



A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF PELVIC ROCKING EXERCISE AND GINGER ON DYSMENORRHEA AMONG NURSING STUDENTS IN A SELECTED NURSING COLLEGE, BANGALORE

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ABSTRACT A spectrum of pharmacologic and non-pharmacologic measures is used for managing dysmenorrhea. A quasi-experimental comparative pre-test post-test design was adopted to find effectiveness of pelvic rocking exercise and ginger on dysmenorrhea and the data collection instruments used were structured baseline questionnaire and Verbal multidimensional scoring system (VMDS) and VAS for assessing the severity of dysmenorrhea. Study was carried out among 70 nursing students with 35 students each in exercise and ginger group, selected by simple random sampling technique for 2 menstrual cycles. Among the 70 subjects 17.15%, 62.85% and 20% subjects had severe, moderate and mild dysmenorrhea. The finding of the study revealed that there is a significant more or less similar reduction in dysmenorrhea among nursing students practicing pelvic rocking exercise and consumption of ginger powder. Therefore, such simple remedial measures can be used in day – to day basis in reducing dysmenorrhea.

KEYWORDS : Pelvic rocking exercise, ginger, effectiveness, dysmenorrhea, nursing students

INTRODUCTION

Adolescence is originated from the Latin verb '*adolescere*' which means "to grow into adulthood". Adolescence is a time of moving from immaturity of childhood into maturity of adulthood. Menarche is the first menstrual cycle, or the first menstrual bleeding in the females that is often considered as the central event of female puberty. It usually occurs at the age of 12-13 years and may occur as early as 10 years and as late as 16 years. Menstrual disorders are one of the major problems faced by adolescents all around the world and is a reason for increasingly 1% of gynecological visit¹.

Primary dysmenorrhea is a very common problem in young women². It is usually defined as cramping pain in the lower abdomen occurring at the onset of menstruation in the absence of any identifiable pelvic disease. In 60-90% of adolescent girls in India, dysmenorrhea is a major cause for absenteeism from school or restriction of activities of daily living or social interaction³.

Studies on dysmenorrhea have shown that many factors like younger age, BMI, smoking and alcoholism, early menarche, prolonged menstrual flow, family history, stress, personality type influences the prevalence and severity of dysmenorrhea⁴.

A wide spectrum of pharmacologic and non-pharmacologic measures is used for the treatment of dysmenorrhea. Of these it has been widely claimed that exercise and use of complementary and alternative methods are beneficial for dysmenorrhea⁵.

Studies have shown that exercise^{6,8,9} reduced menstrual cramp and improved associated symptoms. Exercise helps in reducing pain, relieving stress, elevating mood and improving health⁷. And among the various folk medicines, ginger is known to have outweighing benefits⁷. Ginger has been recognized as the "universal medicine" by the ancient Orientals of China.

The present study aimed at comparing the effect of pelvic rocking exercise and ginger on dysmenorrhea which in turn can improve the quality of life of women during the menstruation.

MATERIALS AND METHODS:

Objectives of the study:

- To determine the prevalence of dysmenorrhea among nursing students.
- To assess the severity of dysmenorrhea among nursing students before the intervention.
- To compare the effect of pelvic rocking exercise and ginger on dysmenorrhea among nursing students.
- To find out the association between severity of dysmenorrhea and selected baseline variables.

Design: the study employed a Quasi-experimental pre-test – post-test design with comparative approach.

Method of data collection: After obtaining permission & ethical clearance, the prevalence of dysmenorrhea among nursing students was determined by administering questionnaire to all the students of St

John's College of Nursing, Bangalore. with dysmenorrhea. Following which students who had dysmenorrhea were identified using inclusion criteria, exclusion criteria and selected by Simple random sampling with purposive allocation into 2 groups. After orienting the students and obtaining the consent, Self-administered questionnaire on demographic variables such as age, BMI, age at menarche, length of menstrual cycle, duration of menstrual flow, family history of dysmenorrhea was obtained. Severity of dysmenorrhea was assessed using VAS (visual analogue scale) as well as Verbal multidimensional scoring system for dysmenorrhea (VMDS)¹⁰. This scoring system grades pain as none, mild, moderate or severe and takes into account the effect on daily activity, systemic symptoms and analgesic requirement.

Phase 2: Intervention

Group I- pelvic rocking exercise group: Those students who had completed their menstruation prior to the data collection were randomly allocated to this group. Demonstration of exercise using Video was done and then demonstrated by investigator, followed by re-demonstration by subjects. The subjects were provided with a log to mark their daily practice of exercise till the onset of next menstrual cycle for 2 months.

