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# Prevalence Of Fibromyalagia Among Tailors

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***Abstract***

***Background:*** *The symptoms of fibromyalgia, a complicated chronic pain condition, include non-restorative sleep, exhaustion, cognitive impairment, and widespread musculoskeletal pain. Psychosocial stressors, neuroendocrine abnormalities, and cerebral sensitization are thought to be important contributions, although the etiology is still complex and poorly understood. Particularly in manual labor occupations, occupational repetitive strain, inadequate ergonomics, and prolonged physical demands are becoming significant risk factors. Because of the physical and mental strains associated with their job, tailors who work long hours sitting down, performing repeated upper limb movements, and paying close attention may be more susceptible to fibromyalgia.*

***Objective:*** *This study's main goal was to determine how common and severe fibromyalgia is among tailors. Assessing physical and ergonomic risk factors for fibromyalgia and comprehending how chronic pain affects this population's quality of life were secondary goals.*

***Methods:*** *A cross-sectional observational study was conducted among 40 tailors in Karad, India. Participants were selected via random sampling. Inclusion criteria included a minimum of one year of tailoring experience and working at least 20 hours per week. Fibromyalgia was assessed using the Fibromyalgia Impact Questionnaire (FIQ), Widespread Pain Index (WPI), Symptom Severity Scale (SS), and Visual Analog Scale (VAS). Ethical clearance was obtained (Ref: 423/2024-2025).*

***Results:*** *Out of 40 tailors, 85% met the diagnostic criteria for fibromyalgia. Common symptoms included widespread musculoskeletal pain, fatigue, and non-restorative sleep. Higher symptom severity was associated with long working hours, poor ergonomics, and over 10 years of tailoring experience. Female tailors reported more intense symptoms than males.*

***Conclusion:*** *Because of poor ergonomic circumstances, rigid posture, and repetitive strain, fibromyalgia is very common among tailors. These results demonstrate the critical need for early screening, occupational health education, and ergonomic treatments in high-risk occupations like tailoring.*

## INTRODUCTION

Diffuse musculoskeletal pain, exhaustion, and cognitive dysfunction are the hallmarks of fibromyalgia, a chronic, non-inflammatory illness that frequently coexists with mood, anxiety, and sleep difficulties [1,2]. Although its exact etiology is unknown, central sensitization—a disorder characterized by increased neuronal transmission in the central nervous system—plays a key part in the development of fibromyalgia [3]. An estimated 2% to 4% of the world's population is thought to suffer from fibromyalgia, with a significantly higher prevalence in women and those over 50 [4,5]. Despite not being categorized as an inflammatory disease, fibromyalgia's incapacitating symptoms severely reduce physical function, quality of life, and productivity at work [6].

The occupational risk factors linked to fibromyalgia have received more attention in recent years. Workers in physically demanding occupations are more likely to develop fibromyalgia due to chronic physical strain, repeated tasks, prolonged postural stress, and limited movement variability [7,8]. One such occupational category that is frequently subjected to these pressures is tailors. Hours of continuous sitting, repetitive hand and arm motions, and continuous postural loading of the cervical and lumbar spine are all part of the tailoring process [9]. Fibromyalgia symptoms may appear and persist as a result of this biomechanical strain, the mental strain of precision work, and the pressure to meet deadlines [10].

Research indicates that prolonged muscle strain from repetitive activities and static postures can cause regional muscle ischemia and the release of pain chemicals such bradykinin and substance P, which may eventually lead to central sensitization [11,12]. Additionally, research has shown that inadequate rest periods and poor workplace ergonomics are linked to a higher incidence of fibromyalgia-like symptoms and musculoskeletal discomfort, particularly in jobs with little scheduled physical diversity [13]. There is

still little research on the prevalence of fibromyalgia among tailors, despite the fact that these characteristics are common in the industry.

