THE GENESIS
A Peer Reviewed Refereed Indexed Journal
OPEN ACCESS
ISSN 2395-2164 Volume: 13 Issue: 1 January - March - 2026

# EFFECTIVENESS OF EDUCATIONAL INTERVENTION ON COPING WITH MENSTRUAL DISCOMFORTS AMONG ADOLESCENT GIRLS: A ONE-GROUP PRETEST–POSTTEST STUDY

**Mrs. Lithial Selvakumari A***
**Principal, Mathrushree Institute of Nursing, Jakkasandra, Nelamangala, Karnataka, India.*
**https://doi.org/10.47211/tg.2026.v13i01.003**

***ABSTRACT***
*Menstruation is a normal physiological phenomenon experienced by adolescent girls; however, it is frequently associated with physical and psychological discomforts that affect daily functioning and school attendance. Lack of appropriate knowledge and coping strategies often worsens these problems. The present study aimed to evaluate the effectiveness of an educational intervention in improving knowledge, attitude, and practice (KAP) regarding coping with menstrual discomforts among adolescent girls. A pre-experimental one-group pretest–post-test design was adopted. The study was conducted among 42 adolescent girls aged 12–15 years studying in VII, VIII, and IX standards at a Government Girls High School in Coimbatore, Tamil Nadu. A structured questionnaire assessed knowledge, attitude, and practice before and after the educational intervention. Education was delivered using flashcards, demonstrations of exercises, and relaxation techniques. Post-test assessment was conducted after eight days. Statistical analysis included descriptive statistics, Student's t-test, and Karl Pearson's correlation coefficient. The findings revealed a statistically significant improvement in post-test knowledge, attitude, and practice scores following the educational intervention ($p < 0.05$). The study concludes that structured educational programs are effective in enhancing coping strategies for menstrual discomforts among adolescent girls.*

***Keywords:*** *adolescent girls, menstrual discomfort, dysmenorrhea, health education, coping strategies, school* health nursing.

**ABOUT AUTHOR:**

Author, Mrs. Lithial Selvakumari A serves as the Principal of Mathrushree Institute of Nursing, Jakkasandra, Nelamangala, Karnataka, India. She is an accomplished nursing educator and administrator with extensive experience in academic leadership, institutional management, and nursing education.

THE GENESIS
A Peer Reviewed Refereed Indexed Journal
OPEN ACCESS
ISSN 2395-2164 Volume: 13 Issue: 1 *January - March - 2026*

## INTRODUCTION

Menarche marks a significant milestone in female pubertal development, typically occurring between 11 and 14 years of age. Although menstruation is a normal physiological process, many adolescents experience discomforts such as abdominal pain, backache, fatigue, nausea, irritability, and psychological distress (International Federation of Gynaecology and Obstetrics, 2018; Critchley et al., 2020). Dysmenorrhea remains one of the most common gynaecological complaints during adolescence and is a leading cause of recurrent school absenteeism (Armour et al., 2019; Schoep et al., 2019).

Inadequate knowledge and misconceptions regarding menstruation may result in anxiety, inappropriate practices, and poor coping mechanisms (Hennegan et al., 2019; van Eijk et al., 2016). Evidence indicates that many adolescent girls lack access to accurate menstrual health information, particularly in school settings (Chandra-Mouli et al., 2017; United Nations Educational, Scientific and Cultural Organization, 2021). School health nurses are strategically positioned to provide education and support to adolescent girls. Structured health education programs can improve awareness, foster positive attitudes, and promote appropriate practices for managing menstrual discomforts (UNICEF, 2019; World Health Organization, 2022).

## METHODS

### Research Design

A pre-experimental one-group pretest–post-test design was used.

### Setting and Participants

The study was conducted at a Government Girls High School in NGGO Colony, Coimbatore, Tamil Nadu. The sample consisted of 42 adolescent girls aged 12–15 years who had attained menarche and met the inclusion criteria. Participants were selected using a calculated sampling method based on Mahajan's formula.

