

A Study to Find Out the Effectiveness of Mitchells Relaxation Technique along with Kegel Exercises in Alleviating Primary Dysmenorrhea

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1. Introduction

Mensuration is a normal physiological phenomenon for a woman, indicating her capacity to produce offspring. The prevalence of the menstrual disorder has been recorded as high as 89.5%. (16) Painful menstruation, also known as dysmenorrhea, is common in adolescent and young girls.

It can be divided into two types: primary and secondary (6). Primary dysmenorrhea refers to complex symptoms that may encompass dull throbbing, cramping, and lower abdomen pain that will radiate to the lower back and thighs. The pain starts a few hours in advance or after the onset of menstruation that lasts for 12–72 hours (9). Secondary dysmenorrhea may be related to pelvic organ pathologies such as endometriosis or ovary cysts. (4) The prevalence of dysmenorrhea worldwide ranges from 15.8 - to 89.6. (17) The prevalence of dysmenorrhea among Indian adolescent girls is 71.2%. It is generally seen in cohorts of 17–23 years old (8).

The reason behind the pain could be because of the extreme release of prostaglandin hormone ($f2x$), which causes the muscles of the uterus to contract strongly was innervated by the sympathetic nervous system and stress tends to enhance the sympathetic activity and cause a reduction of blood supply to the uterus and cut off oxygen to muscle tissue, which leads to menstrual pain (9). Psychological problems associated with dysmenorrhea will lead to depression and anxiety, which will have an impact on menstrual cycle function. Physical activity improves health and alleviates the risk of developing several diseases (12).

Mitchell's physiological relaxation technique is based on the principles of reciprocal inhibition and diaphragmatic breathing. During this relaxation technique, when one group of muscles functions on a joint, the opposing group of muscles relaxes. It is accustomed to determining the pain that alleviates the premenstrual symptoms and cuts down on stress in a short period of time. (1) Kegel exercises aid to improve the pelvic floor muscle strength and plays a crucial role in adequate bladder contraction. It helps reduce the severity of pain and extends blood flow to the rectal area for the treatment of dysmenorrhea. (3)

This study has been done to evaluate and find out the effectiveness of Mitchell's physiological relaxation technique along with the Kegel exercise in alleviating primary dysmenorrhea. The exercises help to reduce depression and strengthen the muscles around the pelvis so

that the woman's life will start to change with positive thoughts and lead to a powerful and healthy life.

2. Method

An experimental study was conducted on a sample of 30 subjects in the age group of 17 to 25. Subjects were excluded from the study if they had diseases with irregular menstruation, a history of psychiatric disorder, or a subject with pelvic pathology (secondary dysmenorrhea) and were undergoing medication by a physician for dysmenorrhea. The study was conducted at Sri Venkateshwara College of Paramedical Sciences, Ariyur, and Puducherry. Subjects were selected by the randomized sampling technique.

3. Procedure

Participants who are under the age group of 17 to 25 were included in the present study if they have scored more than 100 on the Modified Moos Menstrual Distress questionnaire. Thus, the subjects who were willing to participate were briefly explained about the nature of the study and, therefore, the written consent form was taken. They were allocated into two groups. Group A (MITCHELLS RELAXATION TECHNIQUE ALONG WITH KEGEL EXERCISES) was given for 15 subjects. In **GROUP B**, KEGEL EXERCISES were given to 15 subjects. Moos Menstrual Distress Questionnaire Modified and Short Form MC Gill. The two outcome measures used in this study were pain and disability.

4. Intervention

Group A: (Experimental group): The sample subjects were treated with Mitchell's relaxation technique along with Kegel exercises.

Mitchell's relaxation technique

The subject was instructed to assume a comfortable half - lying or supine position on a firm surface by using pillows and cushions to accommodate her body curves. She was fully supported, and her body parts were relaxed similarly, as there was no muscle tension. Her mouth and eyes were gently kept closed. The voice of the therapist used during relaxation training was smooth and quiet. The room gradually reduced in volume as the session progressed. After that, she was instructed to perform the following: Frequency: 18 sessions, 2 times per day and 3 times per week. INTENSITY: mild. Time: 30 minutes per session.

