

PREVALENCE OF TRAPEZITIS IN MATHADI WORKERS

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ABSTRACT

Background: Trapezitis is a musculoskeletal disorder involving inflammation of the trapezius muscle, often caused by overuse and poor posture. Mathadi workers are engaged in intense physical labor involving repetitive upper body activity, putting them at risk of Trapezitis.

Objective: To ascertain the frequency of Trapezitis among Mathadi workers and identify associated occupational risk factors.

Methodology: A cross-sectional survey was conducted among 200 male Mathadi workers (age 20–50) using a self-designed questionnaire and special tests. Participants were randomly selected through a simple random sampling through the use of basic random sampling, participants were chosen at random process. Analysis focused on identifying which body areas were affected and assessing the rate of Trapezitis occurrence.

Results: The prevalence of Trapezitis was highest in the upper region (95%), followed by the middle (87.5%) and lower regions (6.5%). Overall prevalence was 91.5%. Major risk factors included prolonged standing, repetitive movements, lifting heavy loads (>30 kg), and absence of ergonomic support.

Conclusion: Trapezitis is highly prevalent among Mathadi workers due to occupational stressors. Ergonomic interventions, awareness programs, and rest breaks are essential to reduce the burden.

Keywords: Trapezitis, Mathadi workers, musculoskeletal disorder, prevalence, occupational health, ergonomics.

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INTRODUCTION

Trapezius is a large, diamond shaped muscle on the neck and upper back. Trapezius is subdivided into upper, middle and lower parts. Trapezius muscle highly prone to Inflammation .Trapezitis defined as an Inflammation of trapezius muscle. Trapezitis condition If not treated properly, it may worsen which can also affect the quality of life of an individual. Mathadi workers are highly prone to trapezitis due to the various tasks that Include the continues movements of the neck , upper back, and other upper limb muscles , repeatedly for long duration and with lesser duration of rest period. In a prior study, the most common musculoskeletal condition among Mathadi workers was identified. Trapezitis is an inflammation leading to pain spasm in the neck and upper back. Since trapezius muscle is a postural muscle it is highly prone to overuse. Trapezitis condition caused due to overuse of the muscle in non ergonomic posture ,working in static position , sitting for prolong period of time without back support , too high discord on desk ,

long drives on bike and cars , prolong bending activates [reading , writing] .

Anatomy of trapezius muscle

The Trapezius Is a flat muscle on the back of the neck and upper back, which is in the shape of triangle and muscle on both the sides form a trapezoid shape hence it is termed a trapezius muscle.

Origin = upper fibber = medial third of superior uncial line of the occipital bone

Middle - external occipital protuberance

Lower -ligamentum nuche, spine of seventh cervical vertebra and spines of all thoracic vertebrae.

Insertion = upper fibber – downward and laterally onto posterior border of third of clavicle.

Middle - horizontally into the medial margined of the accordion and upper lip of the crest of spine of the scapula

Lower – upward and laterally on to the deltoid tubercle at the junction of medial and middle third of spine of the scapula.

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Action of the upper trapezius muscles elevates the scapula, middle fiber retracts the scapula, lower fiber depress the medial part of the spine of scapula. Trapezius muscle helps to elevated the arm above 90°.

Nerve supply – Motor functions are supplies by fiber from the spinal part of accessory nerve; sensory functions are supplies by fiber from the third and fourth cervical nerves.

Who are Mathadi workers?

Mathadi workers are unorganized sector labores primarily engaged in loading, unloading, lifting, shifting, stacking, and transporting heavy goods manually at markets, warehouses, transport hubs, and ports. Their daily work involves intense physical effort, poor ergonomic conditions, and little to no support in terms of occupational health safety. The term "Mathadi" itself is derived from "matha" (head), indicating that many of their tasks involve head-loading heavy materials.

Mathadi workers – Risk of Trapezitis in Mathadi workers

Mathadi workers are individual who carry material loads either on head (matha) or on his back and shoulders to transfer material one from another place.

Their job demands a high intensity of physical strength, they are exposed to high levels of physical demand and lesser amount of rest makes them vulnerable to injuries over a period of time.

Mathadi workers are at high risk of trapezitis condition due to nature of their work, which involve heavy lifting, carrying loads and movements.

Mathadi workers are carry weight around more than 30 kg on their head and shoulders.

Working with arm raised above shoulder level is thought to provide a significant risk for shoulder problems or chronic, excruciating discomfort.

Repetitive movements, awkward working posture, standing for long duration and walking with lifting heavy weight it is most harmful aspect to health which in turn deteriorates the standard of living and performance of various tasks at the workplace.

Major risk factor for trapezitis in Mathadi workers includes physical demands of the job.

