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A study to assess the effectiveness of self care interventions on menstrual irregularities among adolescent girls in selected nursing colleges, Nellore

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Abstract
Background: India has one of the fastest growing youth populations in the world, with an estimated 190 million adolescents. Girls below 19 years of age comprise one quarter of India's rapidly growing population. Adolescence is a transition period from childhood to adulthood. This complex passage from childhood to adulthood is particularly stressful for girls.
Aim: The aim of the study was to assess the effectiveness of self care interventions on menstrual irregularities among adolescent girls [1].
Objectives: 1. To identify the menstrual irregularities among adolescent girls. 2. To assess the level of menstrual pain among adolescent girls. 3. To evaluate the effectiveness of self-care interventions on menstrual pain management among adolescent girls. 4. To find the association between the effectiveness of self-care interventions on menstrual pain management among adolescent girls with selected socio-demographic variables.
Methods: A quantitative approach with pre-experimental design, 30 adolescent girls was selected by using Non-probability convenience sampling technique.
Results: Among 190 adolescent girls, 76.3% had normal menstruation, 15.7% had dysmenorrrhea, 1.57% had amenorhhea, 0.5% had oligomenorrhea, 1.57% had polymenorrhea and 4.21% had metrorrhagia. Among 30 adolescent girls, the level of pain, in pre-test, 37% had mild pain, 30% had moderate pain and 33% had severe pain. In post test, 87% had mild pain, 13% had moderate pain and no one had severe pain.
Conclusion: The study concluded that there was a expressive reduction in menstrual pain after providing self-care interventions among adolescent girls.

Keywords: Self care interventions, menstrual irregularities, adolescent girls

Introduction
India has one of the fastest growing youth populations in the world, with an estimated 190 million adolescents. Girls below 19 years of age comprise one quarter of India's rapidly growing population. Adolescence is a transition period from childhood to adulthood. This complex passage from childhood to adulthood is particularly stressful for girls. One of the major physiological changes that take place in adolescent girls is onset of menarche which is usually associated with a number of problems among which dysmenorhoea is the most common [2].

Peri-menstrual cyclic pelvic pain is an acute subjective experience defined by pelvic pain that present in a repeating time frame associated with the menstrual cycle. The prevalence of peri-menstrual cyclic pelvic pain among adolescent girls ranges from 60 to 93% [3]. Self care interventions such as hot fomentation, ginger tea diet, life style modifications, exercises and meditation are known to be effective to manage the cyclic pelvic pain [4].

Need for the study
In the past decade, approximately a 20% increase in the number of teenage girls coming in with irregularities in their menstrual cycles. 75% of adolescent girls are reported to have menstrual dysfunction and is known to affect the normal life. Delayed, irregular, painful, and heavy menstrual bleeding are common occurrence among younger age and are the leading reasons for physician office visits by adolescents [3].

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Dysmenorrhea is yet another major cause of activity restriction and school absenteeism in adolescent girls. However, the condition is often considered as physiological pain and generally ignored. A incidence of dysmenorrhea 33.5% among adolescent girls in India was reported by George and Bhaduri found dysmenorrhea to be a common problem In India with prevalence of 87% [5].

The most common menstrual disorders were irregular frequency of menstruation (80.7%), premenstrual syndrome (54.0%), irregular duration of menstruation (43.8%), dysmenorrhoea (38.1%), polymenorrhoea (37.5%) and oligomenorrhoea (19.3%) [3].

A cross-sectional study was conducted to describe both nonpharmacologic and pharmacologic treatments used by adolescents with cyclic pelvic pain. The interview data collected from 76 adolescent girls at enrolment in a clinical trial prior to any intervention, included information on demographics, dysmenorrhea duration and severity and self treatment. Results shows that the adolescents mean age was 16.8 years (SD=2). Cyclic pelvic pain was moderate in 42%, severe in 58%, associated with nausea in 55%, and vomiting in 24%. Of those attending school (n=66), 46% reported missing one or more days monthly due to cyclic pelvic pain [6].

Ginger has been effective in reducing inflammation and pain and it can help in alleviating the pain associated with menstrual cramps. It also used for nausea and symptoms that sometimes accompany with menstruation. Use of 2 table spoon of ginger pieces for every cup of water and taking it 2-3 times a day is recommended. Hot fomentation is a traditional method used for pain relief. Hot fomentation for 15-20 minutes may provide comfort and relaxation, dilates the blood vessels of the muscles, and improves the blood circulation. It also stimulates the sensory receptors in the skin, which will have the effect of decreasing transmission of pain signals to the brain [7].

