



PREVALENCE OF MUSCULOSKELETAL DISORDERS (MSD's) AND AWARENESS TOWARDS PHYSIOTHERAPY AMONG FRUIT AND VEGETABLE SELLERS IN PUNE CITY- A CROSS SECTIONAL STUDY

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Abstract: The aim of the study is to see the prevalence of musculoskeletal disorders and awareness towards physiotherapy among the fruit and vegetable sellers in Pune city. A total of 100 fruit and vegetable sellers with musculoskeletal pain falling between age group of 23 to 45 years were the subject population of the study.

Nordic Musculoskeletal Questionnaire is used to check the pain in different parts of the body and questions were asked like do they know what is physiotherapy or they ever heard about physiotherapy to the participants.

Index Terms: Musculoskeletal disorders, awareness, sellers, Nordic Musculoskeletal Questionnaire.

INTRODUCTION

- Musculoskeletal disorders (MSD) extend to almost all occupations and sectors, bearing critical physical and economic consequences for the sufferer: workers, families, businesses, and governments. These ailments are considered the most common labour medical problems among workers.¹
- **Definition** : The World Health Organization defines MSD as “health problems of the locomotor apparatus, i.e. muscles, tendons, bone skeleton, cartilage, ligaments, and nerves. This includes any type of complaint, from slight transitory discomforts to irreversible and incapacitating injuries.”²
- The International Labour Organization defines the musculoskeletal system as being made up of “two components, the muscular system and the skeletal system”. It establishes musculoskeletal disorders as “acute, chronic, and those that can impair the function of different body parts”. It states that the work itself triggers the musculoskeletal disorders, depending on the workplace and the worker.³
- The common health problem among workers is musculoskeletal disorders due to intensive manual work. These disorders may result in pain and loss of function.
- The WHO (World Health Organizations) states that musculoskeletal conditions are most common causes of disability limitations related to daily living and gainful employment.

- Musculoskeletal conditions significantly limit mobility leading to lower levels of wellbeing and reduced ability to participate in society.
- Musculoskeletal health refers to the performance of the locomotor system, comprising intact muscles, bones, joints and adjacent connective tissue.
- The occupational disease is also known as occupational overuse syndrome which covers pathological conditions aroused by prolonged work, exertion, interaction with harmful factors inherent in materials, equipment or working environment.
- Musculoskeletal disorders (MSD's) are the most common self-reported work related illness and the leading cause of disability of people during the working years. This is also responsible for loss of earnings, medical payments.
- Bad postures, repeated physical effort or psychological stress are contributing factors for musculoskeletal disorders (MSD's).
- Poor working conditions and the absence of strategies for work injury prevention are responsible for the increase in work-related musculoskeletal injuries.
- According to the United Nations Food and Agriculture Organization (FAO), India is the world's second largest producer of fruits and vegetables.
- Street vending in India is a profession for many people as it requires low skills and small financial inputs. People with poor economy get engaged in informal sector mainly in street vending.
- Street vending is the act of selling goods or services to the public in public space, such as a street, sidewalk, or park, without a permanent structure.
- For serving the society sellers are engaged in process of selling fruits and vegetables, they face problems which are financial, transportation, anatomical and physiological, etc.

NEED OF THE STUDY

- India ranks second worldwide in farm outputs. As per the Indian economic survey, agriculture employed more than 50% of Indian workforce.
- 14% of total urban informal employment in India constitute of street vendors.
- Fruit and vegetable sellers are an integral part of the urban economic development. So for the wellbeing of society their health is major concern.
- Vegetable and fruit sellers come under primary sector, which is unorganized.
- Different categories of fruit and vegetable sellers are present, like sellers on street, in the mandai, or some road-to-road on pushcarts or by foot.
- All these sellers face physical exertion due to lot of awkward positions, heavy spinal loading during lifting and carrying, and long hours of work.
- Some of the positions that are used very frequently and may further lead to musculoskeletal discomfort are sitting for long time, bending, shoulder flexion, elbow flexion, long standing hours, etc.
- One of the unfortunate reality is that many vendors or sellers are unaware about the physical therapy that might be helpful for their profession in many perspective like in prevention, maintaining and in restoring the musculoskeletal discomforts.
- Physiotherapy helps people to restore movements and functions and prevent the occurrence of secondary issues.
- Hence, it is necessary to study the awareness of physiotherapy and the prevalence of musculoskeletal disorders among the fruit and vegetable sellers.

