Original Article

EFFECTIVENESS OF PELVIC FLOOR MUSCLES EXERCISE AND STRETCHING TO REDUCE THE PAIN AND IMPROVE THE QUALITY OF LIFE IN YOUNG WOMEN WITH PRIMARY DYSMENORRHEA

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Abstract

Introduction: Woman's menstrual cycle plays a crucial role in her reproductive cycle. While some little discomfort is common during menstruation, extreme pain should not be perceived as normal. This severe menstrual pain is the primary cause of women's absences from work and school. It typically lasts upto 40 years and happens around every 21 to 45 days during a normal cycle, with 2 to 6 days of flow. These trends are continuing. These symptoms are said to be relieved by physiotherapy. There is a need to determine whether PFM exercises and stretching improve the pain during menstrual cycle in women as well as the impact of PFM exercises on the quality of lives of the women.

Aim and Objective: To study the effectiveness of pelvic floor muscles exercise and stretching to reduce the pain and improve the quality of life in young women with primary dysmenorrhea.

Material and Methods: This study consisted of 60 subjects for a period of two months. The subjects participating in this study were briefed about the nature of the study and intervention.

Results: In the current study young women with primary dysmenorrhea, pelvic floor exercises and stretching were found to be effective in lowering pain and enhancing quality of life.

Conclusion: The study shows effect of pelvic floor muscle exercise and stretching to reducing the pain and improving quality of life in young women with primary dysmenorrhea.

Keywords: Dysmenorrhea, Pain, Menstruation, Pelvic floor muscles, Quality of life

Introduction:

Dysmenorrhoea is chronic, cyclical pelvic pain associated with menstruation. The experience of pain with menstruation is common for 70–91% of teenagers. Menstrual cycle is an integral part of women’s fertility period. Chronic, recurrent pelvic pain linked to menstruation is known as

dysmenorrhea. Seventy-nine percent of teenagers report having pain during their menstrual cycle. A woman's menstrual cycle plays a crucial role in her reproductive cycle. While some little discomfort is common during menstruation, extreme pain should not be accepted as normal. Severe menstrual pain is the primary cause of women's absences from work and school during adolescence and youth, so it's critical to understand why it occurs and how to lessen it. The most prevalent gynecological condition affecting women who are fertile is dysmenorrhea. Periodic and transient vaginal bleeding, known as menstruation, occurs from menarche until menopause [1]. Furthermore, it is specific to primates and is described as cyclic uterine hemorrhage that is dependent on endometrial disintegration and exfoliation. It typically lasts 40 years and happens around every 21 to 45 days during a normal cycle, with 2 to 6 days of flow. However, some women who experience dysmenorrhea may experience mental health issues because of which they become isolated and cease to be actively present in society at various levels.

The Greek words Meno (month) and rheas (flow), which indicate problematic menstrual flow, are the roots of the term dysmenorrhea [1]. It is a painful, cramping feeling in the lower abdomen that frequently occurs right before or during the menstrual cycle. Other biological symptoms that may accompany it include headaches, dizziness, exhaustion, perspiration, backaches, nausea, vomiting, and diarrhea.75% of girls report having some menstrual-related issues [2]. The most prevalent gynecological condition affecting women who are fertile is dysmenorrhea.[3] It typically lasts 40 years and happens around every 21 to 45 days during a normal cycle, with 2 to 6 days of flow and mean blood loss of 20 to 60 mL [4].

Primary and secondary dysmenorrhea are the two different forms that can be distinguished. In women with normal pelvic anatomy, primary dysmenorrhea is defined as painful menstruation that typically starts in adolescence. There are about a dozen illnesses that can cause it, including ovarian cysts, adenomyosis, uterine myomas or polyps, cervical stenosis, endometriosis, pelvic inflammatory disease, intrauterine devices, irregular cycles or reproductive issues, and more [3]. It may be categorized into two distinct types: primary and secondary. Primary dysmenorrhoea is defined as painful menses in women with normal pelvic anatomy, usually beginning during adolescence. The onset of primary dysmenorrhoea is usually 6 to 12 months after menarche, which coincides with the occurrence of regular ovulatory cycles. Secondary dysmenorrhoea is menstrual pain associated with underlying pathology, and its onset may be years after menarche. It can be caused by any of a dozen or so disorders such as endometriosis, pelvic inflammatory disease, intra-uterine devices, irregular cycles or infertility problems, ovarian cysts, adenomyosis, uterine myomas or polyps, intra-uterine adhesions, or cervical stenosis [5-6].