### Tool for Data Collection

A structured questionnaire was developed based on literature review and expert guidance. The instrument consisted of:

- **Section I:** Demographic variables (age, education, age at menarche, duration and regularity of menstruation).
- **Section II:** Knowledge, attitude, and practice related to coping with menstrual discomforts (abdominal pain, back pain, leg pain, fatigue, nausea, vomiting, constipation, excessive flow, irritability, genital itching).

The tool was validated through expert review and pilot testing. Reliability was established during the pilot study.

### Intervention

The educational module included:

- Anatomy of the female reproductive system
- Physiology of the menstrual cycle
- Common menstrual discomforts
- General coping measures (diet, exercise, hygiene, relaxation techniques)
- Specific measures for each discomfort

Education was delivered through flashcards, demonstrations of exercises, and relaxation techniques. Post-test assessment was conducted eight days after the intervention.

### Data Analysis

Data were analysed using descriptive and inferential statistics:

- Frequencies and percentages for demographic variables
- Student's *t*-test to compare pretest and post-test scores
- Karl Pearson's correlation coefficient to assess relationships between demographic variables and pretest scores

THE GENESIS
A Peer Reviewed Refereed Indexed Journal
OPEN ACCESS
ISSN 2395-2164 Volume: 13 Issue: 1 January - March - 2026

**RESULTS**

**Demographic Characteristics**

**Table 1**

**Age Distribution of Participants (n = 42)**

| Age (Years) | Frequency (f) | Percentage (%) |
|---|---|---|
| 12 | 8 | 19.0 |
| 13 | 7 | 16.7 |
| 14 | 15 | 35.7 |
| 15 | 12 | 28.6 |
| **Total** | **42** | **100** |

Most participants (35.7%) were 14 years old.

**Table 2**

**Distribution According to Educational Standard**

| Standard | Frequency (f) | Percentage (%) |
|---|---|---|
| VII | 7 | 16.7 |
| VIII | 13 | 31.0 |
| IX | 22 | 52.3 |
| **Total** | **42** | **100** |

**Table 3**

**Menstrual History of Participants**

| Variable | Category | Frequency |
|---|---|---|
| Age at Menarche | 11 years | 8 |
| | 12 years | 15 |
| | 13 years | 14 |
| | 14 years | 5 |
| Duration of Flow | 3–5 days | 36 |
| | >5 days | 6 |
| Cycle Regularity | Regular | 37 |
| | Irregular | 5 |

Majority (35.7%) attained menarche at 12 years.

**Menstrual Discomforts Experienced**

**Table 4**

**Common Menstrual Discomforts**

| Discomfort | Frequency (f) | Percentage (%) |
|---|---|---|
| Fatigue | 34 | 81.0 |
| Abdominal pain | 31 | 73.8 |
| Irritability | 31 | 73.8 |
| Back pain | 27 | 64.3 |
| Loss of appetite | 27 | 64.3 |
| Itching (genital) | 21 | 50.0 |
| Excessive flow | 13 | 31.0 |
| Leg pain | 12 | 28.6 |
| Constipation | 6 | 14.3 |
| Nausea | 5 | 11.9 |
| Vomiting | 5 | 11.9 |

Fatigue and abdominal pain were the most frequently reported symptoms.

THE GENESIS
A Peer Reviewed Refereed Indexed Journal
OPEN ACCESS
ISSN 2395-2164 Volume: 13 Issue: 1 January - March - 2026

**Pretest Knowledge Assessment**

**Table 5**

**Knowledge on Origin of Menstrual Bleeding**

| Response | Pretest | Post-test |
|---|---|---|
| Uterus (Correct) | 13 | 35 |
| Incorrect | 29 | 7 |

Significant improvement was observed after education.