TYPE: Relaxation technique DURATION: 6 weeks.

(Dragging the Jaw) Step 1: The subjects were instructed to drag their jaw downwards inside their mouth and then asked to hold the position for 4 seconds. Then, she needs to stop this action and find a new position.

Step 2: (Downward Tongue Pressure): The subjects were instructed to press their tongue downwards in their mouth, and then, they were asked to hold the position for 4 seconds. Then, she needs to stop this action and find a new position.

Step 3: (Eyelid Opening and Closure): The subjects were instructed to shut their eyes gently if they were open, keep their eyelids downwards, and then they were asked to hold the position for 4 seconds. Then she must stop this action and ask her to feel and enjoy the peace of darkness.

Step 4: (Pushing the Head Downwards): The subjects were instructed to push their heads downwards against the bed, and then they were asked to hold the position for 4 seconds. Then she must stop this action and note that the bed carries the weight of her head.

Step 5 (Dragging the Shoulder Joint): The subjects were instructed to drag their shoulders towards their feet and feel the space between their shoulders and ears, and then they were asked to hold the position for 4 seconds. Then she must stop this action and find a new position.

Step 6 (Sliding the Elbows): The subjects were instructed to slide their elbows sideways far from their bodies until they reached a comfortable point, and then they were to hold the position for 4 seconds. Then, she was asked to stop moving and feel between her arms and her body.

Step 7 (Abducting and Extending the Fingers): The subjects were instructed to abduct and extend their fingers by stretching and separating the thumbs with the palmar surface of both hands resting on the bed, and then they were asked to hold the position for 4 seconds. Then, stopping and

noting how her hand felt, she spent one or two moments taking in these sensations.

Step 8: (Breathe in and Out): The subjects were instructed to breathe slowly and deeply without putting any effort into their breath or any change in its rhythm, and then they were asked to breathe for 4 seconds.

Step 9: (External Rotation of Thighs): The subjects were instructed to roll their thighs outwards within the external rotation and then they were asked to hold the position for 4 seconds. Then they were asked to stay the leg within the comfortable position and notify the researcher how they felt during this position.

Step 10 (Knee Flexion); The subjects were instructed to move their knees until they were comfortable, and then they were asked to hold the position for 4 seconds by adjusting their position to enhance their comfort. I stopped and registered the sense of ease.

Step 11: (Ankle Joint Plantarflexion): The subjects were instructed to do plantar flexing of the feet, and then they were asked to hold the position for 4 seconds, and it was carefully noted not to induce cramps. She stopped and felt the new position of her feet.

Step 12 (Pushing the Body Downwards against the Bed): The subjects were instructed to push their bodies downwards against the bed, and then they were asked to hold the position for 4 seconds, stopping, then, feeling their weight being supported and noting the points where their bodies touched the bed.

Step 13 (Raising the Eyebrows): The subjects were instructed to think of smoothing action, which can begin above her eyebrows, and move into her hairline, and then they were asked to hold the position for 4 seconds, then hold for 4 seconds, and continue over the crown of her head and right down to the back of her neck.



Kegel Exercise (Both the Groups A&B)

The subjects were instructed to assume a comfortable position, then they were asked to keep their bladders empty while performing the exercises. The correct way to find the pelvic floor muscle is by stopping the flow of urine in the midstream. Then squeeze the pelvic floor muscle for 3 to 5 seconds and relax the muscle for 10 seconds before repeating the exercises. This gives them enough time to relax the muscles and to avoid strain. Frequency: 18 sessions, 3 times per day and 3 times a week. INTENSITY:

Moderate. Timing: 10 minutes. Exercises for Core Strengthening DURATION: 6 weeks.

Supine Lying Position: The subjects were asked to lie back on their backs with their legs slightly apart. And the hands on the side of the bed. Then they were asked to keep the bladder empty and to contract their pelvic floor muscles and hold them tightly for 3 to 5 seconds. Then they were asked to relax the muscles for a 10 - second break before repeating the exercise. This gives them enough time to relax and to

avoid strain.

