



EFFECTIVENESS OF A NURSE-LED PELVIC ROCKING EXERCISE PROGRAMME ON PAIN SEVERITY AND MENSTRUAL DISTRESS AMONG ADOLESCENT GIRLS WITH PRIMARY DYSMENORRHEA IN SELECTED SCHOOLS OF INDORE, MADHYA PRADESH

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ABSTRACT

Background

Primary dysmenorrhea is a common menstrual health problem among adolescent girls and is characterized by painful menstruation without identifiable pelvic pathology. In addition to lower abdominal pain, affected adolescents may experience fatigue, headache, nausea, backache, mood changes, reduced concentration, sleep disturbances, and limitations in daily and academic activities. Nurse-led non-pharmacological interventions such as pelvic rocking exercises may provide a simple, inexpensive, and feasible approach to menstrual symptom management in school settings.

Methods

A quantitative evaluative approach with a quasi-experimental one-group pre-test-post-test design was adopted. The study included 40 adolescent girls with primary dysmenorrhea selected through purposive sampling from selected schools of Indore, Madhya Pradesh. Pain severity was assessed using a Visual Analogue Scale (VAS), while menstrual distress was assessed using a structured menstrual distress assessment scale. Participants received a standardized nurse-led pelvic rocking exercise programme. Pre-test and post-test outcomes were compared using descriptive and inferential statistics.

Results

In the illustrative dataset, the mean pain severity score decreased from 7.25 ± 1.17 at pre-test to 3.45 ± 1.28 at post-test. Mean menstrual distress decreased from 32.65 ± 6.48 to 19.40 ± 5.72 . Both reductions were statistically significant ($p < 0.001$). Severe menstrual pain declined from 60.0% before the intervention to 7.5% after the intervention. A positive correlation was observed between baseline pain severity and menstrual distress.

Conclusion

The illustrative findings suggest that a nurse-led pelvic rocking exercise programme may be beneficial in reducing pain severity and menstrual distress among adolescent girls with primary dysmenorrhea. The intervention may be considered as a component of comprehensive school-based menstrual-health education, although controlled studies are required to establish causal effectiveness.

INTRODUCTION

Adolescence is a critical developmental stage involving significant physical, psychological, emotional, and reproductive changes. Menarche represents an important reproductive milestone; however, menstruation may be accompanied by symptoms that adversely influence the health and daily functioning of adolescent girls.

Primary dysmenorrhea refers to recurrent painful menstruation occurring in the absence of identifiable pelvic pathology. The pain is generally cramping in nature and is predominantly experienced in the lower abdomen. It may radiate toward the lower back and thighs and may be accompanied by nausea, vomiting, headache, fatigue, dizziness, diarrhea, irritability, sleep disturbances, and reduced concentration.

The pathophysiology of primary dysmenorrhea is strongly associated with increased prostaglandin production during menstruation. Elevated prostaglandin activity contributes to excessive uterine contractions, vasoconstriction, reduced uterine blood flow, ischemia, and pain.

The consequences of dysmenorrhea extend beyond physical discomfort. Adolescent girls experiencing moderate or severe menstrual pain may have difficulty concentrating

in class, participating in physical activities, completing academic work, maintaining sleep, and performing routine activities. Severe symptoms may contribute to school absenteeism and reduced quality of life.

Pharmacological interventions, particularly nonsteroidal anti-inflammatory drugs, are frequently used to manage primary dysmenorrhea. However, adolescents may use medicines without appropriate guidance, may experience adverse effects, or may prefer non-pharmacological strategies.

Exercise is one of the commonly considered non-pharmacological approaches to menstrual discomfort. Pelvic rocking exercises involve controlled movements of the pelvis with coordinated contraction and relaxation of abdominal, pelvic, and lower-back musculature. These exercises may help promote muscular relaxation, mobility, and comfort.

Nurses working in schools and community settings are well positioned to provide menstrual-health education, demonstrate appropriate self-care practices, assess menstrual symptoms, and identify girls who require medical referral. Therefore, a nurse-led pelvic rocking programme represents a potentially feasible school-based nursing intervention.

NEED FOR THE STUDY

Primary dysmenorrhea is frequently experienced during adolescence, yet many girls consider menstrual pain an unavoidable part of menstruation and do not seek professional guidance.

Pain and associated menstrual symptoms can interfere with:

- School attendance
- Classroom concentration
- Physical activity
- Sleep
- Social participation
- Emotional well-being
- Routine daily activities

Adolescent girls may rely on analgesics, home remedies, rest, or other self-management strategies without adequate information regarding safe and effective menstrual pain management.

Schools provide an accessible environment for preventive and promotive adolescent-health interventions. Nurses can contribute by providing structured menstrual-health education and teaching appropriate non-pharmacological strategies.

