

Effectiveness of Swedish massage with post-work stretching in relieving neck pain syndrome among construction workers

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Abstract- Building construction is a large, dynamic and complex industrial sector, creating employment for millions of people worldwide on its workforce. This industry has a pivotal role in the construction of the infrastructure. The building construction workers are involved in different trades like mason, cement mixer, plumber, electrician, carpenter, and crane operator etc. Building construction workers face a wide range of health hazards in their work sites and are victims of occupational health hazards where the work that is required of them is heavy physical work in awkward working postures in the construction industry which can cause various musculoskeletal disorders.

MATERIALS AND METHODS: For this study, a construction site was chosen and almost 150 to 200 workers have to be selected to be assessed for neck pain syndrome. To all the workers participating, the whole study has to be explained thoroughly and written consent should be obtained. The outcome measures such as the Numerical Pain Rating Scale (NPRS) and the Neck Disability Index (NDI) have to be analyzed by the workers and the results have to be documented clearly. About 20 workers who were found to be with neck pain syndrome were chosen for the study. Swedish Massage and post-work stretches were taught to the subjects and recommended to be done without fail regularly. NPRS and the NDI scores were assessed before and after the intervention.

The subjects received Swedish massage for 10 minutes along with post work neck stretches for 3 session, 3 days per week for 4 weeks. The subjects were reassessed after the 4th week to measure the functional performance of the neck and the severity of the neck pain.

RESULT: The values were statistically analyzed using paired 't-test and the Unpaired 't-test. The statistical analysis made with the quantitative data revealed a statistically significant difference between pre test values and post test values of Neck disability index. This shows that the intervention used is effective in treating neck pain syndrome in construction workers.

DISCUSSION: Neck pain syndrome is of the major complaint faced by people working in various occupations. It occurs due to repeated strain of neck muscles, overuse, ligament tears and postural abnormalities. Interventions such as stretching, strengthening of neck muscles and manual therapy help in reducing pain in the neck and improve the functional capacity of the neck by reducing the neck disability. However, the treatments provided to reduce neck pain among the neck pain syndrome is less efficient in improving the functionality of neck.

CONCLUSION: From the result, it has been concluded that Swedish massage along with post work stretches was more effective in reducing pain and thereby leading to faster recovery in construction workers with neck pain syndrome.

Keywords: Swedish massage, post work stretching, neck pain syndrome, neck disability index.

INTRODUCTION

The most prevalent occupational health issues are musculoskeletal illnesses, which are a major contributor to functional impairments and disability in building construction workers. The common term for the persistent pain felt in the hands, neck, arms, or shoulders is repetitive strain injury (RSI). It is a term that is frequently used to describe some soft tissue ailments, such as trigger fingers, carpal tunnel syndrome, and nerve spasms. A repetitive strain injury happens to the limbs' moveable portions. Usually, it is brought on by stress, poor ergonomics, improper posture, and repetitive jobs.

It usually results in nerve injury, numbness, tingling, weakness, stiffness, and edoema. The main complaint is the persistent pain in the back, neck, shoulder, and upper limbs. Any construction task will inevitably result in strain on the neck and shoulders. Everybody in the construction industry, from roofers at the top to concrete finishers on the bottom, frequently overexerts their necks and shoulders. Working above is one of the simplest ways to put tension on the neck. When you use tools and apply force, it throws your neck out of alignment.

Myofascial pain syndrome (MPS), also known as neck pain syndrome, is a common muscular pain disorder that affects construction workers. It is caused by repetitive strain on small, tender trigger points within myofascial structures that are either in or distant from the area of pain. As one of the complementary and alternative therapies, massage therapy (MT) is described as a therapeutic manipulation with the hands or a mechanical tool. It involves a variety of general and specific techniques that are frequently applied sequentially, such as percussion, petrissage, and effleurage, which are the most effective in relieving pain. Swedish massage, Shiatsu, Rolfing, reflexology, myofascial release, and craniosacral therapy are examples of common massage treatment types.

Corrective Swedish massage techniques are credited to the Swedish physician Pehr Henrik Ling, who is credited with founding contemporary massage treatment in the west. The Swedish massage techniques consist of the following: tapotement (fast tapping or percussive movements), vibration (rapidly shaking or vibrating certain muscles), friction (strong, deep, circular rubbing movements), and petrissage (raising and kneading the muscles). Swedish massage techniques are used for relaxation by almost all massage therapists in the United States. Numerous studies have demonstrated the considerable impact of neck stretching exercises in reducing pain symptoms.