Supine Lying With Knee Bent Position: The subjects were instructed to keep their bladders empty, and the pillow was placed between their medial thighs. The subjects were asked to squeeze the pillow until they got a contraction of the pelvic floor muscle for 3 to 5 seconds. Then, they relax their pelvic floor muscles for a 10 - second break before repeating the exercise.

Sitting Position: The subject was asked to sit in a chair with their knees slightly apart and their palm facing downwards in their lap, then she asked them to keep their bladder empty and contract and hold their pelvic floor muscles for 3–5 seconds before relaxing the muscles for a 10 - second break before repeating the exercise. This gives them enough time to relax and to avoid strain.

Knee to Chest Position: The subjects were instructed to lie

on their back to pull both the knees into their chest, keeping their legs pressed together with the hands - on shins, and then they were asked to keep the bladder empty, and to contract the pelvic floor muscle and hold it tightly for 3–5 seconds. Then she asked to relax the muscle for a 10 - second break before repeating the exercise.

Pelvic Bridging: The subjects were instructed to lie on their backs with their hands at the side of the bed and bend their knees with their feet flat on the couch. Then they were asked to raise their hips in a straight line from their knees to their shoulder.

Supine Lying with Bound Angel Position: The subjects were instructed to lie on their backs and place their hands at the side of the bed and abduct both their knees with their feet together.



Statistical Analysis

The outcome values obtained were manually calculated. In this study, to find out the combined effect of Mitchell’s relaxation technique along with Kegel exercise to decrease pain and improve quality of life in college students, was for the significant difference between the experimental and control group. Moreover, pre and post interventional differences within the two groups were analyzed using a paired t’ test and between the two groups were analyzed using an unpaired t test for each of the outcome measures. The statistical significance level was set at p 0.05.

Within - group analysis of the MOOS paired test for Group A (Experimental group) revealed that the pre - test was 161.86.6, the post - test was 117.45.7, and the t value was 39.3. Pre - test 143.86.3, post - test 123.15.1, and t values are 21.8 in Group B (Control Group).

5. Result

The pre and posttest values of MOOS menstrual distress questionnaire and short form mc gill pain questionnaire.

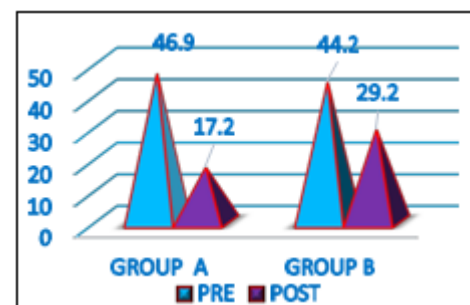
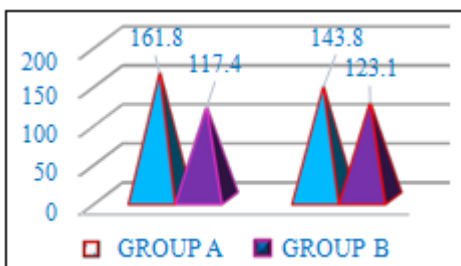
Within Group Analysis of Short form MC GILL (Group A And B):

Within group analysis of the **SHORT FORM MC GILL** paired test for Group A (**Experimental group**) pre - test 46.9±2.9, post - test 17.2±2.5 and t values are 35.1. Group B (Control Group pre - test 44.23.3, post - test 29.23.5, t values 20.8

Within Group Analysis of Moos (Group A and B):

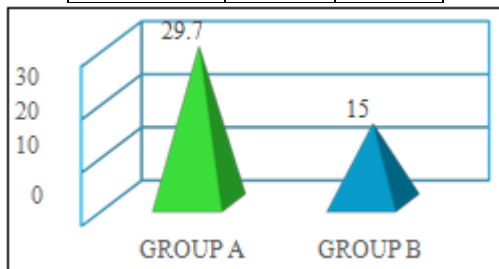
MOOS Paired t test				
Group	Pre - test	Post - test	tvalue	pvalue
Experimental	161.8±6.6	117.4±5.7	39.3	<0.05
Control (B)	143.8±6.3	123.1±5.1	21.8	<0.05