The trapezius muscle may become strained and worm out as a result of these circumstances, which may result of these discomfort and stiffness. Furthermore, the lack of ergonomic support, insufficient pause, and a heavy workload can aggravate the sign of trapezitis and rise the getting this condition or may worsen the condition.

Therefore, the primary cause of trapezitis is an action that requires the neck and back muscle to be used continuously in an uncomfortable position Along with several additional risk factors in the workplace.

. Mathadi workers perform physically demanding work that are characterized by the lifting heavy weight on the shoulder , back and head and few brakes takes between

tasks in working hours . This raises the chance of experiencing discomfort. Therefore, these should be a concern about the prevalence of trapezitis among Mathadi workers and trapezitis to improve the standard of living and and for the betterment of their health and performance at work hence, it is important to find out the prevalence and risk of trapezitis in this population.

METHODS

The study was conducted out as a **cross-sectional observational survey** to assess the prevalence of Trapezitis among Mathadi workers Participants were selected using **simple random sampling**. Participants were selected using **simple random sampling**.

Eligible individuals were male Mathadi workers aged 20–50 years with a minimum of one year of work experience in manual labor such as loading, unloading, and lifting goods. Workers with a recent history of neck, shoulder, or upper back surgery were excluded. Data were collected using a **self-structured questionnaire** (available in English and Marathi), covering demographic details, occupational patterns, pain location, and ergonomic practices. Additionally, **special tests** were administered to screen for clinical signs of Trapezitis. All participants provided **informed consent**, and the study received **ethical clearance** from the Institutional Ethics Committee. **Data were collected through both online and offline methods to maximize participant inclusion.**

INCLUSION CRITERIA

- 1 Mathadi Worker actively involved in manual labor (loading, unloading, and lifting).
- 2 Age – 20 – 50 Male.
- 3 Work Experience of More Than and Equal To 1 Year.

EXCLUSION CRITERIA

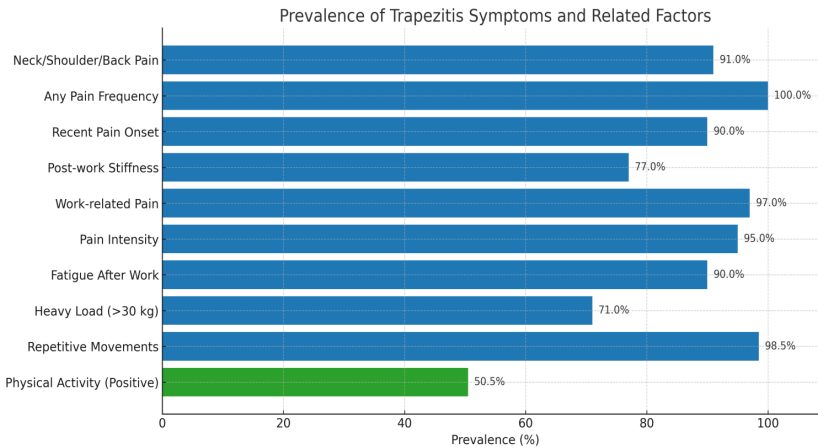
- 1 Recent surgeries are done in the shoulder or neck region and upper back region.
- 2 Below -20, Above - 50.

ETHICAL COMMITTEE APPROVAL

The approval for this study is gained from the institutional ethics committee of Krishna Vishwa Vidyapeeth (deemed to be university), Karad. Respondents were given a detailed explanation about Questionnaire as well the study which is to be conducted and informed consent was collected from each and every participant participating in this study. there was a volunteer involvement of all the respondents in this study whose confidentiality was thoroughly maintained

RESULT

STATISTICAL ANALYSIS



Overall Statistical Conclusion:

The analysis of questionnaire data shows a **strong association between workload, posture, and Trapezitis**. Workers with poor posture, longer hours, heavy lifting, and no breaks reported higher pain levels and prevalence of symptoms.

Interpretation:

- **91%** of Mathadi workers report symptoms consistent with **trapezitis or work-related neck/shoulder disorders**.
- **98.5%** perform repetitive movements daily — a major ergonomic risk.
- **71%** lift loads heavier than 30 kg, increasing mechanical stress.
- **90%** report fatigue after work, indicating poor recovery or excessive load.

