



A survey of shoulder pain and disability in tailors using Shoulder Pain and Disability Index questionnaire (SPADI)

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Abstract

Background: Tailoring requires sustained seated work along with repeated use of the upper limbs for stitching, fabric handling and other manual tasks. Maintaining the same working position for prolonged periods and performing repetitive movements may place continuous mechanical demands on the shoulder region. With increasing occupational exposure, these physical demands may be associated with shoulder discomfort and difficulty in performing functional activities. Therefore, assessing shoulder pain along with disability may provide a better understanding of the functional impact of tailoring work.

Objective: To assess shoulder pain and disability among male tailors in Suburban part of Mumbai Metropolitan Region using the Shoulder Pain and Disability Index Questionnaire (SPADI).

Methodology: A cross-sectional study was conducted on 228 male tailors aged 25–45 years with a minimum of two years of work experience. Participants were selected using convenience sampling. Data were collected using the Numerical Pain Rating Scale (NPRS), Shoulder Pain And Disability Index Questionnaire (SPADI). Demographic details and work-related factors were recorded. Data were analyzed using Descriptive statistical analysis using Microsoft Excel, including mean, median, mode and standard deviation.

Results: The mean age of participants was 35.19 ± 5.04 years, with a mean work experience of 14.16 ± 4.34 years. The mean NPRS score was 1.58 ± 1.50 at rest and 7.14 ± 1.81 during activity. The mean working hrs per day was 11.75 ± 0.91 hrs. The mean days per week was 6.92 ± 0.29 days. The mean Pain score was 44.48 ± 16.26 , mean Disability score was 29.03 ± 16.72 and mean Total SPADI score was 34.95 ± 16.17 . SPADI assessment revealed that the majority of participants (46.1%) exhibited moderate shoulder-related disability, followed by severe disability (25.9%), mild disability (20.6%), very severe disability (6.1%), and extremely severe disability (1.3%).

Keywords: Shoulder pain, tailors, SPADI, shoulder disability, occupational health, functional impairment, physiotherapy

Introduction

Tailoring is a craft focused on the creation, cutting, fitting, and finishing of clothing. This profession demands high levels of expertise, patience, and an acute attention to detail. In India, tailors play a vital role in the workforce and are an essential part of the community. An Indian tailor often works extended hours, typically between 10-12 hours a day. The primary tools used by tailors include measuring tapes, scissors, needles of various lengths and thicknesses, as well as drafting and measuring boards. Their tasks encompass a wide range of activities, such as stitching, embroidery, and patchwork, all of which require delicate, intricate craftsmanship^[1]. They often sit for longer duration either in a chair or on the floor, executing repetitive activities with poor body postures^[1].

In 2019, a study in Ethiopia found that of self-employed tailors in the informal sector experienced neck shoulder pain (72%) and neck pain (68%). The main causes were poor posture, prolonged sitting, lack of breaks, inadequate lighting, and awkward work positions^[2]. Also according to recent study local shops and warehouse tailors complained of pain and discomfort in shoulders (61.81%), followed by

neck (70.90%), low back (64.54%), legs, upper arm and mid back^[1].

Static muscle loading of the upper trapezius, deltoid, supraspinatus, and rotator cuff muscles is a major biomechanical cause of shoulder pain in tailors. Prolonged static sitting posture while performing repetitive tasks like stitching and cutting leads to sustained shoulder flexion and abduction, causing continuous low-level contraction without adequate rest. This results in muscle fatigue, microtrauma, and higher mechanical stress on the shoulder joint. Poor ergonomic setup and frequent forward-leaning posture also contribute to scapular dyskinesis, which disrupts the normal movement of the scapula and shoulder complex, further aggravating the load on the rotator cuff and subacromial structures^[4]. Over time, these repetitive stresses lead to inflammatory changes, tendinitis, impingement, and functional disability, which can be effectively measured by the SPADI scale.

The Shoulder Pain and Disability Index (SPADI) was developed by Roach KE, Budiman-Mak E, Songsirdej N, and Lertratanakul Y, and published in Arthritis Care and Research in December 1991. It is a self-administered

questionnaire developed to evaluate shoulder-related pain and disability. SPADI components cover pain severity and difficulty in performing activities of daily living involving the shoulder. Recent research shows that SPADI demonstrates high validity and reliability. Studies report excellent internal consistency (Cronbach's alpha = 0.92 for pain and 0.93 for disability) and strong test-retest reliability (ICC = 0.89), along with significant correlations with other clinical outcome measures. Therefore, the SPADI can be effectively used in both research and clinical practice to evaluate shoulder disability in various populations and shoulder conditions ^[4].

Conclusion

The findings indicate the presence of shoulder-related disability among male tailors, predominantly at a moderate level of disability. Early screening and preventive physiotherapy interventions may help address shoulder-related disability and reduce the risk of further functional limitations.

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