



TO STUDY THE PREVALENCE OF UPPER LIMB MUSCULOSKELETAL PAIN IN STREET FOOD VENDORS.

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ABSTRACT

Background: Street food vendors play a vital role in urban economies by providing affordable and accessible food to diverse communities. However, a significant prevalence of upper extremity dysfunction, including musculoskeletal illnesses like tendinitis, carpal tunnel syndrome, and other repetitive strain injuries, is caused by the physical demands of their profession, especially repetitive tasks and poor ergonomic settings. **Methodology:** This observational study was conducted in various street food vendors in Kolhapur. Around 97 subjects were approached and who met the inclusion and exclusion criteria were included in the study. Data was collected using Nordic pain questionnaire and NPRS scale. Data was analyzed and prevalence was determined. **Result:** 64.95% of population has moderate to severe pain. 35.05% of population were having no pain on NPRS. Majority of the population showed moderate to severe pain which was assessed using NPRs scale. **conclusion:** This study concludes that there is 64.95% prevalence of Upper limb musculoskeletal pain in street food vendors.

KEYWORDS: Street food vendors, upper limb musculoskeletal pain, Nordic pain questionnaire, Numerical pain rating scale (NPRS), repetitive movements.

This work includes prolonged and vigorous shoulder, hand, wrist movements and carrying and lifting of heavy objects. The vendors may experience higher amount of upper limb musculoskeletal pain related to their job ^[1].

INTRODUCTION

UPPER LIMB MUSCULOSKELETAL PAIN

PAIN: An unpleasant and emotional sensation that may or may not be connected to actual tissue damage is called pain. Numerous terms, such as sharp, pricking, electrical, dull ache, shooting, cutting, stabbing, etc., are used to describe pain experience. It frequently causes dizziness and tears. Acute and chronic pain are also possible. Acute pain is defined as a brief, acute discomfort with a clear cause. It frequently starts in a limited area before spreading to nearby locations. Usually, drugs are used to treat it. Intermittent or continuous pain of varying intensities is referred to as chronic pain.

It endures for extended periods. Chronic pain requires professional, skilled care and is challenging to cure ^[1].

BENEFITS OF PAIN SENSATION:

One significant sensory symptom is pain. Despite being an unpleasant feeling, it offers advantages for survival or protection, like:

Pain is a warning sign that something is wrong or dangerous. Additionally, it raises awareness of harm.

Pain causes the body to reflexively withdraw from the site of injury, preventing additional harm.

Because pain compels a person to rest or limit their activity, an injured portion can heal more quickly.

In order to avoid serious harm, pain compels the patient to receive the necessary care.

Upper limb musculoskeletal pain is to determine the influence of individual

And the social factors on the level of perception and reporting of upper limb pain symptoms ^[2].

Upper limb musculoskeletal pain determines the influence of individual. And the social factors on the level of perception and reporting of upper limb pain symptoms ^[2]. Upper limb musculoskeletal pain includes shoulder, elbow, and wrist pain etc. ^[3]

Apart from street food vendor related problems, biomechanical stress is consistently found in vendors with upper limb musculoskeletal pain. The distinction between work-related and non- work-related biomechanical factors is based on sociological criteria related to the vendor's lifestyle. Biomechanical stress (muscle contraction, repetitive motion, and/or extreme joint positions) are present in both work-related and non-work-related activities ^[4].

By using ergonomic solutions, street food vendors can improve their comfort levels and boost the efficiency of the systems they operate in. Furthermore, ergonomics is the practice of designing tasks and jobs to fit the person rather of pressuring them to complete the task. Poor posture and uncomfortable body movements when lifting large objects or working in an incorrect position can cause a lot of issues and stress on the body, which can lead to musculoskeletal pain in the upper limbs. Vendors may experience musculoskeletal pain in their upper limbs from their daily activities, which includes lifting the heavy objectives, reaching, stirring, chopping, cutting, slicing, and kneading dough ^[5].

NORDIC PAIN QUESTIONNAIRE SCALE

Using the NPQ, the prevalence of musculoskeletal pain among Indian street food sellers. According to the survey, the shoulders and wrists were the most frequently afflicted locations, with 65% of vendors reporting upper limb pain. Those who performed repeated jobs like cooking and moving heavy machinery were much more likely to experience upper limb pain. In order to lower the risk of musculoskeletal illnesses in this susceptible occupational category, the study emphasized the necessity of ergonomic measures ^[6].

