

AN EXPERIMENTAL STUDY TO ANALYSE THE EFFECTIVENESS OF CALF STRETCHING ALONG WITH HEEL RAISING EXERCISE IN NOCTURNAL LEG CRAMP IN PREGNANCY

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Abstract

AIM:

Aim of the study is to analyse the effectiveness of calf stretching along with heel raising exercise in nocturnal leg cramp in pregnancy.

BACKGROUND:

Leg cramps are experienced as sudden, intense involuntary contractions of the leg muscles. They are a common problem in pregnancy, especially in the third trimester. They are painful and can interfere daily activities, disrupt sleep and reduce the quality of life. Findings claimed that exercise may positively be effective to this problem.

OBJECTIVE:

This study is to analyse the effectiveness of calf stretching along with heel raising exercise in nocturnal leg cramps in pregnancy in female.

METHODS AND MATERIALS:

The subjects with age 24 – 35 years were taken as subject in the study. All subjects were selected randomly with 15 subjects. The treatment protocol of stretching exercise along with heel raising exercise were given.

RESULT: Result will be revealed at the end of the study.

Keywords: Stretching exercise, Heel raising exercise, Leg cramps in pregnancy, Numerical pain rating Scale.

INTRODUCTION

Leg cramps in pregnancy are a common problem characterized by sudden, intense, painful, and involuntary contractions of the leg muscles in pregnant women not experiencing any leg cramps secondary to other disease (e.g. amyotrophic lateral sclerosis, hypothyroidism), receiving medication (e.g. diuretics), undergoing hemodialysis or restless legs syndrome.

Leg cramps are experienced as sudden, intense involuntary contractions of the leg muscles. They are a common problem in pregnancy, especially in the third trimester. They are painful and can interfere daily activities, disrupt sleep and reduce the quality of life. According to the International classification of sleep disorders, leg cramps are intense, painful contractions affecting the foot, calf, or both. Leg cramps disrupts sleep and adversely affect daytime functionally. This is classified as sleep related movement disorder.

The etiology of leg cramp during pregnancy is not well understood and is likely to be idiopathic. Other causes of leg cramps include structural disorders, inactivity or excessive exercise, electrolyte imbalance (hypomagnesemia, hypocalcemia, hyponatremia), dehydration, metabolic, vascular, neurological disorders.

Up to 30% of women can be affected by leg cramps during pregnancy and up to 25% of women can be affected by restless leg syndrome during pregnancy. Up to thirty to fifty percent of pregnant women suffer from leg cramps, especially in the third trimester. Almost two third of these women experience leg cramps twice per week and they can occur at any time, particularly at night. It affects up to one third of pregnant women, which peaks during the third trimester of pregnancy and then gradually declines after delivery.

In most cases, leg cramps only last for seconds, but in severe cases, leg cramps in pregnancy will last for minutes with severe pain, which can affect daily activities, limit exercise and performance causes sleep disturbances and reduce the quality of life. Leg cramps last for few seconds and resolve on their own, but in some cases, they can last for up to 30 minutes. Additionally, individuals with leg cramps may experience one or two episodes each night, several times a week.

METHODOLOGY

The study belongs to experimental comparative in nature. The study was conducted at outpatient department of cherran's college of physiotherapy. 30 subjects and 15 in each group by random sampling technique. The procedure was explained to subject. Group A received stretching exercise along with heel raising exercise and Group B received stretching exercise alone were given. The pre & post test were analyzed by using Numeric pain rating scale, The Inclusion criteria are 24-35 years age group, Participants willing to participate, subjects with first & second trimester during pregnancy, subjects with leg cramps without any associated pathology. The Exclusion criteria are Non-pregnant women, pregnancy with secondary pathology, having any Eclampsia or pre eclampsia.

PROCEDURE

The subjects were explained about the study screened inclusion and exclusion criteria. The purpose of the study was explained to them and informed consent was obtained. The subjects were randomly assigned into Group A and Group B. The subjects in the Group A were treated with stretching exercise along with heel raising exercise and The subjects in the Group B were treated with static stretching exercise alone. The subjects are treated for 5 days a week for 8 weeks each therapy session lasting for about 30mins.

Group A

stretching exercise along with heel raising exercise group includes Static Stretching For calf muscle for 15-20 sec on each side, with 3-5 reps. Repeat stretching 2- 3 times per session, and active heel raising exercise for 10-15 reps. Repeat 3-5 times per session.

Group B

Conventional physiotherapy includes Static Stretching For calf muscle for 15-20 sec on each side, with 3-5 reps.

RESULTS

Group A

stretching exercise along with heel raising exercise

While comparing the pre & post test values of the group using T test the calculate value is 15.72.

When comparing the mean value of both the post test mean value 3.26 which is lesser than pre test mean value 7.8 it confirms that there is a statistically significant ($p<0.1$) improvement in post test group than pre test group.

Group B

Conventional physiotherapy

While comparing the pre & post test values of the group using T test the calculate value is 18.33.

When comparing the mean value of both the post test mean value 4.6 which is lesser than pre test mean value 8.2 it confirms that there is a statistically significant ($p<0.05$) improvement in post test group than pre test group.

DISCUSSION

The visual analogue scale is unidimensional measure of pain intensity. The VAS is a continuous scale comprised of a horizontal line usually 10 centimeter in length anchored by 3 verbal descriptors and they are anchored by

- No Pain
- Moderate pain
- severe pain.

This study will be to evaluate effects of the stretching exercise along with heel raising exercise in nocturnal leg cramps during pregnancy and also to compare the effects of stretching exercise along with heel raising exercise with the conventional physiotherapy treatment. According to the previous studies the effects of conventional physiotherapy in management for the nocturnal leg cramps during pregnancy is proven, but to our knowledge, this will be the first study to compare the effects of stretching exercise along with heel raising exercise with the conventional physiotherapy among nocturnal leg cramps during pregnancy women. More over this study will employ well established and widely used methods with appropriate reliability and validity to assess the pain and the length of muscle. The limitation of the study would be the stretching exercise along with heel raising exercise may not be effective as conventional physiotherapy treatment in nocturnal leg cramps during pregnancy women to help in reducing the nocturnal leg cramps and to improve the functional daily activities of the patients. Therefore, this study intends to compare stretching exercise along with heel raising exercise and conventional physiotherapy treatment in nocturnal leg cramps during pregnancy women. Hence in this experimental study stretching exercise along with heel raising exercise proves it creates significant improvement in scale of pain and to improve the functional daily activities of the pregnant women with nocturnal leg cramps.

LIMITATIONS AND RECOMMENDATIONS

- The study was short term and therefore to make it more valid long term necessary.
- The study was limited with the specific age group 24-35.

- Since this study had been done with smaller number of subjects.
- Certain factors such as psychological status good not control during the period of study.
- Similar study can be done with longer duration.
- Similar study can be done with other age group.
- Similar study can be done with more number of subjects.
- Similar further studies can be conducted by comparing any manual therapy and electrotherapy modalities.

CONCLUSION

The study concluded that the stretching exercise along with heel raising exercise seemed to be beneficial in reducing pain and to improve the functional daily activities of the pregnant women with nocturnal leg cramps.

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