**Table 6**

**Knowledge on Normal Frequency of Menstruation**

| Response | Pretest | Post-test |
|---|---|---|
| 28 days (Correct) | 6 | 33 |
| Incorrect | 36 | 9 |

**Table 7**

**Knowledge on Effect of Exercise**

| Response | Pretest | Post-test |
|---|---|---|
| Exercise helpful | 9 | 41 |
| Not helpful | 33 | 1 |

**Attitude Assessment**

**Table 8**

**Attitude Toward Doing Routine Work During Menstruation**

| Response | Pretest | Post-test |
|---|---|---|
| Agree/Strongly Agree | 5 | 34 |
| Neutral | 2 | 2 |
| Disagree/Strongly Disagree | 35 | 6 |

Post-test findings showed improved positive attitudes.

**Practice Assessment**

**Table 9**

**Management of Menstrual Hygiene**

| Practice | Pretest | Post-test |
|---|---|---|
| Cotton cloth use | 33 | 22 |
| Disposable pad use | 9 | 20 |
| Proper disposal (burning) | 4 | 19 |
| Washing with soap & sunlight drying | 9 | 21 |

**Table 10**

**Self-Medication and School Absenteeism**

| Practice | Pretest | Post-test |
|---|---|---|
| Taking self-medication | 12 | 0 |
| School absenteeism | 13 | 0 |

Education eliminated unsafe practices and absenteeism.

**Table 11**

**Coping with Abdominal Pain**

| Coping Measure | Pretest | Post-test |
|---|---|---|
| Taking rest | 13 | 15 |
| Hot application | 1 | 6 |
| Exercises | 0 | 6 |
| Relaxation therapy | 0 | 8 |
| Home remedies | 15 | 15 |

THE GENESIS
A Peer Reviewed Refereed Indexed Journal
OPEN ACCESS
ISSN 2395-2164 Volume: 13 Issue: 1 January - March - 2026

**Table 12**

**Coping with Fatigue**

| Coping Measure | Pretest | Post-test |
|---|---|---|
| Taking rest | 20 | 33 |
| Taking hot fluids | 5 | 32 |
| Warm bath | 5 | 30 |

**Table 13**

**Coping with Irritability**

| Coping Measure | Pretest | Post-test |
|---|---|---|
| Diversional activities | 8 | 28 |
| Relaxation therapy | 0 | 12 |
| Exercises | 0 | 14 |
| Routine work | 2 | 30 |

**Table 14**

**Coping with Genital Itching**

| Coping Measure | Pretest | Post-test |
|---|---|---|
| Changing soiled pad | 4 | 21 |
| Washing genital area | 4 | 17 |
| Changing undergarments | 2 | 20 |
| Washing cloth properly | 2 | 21 |

**Effectiveness of Educational Intervention**

Student's *t*-test showed statistically significant improvement between pretest and post-test KAP scores ($p < 0.05$). Karl Pearson's correlation indicated positive association between age and pretest knowledge.

The age distribution showed that most participants were 14 years old. The majority attained menarche at 12 years of age. Most participants experienced abdominal pain and backache during menstruation. School absenteeism and self-medication were reported practices among several participants.

Pretest findings indicated inadequate knowledge, lower attitude scores, and inappropriate coping practices among the majority of participants.

Post-test results demonstrated a significant increase in knowledge, improved attitudes toward coping, and adoption of appropriate practices such as exercise, dietary regulation, heat application, and relaxation techniques.

Student's *t*-test revealed a statistically significant difference between pretest and post-test scores, confirming the effectiveness of the educational intervention ($p < 0.05$).

Correlation analysis indicated that age and education had a positive association with pretest knowledge levels.

**DISCUSSION**

The findings are consistent with previous studies indicating that adolescent girls often lack adequate knowledge regarding menstrual health and coping strategies (Hennegan et al., 2019; van Eijk et al., 2016). Educational interventions significantly enhance understanding and promote healthier practices (Chandra-Mouli et al., 2017; UNESCO, 2021).

