



Review Article

Implication of Riyazat (Exercise) in Primary Dysmenorrhoea (Usr-E-Tams)

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A B S T R A C T

Dysmenorrhoea (usr-e-tams) is a usual gynaecological condition comprising of painful muscle spasms coming with menstruation, which in the absence of any fundamental irregularity or pathology, is known as primary dysmenorrhoea. Primary dysmenorrhoea is the nearly usual cyclical pelvic pain affecting the satisfaction of life. The relative incidence of primary dysmenorrhoea was reported to be within 20% and 90% in many societies. Studies have shown that regular exercise decreases dysmenorrhoea in women, which may be due to the effects of hormonal changes on uterine epithelial tissues or an enhancement in endorphin levels. It appears that exercise has pain-killing events that act in a non-particular way. Research has demonstrated that women with dysmenorrhoea have high degrees of prostaglandins, and hormones acknowledged to cause hampering abdominal pain. Exercise is a non-pharmacological treatment with the aim of reducing side effects commonly reported in association with NSAIDs, such as indigestion, headaches and drowsiness. Thus, diminution of pain may be due to consequences of hormonal changes on uterine epithelial tissues or an increase in endorphin levels. However, exercise has analgesic events that behave in a non-specific way and may be substituted for analgesics. Exercise may play a pivotal role in combating difficulties due to dysmenorrhoea. This article reviews the effects of exercise on dysmenorrhoea.

Keywords: Primary Dysmenorrhoea, Core Strengthening, Stretching Exercises, Exercise, Pain

Introduction

Dysmenorrhoea, or painful menstruation, is a usual character of acute pelvic pain that affects more or less two-thirds of adult females who belong to the post-menarche age group. Dysmenorrhoeal pain is frequently serious enough to interrupt daily activities and often comes with former symptoms, for example, diarrhoea, nausea, vomiting, headache, and dizziness.

Primary dysmenorrhoea is not life-threatening and does not do disabilities but it leads to absence, and importantly involves the satisfaction of life.¹ Dysmenorrhoea is linked with limitation of activeness and absence from work. The health effect and social and economic price of dysmenorrhoea are high. Non-attendance has been covered as between one third to one half missing work at least once, and 5% to 14% absent more often.² Primary dysmenorrhoea is handled with nonsteroidal anti-inflammatory drugs and



hormonal medical aid. The side effects from such medicines are well experienced (nausea, breast tenderness, and intermenstrual bleeding, dizziness, drowsiness, hearing and visual disturbances).³ On the other hand, complementary and alternative medicine in essential fatty acid, vitamins, supplements, Transcutaneous Electrical Nerve Stimulation (TENS), acupuncture, medicinal plants, acupressure, massage therapy and exercises as treatment modes.⁴

Disease Burden

The burdens of unprocessed primary dysmenorrhoea layout from loss of work to family and personal break within the female biotic community.⁵ Hence, dysmenorrhoea is speedily breaking as a public health problem with its high prevalence, the grade of irritation found by the sick person as well as the diminution in the satisfaction of the females. Despite the relative frequency and adverse impact of dysmenorrhoea, most women in India, particularly in rural areas⁶ do not look for medical handling for this consideration. They are, generally, not willing to try the treatments. They consider it will just not facilitate. This position has been imputed to the 'culture of silence and tolerance' dominant within Indian women.⁷ Even the scene is a bit dissimilar within the urban teens among whom indiscriminate use of anticipated pain killers assorted with unsuitable side effects, is often observed.⁸

Pathophysiology

Primary dysmenorrhoea comes about when there is no acknowledgeable pelvic sickness reported within 12 months of menarche.⁹ Dysmenorrhoea broadly, is characterised by cramping lower abdominal pain that is centralised in the suprapubic area and might radiate to the lower back and upper thighs. Pain mostly builds up within hours of the start of the menstruation and peaks as the flow gets heaviest during the first day or two of the cycle.¹⁰