RESEARCH METHODOLOGY

- Study Design - Cross-sectional study
- Sample Size - 100
- Sample Method - convenient sampling
- Study Population - both male and female
- Study Settings – Sabji mandai and street vegetables and fruit sellers in Pune
- Study Duration - 6 months

CRITERIA

Inclusion criteria :

- 1) Age group between 23 to 45.
- 2) Both females and males.
- 3) Sellers in the mandai and on the street.
- 4) Working hours: minimum 6 hours.
- 5) Full time business.
- 6) Occupation since- 5 years.
- 7) Education- minimum 7th standard.
- 8) Subjects complaining of MSD since 1 year.

Exclusion criteria:

- 1) Known case of musculoskeletal disease, neurological, cardio-vascular, degenerative pathology.
- 2) Part-time workers.
- 3) Pregnant females.
- 4) Spinal deformities.
- 5) Recent fractures of upper, lower extremity and spine in the past 6months.
- 6) Specially abled people.
- 7) Post delivery females since 1 year.
- 8) Recent abdominal, cardiac, upper extremity, lower extremity, surgeries since last 6 months.

MATERIALS

Pen, paper, data collection sheet, consent form, scale- Nordic Musculoskeletal Questionnaire.

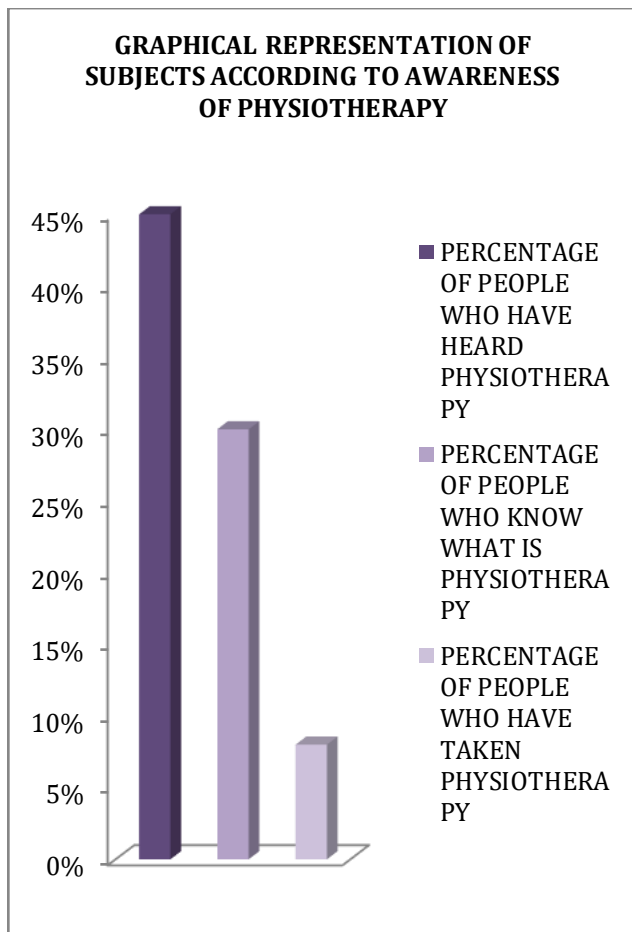
PROCEDURE

- Study began with a synopsis presentation in front of the ethical committee in PES Modern College of Physiotherapy.
- Ethical clearance was obtained from committee.
- Subjects were selected according to the inclusion and exclusion criteria.
- The study was explained to the participants and the consent was taken from them.
- The standardized Nordic Musculoskeletal Questionnaire was explained to the participants.
- The Questionnaire was filled by interview method.
- The data was taken on excel sheet and data analysis was done then results were calculated.