The NPQ was utilized in a study in Thailand to assess the frequency of upper limb discomfort among street food vendors. According to the study, 72% of participants complained of upper limb pain, with the wrists, elbows, and shoulders receiving the most complaints. According to the study, the increased frequency of pain in these locations was primarily caused by the extended standing and repetitive motions involved in food preparation (such as chopping and stirring) ^[7].

NPRS (Numerical Pain Rating scale)

The severity of pain or discomfort is measured unidimensionally by the numeric pain rating scale (NPRS) ^[8].

The patient's level of pain was measured using the 10 -point NPRS. The words "no pain" and "worst imaginable pain" serve as the scale's left and right anchors, respectively. Patients evaluate their worst and least painful moments throughout the past 24 hours, as well as their present level of pain. The patient's level of pain might be represented by the average of the three ratings or by any one rating. It has been demonstrated that numerical pain scales are valid and dependable ^[9].

METHODOLOGY

NPRS scale for measuring degree of pain, Nordic pain questionnaire for measuring site of pain.

A Cross-sectional, observational study done from street food vendors in Kolhapur for duration of 1 year using prevalence of upper limb musculoskeletal pain total 97 study subjects were selected according to inclusion and exclusion criteria.

Inclusion criteria: Age group of 20 – 40 years, work experience of more than 2 years for period but not less than 4 hours a day, street food vendors who only have upper limb pain, workers of both genders.

Exclusion criteria: Any pathological lesions, any recent upper limb fracture, surgery or trauma

Procedure:

Ethical clearance was obtained from the institutional ethical committee of D Y Patil education society, Kolhapur. After the approval from the committee field work was started.

Prevalence of Upper Limb Musculoskeletal Pain in Street food vendors is a prevalent study which was performed on various street food vendors in Kolhapur. The subject was screened according to inclusion and exclusion criteria of the study.

Written consent from the participant was priorly obtained from the participants. A brief Information regarding the study was given to the participants. Firstly, Patient reported NPQ was given to the participants. The questionnaire was explained simultaneously the participants were marking the questionnaire.

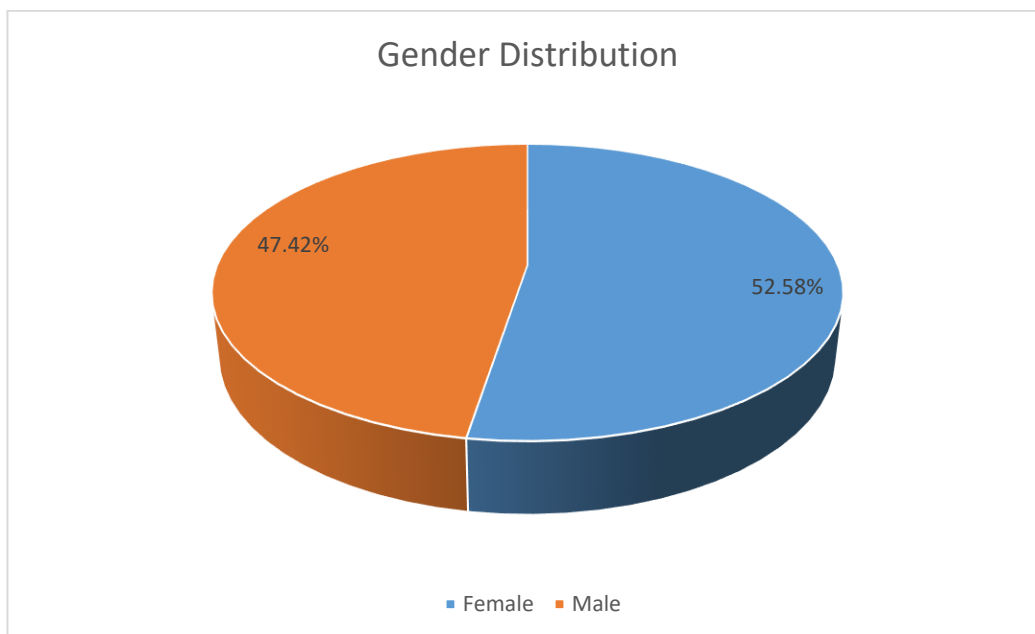
Participants with positive upper limb pain were filtered and were included in further study. After that NPRS score was taken in which participants were asked to mark the numbers on the scale i.e on rest and on movement accordingly. The statistical analysis was recorded, and the results were acquired.