Primary dysmenorrhoea is being like due to an extra prostaglandins, which have high biological activeness in the normal female. These physiological activities have been extremely dealt elsewhere in this intensity. Disruptions in the synthesis, secretion, and activity of these assorted prostaglandin-related substances have been exhibited to act as a role in various gynaecological troubles. The prostaglandins which seem to be of nearly grandness in gynaecological disorders are E2 and F2+ prostaglandins (PGE2 and PGF2~), prostacyclin (PGI2), possibly thromboxane A2 (TXA2), and possibly other eicosanoids such as the leukotrienes (especially leukotriene B4 (LTB4)) and the prostaglandin epoxides.¹¹

Role of Exercise in Primary Dysmenorrhoea

Exercise can be defined as an activity that involves physical exertion, particularly when executed to acquire or hold fitness.¹² Physical exercise is indicated as a non-medical

approach for the management of symptoms. The various type of active or passive exercise may help in relieving pain in primary dysmenorrhoea. It is widely believed that exercise brings down the frequency and/or the badness of dysmenorrhoeal syndrome.⁹ Research in the global population has demonstrated that women who participated in regular, moderate, aerobic exercise had less pain and behavioural effects, than non-exercisers on period cycles. That step-down of dysmenorrhoea may be due to consequences of hormonal alterations on uterine epithelial tissues or again in endorphin levels. It seems that exercise has analgesic impressions that act in a non-specific manner.¹³

Type of Exercise useful in Primary Dysmenorrhoea

In general, two types of exercises viz. stretching exercises and strengthening exercises are appointed to patients of primary dysmenorrhoea.

Stretching Exercises

There are a number of stretching exercises that facilitate patients of primary dysmenorrhoea, a few are discussed below.

The First Stretching Exercise

The subjects were advised to stand and bend the trunk forward from the hip joint so that the shoulders and back were positioned on a straight line and the upper body was directed parallel to the floor for 5 seconds repetition up to 10 times (Figure 1).



Figure 1. The First Stretching Exercise

The Second Stretching Exercise

The subjects were requested to stand then raise 1 heel off the floor, then repeat the exercise with the other heel alternatively. The exercise can be performed 20 times (Figure 2).

The Third Stretching Exercise

The subjects have to spread their feet shoulder width, place trunk and hands in the forward stretching mode, then totally bend their knees and maintain a squatting position, duration of this position was 5 seconds, the subject then raised her body and repeat the same movements for 10 times (Figure 3).



Figure 2. The Second Stretching Exercise



Figure 3. The Third Stretching Exercise

The Fourth Stretching Exercise

The subjects have to spread their feet wider than shoulder width. Then the subject was asked to bend and touch left ankle with her right hand while putting her left hand in a stretched position above her head so that the head was in the middle and her head was turned and looked to her left hand, this exercise was repeated for the opposite foot with the same method. The exercises can be repeated alternatively 10 times for each side of the body (Figure 4).

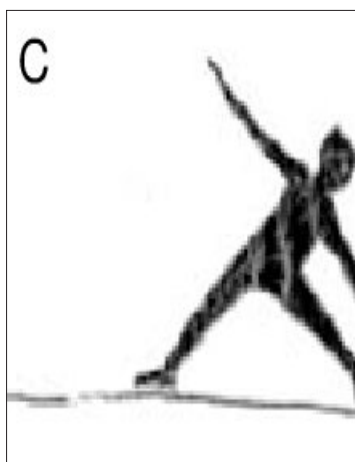


Figure 4. The Fourth Stretching Exercise

Strengthening Exercises

Following types of strengthening exercises may be prescribed.

Pelvic Bridging

The subjects were asked to lie supine with flexed knees and then raise the pelvis upward, then hold that position for 5 seconds and repeat this 10 times (Figure 5).

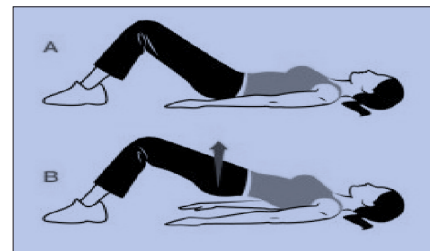


Figure 5. Pelvic Bridging

Plank

The subjects were called to lie prone and then by putting the weight on elbows and toes, and lift the body upward, holding this position for 5 seconds and 5 times repetitions (Figure 6).