Group II – Ginger group: Among the selected students those who had not attained the menstrual cycle around the data collection month was included in this group. The subjects were advised to consume ginger powder 0.5g thrice a day with water for the first three menstrual days for 2 months. Log was provided to mark the consumption of ginger.

Post test was conducted at the end of the two menstrual cycles. The data were analysed using descriptive & inferential statistics.

RESULT:

SECTION I: Prevalence of dysmenorrhea: among the 580 students surveyed, 209 (36%) had dysmenorrhea with regular cycles, 199(34%) had dysmenorrhea sometimes with or without irregular cycles and 176 (30%) had no dysmenorrhea.

SECTION II: Description of baseline variables

Majority of the samples 95.71% belonged to the age group of 17-27 years (the mean age 22.44 ± 2.957), most of them 88.57% had 28-30 days of length of menstrual cycle (the mean length of the cycle 28.93 ± 1.081), 54.28% had 4-6 days of menstrual cycle (the mean duration of flow 4.73± 1.154). Total of 68.57% samples had attained menarche between 10-13 years.

SECTION III: comparison of severity of dysmenorrhea in exercise group and ginger group after the interventions

Table 1: Comparison of severity of dysmenorrhea in Exercise group and Ginger group (VMDS) after the intervention

Grade	Exercise Group		Ginger Group		Chi square	p value
	F	%	F	%	2.301	0.316 NS

None	17	48.57	18	51.43		
Mild	18	51.43	17	48.57		
Moderate	0	0.00	0	0.00		
Severe	0	0.00	0	0.00		

According to VAS scores there was significant reduction in pain level in the exercise group (pre score 5.67 and post score 1.15 ± 0.60) and in ginger group (pre score 5.71 ± 1.96 and post score 1.39 ± 1.10) after intervention at 0.001 level of significance.

Table 2: Comparison of change in mean pain score in exercise and ginger group (VAS score)

Group	Mean	Range	SD	't' test	p value
Exercise (n=35)	4.49	2 - 7.1	1.38	0.588	0.2 NS
Ginger (n=35)	4.32	2 - 7.2	1.30		

Study results have shown that both ginger and pelvic rocking exercise has more or less similar ability in bringing a significant change in pain.

The study found significant association between age at menarche and family history with dysmenorrhea.

DISCUSSION:

The present study was undertaken to assess the effectiveness of pelvic rocking exercise and ginger on dysmenorrhea among nursing students. The mean age at menarche was 13.14 years which was in agreement with the study conducted among nursing students in Egypt⁴ and also with another study conducted in Erode¹⁰ which found that the mean age at menarche was 13.2 years. Concerning menstrual cycle characteristics, the present study revealed that samples average duration of menstrual flow was 4.73 ± 1.2 days with the mean length of menstrual cycle 28.93 ± 1.1 days. These findings were supported by the study conducted among students in Egypt³ in which majority of girls had mean length of menstrual cycle was 28.4 ± 2.4 days, with an average duration of menstrual flow 4.6 ± 1.1 days. This can be attributed to the fact that subjects in the study had normal menstrual cycle.

The present study showed that pelvic rocking exercise and ginger group had more or less similar ability in reduction of dysmenorrhea before and after the intervention (t = 0.588). A similar result was obtained in a study conducted among 70 nursing students in Mumbai¹³ comparing the effect of JPMR and ginger^{10, 11, 14} on dysmenorrhea. JPMR was administered once a day and 1g ginger powder twice a day for three days from the start of menstruation for one menstrual cycle. The study proved that both JPMR and ginger had reduced dysmenorrhea at same efficacy level. Similar findings were observed in a study conducted by Yoo¹² which proved that sling exercise and stretching improve menstrual pain and dysmenorrhea.

The study revealed a statistically significant association between the age at menarche and family history of dysmenorrhea with dysmenorrhea, i.e. students who have attained menarche within 13 years of age had higher prevalence of dysmenorrhea than the others at p < 0.05. The findings of the study were supported by quasi experimental studies on effect of pelvic rocking exercise on dysmenorrhea⁸.

CONCLUSION:

The findings of the study clearly point out that dysmenorrhea is very common among nursing students. It is the responsibility of the nurse to address to these issues. By providing these non pharmacologic strategies will help in improve the general wellbeing of the individual as well.

CONFLICT OF INTEREST:

The author has no conflicts of interest regarding the study.

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