Pain in primary dysmenorrhea lasts for 24 to 48 hours and starts a few hours before or after the commencement of menstruation [7]. According to reports, it’s prevalence varies from 50% to 90% across different societies [8]. Characteristics of the severe, painful cramping sensation is called dysmenorrhea, or painful menstruation. The hallmark of dysmenorrhea is crampy pelvic discomfort that starts immediately before or at the commencement of menses in the lower abdomen. This pain is typically focused in the suprapubic area and lasts for one to three days [9-10] Lower back or the backs of the legs may experience radiating pain. Pain typically starts a few hours after the menstrual period begins and peaks during the first day or two of the cycle when the flow becomes heaviest [11]. About 10–16% of females may have dysmenorrhea because of this change in muscle function. [12-15].

The pelvic floor can be made stronger by performing Kegel exercises, which involve regularly tightening and relaxing the muscles that make up the pelvic floor. Exercises designed by Kegel are

regarded as a crucial part of pelvic floor muscle rehabilitation. [8] Performing Kegel's exercise and stretching regularly helps enhance the function of the pelvic floor muscles. Because of this, it is thought that the primary dysmenorrhea women's QOL may be decreased because of the increased functioning. There is a need to determine whether PFM exercises and stretching improve the pain during menstrual cycle in women as well as the impact of PFM exercises on the quality of lives of the women [15-19]. This study's objective was to evaluate how Pelvic floor muscle exercises and stretching affect young women with primary dysmenorrhea's quality of life and aim at establishing an exercise therapy regime for pelvic floor muscle training to reduce pain and enhance quality of life in patients with primary dysmenorrhea.

Methodology:

This was a quasi-experimental trial. The ethical clearance for conducting this trial was obtained from Institutional ethical committee. All the 60 subjects included in the one single group, were based on the inclusion and exclusion criteria.

Inclusion criteria: Set as females within the age group of 20 to 40 years, having painful periods and having dysmenorrhea as diagnosed by a Gynaecologist. The participants were included in the study only if they had dysmenorrhea symptoms for over 1 year.

Exclusion criteria: Participants who underwent any sort of surgery, pregnancy, were on fat loss regimes and had postural deformity or history of fall or accident or trauma within 1 year of time span were excluded from the study.

This study was conducted for a period of two months. The subjects participating in this study were briefed about the nature of the study and intervention. After briefing them about the study, a written consent was taken.

Procedure: The participants were screened for the inclusion criteria and post attaining their consent were recruited within the study. Participants were told every detail of the research work and were then asked for their consent. Post attaining their consent, participants were given physiotherapy regime for about 4 weeks which included an overall regime as devised by literature review. Pre and post treatment outcome measures were assessed. The primary outcome measures were NPRS (Numeric Pain Rating Scale) and Quality of life as measured by the World Health Organization scale- Brief (WHO-BREF)

Physiotherapy regime: The physiotherapy regime included various exercises culminated in such a manner to optimize time duration of treatment and attain maximal benefit from it. The various exercises include the following.

Pelvic Stretching Pelvic stretching-exercises are another way to combat menstrual pain. The specification of the exercises are as follows Lie on the floor on the back. Slowly raise both the legs into the air. Hold the position for a few seconds. Slowly bring down the legs and then the knees as the patient return to the original resting position. Hold the position for 10 seconds and relax 30 seconds. Repeat 5 times. The exercises are performed for 10 minutes with warm up and cool down for duration of 10 minutes and for period of 4 weeks **Pelvic Rocking** Pelvic rocking exercise helps to relieve back pain by strengthening your stomach muscles and improving blood flow to the uterus. Get down on your hands and knees. Keep the arms straight. Tilt the hips and tighten the pelvic muscles, hunching your back slightly. Lie on the back with the feet flat on the floor. Tighten the buttocks and the muscles in the lower abdomen. While pressing the small of the back on to the floor. Hold position 10 seconds and relax30 seconds repeat 5 times. **Kegel Exercise** Squeeze the pelvic muscle for 10 seconds and relax it for 10 seconds stop after 3 repetitions. Repeat this exercise three

times in a day. **Flutter Exercise** Squeeze the pelvic muscles and relax it as quickly as possible for 10 contractions. It is recommended 3times a day **Subtle Exercise** First exercise, except that with the imagination that the person is sucking and holding tampon in the vagina for 10 seconds and release the contraction. Relax for 10 seconds. 10 repetitions. **Mosher Exercises** For dysmenorrhea it is performed in various positions, In crook lying - breathing; while standing, rising toes deep knee bending breathing; and breathing in crook lying with knees on chest.