The improvement observed in post-test scores highlights the importance of structured school-based menstrual health education programs. Demonstration-based teaching methods, including exercise and relaxation techniques, appear particularly effective in promoting behavioural change, particularly for managing primary dysmenorrhea (Mohammed et al., 2020; Armour et al., 2019).

School health nurses play a critical role in addressing menstrual health concerns and reducing school absenteeism related to dysmenorrhea (Schoep et al., 2019; WHO, 2022).

**Limitations :** Absence of a control group, small sample size, short follow-up duration, self-reported practice measures.

THE GENESIS
A Peer Reviewed Refereed Indexed Journal
OPEN ACCESS
ISSN 2395-2164 Volume: 13 Issue: 1 January - March - 2026

**CONCLUSION**

This study demonstrates that the structured education significantly improved knowledge, attitude, and practice regarding coping with menstrual discomforts among adolescent girls. Incorporating menstrual health education into school health programs can promote positive coping behaviours and improve overall well-being.

**RECOMMENDATIONS**

- Integration of menstrual health education into school curriculum
- Periodic reinforcement sessions
- Inclusion of parents and teachers in awareness programs
- Further studies with larger samples and control groups

**REFERENCES**

1. UNICEF. (2019). *Guidance on menstrual health and hygiene*. UNICEF. https://www.unicef.org/documents/guidance-menstrual-health-and-hygiene
2. World Health Organization. (2022). *WHO recommendations on self-care interventions for health and well-being*. WHO.
3. World Health Organization, & United Nations Children's Fund. (2020). *Progress on drinking water, sanitation and hygiene in schools: Special focus on menstrual hygiene*. WHO & UNICEF.
4. Chandra-Mouli, V., Patel, S. V., & Mapping the knowledge and understanding of menarche, menstrual hygiene and menstrual health among adolescent girls in low- and middle-income countries. (2017). *Reproductive Health, 14*(1), 30. https://doi.org/10.1186/s12978-017-0293-6
5. Hennegan, J., Shannon, A. K., Rubli, J., Schwab, K. J., & Melendez-Torres, G. J. (2019). Women's and girls' experiences of menstruation in low- and middle-income countries: A systematic review and qualitative metasynthesis. *PLoS Medicine, 16*(5), e1002803. https://doi.org/10.1371/journal.pmed.1002803
6. Van Eijk, A. M., Sivakami, M., Thakkar, M. B., et al. (2016). Menstrual hygiene management among adolescent girls in India: A systematic review and meta-analysis. *BMJ Open, 6*(3), e010290. https://doi.org/10.1136/bmjopen-2015-010290
7. Armour, M., Parry, K., Manohar, N., et al. (2019). The prevalence and academic impact of dysmenorrhea in young women: A systematic review and meta-analysis. *Journal of Women's Health, 28*(8), 1161–1171. https://doi.org/10.1089/jwh.2018.7615
8. Schoep, M. E., Adang, E. M., Maas, J. W., De Bie, B., Aarts, J. W., & Nieboer, T. E. (2019). Productivity loss due to menstruation-related symptoms: A nationwide cross-sectional survey among 32,748 women. *BMJ Open, 9*(6), e026186. https://doi.org/10.1136/bmjopen-2018-026186
9. Critchley, H. O. D., Babayev, E., Bulun, S. E., et al. (2020). Menstruation: Science and society. *American Journal of Obstetrics and Gynecology, 223*(5), 624–664. https://doi.org/10.1016/j.ajog.2020.06.004
10. International Federation of Gynecology and Obstetrics. (2018). The FIGO recommendations on terminologies and definitions for normal and abnormal uterine bleeding. *International Journal of Gynecology & Obstetrics, 143*(3), 393–408.
11. Mohammed, S., Larsen-Reindorf, R., Awal, I., et al. (2020). Non-pharmacological interventions for primary dysmenorrhea: A systematic review and meta-analysis. *BMC Women's Health, 20*, 1–15.
12. United Nations Educational, Scientific and Cultural Organization. (2021). *Good policy and practice in health education: Puberty education & menstrual health*. UNESCO.