



EFFICACY OF ISOMETRIC NECK STRENGTHENING EXERCISES VERSUS NERVE GLIDING EXERCISES ALONG WITH TENS IN CERVICAL RADICULOPATHY

Physiotherapy

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ABSTRACT

Introduction: Cervical radiculopathy is a clinical condition resulting from compression of cervical nerve roots. The clinical manifestation of cervical radiculopathy are broad and may include pain, sensory deficits, motor deficits, diminished reflexes or any combination of the above. Exercise programs for managing cervical pain differ with regard to duration, training, frequency, intensity, and mode of exercise. Hence, the purpose of the study is to evaluate the efficacy of isometric neck strengthening exercises versus nerve gliding exercises along with TENS.

Materials & methods: 20 patients with chronic cervical radiculopathy aged 20-60 years, both males and females were included in the study and were divided into 2 groups .i.e. group 1 and group 2. Group1 were on nerve gliding exercises along with TENS and group2 were on isometric neck strengthening exercises along with TENS. All the patients evaluated for pain and muscle strength before and after the treatment.

Results: In this study, a highly significant difference that is (0.005-<0.05 in Visual Analogue Scale and 0.036, 0.022, 0.052-<0.05 in Manual Muscle Testing) at 0.05 level of significance.

Conclusion: It is concluded that nerve gliding exercises are more effective than isometric exercises in chronic cervical radiculopathy, indicating the improvement in the intensity of pain and muscle strength at the end of treatment session.

KEYWORDS

Chronic Cervical Radiculopathy, Neck strengthening

INTRODUCTION:

Cervical radiculopathy is a clinical condition resulting from compression of cervical nerve roots. The clinical manifestation of cervical radiculopathy are broad and may include pain, sensory deficits, motor deficits, diminished reflexes or any combination of the above. The incidence of cervical radiculopathy seems to be peak in the fourth and fifth decades in life . Typical symptoms of cervical radiculopathy are: irradiating arm pain corresponding to a dermatomal pattern, neck pain, parasthesia, muscle weakness in a myotomal pattern, reflex impairment, headache, scapular pain, sensory and motor dysfunction in upper extremities and neck . Studies showed that among computer professionals, 30% of the problem is cervical radiculopathy. These results indicated serious ergonomic deficiencies in office workstation, design, layout and usage.

Aim:

To evaluate the efficacy of isometric neck strengthening exercises versus nerve gliding exercises along with TENS in cervical radiculopathy

Research Design:

The research design was correlational in nature. This study is experimental in nature . The data was collected directly from OPD, University College of Physiotherapy, Faridkot .The size of the sample is 20. The method used for a present study is the purposive sampling method.

Inclusive Criteria

- Age group 20 to 60 years.
- Both males and females.
- Radiating pain to arm.

Exclusive criteria :

- Osteoporotic patient
- Vertigo
- Torticollis

Procedure:-

The study was conducted at University College of Physiotherapy, Faridkot. A total number of 20 patients were screened according to the selection criteria. The patient's demographic profile and detailed medical history was taken through individual interviewing and a written informed consent was received from twenty patients suffering from chronic cervical radiculopathy. The study was performed by assigning twenty patients (i.e. 10 in each group), namely the nerve gliding exercises + TENS (group 1) and isometric exercises + TENS (group 2) respectively. Pre-test measurement was taken with the help of Visual Analogue Scale (VAS) scores and using manual muscle

testing (MMT) prior to the intervention of neck strengthening exercises along with TENS.

DATAANALYSIS & RESULTS

The data in this study was collected using Visual Analogue Scale (VAS) and Manual Muscle Testing (MMT) and further analyzed using "unpaired t-test" and "chi square tests."

Table 1.1:- comparison of VAS score between group 1 and group 2.

Group	No	Mean	Stan. Dev	T	DF	Significance
PRE	10	5.20	1.317	-8.42	18	Significant
	10	5.70	1.337			
POST	10	3.50	1.437	3.193	18	Significant
	10	5.30	1.059			

Table 1.2:- Post treatment comparison of MMT of neck flexors, neck extensors between Group 1 and Group 2.

	TOTAL	CHI	DF	P	Significance
Post Neck Flexors	GROUP	6.667	2	0.036	SIG
	1 2				
	8 4				
	2 1				
Post Neck Extensors	10 10	7.600	2	0.022	SIG
	2 8				
	6 2				
	2 0				
	10 10				

DISCUSSION

The study shows that, participation in a three weeks neck strengthening program lead to a considerable reduction in the average cervical pain and improvement of neck muscle power in the group of patients who performed nerve gliding exercises along with TENS.

Carrette S.Michael G and Fehling MG performed a study on cervical radiculopathy showed that neuro-mobilization is one of the conservative methods used in physical therapy it is an innovative tool which involves decompression of nerves, using different neural mobilization techniques and patient education techniques. Conservative management including nonneural tissue interventions and neurodynamic mobilization techniques can be effective in addressing musculoskeletal presentation of peripheral neuropathic pain.

CONCLUSION:-

It is concluded that nerve gliding exercises are more effective than isometric exercises in chronic cervical radiculopathy, indicating the

improvement in the intensity of pain and muscle strength at the end of treatment session.

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