Statement of the problem
A Study to Assess the Effectiveness of Self Care Interventions on Menstrual Irregularities among Adolescent Girls in Selected Nursing Colleges, Nellore.

Objectives
- To identify the menstrual irregularities among adolescent girls.
- To assess the level of menstrual pain among adolescent girls.
- To evaluate the effectiveness of self-care interventions on menstrual pain management among adolescent girls.
- To find the association between the effectiveness of self-care interventions on menstrual pain management among adolescent girls with selected socio-demographic variables.

Null Hypotheses
H_01: There will not be a statistically significant difference in menstrual pain after providing self-care interventions among adolescent girls.

H_02: There will not be a statistically significant association between the effectiveness of selfcare interventions on menstrual pain with their selected socio demographic variables.

Delimitations
The study is delimited to
- Adolescent girls studying in selected nursing college and residing in hostel, Nellore.
- Adolescent girls having the problem of menstrual irregularities.
- Sample size is 30.

Materials & Methods
Research Design: Quasi experimental-one group pre-test and post-test design.

Setting: The study was conducted in Narayana Nursing hostels, Nellore

Population: Adolescent girls aged between 17 -19 years with menstrual pain were selected for the study.

Sampling Technique: Convenience sampling.

Sampling Size: 30 adolescent girls

Criteria for Sampling
Inclusion Criteria
- Adolescent girls aged between 17-19 yrs and studying in selected nursing college.
- Adolescent girls with menstrual pain
- Those who are willing to participate in the study.

Exclusion Criteria
- Who had very slight to mild cyclic pelvic pain.
- Who were taking other treatment.
- Who had other gynaecological disorders.

Description of the Tool
Part-I: Demographic variables: Age, educational qualification, family income, age at menarche, pattern of cycle, duration of cycle, duration of menstruation, amount of menstrual flow, onset of pain, duration of pain, family history of menstrual pain and family history of reproductive illness.

Part-II: Deals with the Numerical Pain Rating Scale to assess the severity of cyclic pelvic pain.

Score interpretation

S. No	Level of Pain	Score
1.	No pain	0
2.	Mild pain	1-3
3.	Moderate pain	4-6
4.	Severe pain	7-10

Intervention Protocol
Ginger tea preparation
➢ Slice pieces of ginger after peeling the skin off, and then cut the slices into small pieces.
➢ Use two tablespoons (500mg) of ginger pieces for every cup (100ml) of water. Add the ginger to the water, bring it to a boil and then turn the heat down and simmer it for 15 minutes.
➢ Strain the ginger from the water, sweeten with 1 tablespoon (5 grams) of honey and drink the tea. Taking it 2 times a day at 3 hours interval is beneficial.

Results & Discussion

Table 1: Frequency and percentage distribution of menstrual irregularities among adolescent girls. (N=190)

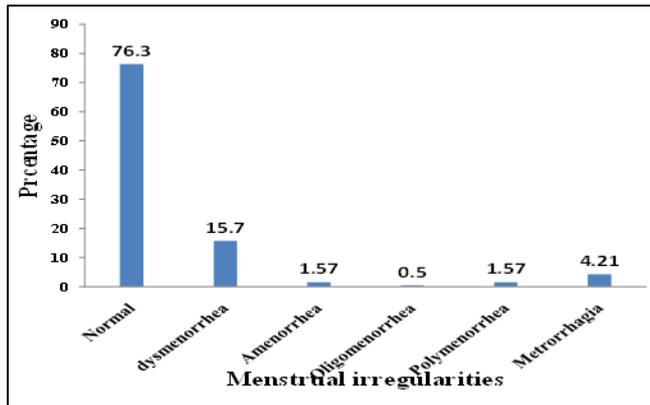| S. No	Mentrual irregularities	F	P
1.	Normal	145	76.3
2.	Dysmenorrhea	30	15.7
3.	Amenorrhea	3	1.57
4.	Oligomenorrhea	1	0.5
5.	Polymenorhhea	3	1.57
6.	Metrorrhagia	8	4.21
	Total	190	100

Fig 1: Percentage distribution of menstrual irregularities among adolescent girls.