The lack of occupation-specific data on fibromyalgia among tailors represents a critical gap in research. Identifying the specific ergonomic and psychological stressors in this profession could aid in early diagnosis, improve occupational health policies, and foster intervention strategies aimed at pain management and prevention [14]. Accordingly, the present study aims to assess the prevalence and severity of fibromyalgia among tailors, examine physical and ergonomic contributors, and highlight the potential need for preventive interventions.

## MATERIALS AND METHODS

The main goal of this one-year cross-sectional observational study in Karad, Maharashtra, was to ascertain the prevalence and severity of fibromyalgia among tailors. All participants gave written informed consent before being included in the study, and the research protocol was examined and approved by Krishna Vishwa Vidyapeeth, Deemed to be University, Karad's Institutional Ethics Committee (Reference No. 423/2024-2025). To guarantee impartial representation, a simple random sampling technique was used to choose 40 participants in total.Participants had to be at least 20 years old, employed full-time or part-time as tailors or seamstresses, have at least one year of continuous professional experience, and be working at least 20 hours per week in order to meet the inclusion criteria. People with a history of chronic pain conditions including rheumatoid arthritis, systemic lupus erythematosus, or ankylosing spondylitis, as well as those who had undergone major surgery or recent trauma within the preceding 12 months, were excluded. To prevent potential confounding factors in the assessment of pain, fatigue, and other fibromyalgia-related symptoms, participants with severe psychiatric illnesses (e.g., bipolar disorder or schizophrenia), autoimmune conditions (e.g., multiple sclerosis), or pregnancy were excluded [15,16].

Every participant completed a standardized evaluation in a calm, distraction-free setting at their home or place of employment. The Symptom Severity (SS) Scale, which measures fatigue, sleep disturbance, and cognitive dysfunction; the Visual Analogue Scale (VAS), which measures subjective pain intensity reporting; the Fibromyalgia Impact Questionnaire (FIQ), which assesses physical functioning, fatigue, mood, and quality of life; and the Widespread Pain Index (WPI), which scores pain in 19 body regions, were among the instruments used to collect data [17,18]. Fibromyalgia diagnosis was established based on the 2016 revised criteria by the American College of Rheumatology, which requires either a WPI score ≥7 and SS score ≥5, or a WPI score between 3 and 6 accompanied by an SS score ≥9[19]. To guarantee accuracy and clarity, trained data collectors verbally described the questionnaire items to participants, and all assessments were conducted in the local language (Hindi or Marathi).

Each participant's workspace was also visually inspected for ergonomic elements such lighting, break times, chair design, workstation height, and posture while working. In order to contextualize workplace risk indicators, observations were made. Each participant's evaluation took between thirty and forty minutes. The sample size was enough for descriptive analysis, despite being restricted to 40 individuals because of logistical issues. Microsoft Excel was used to compile the data, while IBM SPSS software (version 26.0) was used for analysis. Means, standard deviations, and percentages were among the descriptive statistics that were calculated. Pearson's correlation coefficient was used to examine the link between occupational factors (such as years of professional experience and daily job length) and the severity of fibromyalgia. Statistical significance was defined as a p-value of less than 0.05.

