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ANALYZING THE ROLE OF STRETCHING EXERCISES ON PERCEPTION OF PAIN IN DYSMENORRHEA. A NARRATIVE REVIEW

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Abstract

Background: Dysmenorrhea is typically known as the feeling of pain and cramps during menstruation. It is a common condition and is effecting the major proportion of women globally. It can be easily differentiated from a cramp-like pain that usually occur during the cycle of menstruation and can range from mild to severe in intensity. Dysmenorrhea has become an important health concern among public which results in decreasing productivity rate and effects quality of life. Currently, both pharmacological and non-pharmacological methods are used in the management of dysmenorrhea and its related symptoms.

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Over the past years, the trend of lifestyle modifications and complementary approaches in treating dysmenorrhea has been increased. These include dietary changes, strengthening exercises, heat therapy, stretching exercises, yoga, somatocognitive therapy, acupuncture, transcutaneous electrical nerve stimulation (TENS)and various forms of physical activity. Studies suggest that stretching helps to relieve pelvic muscle tension and improve blood circulation, which can reduce the severity of cramps.

Objective: The aim of this review is to analyze the role of stretching exercises in the management of pain during dysmenorrhea.

Methodology: The review aimed to integrate findings from previously published qualitative and quantitative studies to provide a comprehensive understanding of the effectiveness of stretching-based interventions. A wide range of relevant literature was explored, including descriptive phenomenological studies, quasi-experimental trials, and cross-sectional research. The findings from all selected studies were carefully compared and synthesized to identify recurring themes, patterns, and variations in outcomes. This narrative approach enabled the integration of subjective experiences and objective data, providing a well-rounded understanding of how stretching exercises contribute to pain management in primary dysmenorrhea.

Results: The studies that were reviewed all showed that doing stretching exercises is very helpful in reducing the feeling of pain that adolescent girls and young women have when they have dysmenorrhea. The studies show that doing stretching exercises is a safe way to reduce the feeling of pain that comes with primary dysmenorrhea. Studies said that stretching exercises help with dysmenorrhea by making the blood flow better reducing the tension in the muscles and relaxing the muscles in the pelvic areas. Doing stretching exercises especially the ones that stretch the abdominal area can help young women feel better when they have their period without having to take a lot of medicine. So, Stretching exercises are a way for young women to manage their menstrual pain. Conclusion: This review of studies shows that stretching exercises really help to reduce pain in girls and young women who have menstrual cramps. Doing stretching exercises

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regularly also helps them to do their things more easily when they are on their period. Stretching exercises are a way to deal with menstrual cramps without taking medicine. Since stretching exercises are easy to do by yourself and do not have bad side effects they can be a good alternative or extra way to manage menstrual pain

INTRODUCTION

Dysmenorrhea is typically known as the feeling of pain and cramps during menstruation. It is a common condition and is effecting the major proportion of women globally. It can be easily differentiated from a cramp-like pain that usually occur during the cycle of menstruation and can range from mild to severe in intensity. Primary and secondary dysmenorrhea are the main types of dysmenorrhea. The first type; Primary dysmenorrhea usually occurs in the absence of any underlying pathology and commonly starts at the stage of adulthood. While on the other side, Secondary dysmenorrhea is usually a result of different pathological conditions such as PCOS, endometriosis, pelvic inflammatory disease or uterine fibroids. In most of the females, dysmenorrhea does not only effect temporarily but also trigger their physical, psychological and mental health. According to the recent literature 50-90% of the females face mild to moderate level of pain during menstruation and almost 20% of the females complains about the severe level of menstrual pain which in return effects a wide range of their daily life activities. These effected activities majorly include daily life activities, school and work. Dysmenorrhea is also associated with a wide range of signs and symptoms. These signs and symptoms include headaches, bloating, mood swings, nausea and fatigue. These symptoms majorly effects daily lives and now becoming one of the major and leading cause of absenteeism from school , colleges, universities and work places. Due to these reasons dysmenorrhea has become an important health concern among public which results in decreasing productivity rate and effects quality of life(1).

At the moment, for the treatment and management of perception of pain in dysmenorrhea and it other related symptoms, both medications and therapeutic interventions are used. The immediate and first line treatment method which is usually used for managing primary

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dysmenorrhea is Non-steroidal anti-inflammatory drugs (NSAIDs). On the other side individuals whose body is capable of hormonal therapy can receive hormonal contraceptives for managing the symptoms of dysmenorrhea. Usually, the use of such type of treatment methods for a prolonged period of time can cause drug dependency and results in a variety of systematic problems like GIT problem which In return harms the body.(2). Therefore, alternative non-pharmacological treatment protocols are becoming a priority for most of the female population. In the last few years, the concept of changing lifestyle and adapting alternative non-pharmacological approaches in controlling the symptoms of dysmenorrhea has been increased. These complementary changes may include dietary changes, strengthening exercises, heat therapy, stretching exercises, yoga, somatocognitive therapy, acupuncture, transcutaneous electrical nerve stimulation (TENS)and various forms of physical activity(3).