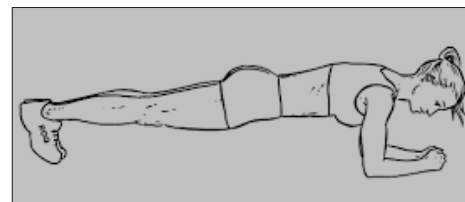


Figure 6. Plank

Cat and Camel

The subjects were called for prone kneel and then take a deep breath from the nose while making hump in the back (cat) and breathe out from mouth while curving the spine (camel) for 5 seconds 10 times repetitions (Figure 7).

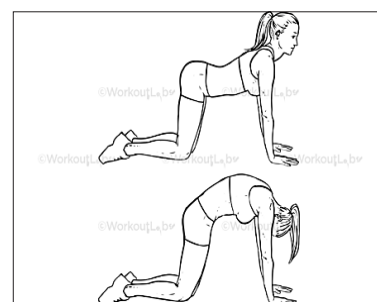


Figure 7. Cat and Camel

Curl-up

The subjects were called to lie supine and mild flexed knees and clasp both hands behind the head and move the body towards the knee for 5 seconds and 10 repetitions (Figure 8).

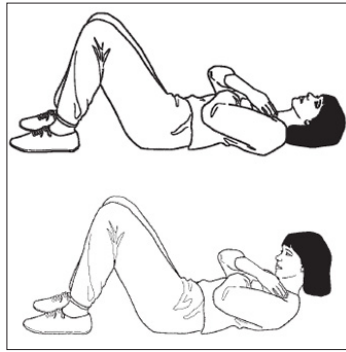


Figure 8. Curl-up

Probable Mechanism of Action

It was believed that compressed ligamentous bands in the abdominal part were responsible for physical compression of nerve pathways and their discomfort, so the stretching exercise will enhance the blood flow and metabolism of the uterus, thus, it reduces the dysmenorrhoeal symptoms.¹⁴ the core strengthening also aggregate the lumbar stabilization and thus reduces the chances to injury and pain during stressful times.¹⁵ Core strengthening exercise helps in strengthening the muscles.¹⁶ Once these muscles are potent, they are majorly more inclined to deal with daily forces above then normal biomechanics, even when there is stress of the menstrual cycle. Core strengthening is useful in increasing muscular control all over the lumbar spine to hold functional stability of the body.¹⁷

Discussion and Conclusion

Pain is generally a disability causal agent; dysmenorrhoea can lead to significant irritating factors in the life of circles of women. Most of the time, due to dysmenorrhoea, the concerned women are entirely prostrated and cramped to bed, whereas some of them may be able to go to work with the backup of analgesics. So, many physicians were acted to substitute medication with physical exercises in the direction of combating primary dysmenorrhoea.^{18,19} Research shows evidence that stretching exercises are good in bringing down pain intensity, pain duration, and the quantity of painkillers habituated by girls with primary dysmenorrhoea. Onur O²⁰ examined the effect of home-based exercise among women suffering from primary dysmenorrhoea and it proved that exercise is very helpful in the management of dysmenorrhoea.

The effectiveness of exercise may be considered due to the increase in the blood flow rate and metabolism of the uterus throughout exercise which leads to diminution of dysmenorrhoeal symptoms. Stress may cause raise sympathetic activeness and may enhance menstrual pain by aggravating uterine contraction. Exercise may drop-off this sympathetic activeness and backup the stress by bringing out endorphins, contents brought out by the brain that bring up the pain threshold, so abbreviating

symptoms.²¹ The therapeutic exercise can enhance the secretion of endorphins from the brain, and these materials successively ascent the absolute threshold of the body.²² The compacted ligamentous bands in the abdominal area were the actuating component for physical contraction of nerve pathways and their aggravation, so the stretching exercise was believed very efficient. It was hinted that raising core stability alleviates the symptoms of dysmenorrhoea.¹⁶ As core strengthening appropriates the small intrinsic musculature around the lumbar spine to be specified for heavier functioning. Izzo A, Labrila D²³ advised that the gain in the blood flow and metabolism of the uterus on exercise may be efficient in decreasing dysmenorrhoeal symptoms. Golomb LM et al.²⁴ suggested that exercise is widely assumed as a means of controlling stress and biochemical alters in the immune system. A mechanism by which exercise may alleviate the symptoms of dysmenorrhoeal stress.²⁴

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