DOI: 10.7860/JCDR/2025/80478.21671

Effect of Proprioceptive Neuromuscular Facilitation on Pain and Function in Patients with Neck Pain: A Literature Review

Prashant Kumar, MPT Student, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Kanika, Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Kanika,

Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

E-mail: Kanika.k160@gmail.com

ABSTRACT

Neck pain, prevalent in middle-aged individuals and women, often results from degenerative changes or prolonged static positions. The cervical spine, crucial for head stability and mobility, is prone to injuries and chronic pain. While traditional physiotherapy is beneficial, advanced techniques like Proprioceptive Neuromuscular Facilitation (PNF) and Cranio-cervical Flexor Training (CCFT) are more effective in reducing pain and improving function. PNF therapy enhances joint function and proprioception, addressing conditions such as cervical radiculopathy and chronic mechanical neck pain. This review aimed to compile existing literature on the effects of PNF on neck pain. Electronic searches were performed using PubMed, PubMed/Medline, Ovid, Scopus, Google Scholar, and the Physiotherapy Evidence Database (PEDro) for studies published between 2019 and 2025. Searches were restricted to Randomised Controlled Trials (RCTs) and randomised pilot trials available in English peer-reviewed journals. Boolean operators "OR" and "AND" with keywords like "PNF" AND "Neck pain" OR "Cervical pain" AND "Randomised controlled Trial" guided the search process. A total of 13 articles were initially examined, and after reviewing their titles and discarding those that were not relevant, 5 articles were chosen for further analysis. PNF has been proven to be more effective than other manual therapy techniques, electrotherapy and conventional exercises. Research indicated that PNF techniques enhance cervical proprioception, muscle strength, and Range of Motion (ROM), especially in extension and rotation. In the context of cervical spine treatment PNF has been found to alleviate pain, improve daily living activities, and enhance functional outcomes. Specifically, patients with cervical radiculopathy were found to have a notable reduction of visual analogue scale scores from 4.27 to 1.20 with a significant difference of 1.73 points. PNF group showed more improvements in pain intensity, disability scores and quality of life as compared to the control groups. Both PNF and CCFT effectively alleviated chronic neck pain and improved ROM; however, PNF exhibited distinct advantages in certain movement directions. Comparisons with other therapies showed PNF yielded better pain reduction and functional outcomes. These findings supported that PNF is a preferred treatment for neck pain and cervical spine conditions.

Keywords: Neck Pain, PNF, Cervical Pain, Randomized controlled trail, Mechanical Neck Pain