



Prevalence of Musculoskeletal problems in fish sellers

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ARTICLE INFO

Article history:

Received: 04th December 2020

Revision Received: 16th July 2021

Accepted: 21st September 2021

Key words: *Musculoskeletal problems, Posture, body map*

ABSTRACT

The activities related to selling of fish require repetitive actions, frequent changes in body postures, high force and also adoption of awkward postures for long duration. The repetitive movements, high force, awkward postures and frequent postural changes may lead to musculoskeletal disorder if continues for a long time. Thus, an attempt has been made to study the musculoskeletal problems faced by the sellers involved in selling of fish. The body part discomfort is measured by using Body Map. The study was carried out among 25 numbers of sellers whose occupation is fish selling. Percentage of mean score of intensity of body pain shows that the sellers felt very severe pain in upper back, mid back; lower back, buttocks, left thigh, right leg and left leg. And in remaining body parts viz. neck, shoulder, upper arm, lower arm and right thigh the sellers are found to felt severe pain. Thus, the findings of the study reveals that ergonomic intervention is required for preventing musculoskeletal discomfort prevalent among the fish sellers for improving their health condition.

1. Introduction

A major share of the population in India is working in unorganised sector like selling of perishable goods. Among the group of population who are involved in selling of perishable goods, a major group are observed to be involved in an age old practice which provides bread to many i.e.; fish selling. It is a true fact that most of them work in a very unhygienic and unhealthy work environment. The task involves various activities which demands awkward postures, repetitive motions of hands, high force, lifting and carrying of heavy loads. The repetitive motions, awkward postures, holding heavy load and use of force to complete the activities may lead to musculoskeletal disorder in long term. The term musculoskeletal disorder denotes health problems associated with muscles, tendons, the skeleton cartilage, ligaments and nerves. The health problems occur in particular, if the workload is higher than the load bearing capacity of the components of the musculoskeletal system. Further, the duration of work per day and per month, exposure to repetitive motions, awkward postures, frequent postural changes and frequency of carrying heavy load are important factors in the development of musculoskeletal disorders. Work related musculoskeletal disorders arise from such risk factors, as frequent or heavy lifting objects, pushing or

pulling heavy objects; prolong exertion of the hands. (Ghose, et al.). As musculoskeletal problem is a leading health problem in today's date, it was planned to conduct a study considering this group of population who make themselves busy throughout the day to serve the society, thereby, putting their health into risk. Yet, there is less concern on their occupational health issues.

In view of the above facts the present study was carried out with the following objectives:

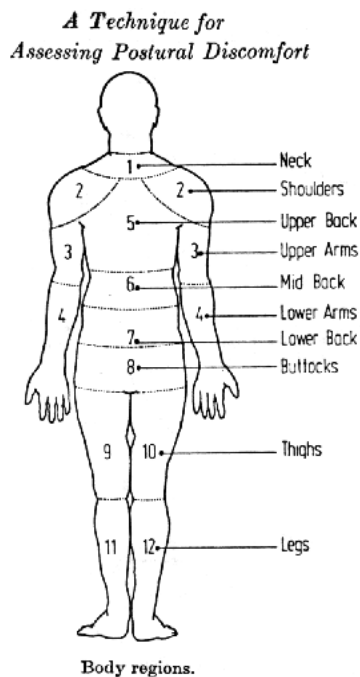
1. To study the activities performed by the sellers while selling fish
2. To study the musculoskeletal problems faced by fish sellers

2. Methodology

The study was carried out by considering 25 sellers, who are engaged in various activities related to selling of fish. The study was carried out considering all the fish sellers of three daily markets under Tura Municipal Board, West Garo Hills, Meghalaya. Interview Schedule was formulated and used to collect the primary data. The level of discomfort in different parts of the body was measured with the help of Body Map (Corlett and Bishop, 1976). The collected data was analysed through appropriate statistics and presented in

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tabular form. Pie diagram is used for easy accessibility to the subject.



Findings:

Socio-economic background of the respondents

Findings of the study showed that higher percentage (56%) of the respondents belongs to the age group of 35 – 40yrs. 92 per cent of the respondents are male. Maximum percentage (96%) of the respondents can only read and writes. Higher percentage (76%) of the respondents are married and 56 per cent belongs to joint family. Out of the total respondents, 68 per cent have large family size. Findings related to monthly income showed that 48 per cent have an income between Rs. 5,000/- - 10,000/-.

Activities performed by the fish sellers

Close perusal of the data presented in Fig. 1 divulges that cent percent of the respondents perform almost all the activities such as collection of fishes from whole seller; cleaning of the area before sale, collection of the water, washing of fishes before arrangement, arrangement of the fishes for sale, weighing of the fishes selected by the buyers, packing of cut pieces, handover the packed fishes to the buyer, packing of the unsold fishes to boxes, cleaning of the cutting and measuring equipments and cleaning of the area at the end of the sale. The activities like loading of fish boxes in the carrier vehicle and unloading it from carrier vehicle are found to perform by 64 percent of the respondents. Further, study also divulge that opening of the fish boxes, removal of the ice blocks, de-scaling of fishes, cutting of de-scaled fishes into pieces, adding of ice block to the reloaded unsold fishes and storing of the repacked fish boxes are found to perform by 92 per cent of the respondents. The activity of carrying of

fish boxes to the point of sale is found to perform by 76 per cent of the respondents.