Between all of them, stretching exercises has come out as a best non-pharmacological and alternative therapeutic techniques for reducing the sensation of pain during menstrual cycle. They have also gained attention for their simplicity, accessibility, and potential to treat symptoms safely. Stretching exercises have also been recognized as an effective, beneficial and non-pharmacological approach for relieving menstrual pain. These exercises works by improving the rate of flexibility, reducing muscle fatigue and tension, enhancing blood flow, all of which results in the reduction of discomfort typically associated with dysmenorrhea (menstrual cramps). Previous literature demonstrate that stretching exercises helps in reducing the severity of pain and cramps by relieving pelvic muscle tension and boosting the blood circulation. Additionally, gentle physical activity such as stretching promotes the release of endorphins, which act as natural pain relievers, further easing menstrual discomfort. Many women report experiencing significant relief from menstrual pain when incorporating stretching exercises into their routine. The non-invasive and easily accessible nature of stretching makes it a practical option for managing menstrual cramps. The aim of this review is to analyze the role of stretching exercises in the management of pain during dysmenorrhea(4).

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Methodology:

This narrative review was designed to examine the pain perception by the stretching exercises on iindividuals experiencing the primary and secondary dysmenorrhea. The purpose of the review was to combine evidence from previously published qualitative and quantitative research providing us the effectiveness of stretching-based interventions for menstrual pain management.

A variety of published studies were analyzed, including descriptive phenomenological studies, quasi-experimental research, and cross-sectional investigations. Qualitative studies were reviewed to explore the personal experiences of participants who practiced stretching exercises during menstruation. These studies provided insight into perceived pain relief, physical comfort, and overall well-being. Quantitative studies were included to evaluate measurable outcomes such as changes in pain intensity and the effectiveness of exercise interventions.

Most quasi-experimental studies used pretest–posttest control group designs. In these studies, participants were divided into intervention and control groups. Different stretching programs, including abdominal and pelvic stretching exercises, were carried out over a specified duration. Pain intensity was measured before and after the intervention using standardized assessment tools and pain rating scales. Statistical methods such as independent t-tests, one-way ANOVA, and Kruskal–Wallis tests were applied to determine the significance of differences between groups.

Cross-sectional studies were also reviewed to investigate the relationship between stretching exercises and menstrual pain among adolescent girls and young women. These studies commonly used numerical pain scales and women's health questionnaires to assess pain severity and associated factors affecting menstrual health.

The selected studies employed multiple sampling methods. Purposive sampling was frequently used in qualitative research to obtain detailed experiences from participants, while probability sampling techniques were more commonly applied in experimental studies to improve generalizability. Sample sizes varied across the studies, allowing both detailed exploration and

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broader interpretation of findings to improve reliability and trustworthiness, many studies adopted standardized procedures for data collection and validation. Some researchers also used participant verification and repeated assessments to strengthen the accuracy of findings. Data from all selected articles were carefully compared and synthesized to identify common themes, trends, and variations in outcomes. The narrative review approach allowed the integration of subjective experiences with objective clinical findings. This provided a comprehensive understanding of the potential role of stretching exercises in primary dysmenorrhea to improve health and better the menstrual function in the body.

Literature Review:

Primary dysmenorrhea is among the most frequently reported gynecological problems affecting adolescent girls and young women worldwide. It is characterized by painful menstrual cramps occurring in the lower abdomen without the presence of pelvic disease or other identifiable pathology. The condition is mainly linked to elevated prostaglandin production, which increases uterine contractions, decreases blood circulation, and contributes to uterine ischemia and pain. In recent years, non-pharmacological approaches such as stretching exercises have received increasing attention as safe, affordable, and accessible strategies for managing menstrual discomfort. Research published after 2025 has highlighted the effectiveness of stretching exercises in lowering pain perception among individuals with primary dysmenorrhea. Several quasi-experimental studies conducted among university students demonstrated that structured stretching programs can significantly reduce menstrual pain intensity. Participants in these studies commonly performed exercises focusing on the abdominal, pelvic, and lower back muscles for approximately 20–30 minutes daily across multiple menstrual cycles. Pain levels were generally measured using the Visual Analog Scale (VAS), and the findings consistently showed statistically significant reductions in pain scores following the interventions(5). Randomized controlled trials have also reported that stretching exercises decrease both the severity and duration of menstrual

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pain when compared with no treatment or routine care. Researchers suggest that stretching may stimulate endorphin release, which naturally reduces pain sensation. In addition, improved flexibility and reduced muscle tension may contribute to better uterine relaxation and enhanced physical comfort during menstruation(6). Studies involving adolescent girls further indicated that regular stretching exercises positively affect daily activities and overall quality of life. Participants frequently reported reduced school absenteeism, improved concentration, and less dependence on analgesic medications. Comparative studies examining aerobic exercise and stretching interventions found both methods beneficial, although stretching exercises were considered more convenient for home-based practice. Longitudinal studies have shown that stretching programs lasting approximately six weeks may improve pain perception, emotional well-being, and physical health. Researchers believe that stretching exercises may help reduce stress levels, support hormonal balance, and improve pelvic blood circulation, thereby decreasing uterine spasms and discomfort. Despite the positive findings, several limitations remain in the available literature(7). Many studies included relatively small sample sizes and lacked long-term follow-up assessments. Variations in exercise protocols and intervention duration also make comparisons between studies challenging. Nevertheless, the majority of evidence supports stretching exercises as an effective non-invasive intervention for managing primary dysmenorrhea(8). Overall, stretching exercises appear to be a practical, low-cost, and easily accessible approach for reducing menstrual pain and improving quality of life among affected individuals. Future studies should focus on larger populations, standardized exercise protocols, and long-term evaluation of outcomes to strengthen the evidence base(9).

