



Efficacy Of Yoga And Reflexology On Primary Dysmenorrhea Among Adolescent Girls

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ABSTRACT

Objectives: The research aimed to determine whether practicing Yoga and Reflexology could improve the Quality of Life of adolescent girls with primary dysmenorrhea.

Materials and Methods: The study included 30 adolescent girls (N=30) aged 14 to 18 who had primary dysmenorrhea and were selected at random from Chennai. These participants were divided into two groups, Group I and Group II, each with 15 members. The study sought to determine the impact of Yoga and Reflexology on Quality of Life (QOL) in adolescent girls with primary dysmenorrhea. Prior to the study, both groups underwent initial Quality of Life (QOL) assessments. Group I practiced Yoga and Reflexology six days a week for twelve weeks, while Group II continued with their regular activities. Following the intervention, both groups were evaluated with the same variables. A paired t-test was used to detect differences between the experimental and control groups, with a significance level of 0.05 (95% confidence interval).

Results: In comparison to the Control Group, adolescent girls with primary dysmenorrhea who practiced Yoga and Reflexology had significantly higher levels of Quality of Life. The hypothesis was validated at a confidence level of 0.05..

Conclusions: As a result, adolescent girls who practice Yoga and Reflexology benefit from improved Quality of Life (QOL).

Keywords: Quality of Life (QOL) , Yoga ,Reflexology and Dysmenorrhea.

INTRODUCTION

1. Dysmenorrhea Overview:

Dysmenorrhea, characterized by painful menstrual periods that are not caused by pelvic problems, is caused by uterine contractions induced by inflammatory substances such as prostaglandins. It is frequently misidentified and has a significant impact on teenage girls' pain experience, emotional well-being, quality of life, and sleep patterns. This condition affects more than half of menstruating adolescents, posing health risks and reducing self-confidence.

2. Dysmenorrhea Prevalence:

Many adolescents experience dysmenorrhea, with prevalence rates ranging from 16% to 90% [1]. These rates are significantly higher in adolescent girls, estimated at 85% in the United States [1], 84.2% in India [7], and 83.6% in Ghana [10].

3. Yoga for Dysmenorrhea :

Integrating yoga postures and techniques with reflexology principles promotes holistic well-being. This method combines the benefits of yoga's physical movements, breathing exercises, and mindfulness with reflexology's emphasis on applying pressure to specific points on the feet, hands, or ears to stimulate the corresponding parts of the body. Integrating these practices may help with relaxation, stress reduction, circulation

improvement, and overall health and balance. Scientifically, these advantages can be explained by the interaction of physiological and psychological factors:

a) **Stress Reduction:** Both yoga and reflexology are known for their stress-relieving abilities. Combining them can boost their effectiveness at promoting relaxation and lowering stress levels.

b) **Improved Circulation:** Reflexology involves applying pressure to specific points on the feet, hands, or ears to improve blood circulation throughout the body. When combined with yoga postures that improve circulation, this can lead to increased overall blood flow.

c) **Pain Relief:** Reflexology has been linked to pain relief because it stimulates the nervous system and causes the release of endorphins, the body's natural painkillers. When combined with yoga's ability to stretch and relax muscles, this combination can help relieve pain.

d) **Enhanced Energy Flow:** Reflexology aims to clear energy pathways in the body. When combined with yoga, which promotes energy flow through the body's various channels (such as the chakras), this can result in increased vitality and well-being.

e) **Balance and Harmony:** Both practices aim to restore balance and harmony in the body. Yoga with reflexology can help with overall health and wellness because it addresses physical, mental, and emotional aspects at the same time.

f) **Mind-Body Connection:** Yoga with reflexology promotes a stronger connection between the mind and body, resulting in increased awareness and mindfulness.

Overall, combining yoga and reflexology can provide a comprehensive approach to health and well-being, addressing both the physical and energetic aspects of the body.

PROBLEM STATEMENT

The purpose of this study was to investigate the potential effects of yoga and reflexology on the Quality of Life (QOL) of adolescent girls with primary dysmenorrhea.

HYPOTHESIS

The study predicted a significant improvement in psychosocial aspects of adolescent girls suffering from primary dysmenorrhea after engaging in yoga and reflexology practices.

RESEARCH OBJECTIVES

The objective is to investigate potential differences in specific psychological characteristics, such as Quality of Life (QOL), among adolescent girls with primary dysmenorrhea who engage in yoga and reflexology practices.

INCLUSION CRITERIA

The criteria for diagnosing primary dysmenorrhea were as follows:

- Adolescent girls aged 14-18 have primary dysmenorrhea.
- Lower back or pelvic discomfort lasting 8 to 72 hours, coinciding with menstruation.
- Menstrual pain may cause medial or anterior femoral pain, along with other symptoms such as headache, diarrhea, nausea, and vomiting.

EXCLUSION CRITERIA

The study excluded adolescent girls who met the following criteria:

- Individuals who chose not to participate.
- Individuals taking medication.
- Those with a history of pelvic disorders such as fibroids, adenomyosis, polycystic ovary syndrome, and endometriosis.

REVIEW OF RELATED LITERATURE

Julaecha et al. (2020) [6] discovered that dysmenorrhea, which is caused by progesterone imbalances, affects a large proportion of women, ranging from 45% to 95%, regardless of athletic status. The impact of dysmenorrhea on education prompted a study into the efficacy of yoga. The study used a single-group pre-post-test design and deliberately selected 33 female students. Menstrual discomfort was measured using the Visual

Analog Scale. Data were normalized before being analyzed again using ANCOVA. There were significant differences in mean pain scores (5.8 vs. 4.0 vs. 2.7) before and after interventions ($P < 0.05$). The study concluded that yoga effectively reduces the discomfort associated with dysmenorrhea.