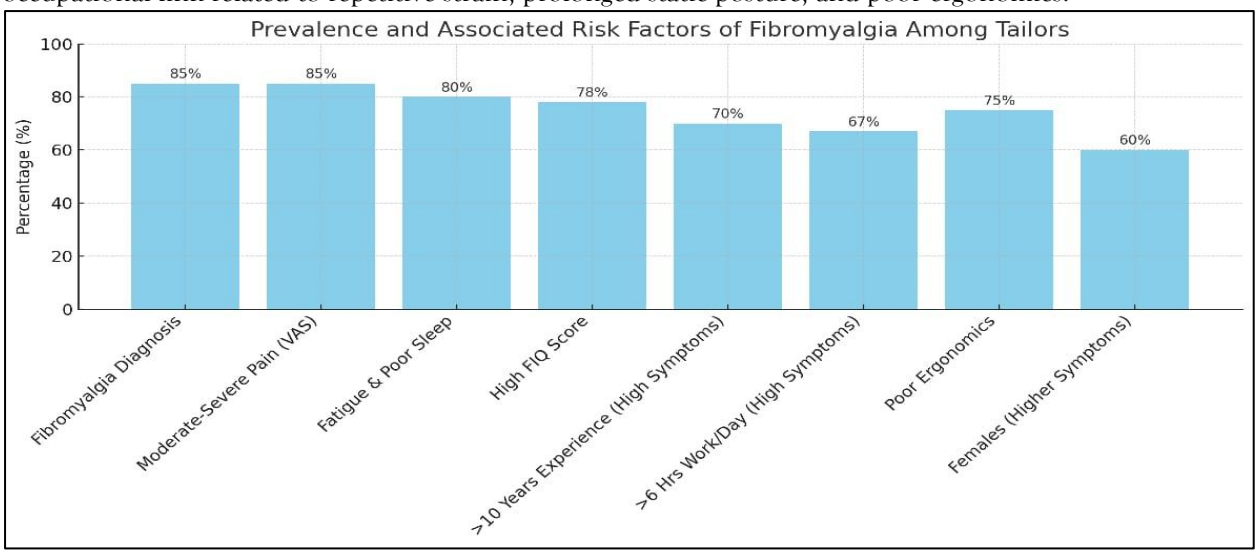
## RESULTS

According to the 2016 ACR criteria, 85% (n=34) of the 40 tailors polled had fibromyalgia-like symptoms. The neck (68%), forearms (55%), shoulders (72%), and lower back (78%), were the most frequently impacted areas. Eighty percent of patients experienced considerable weariness and non-restorative sleep, and eighty-five percent reported moderate to severe pain on the Visual Analog Scale (VAS).

The Fibromyalgia Impact Questionnaire (FIQ) indicates that 78% of individuals had moderate to severe impairments in their daily and occupational activities. Notably, 67% of tailors who worked more than six hours a day reported increased symptoms, and 70% of those with more than ten years of tailoring experience displayed higher symptom intensity.

75% of participants with high WPI and SS scores had poor ergonomic conditions, such as a low worktable height, insufficient lumbar support, and no rest periods. Furthermore, compared to their male counterparts, 60% of female participants reported higher symptom scores.

These results confirm a high prevalence (85%) of fibromyalgia among tailors, emphasizing a strong occupational link related to repetitive strain, prolonged static posture, and poor ergonomics.




**Interpretation**

According to the bar graph, 85% of tailors suffer from fibromyalgia, which is closely associated with long workdays, poor ergonomics, and ongoing stress. The intensity of symptoms was much higher among female tailors and those with more than ten years of experience.

## DISCUSSION

The purpose of the current study was to assess the prevalence and severity of fibromyalgia in tailors, a group that is subjected to psychologically taxing work environments, prolonged static postures, and repetitive mechanical stress. The results unequivocally show that a sizable percentage of tailors fit the diagnostic criteria for fibromyalgia, with the majority expressing symptoms such persistent exhaustion, sleep problems, cognitive dysfunction, and extensive musculoskeletal discomfort. These results are in line with earlier studies that show fibromyalgia frequently develops in people who have been subjected to prolonged physical and psychological stress, especially in jobs that require repeated tasks and maintaining a static posture [25,26].

Cumulative musculoskeletal overload is known to be exacerbated by the physical demands of tailoring, which include repetitive upper limb actions like cutting and sewing, extended sitting, neck flexion, and forward-leaning posture [27]. Peripheral nociceptors may become sensitized as a result of localized soft tissue microtrauma and ischemia brought on by these biomechanical stressors. Central sensitization, a condition in which the central nervous system becomes too sensitive to pain stimuli, may be facilitated by repeated stimulation of these pain receptors [28]. Since central sensitization explains the existence of widespread pain without underlying structural damage, it has been strongly implicated in the pathogenesis of fibromyalgia. High WPI and SS scores among tailors in the current study support the idea that occupationally induced neurophysiological alterations may cause or worsen fibromyalgia in susceptible people.