AIM:

The aim of this study is to find out the effectiveness of Swedish massage with post-work stretching in relieving neck pain syndrome among construction worker

OBJECTIVE:

1. To find out the prevalence of neck pain syndrome among construction workers
2. To find out the effectiveness of Swedish massage with post-work stretching in relieving neck pain syndrome.

METHODS:

Study Type: Experimental.

Study setting: Samples will be selected from the individual of Saveetha Medical College and Hospital, Thandalam, Chennai, according to the inclusion and exclusion criteria.

Sampling technique: Convenient sampling technique

Sample size: 20

Inclusion criteria:

- Workers under the age group of 30 to 60 years
- Workers of the male gender.
- Workers who mostly perform the lifting, bending, and prolonged and sustained activities

Exclusion criteria:

- Workers with any kind of active infection
- Workers of a female gender
- Workers who had undergone any recent fracture, trauma, or surgery.

Materials:

- Lubricant gel
- Powder for massage
- Therapeutic couch.

DATA COLLECTION AND ANALYSIS:

For this study, a construction site was chosen and almost 150 to 200 workers have to be selected to be assessed for neck pain syndrome. To all the workers participating, the whole study has to be explained thoroughly and written consent should be obtained. The outcome measures such as the Numerical Pain Rating Scale (NPRS) and the Neck Disability Index (NDI) have to be analyzed by the workers and the results have to be documented clearly. About 20 workers who were found to be with neck pain syndrome were chosen for the study.

Swedish Massage and post-work stretches were taught to the subjects and recommended to be done without fail regularly. NPRS and the NDI scores were assessed before and after the intervention.

The subjects received Swedish massage for 10 minutes along with post work neck stretches for 3 session, 3 days per week for 4 weeks. The subjects were reassessed after the 4th week to measure the functional performance of the neck and the severity of the neck pain.

SWEDISH MASSAGE:

Swedish massage involves long strokes along with kneading, tapping and other rhythmic techniques that help in relieving muscle tension.

The subject is asked to lie down on the stomach in a relaxed manner. Deep and long strokes along with gel or massage powder were given in the neck region for a period of 10 minutes. This was repeated for 3 sessions per day for 4 weeks.

NECK STRETCHES:

Neck flexion-extension, neck retraction, neck rotation, lateral bending, levator scapulae stretch and sub occipital stretch, were given to the subjects. Each stretch was held for 30 seconds and repeated 10 times per session for 4 weeks.

RESULT:

The collected data was tabulated and analyzed using descriptive and inferential statistics. To all parameters mean and standard deviation (SD) was used. Paired t-test was used to analyze the significant changes between pre-test and post-test measurements. Unpaired t-test was used to analyze significant changes between two group's significance level of ($p < 0.05$), was considered statistically significant. The pre-test and post-test values for NPRS were collected and tabulated before and after the intervention. The statistical analysis showed that there was significant improvement from the pre-test to post-test mean values. The pre-test mean

values for NPRS was 7.55 and post-test mean for NPRS was 3.25. The pre-test mean and post -test mean values for NDI was tabulated and analyzed using t test. The statistical analysis is showed that there was significant improvement in the neck function. The pre-test mean value for NDI was found to 34.1 and the post-test mean value was 20.2. The post-test mean values of both NPRS and NDI were compared to find out the significance of the study. This study shows that Swedish massage and post work stretches are effective in treating neck pain syndrome among the construction workers.

TABLE 1: PRE TEST AND POST TEST VALUES USING NPRS

NPRS	Mean	Standard deviation	t value	p value
Pre test	7.55	1.19	10.4210	<0.0001
Post test	3.25	1.41		

