



## A PRE – EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF INSTRUCTIONAL MODULE ON BUTTERFLY POSE EXERCISE AMONG ADOLESCENT GIRLS WITH MENSTRUAL IRREGULARITIES IN SELECTED COLLEGE IN CHENNAI

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### Abstract:

**Background:** Menstrual irregularities are common among adolescent girls, affecting quality of life and academic performance. Non-pharmacological approaches like yoga have shown potential in promoting menstrual health. **Aim:** The study aimed to assess the effectiveness of an instructional module on butterfly pose exercise among adolescent girls with menstrual irregularities in a selected college in Chennai. **Methodology:** A quantitative pre-experimental one-group pre-test and post-test design was used. The study involved 30 adolescent girls aged 18–20 years from Vijaya College of Nursing, Chennai. Data were collected using demographic variables, a semi-structured questionnaire on menstrual irregularities, and an instructional module on butterfly pose. Knowledge levels were assessed before and after the intervention. Statistical analysis was performed using descriptive and inferential methods. **Results:** In the pre-test, 3.33% of participants had excellent knowledge, 53.33% had good knowledge, and 43.33% required improvement. After the intervention, 53.33% achieved excellent knowledge and 46.67% good knowledge. The mean knowledge score increased from 9.63 (SD = 3.39) to 15.47 (SD = 1.85), with a mean difference of 5.86. The t-value of 12.68 was statistically significant ( $p < 0.05$ ). No significant association was found between demographic variables and knowledge levels. **Conclusion:** The instructional module on butterfly pose exercise significantly improved knowledge among adolescent girls with menstrual irregularities. The intervention proved to be a simple, effective, and non-invasive strategy to promote menstrual health.

**Keywords:** Menstrual Irregularities, adolescent girls, butterfly pose exercise.

## INTRODUCTION

Health encompasses physical, mental, and social well-being, requiring a balanced approach through proper nutrition, exercise, and healthcare. Menarche, the onset of menstruation, typically occurs between 10-14 years and is influenced by hormonal changes. A typical cycle lasts 27-29 days, with bleeding lasting 3-5 days and blood loss between 50-200ml. Menstrual irregularities, such as dysmenorrhea, oligomenorrhea, and menorrhagia, are common and may result from hormonal imbalances, stress, or medical conditions.

The Butterfly Pose (Baddha Konasana) in yoga improves flexibility, reduces stress, and enhances pelvic health. It can help regulate menstruation by increasing blood circulation, balancing hormones, and relieving menstrual discomfort. While beneficial, it should complement other treatments like medical care, stress reduction, and dietary changes. Consult a healthcare provider if menstrual issues persist.

## NEED FOR THE STUDY

Adolescence marks the transition from puberty to adulthood, with menarche being a key milestone. It typically occurs between ages 10-16, and menstrual cycles range from 21 to 35 days. Menstrual disorders are common in adolescents, with 75% experiencing issues like delayed, irregular, painful, and heavy bleeding. A study by Mohammed Basha (2020) in Pathanamthitta District found that dysmenorrhea (88.8%) was the most common issue, followed by menometrorrhagia (11.2%) and oligomenorrhea (23%). Similarly, Veeraragav's study (2018) in Thiruvallur District reported 45.7% of girls had menorrhagia and 29.5% had dysmenorrhea. This highlights the need to address menstrual issues and improve the quality of life for adolescent girls.

## AIM OF THE STUDY:

The aim of the study to assess the effectiveness of instructional module on butterfly pose exercise among adolescent girls with menstrual irregularities in selected college in Chennai.

## MATERIALS AND METHODS

### Study Design:

The research methodology utilized in the study is a quantitative research design based on pre-experimental one-group pre-test and post-test procedure to assess the effect of an instructional module for butterfly pose postures among adolescent girls with menstrual irregularities.

### Participants:

The study included 30 adolescent girls aged 18-20 years, from Vijaya College of Nursing, Chennai, who experienced menstrual irregularities.

### Inclusion Criteria:

- Adolescent girls aged 18-20 years.

### Exclusion Criteria:

- Students unable to attend the instructional module on butterfly pose exercises.
- Students with bone-related problems.

**Tools:**

1. Demographic variables: Age, weight, eating habits, menstrual cycle, and menarche.
2. Semi-structured questionnaire: Assessing knowledge about menstrual irregularities and the butterfly pose exercise.
3. Instructional module: Detailed guidelines on performing butterfly pose exercises.

**Data Collection Procedure:**

- Data were collected after obtaining permission and informed consent from participants.
- Participants who met the inclusion criteria were selected, and data were gathered using questionnaires and instructional modules.

**Data Analysis and Interpretation:**

Descriptive and inferential statistics were used to analyse the data collected in order to determine the efficacy of the instructional module on butterfly pose practices on improving knowledge and reducing menstrual irregularities.

**RESULTS:****Demographic data**

The study's demographic data shows that most participants (60%) were 20 years old, with 26.67% aged 19 and 13.33% below 19. Regarding weight, 46.66% of students weighed between 45-59 kg, 30% weighed over 60 kg, and 23.33% weighed less than 45 kg. In terms of eating habits, 43.33% of students preferred street food, 30% ate junk food, and 26.66% opted for homemade food. For menarche, 40% of participants experienced menarche between 12-14 years, 33.33% between 14-16 years, and 26.6% before 12 years. (Table 1)

**Level of Knowledge:**

Table 2 showed that in the pre-test, a majority of the participants (53.33%) had a good level of knowledge, followed by 43.33% who fell into the "try better" category, and only 3.33% who achieved an excellent level of knowledge. After the intervention, there was a marked improvement: 53.33% of participants reached an excellent level, 46.67% remained at a good level, and none were in the "try better" category. The results showed that the pre-test mean knowledge score was 9.63 (SD = 3.39), which increased to 15.47 (SD = 1.85) in the post-test. The mean difference of 5.86 and a t-value of 12.68 (greater than the table value of 2.04) indicated a highly significant improvement ( $p < 0.05$ ), confirming the effectiveness of the intervention.