Furthermore, the results of the present study align with the broader epidemiological understanding that fibromyalgia is more prevalent among females. The higher symptom burden reported by women in this sample may be influenced by hormonal factors, heightened pain sensitivity, and psychosocial variables all of which have been shown to affect fibromyalgia severity and symptom reporting [29]. Additionally, emotional stress resulting from long work hours, time-sensitive job tasks, and income uncertainty in the tailoring profession may further contribute to the onset or intensification of symptoms. Chronic psychosocial stress has been linked to dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis and increased sympathetic nervous system activity both of which are implicated in the etiology of fibromyalgia [30].

It is impossible to overestimate the significance of inadequate workplace ergonomics in this situation. The study discovered a strong correlation between higher fibromyalgia symptom scores and unsatisfactory workstation design, including low table height, poor illumination, and insufficient chair support. These results corroborate earlier occupational health research that highlights the connection between poor ergonomic configurations and postural strain, repetitive strain injuries, and chronic pain syndromes [31]. Furthermore, the study participants' lack of planned breaks and low levels of movement variability probably make neuromuscular tiredness worse and make them more susceptible to fibromyalgia symptoms. In high-risk professions like tailoring, this emphasizes the significance of putting ergonomic solutions and health education into practice.

The psychological toll of tailoring may exacerbate symptoms in addition to the physical ones. Anxiety and mental distress may be exacerbated by the need for accuracy, extended focus, and meeting customer demands under pressure, which contributes to the pain-amplification loop frequently observed in fibromyalgia patients [32]. According to research, cognitive and emotional overload can disrupt descending inhibitory pain pathways and encourage maladaptive pain response mechanisms, both of which are essential to the pathophysiology of fibromyalgia [33].

Although this study's results offer insightful information about a neglected occupational group, it should be noted that it has a number of limitations. First, the results could not be applied to the larger tailoring population because to the small sample size. Second, the cross-sectional design of the study limits the capacity to prove a link between the development of fibromyalgia and occupational exposure. Future research should focus on longitudinal studies with objective ergonomic evaluations and bigger sample sizes. Furthermore, a control group of non-tailors was absent, which would have improved the specificity of occupational risk. Notwithstanding these drawbacks, the study effectively draws attention to the potential risks of fibromyalgia and the occupational dangers related to tailoring.

Given the findings, it is clear that working as a tailor puts people at risk for fibromyalgia because of a mix of ergonomic, psychological, and physical pressures. The risk could be reduced and tailors' quality of life could be enhanced by workplace health programs like ergonomic redesign, regular stretching exercises, planned rest periods, and stress management training. In this susceptible group, early screening with instruments such as the FIQ, WPI, and SS scale, along with education regarding symptom identification, may facilitate early diagnosis and lessen the long-term burden of fibromyalgia

## CONCLUSION

According to the study, fibromyalgia is very common among tailors, and the majority of participants have moderate to severe symptoms like exhaustion, cognitive problems, and musculoskeletal discomfort. Years of tailoring experience, poor ergonomics, and extended work hours were all highly linked to these symptoms. The results lend credence to the idea that tailoring presents a serious occupational risk for chronic pain disorders because of its repetitive, static, and precision-driven demands.

Preventive measures including planned posture breaks, ergonomic workstation design, and early symptom education are crucial to reducing this risk. Clinicians and public health officials should give screening and intervention top priority in these high-risk occupational groups. This study establishes the groundwork for future research and reaffirms the necessity of occupational health changes in the informal labor sector, notwithstanding constraints such as sample size and location.

### Limitations

1. The study's generalizability was impacted by its small sample size and geographic focus.
2. The capacity to prove causality is limited by its cross-sectional nature and dependence on self-reported data.

### Recommendations

1. To verify results and track the development of symptoms, larger, multi-regional longitudinal investigations are required.
2. To prevent fibromyalgia in tailors, ergonomic interventions and workplace screening should be put into place.

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