Pelvic rocking exercises are inexpensive, require little equipment, and can be taught relatively easily. Evaluating their effectiveness within a nurse-led programme may therefore provide useful evidence for school-health nursing practice.

STATEMENT OF THE PROBLEM

“A Study to Evaluate the Effectiveness of a Nurse-Led Pelvic Rocking Exercise Programme on Pain Severity and Menstrual Distress Among Adolescent Girls with Primary Dysmenorrhea in Selected Schools of Indore, Madhya Pradesh”

OBJECTIVES

1. To assess the pre-test level of pain severity and menstrual distress among adolescent girls with primary dysmenorrhea.
2. To assess the post-test level of pain severity and menstrual distress following the nurse-led pelvic rocking exercise programme.
3. To compare the pre-test and post-test pain severity scores among adolescent girls.
4. To compare the pre-test and post-test menstrual distress scores.
5. To determine the relationship between pain severity and menstrual distress.
6. To determine the association of pre-test pain severity and menstrual distress with selected demographic and menstrual variables.

RESEARCH HYPOTHESES

H1 : There will be a statistically significant reduction in post-test pain severity scores compared with pre-test scores following the nurse-led pelvic rocking exercise programme.

H2 : There will be a statistically significant reduction in post-test menstrual distress scores compared with pre-test scores following the intervention.

H3 : There will be a significant relationship between pain severity and menstrual distress among adolescent girls with primary dysmenorrhea.

H4 : There will be a significant association between selected demographic/menstrual variables and pre-test pain severity or menstrual distress.

VARIABLES

Independent Variable

Nurse-led pelvic rocking exercise programme.

Dependent Variables

1. Pain severity
2. Menstrual distress

RESEARCH METHODOLOGY

Research Approach

Quantitative evaluative approach

Research Design

Quasi-experimental one-group pre-test–post-test design

Research Setting

Selected schools of Indore, Madhya Pradesh.

Population

Adolescent girls with primary dysmenorrhea studying in selected schools.

Sample Size

N = 40

Sampling Technique

Purposive sampling technique

RESULTS

Table 1. Age Distribution of Participants (N = 40)

Age	Frequency	Percentage
13–14 years	10	25.0
15–16 years	21	52.5
17–18 years	9	22.5
Total	40	100

The majority (52.5%) of participants were aged 15–16 years.

Table 2. Selected Menstrual Characteristics

Variable	Category	Frequency	Percentage
Age at menarche	≤11 years	6	15.0
	12–13 years	29	72.5
	≥14 years	5	12.5
Cycle pattern	Regular	31	77.5
	Irregular	9	22.5
Menstrual flow	3–5 days	27	67.5
	>5 days	13	32.5
Family history	Yes	24	60.0
	No	16	40.0

Most participants (72.5%) attained menarche at 12–13 years, and 77.5% reported regular menstrual cycles.

Table 3. Pre-Test and Post-Test Pain Severity

Pain Severity	Pre-Test f (%)	Post-Test f (%)
Mild	0 (0.0)	19 (47.5)
Moderate	16 (40.0)	18 (45.0)
Severe	24 (60.0)	3 (7.5)
Total	40 (100)	40 (100)

Before intervention, **60%** of participants experienced severe menstrual pain. Following intervention, severe pain decreased to **7.5%**, while 47.5% reported only mild pain.

Table 4. Comparison of Mean Pain Severity Scores

Assessment	Mean	SD	Mean Difference	t-value	p-value
Pre-test	7.25	1.17			
Post-test	3.45	1.28	3.80	16.24	<0.001

The mean pain score decreased from 7.25 ± 1.17 to 3.45 ± 1.28 , representing a mean reduction of 3.80 points.

The difference was statistically significant ($p < 0.001$). Thus, H1 was supported in the illustrative dataset.

Table 5. Level of Menstrual Distress Before and After Intervention

Menstrual Distress	Pre-Test f (%)	Post-Test f (%)
Mild	2 (5.0)	20 (50.0)

Moderate	17 (42.5)	17 (42.5)
Severe	21 (52.5)	3 (7.5)
Total	40 (100)	40 (100)

Severe menstrual distress decreased from 52.5% at pre-test to 7.5% at post-test.

Table 6. Comparison of Mean Menstrual Distress Scores

Assessment	Mean	SD	Mean Difference	t-value	p-value
Pre-test	32.65	6.48			
Post-test	19.40	5.72	13.25	12.86	<0.001

The mean menstrual distress score decreased by 13.25 points following the intervention.

RECOMMENDATIONS

1. Replicate the study with a larger sample.
2. Conduct a randomized controlled trial.
3. Include an active or usual-care comparison group.
4. Evaluate outcomes over multiple menstrual cycles.
5. Compare pelvic rocking with yoga, stretching, heat therapy, relaxation, or aerobic exercise.

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