**Association:**

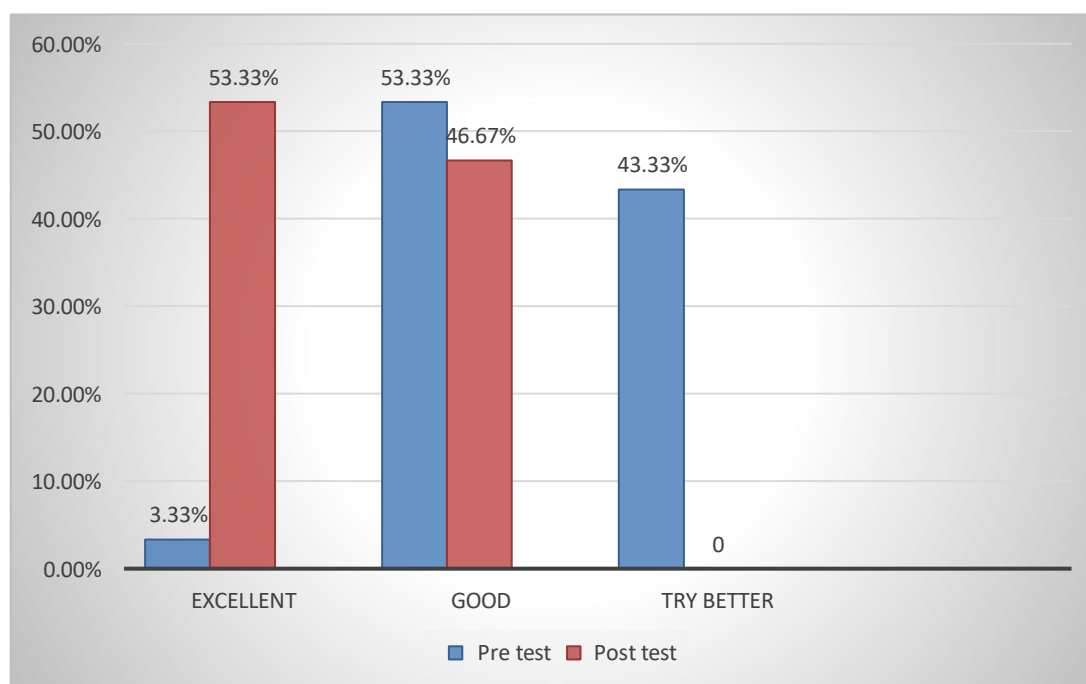
The analysis shows that there was no significant association between the pre-test level of knowledge among the selected nursing students and their demographic variables such as age, weight, eating habits, menarche, and duration of menstruating days at the  $p < 0.05$  level in the experimental group.

**Table 1: Demographic data of the adolescent girls.**

| S.NO | DEMOGRAPHIC VARIABLES | EXPERIMENTAL GROUP    | F  | %      |
|------|-----------------------|-----------------------|----|--------|
| 1    | Age of the student    | a) Below 19 years     | 4  | 13.33% |
|      |                       | b) 19 years           | 8  | 26.67% |
|      |                       | c) 20 years           | 18 | 60%    |
| 2    | Weight of the student | a) Below 45 kg        | 7  | 23.33% |
|      |                       | b) 45 - 59 kg         | 14 | 46.66% |
|      |                       | c) Greater than 60 kg | 9  | 30%    |
| 3    | Eating habit          | a) Street food        | 13 | 43.33% |
|      |                       | b) Homemade food      | 8  | 26.66% |
|      |                       | c) Junk food          | 9  | 30%    |
| 4    | Menarche              | a) 12-14 years        | 18 | 40%    |
|      |                       | b) 14-16 years        | 12 | 33.33% |
|      |                       | c) Less than 12 years | 10 | 26.6%  |

**Table 2: Level of knowledge among the adolescent girls.**

| S.NO | LEVEL OF KNOWLEDGE | EXPERIMENTAL GROUP N=30 |        |           |        |
|------|--------------------|-------------------------|--------|-----------|--------|
|      |                    | PRE TEST                |        | POST TEST |        |
|      |                    | f                       | %      | f         | %      |
| 1    | Excellent          | 1                       | 3.33%  | 16        | 53.33% |
| 2    | Good               | 16                      | 53.33% | 14        | 46.67% |
| 3    | Try better         | 13                      | 43.33% | 0         | 0      |



**Figure 1: Pre and post-test level of knowledge score among adolescent girls**

## DISCUSSION:

The study results revealed that most participants were 20 years old, with nearly half weighing between 45–59 kg, and many preferring street food. In the pre-test, 3.33% of students had excellent knowledge, 53.33% had good knowledge, and 43.33% needed improvement. After the instructional module, knowledge improved significantly, with 53.33% reaching excellent, 46.67% good, and none in the “try better” category. The mean score increased from 9.63 (SD = 3.39) in the pre-test to 15.47 (SD = 1.85) in the post-test, showing a mean difference of 5.86 indicating a highly significant improvement ( $p < 0.05$ ). Overall, the instructional module on butterfly pose exercise was effective in improving knowledge regardless of demographics.

## CONCLUSION:

The study concluded that the instructional module on butterfly pose exercise significantly improved knowledge among adolescent girls with menstrual irregularities. Post-test scores showed marked improvement compared to pre-test, with results statistically highly significant ( $p < 0.05$ ). Overall, the butterfly pose instructional module proved to be a simple and effective strategy for promoting menstrual health.

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