GRAPH- 1: PRE TEST AND POST TEST VALUES USING NPRS

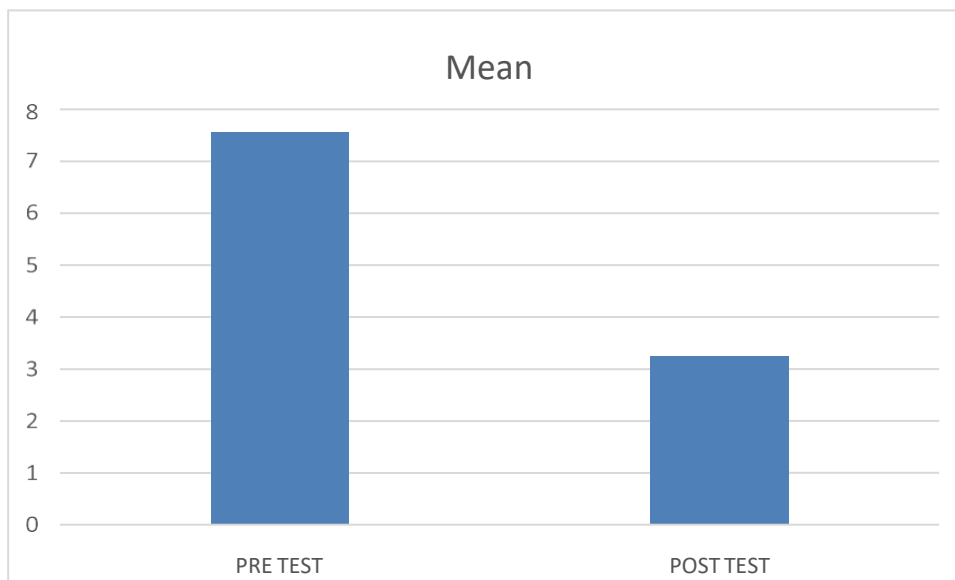
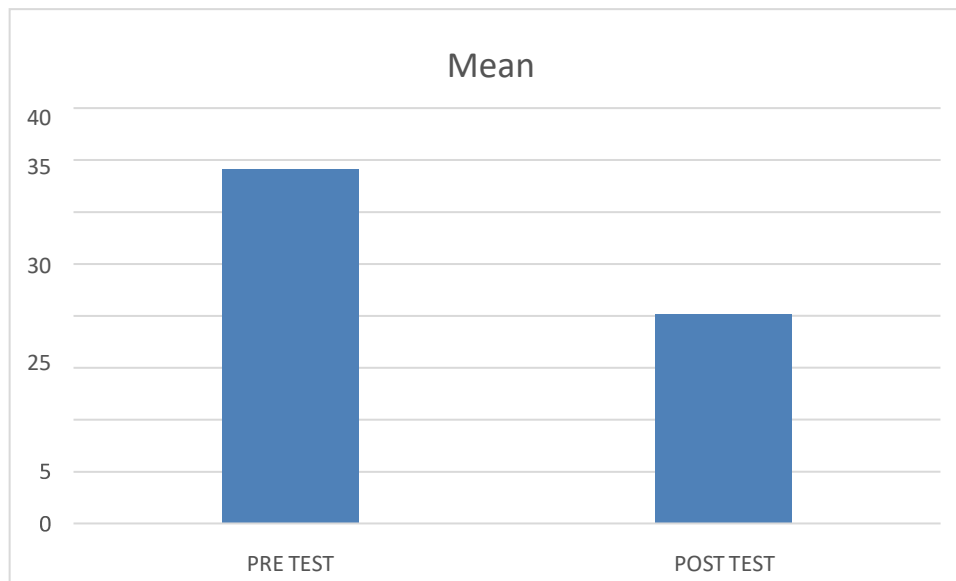


TABLE 2: PRE TEST AND POST TEST VALUES OF NDI

NPRS	Mean	Standard deviation	t value	p value
Pre test	34.1	2.99	15.7760	<0.0001
Post test	20.2	2.57		

GRAPH 2: PRE TEST AND POST TEST VALUES OF NDI

DISCUSSION

One of the most frequent complaints among people in many professions is neck discomfort syndrome. It is brought on by overuse, postural irregularities, ligament injuries, and repetitive straining of the neck muscles. Treatments for neck discomfort include stretching, strengthening the muscles that support the neck, and manual therapy. These methods also serve to lessen neck impairment and increase the neck's functional capability. Nevertheless, the neck's functionality is not as effectively improved by the neck pain syndrome treatments meant to alleviate neck pain. It has been proven that stretching reduces neck pain and helps to avoid the onset of neck pain syndrome. According to a 2010 study by Karen J. Sherman, Daniel C. Cherkin, Rene J. Hawkes, and Diana L. Miglioretti, massage is safe and may be beneficial clinically, at least temporarily, for relieving persistent neck discomfort.

As one of the complementary and alternative therapies, massage therapy (MT) is described as a therapeutic manipulation with the hands or a mechanical tool. It involves a variety of general and specific techniques that are frequently applied sequentially, such as percussion, petrissage, and effleurage, which are the most effective in relieving pain. Common forms of massage therapy include myofascial release, Swedish, Shiatsu, Rolfing, and reflexology.

This study concludes that Swedish massage along with post work neck stretching improved the functional capacity of neck and also helped in reducing pain and tenderness of neck.

LIMITATIONS:

1. The study was done in a short time period with a small number of subjects
2. No proper follow up data was collected

RECOMMENDATIONS:

1. To make the study more valid, long term study with large sample size is recommended.
2. Further studies are recommended to analysis the effect of other modified exercise regimen.

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