RESULT

The data was analysed using SPSS version 20.0. After collection of data, normality was assessed using Shapiro- Wilk Test. The whole data showed non-parametric nature and thus for within group analysis, Wilcoxon Signed Rank test was applied. The data yielded that there were statistically significant results in both the outcomes. The p-value obtained for NPRS was less than 0.02 [6±(0.25-2)] [Median±(IQR)] and for WHO-QOL-BREF it was less than 0.001 [45±(33-49)]. Since there was a single group and no previous analysis was done to find the sample size for the study, a post hoc analysis was performed to confirm the power of the study which came out to be 89%.

DISCUSSION

Primary dysmenorrhoea has been shown to be an irritating and disabling factor in many women's lives, where it has become a recent focus of non-medical approaches [20,21]. The study set out to find out how young women with primary dysmenorrhea felt about their quality of life in relation to pelvic floor muscle exercises and stretching. The quality of life for adult females with primary dysmenorrhea has been found to be greatly improved by the administration of pelvic floor muscle exercise and stretching activities in this study[22]. Primary dysmenorrhea can lower a woman's quality of life and, in severe situations, cause incapacity and inefficiency, which manifests as missed work or school days. However, it is not a life-threatening condition, nor does it cause impairment [23,24,25]. Menarche, which is influenced by both hereditary and environmental factors, marks the beginning of a woman's reproductive life [7]. Young women with primary dysmenorrhea have a more effective improvement in their quality of life when they practice both pelvic floor exercises and stretching together. Stretching exercises and Kegel exercises help to lessen the intensity and duration of primary dysmenorrhea pain.

As a result, more research is required to assess the relationship between quality of life and primary dysmenorrhea in females, as well as the functional impact and influence of pelvic floor muscles and stretching on these relationships. Exercises targeting the pelvic floor might significantly lessen pain in female aged 20 to 40 years. Young women with primary dysmenorrhea have reported decreased pain and increased quality of life when performing pelvic floor exercises and stretching.10% of women with dysmenorrhea report being unable to do daily tasks one to three days each month, accounting for around 40% of complaints. Dysmenorrhea can negatively impact a woman's ability to function both within and outside the home, making life worse. Primary dysmenorrhea typically appears six to twelve months following menarche, at the same time as regular ovulatory cycles. The first day usually brings the most suffering, and it seldom lasts into the following. Primary dysmenorrhea is not life-threatening and does not result in disability, although it lowers quality of life and increases absenteeism [10].

Lower abdominal systemic symptoms such as nausea, vomiting, diarrhea, lethargy, moderate fever, headache, and lightheadedness are rather prevalent. Young women with primary dysmenorrhea experience improved quality of life when they combine training of the Pelvic Floor muscle with stretching exercises. According to the results, Kegel exercises have a greater impact on reducing the intensity and duration of menstruation pain than stretching exercises. Stretching exercises contribute to improved blood circulation, which is crucial for lowering discomfort in the muscles and speeding up the healing process [26]. Kegel exercises lessen pain because they improve blood flow to the rectal area. Kegel exercises are non-invasive, relaxation methods that improve patient satisfaction. Teaching these exercises could therefore aid in managing and controlling the pain associated with primary dysmenorrhea because they are safe, affordable, and effective. Meta-analysis has shown benefits of physiotherapy treatment for pain relief compared with no intervention or placebo [27,28]. Physiotherapy techniques can be considered as potential alternatives to analgesic medication. However, difficulties in controlling for non-specific effects, along with potential for bias, may influence study findings. Physical activities and exercises have been suggested to be an alternative treatment [29].

Although this study gave significant result there were limitation in this study that it had smaller sample size and clinical result were much impact full as compared with statistical result. The study has a rather short duration. no extended follow-up with the participants and was limited to participants aged 20 to 40.

CONCLUSIONS

The study shows effect of pelvic floor muscle exercise and stretching to reducing the pain and improving quality of life in young women with primary dysmenorrhea.

Declarations:

Conflicts of interest: There is no any conflict of interest associated with this study

Consent to participate: We have consent to participate.

Consent for publication: We have consent for the publication of this paper.

Authors' contributions: All the authors equally contributed the work.

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