DATA ANALYSIS

PERCENTAGE OF PAIN DISTRIBUTION IN DIFFERENT BODY PARTS



BODY PARTS	PERCENTAGE OF PAIN DISTRIBUTION IN DIFFERENT BODY PARTS
NECK	8%
SHOULDER	4%
ELBOWS	0%
WRISTS	1%
UPPER BACK	1%
LOWER BACK	19%
HIPS/THIGHS	1%
KNEES	7%
ANKLES/FEET	16%

DISCUSSION

The aim of the study was to evaluate the prevalence of musculoskeletal disorders and awareness about physiotherapy in fruit and vegetable sellers in Pune, Maharashtra.

India is the country where most of the population depends on farming and related sectors for earning, selling fruits and vegetable is one of the sector where people work in many different positions like squatting postures, bending at back, sitting at low level, sitting directly on floor with leg stretching, sitting on feet, standing for hours, pushing heavy carts, lifting, carrying load on shoulder, twisting of body while picking up baskets of fruits and vegetables arranged at different levels which are repeated and causes muscular discomfort in many of the body parts like neck, low back, knees, ankles, etc.⁶

In the present study both males and females between the age group of 23-45 participated, among which 60% are males and 40% are females. The mean age of the participants was 36 years.

As per the data by using Nordic Musculoskeletal Questionnaire the prevalence of musculoskeletal disorders in different body parts according to the present study is, for low back (19%), feet/ankles (16%), neck (8%), knees (7%), shoulders (4%), wrist, upper back and thighs (1%).

The prevalence of musculoskeletal disorder for low back (19%) is more than other body parts, the possible reason behind this could be standing for long period or sitting for long hours in all types of fruit and vegetable sellers in the study.

The WHO bulletin highlights that low back pain is linked to poor work posture, including bending of the trunk with heavy loads, simultaneous bending and twisting of the trunk, maintain a twisted posture for extended periods and repeatedly performing trunk movements.

Low back followed by feet/ankles (18%) was found to be more affected due to different categories of fruit and vegetable sellers are present, like sellers on street, road-to-road on pushcarts or by foot.

The study was done in the Latur city of Maharashtra, according to their study the prevalence of musculoskeletal discomfort was calculated to be 69.60% in vegetable street vendors. The most common body parts that are involved, are low back 44.80%, ankle/feet 32%, the least affected body parts are elbows and wrist/hands.⁷

The findings of this study indicate that the awareness about the physiotherapy among fruit and vegetable seller are low, with only 45% participants have heard about physiotherapy. People who know what physiotherapy is, are 30%, 8% had never received any physiotherapy treatment before, which shows the lack of exposure to physiotherapy management and services.

A study was done in Delhi, which reveals that most individuals in rural areas around Delhi are unaware of physiotherapy and have minimal knowledge about the specialize services offered by physiotherapy professionals.

It is really very important to aware people about physiotherapy because it is not a type of treatment which is given after an injury or after any joint replacement surgery or not only exercises are given to the patients. It's a boon to medical profession where all kinds of patients are treated like people with musculoskeletal conditions, respiratory conditions, neurological condition, prenatal/postnatal fitness, sports and many more.

As the study was done in the Pune city, the city of knowledge of India and additionally many physiotherapy colleges are present in the Pune city still lack of awareness evident among the general public.

Physiotherapy is a field of medicine which deals with maximizing human functioning by treating structural and functional impairments.

Therefore, public awareness about physiotherapy and the conditions that physiotherapy can deal with needs to be improved.

CONCLUSION

- According to present study there is high prevalence of musculoskeletal disorders among fruit and vegetable sellers in Pune city, the commonly affected body parts are low back, feet/ankles, neck, and knees. Whereas elbows and wrist are least involved body parts.
- People are unaware about what physiotherapy is and what kind of treatment comes under physiotherapy.
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