Short form MC Gill Paired T Test				
Group	Pre test	Posttest	T Value	p Value
Experimental	46.9±2.9	17.2±2.5	35.1	<0.05
Control	44.2±3.3	29.2±3.5	20.8	<0.05



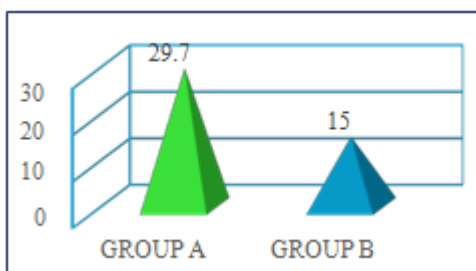
Between the Group Analyses of Moos Unpaired T - Test Moos:

Components	Group A	Group B
Mean	29.7	15
(SD)	2.9	2.8
Sample size	15	15
(SEM)	0.76	0.72



Between the Group Analyses of Short form MC GILL Unpaired t - test –MC GILL:

Components	Group A	Group B
Mean	29.7	15
(SD)	2.9	2.8
Sample size	15	15
(SEM)	0.76	0.72



The statistical analysis was done using an unpaired t test with values of the experimental and control groups. A post - Value between - group analysis reveals that the experimental group is significantly more significant than the control group. After the statistical analysis, it shows that there is a significant reduction in pain and quality of life improved in experimental group A (Mitchell's relaxation technique used along with Kegel exercises) compared to control group B (Kegel exercise alone), which shows that the experimental group is significantly different than the control group.

6. Discussion

The present study is an experimental study conducted to find out the effectiveness of the Mitchell's relaxation technique along with Kegel exercises in alleviating primary dysmenorrhea. It is assumed that 30 subjects are divided into two groups as follows: Group A (experimental group; the number of subjects is 15, and the intervention given is Mitchell's relaxation technique along with Kegel exercises.) Group B is a control group (number of subjects: 15) and the intervention given is (Kegel exercises). So, the outcome measure showed a significant ($p < 0.05$) improvement in the relief of pain and improved standard of life in females when compared to before treatment values.

SOHEIR M. A. EL KOSERY and others In this study, to find the effect of Mitchell's relaxation technique on primary dysmenorrhea in college students, they conducted it among 25 females in the age group of 18–22. Each subject had been treated with Mitchell's relaxation technique for 30 minutes per session. Pre and post assessments are taken by PPI score. The result shows a highly significant ($P < 0.001$) reduction in pain when compared to pre - treatment assessment. The mechanism of exercise in alleviating pain could be attributed to a decrease in neuromuscular activity during relaxation, which leads to reduced proprioceptive input to the hypothalamus, which decreases the activity of the sympathetic nervous system and diminishes the state of excitability of the cerebral cortex.

Elaheh Karimi et al., In this study to find the comparison between the effect of Kegel exercise and stretching exercises on primary dysmenorrhea in college students they conducted among 60 females in the age group of 18 – 22 and they were allocated into two groups. In group A, 30 females were taught Kegel exercises in the experimental group. In group B, 30 females were taught stretching exercises in the control group. Pre and post assessments are taken by the Mc Gill Pain Questionnaire. The result showed that the effect of Kegel exercises on reducing the severity and duration of menstrual pain was greater than the stretching exercises. The mechanism of Kegel exercises decreases sympathetic activity and strengthens the pelvic floor muscle, which improves blood supply to the rectal area. Thus, it reduces the pain by releasing endorphins, a substance produced by the brain.

7. Conclusion

From this study, it is concluded that the effectiveness of Mitchell's relaxation technique along with Kegel exercises is efficient in decreasing the pain and improving the quality of life in females with primary dysmenorrhea.

8. Limitation and Recommendation

8.1 Limitation

- A small sample size was taken.
- The intervention was given only for 6 weeks.
- Only two outcome tools were used in this study.
- There is difficulty in determining the pubococcygeus muscle for a contraction while performing the Kegel exercise.

8.2 Recommendation

- A large sample size can be selected.
- In further studies, more outcome measures must be added.
- Further study can compare Mitchell's relaxation technique with physical exercises.
- The treatment session can be extended.

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