Ola Abdelhafez Ali Salem et al. [11] conducted a study in 2023 to assess the impact of instructional guidelines on the implementation of physical measures for primary dysmenorrhea among nursing students. Their study followed a quasi-experimental design with a pre/post-test one-group setup. The study was conducted at Benha University Hospital, specifically at a technical nursing institution, and included 218 nursing students chosen through purposive sampling. Four tools were used to collect data: an interview-based questionnaire for sample and menstrual characteristics, a Verbal Multidimensional Scoring System, a Visual Analogue Scale, and a Likert scale. The results showed a significant and substantial improvement in primary dysmenorrhea symptoms from the pre-intervention to post-intervention phases. Post-intervention, participants reported increased satisfaction and reduced pain intensity from dysmenorrhea ($P\text{-value} \leq 0.05$). Importantly, implementing instructional guidelines for physical measures significantly reduced dysmenorrhea symptoms and pain, supporting the study's hypothesis. Furthermore, a statistically significant relationship was established between satisfaction levels and the pain intensity of dysmenorrhea among participants during the post-intervention phase.

METHODOLOGY & SUBSTANCE

- A total of 30 adolescent girls with primary dysmenorrhea ($N=30$) were randomly selected from a pool of 380 volunteers in Chennai, aged 14-18. The girls were then divided into two groups, Group I and Group II, each with 15 participants.
- Prior to training, both groups completed an initial assessment of Quality of Life (QOL) using WHOQOL [13].
- For twelve weeks, Group I (Experimental Group) practiced yoga and reflexology six days a week, including Loosening Exercises, Surya Namaskar, Asanas, Pranayama, Relaxation, and Reflexology massage.
- Volunteers in Group II (Control Group) did not receive specialized training and instead engaged in active rest throughout the study.
- At the end of the 12-week period, both groups received a follow-up assessment on the same variables: Quality of Life (QOL). The collected data was then analyzed, with statistical tests performed at a significance level of 0.05.
- A paired t-test revealed significant differences between the experimental and control groups. The selected confidence level for these significance tests was 0.05.

RESULTS

- The paired t-test was used to analyze data from both groups before and after training to identify significant differences. The hypothesis was tested at a confidence level of 0.05.
- The tables below show how this data is represented.

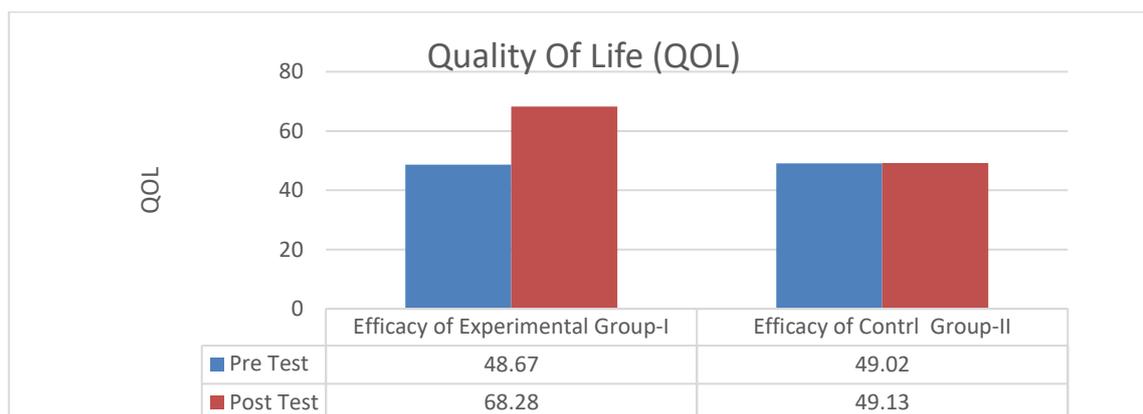
Test	Efficacy of Experimental Group				Efficacy of Control Group				
	Mean (S.D)	Avg. of diff. (\bar{x})	SD of diff. (Sd)	Paired t value test and P value	Mean (S.D)	Avg. of diff. (\bar{x})	SD of diff. (Sd)	Paired t value test and P value	
Pre Test	48.67 (1.30)	19.62	1.22	t(14) = 62.4, p < .001	49.02 (1.04)	0.11	0.75	t t(14) = 0.6, p > .001	
Post Test	68.28 (1.00)			S	49.13 (0.98)			N.S	

* Significant at 0.05 level of confidence.

COMPUTATION OF MEAN AND STANDARD DEVIATION FOR PAIRED T-TEST OF EXPERIMENTAL AND CONTROL GROUP FOR QUALITY OF LIFE (QOL)

The effectiveness of the experimental group-I was demonstrated through the results of the paired t-test on Quality of Life (QOL). The analysis revealed a significant and substantial difference between the initial measurements ($M = 48.67$, $SD = 1.30$) and the subsequent measurements ($M = 68.25$, $SD = 1.00$), $t(14) = 62.4$, $p < 0.001$.

The outcomes of the paired t-test conducted on Quality of Life (QOL) underscored the effectiveness of the Control group-II. The analysis indicated a non-significant and negligible distinction between the initial measurements ($M = 49.02$, $SD = 1.04$) and the subsequent measurements ($M = 49.13$, $SD = 0.98$), $t(14) = 0.6$, $p > 0.001$.



BAR DIAGRAM SHOWING PRE AND POST- TEST MEANS FOR QUALITY OF LIFE (QOL) ON EXPERIMENTAL GROUP-I AND CONTROL GROUP-II

CONCLUSION

Yoga and reflexology were introduced to the experimental group (Group I), distinguishing them from the control group (Group II). The intervention consistently maintained Quality of Life (QOL) levels in adolescent girls with primary dysmenorrhea.

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