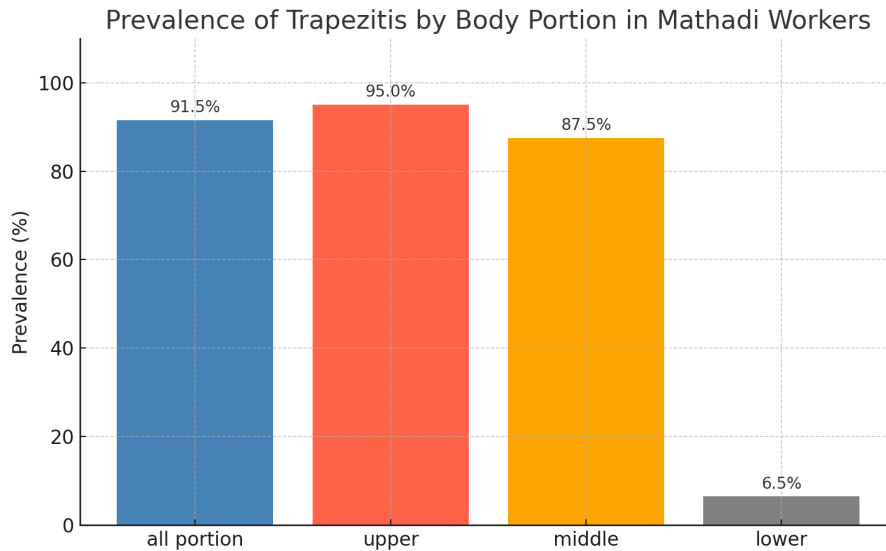
Special Test analysis

This report presents an analysis of the prevalence of Trapezitis among Mathadi workers based on body portion data. Trapezitis is a condition characterized by inflammation of the trapezius muscle, commonly caused by overuse, poor posture, and physical strain. The data analyzed helps identify which anatomical areas are most affected, pointing to occupational risk factors.

Prevalence by Body Portion

Portion	Positive Cases	Total	Prevalence (%)
all portion	183	200	91.5
Upper	190	200	95.0
Middle	175	200	87.5
Lower	13	200	6.5

Visual Representation



RESULT AND INTERPRETATION

Out of 200 Mathadi workers surveyed, the prevalence of Trapezitis was found to be:

- **Upper portion:** 95%
- **Middle portion:** 87.5%
- **Lower portion:** 6.5%
- **Overall prevalence:** 91.5%

This indicates that the **majority of participants experienced pain and symptoms localized to the upper and middle regions** of the trapezius muscle. The high percentage in the upper portion confirms that **repetitive load-bearing on the shoulders and head, along with poor posture during lifting**, are the primary contributors to Trapezitis.

The **low involvement of the lower portion (6.5%)** suggests that the condition is primarily an **upper-body musculoskeletal disorder**, localized to regions under the most physical strain due to occupational demands.

DISCUSSION

The present study assessed the **prevalence of Trapezitis among Mathadi workers** by examining the distribution of musculoskeletal complaints across different body regions. The findings reveal a **very high prevalence of upper body involvement (95%)**, followed by the middle portion (87.5%), with significantly lower involvement of the lower back (6.5%). This distribution is consistent with the **pathophysiology of Trapezitis**, which primarily affects the **trapezius muscle in the upper back, neck, and shoulder region**.

Mathadi workers are engaged in physically demanding labor involving **manual material handling, repetitive lifting, and load carrying on the shoulders and head**. These tasks place repeated mechanical stress on the upper trapezius, leading to **microtrauma, inflammation, and muscle fatigue** — key contributors to the development of Trapezitis. The **high prevalence in the upper region** suggests that the work environment and ergonomic practices are major occupational risk factors.

The **middle portion involvement (87.5%)** may also be attributed to **postural strain and poor biomechanical loading** during lifting tasks, which affects spinal alignment and muscular balance. However, the **low prevalence in the lower region (6.5%)** indicates that **Lower back stress is not commonly considered a contributing factor to Trapezitis** in this occupational group, and that the condition is likely localized to the upper musculoskeletal zones due to task-specific movement patterns.

These results align with previous occupational health studies which report high incidences of **upper trapezius myalgia and neck-shoulder disorders** in manual laborers, particularly in developing countries where **ergonomic interventions are minimal or absent**. The findings reinforce the need for **preventive measures**, such as **load management training, ergonomic tools, and rest breaks**, to reduce muscular overuse and the risk of chronic Trapezitis.

CONCLUSION

This study reveals a **high prevalence of Trapezitis among Mathadi workers**, particularly in the **upper (95%) and middle (87.5%)** regions of the body. The findings strongly suggest that **occupational factors**—

such as **manual load handling, repetitive lifting, and poor ergonomic practices**—are closely linked to the development of Trapezitis in this population.

The **significantly lower prevalence in the lower body (6.5%)** indicates that Trapezitis is primarily localized to areas exposed to upper body strain and postural stress. This supports the hypothesis that **Trapezitis in Mathadi workers is largely work-related**, and underscores the importance of addressing ergonomic risks in this labor-intensive sector.

To reduce the burden of Trapezitis, there is an urgent need for:

- **Ergonomic training and awareness**
- **Proper load distribution techniques**
- **Scheduled rest periods**
- **Occupational health surveillance**

Adopting these interventions may significantly reduce the incidence of chronic musculoskeletal conditions and contribute to improved well-being and occupational performance in Mathadi workers."

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