0%
19	15	25.0%
20-21	10	16.7%
<b>Total</b>	<b>60</b>	<b>100%</b>

**Table 2:** Distribution According to Course of Study

Course	Frequency	Percentage
B.Sc	22	36.7%
B.Com	18	30%
BA	20	33.3%
<b>Total</b>	<b>60</b>	<b>100%</b>

**Table 3:** Distribution According to Dietary Pattern

Dietary Pattern	Frequency	Percentage
Vegetarian	24	40%
Mixed Diet	36	60%
<b>Total</b>	<b>60</b>	<b>100%</b>

**Section II: Pre-Test Knowledge Level**

**Table 4:** Pre-Test Knowledge Level Regarding PCOD

Knowledge Level	Frequency	Percentage
Inadequate	36	60%
Moderate	21	35%
Adequate	3	5%
<b>Total</b>	<b>60</b>	<b>100%</b>

**Section III: Post-Test Knowledge Level**

**Table 5:** Post-Test Knowledge Level Regarding PCOD

Knowledge Level	Frequency	Percentage
Inadequate	6	10%
Moderate	24	40%
Adequate	30	50%
<b>Total</b>	<b>60</b>	<b>100%</b>

**Section IV: Comparison of Pre-Test and Post-Test**

**Table 6:** Comparison of Mean Knowledge Scores

Variable	Mean	SD	Mean Difference
Pre-test	13.88	3.12	10.24
Post-test	24.12	2.85	

**Table 7:** Paired t-Test Analysis

Variable	Mean	SD	t-Value	p- Value	Significance
Pre-test	13.88	3.12	12.45	<0.05	Significant
Post-test	24.12	2.85			

Calculated t value = 12.45 Table value at 0.05 level = 2.00 Since calculated value is higher than table value, hypothesis accepted.

**Section V: Association with Demographic Variables**

**Table 8:** Association Between Knowledge and Age

Age	Adequate	Moderate	Inadequate	Chi-square	Significance
17	5	7	5	4.12	Significant
18	8	6	4		
19	10	4	1		
20-21	7	2	1		

**Table 9:** Association Between Knowledge and Dietary Pattern

Diet	Adequate	Moderate	Inadequate	Chi-square
Vegetarian	10	9	5	3.82
Mixed	20	15	1	

These findings indicate Computer Assisted Teaching Module was effective in improving knowledge regarding PCOD among late adolescent girls.

Significant improvement observed between pre-test and post-test scores.

**7. Discussion**

The study revealed significant improvement in knowledge following Computer Assisted Teaching Module. Majority of participants had inadequate knowledge before intervention.

Similar findings were reported in previous studies where structured teaching improved awareness regarding PCOD.

The results confirm that educational intervention plays a vital role in prevention and management of PCOD.

**8. Conclusion**

The study concluded that Computer Assisted Teaching Module was effective in improving knowledge regarding PCOD and lifestyle modification among late adolescent girls.

Educational programmes should be implemented regularly to improve awareness and promote healthy lifestyle.

**9. Implications**

**Nursing Practice**

Nurses should provide health education regarding PCOD prevention.

**Nursing Education**

PCOD awareness should be included in curriculum.

**Nursing Research**

Further studies can be conducted with larger sample size.

**10. Limitations**

- Small sample size
- Limited to single setting
- Short follow-up period

## 11. Recommendations

- Conduct study with large sample
- Use control group
- Long-term follow-up studies
- Community-based awareness programmes

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