RESULT:

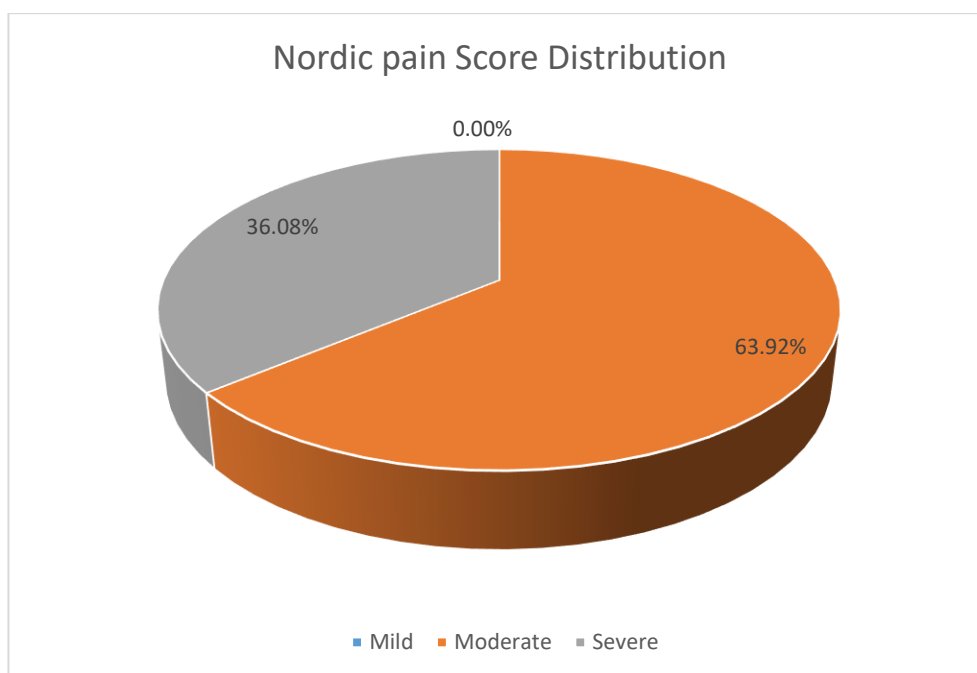
Average years of work experience mean is 4.66 and S.D. is 1.41 This suggests that both genders have a relatively similar level of professional experience. Daily work hours mean value is 4.44 and S.D. 0.94.

Pain scores were assessed using NPRS (Numeric Pain Rating Scale) at rest and the Nordic Pain Score. The NPRS at rest mean is 3.49 and S.D. 1.00 and on movement mean is 6.22 and S.D. is 1.27. The Nordic Pain Score, which measures pain intensity over time, mean is 9.27 and S.D. is 2.20. This suggests that females in the sample experience slightly higher pain levels compared to males.