Table 2: Frequency and percentage distribution of menstrual pain among adolescent girls. (N=30).

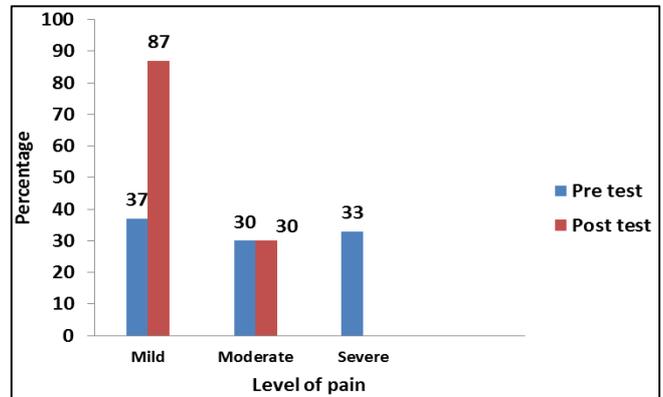| S. No	Level of Pain	Pretest		Post Test	
		F	P	F	P
1.	Mild pain	11	37	26	87
2.	Moderate pain	9	30	4	13
3.	Severe pain	10	33	-	-
	Total	30	100	30	100

Fig 2: Percentage distribution of menstrual pain among adolescent girls.

Table 3: Effectiveness of self-care interventions on menstrual pain management among adolescent girls. (N=30).

S. No	Category	Mean	S.D	Paired 't' Test
1.	Pre-test	4.33	0.247	2.8*
2.	Post-test	6.77	0.449	

Table 4: Association between the effectiveness of self-care interventions on menstrual pain management with selected socio-demographic variables. (N=30)

S. No	Demo. variables	Mild pain		Moderate pain		Severe pain		Chi squire (X^2)
		F	P	F	P	F	P	
1.	**Age in years** a) 17 b) 18 c) 19	2 5 4	6.6 16.6 13.3	1 3 5	3.3 10 16.6	3 2 5	10 6.6 16.6	C=12.496 T=7.8 Df=3 *P*<0.05 S*
2.	**Family income** a) <5000 b) 5000-10000 c) 10001-15000 d) >15000	1 5 3 2	3.33 16.6 10 6.6	3 2 3 1	10 6.6 10 3.33	- 4 1 5	- 13.3 3.33 16.6	C=34.7 T=15.51 Df=8 *P*<0.05 S*
3.	**Duration of menstruation** <3 days 4-5 days >5 days	3 6 2	10 20 6.6	3 1 5	10 3.33 16.6	2 5 3	6.6 16.6 10	C=13.197 T=7.82 Df=3 *P*<0.05 S*

Among all the variables, age in years, family income and duration of menstruation had a significant association with level of pain at *P*<0.05 level.

Major findings of the study
I. Frequency and percentage distribution of menstrual irregularities among adolescent girls
Among all adolescent girls, 76.3%had normal menstruation, 15.7% had dysmenorrrhea, 1.57% had amenorhhea, 0.5% had oligomenorrhea, 1.57% had polymenorrhea and 4.21% had metrorrhagia.

II. Frequency and percentage distribution of menstrual pain among adolescent girls
Regarding the level of pain, in pre-test, 37% had mild pain, 30% had moderate pain and 33% had severe pain. In post test, 87% had mild pain, 13% had moderate pain and no one had severe pain.

III. Effectiveness of self-care interventions on menstrual pain management among adolescent girls
Mean pain score of adolescent girls was 15.4 and standard deviation was 3.55.

IV. Association between the effectiveness of self-care interventions on menstrual pain management with selected socio-demographic variables

The study revealed that, among all the demographic variables, age, Family income and duration of menstruation had significant association between level of pain at $P<0.05$ level.

Recommendations
- A similar study can be replicated on large samples to generalize findings in different settings.
- A comparative study can be conducted with various intervention protocols on menstrual pain management.
- Similar study can be conducted on other reproductive age groups.
- Similar study can be conducted with other non-pharmacologic measures to reduce cyclic pelvic pain.

Conclusion

The study concluded that there was a expressive reduction in menstrual pain after providing self-care interventions among adolescent girls.

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