Results:

The studies that were reviewed all showed that doing stretching exercises is very helpful in reducing the feeling of pain that adolescent girls and young women have when they have dysmenorrhea. Most of the studies were about stretching the area and they found that the pain from menstruation was not as bad after doing these exercises regularly. The people who did the

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stretching exercises felt better. Could do their daily things without too much trouble. Some studies said that stretching exercises help with dysmenorrhea by making the blood flow better reducing the tension in the muscles and relaxing the muscles in the pelvic areas. When the blood flows better and the muscles are relaxed it can help reduce the cramps in the uterus and make the pain not feel as bad. Doing stretching exercises also makes the body release endorphins, which are like natural pain relievers.

A study that was done on students found that the pain was not as bad after they did some abdominal stretching exercises. Before they did the exercises a lot of the students said they had pain when they had their period but the pain was not as bad after they started doing the exercises. The study found that doing stretching exercises is a good way to manage dysmenorrhea without taking medicine. Another study compared stretching exercises to massage and found that stretching exercises helped reduce some symptoms of dysmenorrhea like mood changes and discomfort during menstruation. The people, in the study were told to do the stretching exercises when they first started their period. They found that their symptoms got better over time.

Overall the studies show that doing stretching exercises is a safe way to reduce the feeling of pain that comes with primary dysmenorrhea. Doing stretching exercises especially the ones that stretch the abdominal area can help young women feel better when they have their period without having to take a lot of medicine. Stretching exercises are a way for young women to manage their menstrual pain.

Discussion:

Primary dysmenorrhea is a common problem that women have. It is when they get bad cramps during their period. This happens because the body makes much of something called prostaglandins. These prostaglandins cause the uterus to contract hard. This reduces the blood flow to the uterus. This review looked at how stretching exercises can help with the pain of dysmenorrhea. What we found out is that exercise, stretching can really help reduce the pain. This is without taking any medicine. The studies we looked at showed that stretching exercises help

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get blood to the pelvic area. This reduces the pain caused by the uterus contracting much. When there is blood flow the body can get more oxygen to the tissues. It can also get rid of things that can cause pain. Stretching exercises also help relax the muscles in the abdomen and pelvis. This reduces muscle tension and discomfort during the period. When we exercise our body releases something called endorphins. Endorphins are like natural pain killers. They can help reduce the pain. Regular stretching exercises can increase the amount of endorphins in the body. This can help women with dysmenorrhea tolerate the pain better. Stretching exercises can also be done with breathing and relaxation techniques. These can help reduce stress and anxiety which can make the pain worse(10).

The good thing about stretching exercises is that they are cheap and easy to do. Women do not need any equipment or supervision to do them. This makes stretching an option for women who do not want to take medicine for their pain. However there are still some things that we do not know. Most of the studies we looked at had a number of women in them. This means that we cannot be sure if the results would be the same for all women. The studies also did not last long. So we do not know if stretching exercises can still help with the pain after a time. We also do not know what kind of stretching exercises are best for reducing the pain. Another thing we do not know is how stretching exercises compare to things that can help with the pain. These things include yoga, aerobic exercise, heat therapy and relaxation techniques. We also do not know if stretching exercises can be combined with things like diet changes or psychological support. To find out more we need to do better studies. These studies should compare stretching exercises to ways of managing the pain. They should also look at types of women like younger and older women and women, from different backgrounds(11).

In the end what we found out is that stretching exercises can really help with the pain of dysmenorrhea. They can help by getting blood to the pelvic area relaxing the muscles and releasing endorphins. Stretching exercises are safe, cheap and easy to do. Women can do them

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every day to help manage their pain. We still need to do more research to find out the best way to do the stretching exercises and to make sure that they really work.

Conclusion:

This review of studies shows that stretching exercises really help reduce pain in girls and young women who have menstrual cramps. The studies all say that exercises like stretching the area can help make menstrual cramps less painful relax the muscles and make girls and women feel more comfortable when they have their period. Doing stretching exercises regularly also helps them do their things more easily when they are on their period.

The results also show that stretching exercises are a way to deal with menstrual cramps without taking medicine. Since stretching exercises are easy to do by yourself and do not have bad side effects they can be a good alternative or extra way to manage menstrual pain. Overall stretching exercises are very important for reducing the pain of cramps, in primary dysmenorrhea. Stretching exercises are an simple way to manage primary dysmenorrhea.. We still need to do more studies to figure out what kind of stretching exercises work best how often girls and women should do them and for how long they should do them to get the most pain relief from stretching exercises like abdominal stretching.

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