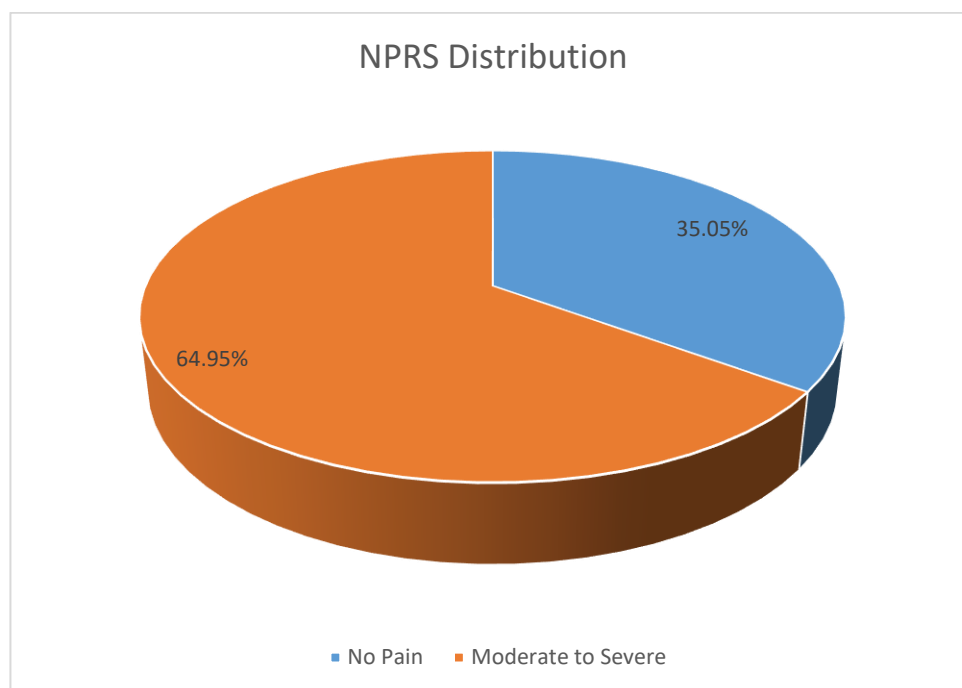
Variable	Mean	S.D.
Age	28.96	4.38
Years of work experience	4.66	1.41
Daily hours of work	4.44	0.94
NPRS score at Rest	3.49	1.00
NPRS score On moment	6.22	1.27
Nordic pain Score	9.27	2.20



Gender	Frequency	Percentage
Female	51	52.58%
Male	46	47.42%
Total	97	100.00%



NPRS	Frequency	Percentage
No Pain	34	35.05%
Moderate to Severe	63	64.95%
Total	97	100.00%



DISCUSSION:

The study titled "Prevalence of Upper Limb Musculoskeletal Pain in Street Food Vendors" aimed to assess the prevalence and severity of upper limb musculoskeletal pain among street food vendors. The study highlights the impact of repetitive tasks, poor ergonomic conditions, and the physical demands of food vending on musculoskeletal health. The findings provide insights into the occupational health challenges faced by this workforce and suggest potential interventions to improve their well-being.

The study analysed data from 97 street food vendors in Kolhapur, assessing pain levels using the Nordic Pain Questionnaire (NPQ) and the Numerical Pain Rating Scale (NPRS). The results indicated that:

64.95% of the population experienced moderate to severe pain (1).

35.05% of the population reported no pain (1).

The mean NPRS score at rest was 3.49 (SD 1.00), while the mean NPRS score on movement was 6.22 (SD 1.27) (1).

The Nordic Pain Score mean was 9.27 (SD 2.20), suggesting a significant burden of pain among the vendors (1).

Both genders showed similar representation, with 51 males (52.58%) and 46 females (47.42%) (1).

The high prevalence (64.95%) of moderate to severe musculoskeletal pain highlights the significant burden on street food vendors (13). This aligns with findings from similar studies in other occupations involving repetitive tasks, such as factory workers and food preparation staff (1). The reported pain levels suggest that the nature of work among street food vendors contributes heavily to upper limb musculoskeletal disorders (ULMDs) (14).

While both male and female vendors were nearly equally represented, females reported slightly higher Nordic Pain Scores, suggesting a greater burden of musculoskeletal discomfort (15). This could be attributed to differences in workload distribution, muscle endurance, and biomechanical factors (16).

CONCLUSION:

This study highlights the significant prevalence of upper limb musculoskeletal pain among street food vendors, with 64.95% of participants experiencing moderate to severe discomfort. The findings suggest that repetitive movements, poor ergonomics, and prolonged working hours contribute to musculoskeletal disorders, affecting vendors' productivity and quality of life. Additionally, female

participants reported slightly higher pain levels, indicating possible gender-based variations in workload and physical strain.

Given the occupational hazards identified, there is a critical need for ergonomic interventions, such as improved workspace design, education on proper posture, and access to healthcare services. Addressing these issues through preventive strategies can help reduce the burden of musculoskeletal pain and improve the well-being of street food vendors.

Future research should focus on evaluating the effectiveness of ergonomic interventions and exploring policy-driven solutions to safeguard the health of this vulnerable workforce. By prioritizing occupational health, policymakers and healthcare professionals can contribute to a safer and more sustainable working environment for street food vendors.

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