Thus, the findings indicate that the respondents perform number of activities while accomplishing the job of selling fishes. While doing so respondents put both physical and mental effort. Observation also reveals that the respondents involve themselves throughout the day without rest. Moreover, while doing so they also adopt different postures which are sometimes very strenuous to the respondents.

Musculoskeletal problems faced by fish sellers

The respondents involved in fish selling felt very severe pain on upper back (80.8%), mid back (92%), lower back (88.8%), buttocks (84.8%), left thigh (80.8%), right leg (83.2%) and left leg (81.6%) and severe pain in neck (80%), shoulder (76%), upper arm (76%), lower arm (79%) and right thigh (79.2%) (Table-1).

Thus, it is evident from the findings that the respondents while performing the activities associated with selling of fish felt severe to very severe intensity of pain. The pain felt may be because of the different awkward postures adopted at various times of the day to perform the activities. The prolong use of awkward postures are like bending of knee while de-scaling of fish, twisting and bending of body at waist level while cleaning the area before and after sale, taking out of fishes from box, packing of fishes after cutting into pieces etc. Time spent to complete the task and force exerted to perform some activities like de-scaling, cutting into pieces, frequency of repetition and tight gripping of hand held tools are also other factors which are adding to musculoskeletal problems of the respondents. Majid Motamedzade (2009) in his study “Ergonomics in carpet weaving industry in Iran” revealed that due to poor design of hand tools, weaving workstations, looms, the postures of the neck, shoulders, upper and lower arms, wrist and knees deviate from the neutral position for considerable periods of time leading to high incidence of musculoskeletal injuries. Similarly, a study among coal miner’s reveals that the repetitive operations and awkward postures were the risk factors for the development of work related musculoskeletal disorders in neck, shoulder and upper limbs. Further, the study reveals that the repetitive operations of moving heavy substances and stooping postures continuously were related significantly with the development of lower back pain, pain at lower limbs due to the long standing in awkward postures (Bandyopadhyay, et al.)

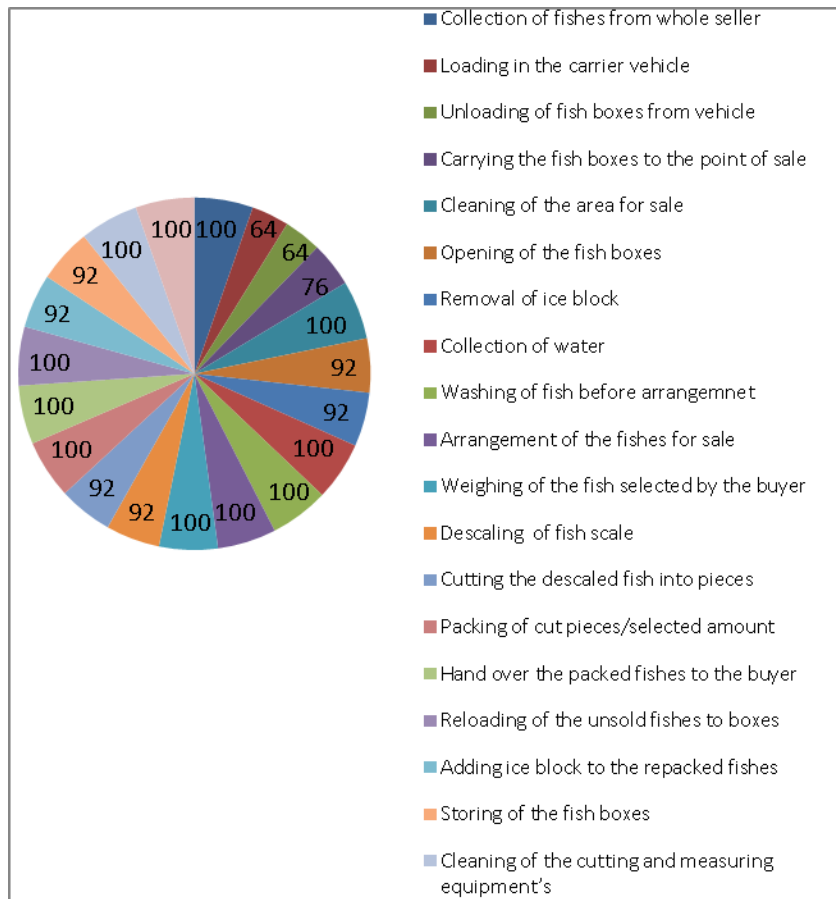


Fig. 1. Pie-diagram showing distribution of respondents according to performance of various activities related to fish selling

TABLE 1. Musculoskeletal Discomfort faced by the sellers while performing the activities

Sl. No	Body Parts	Mean Score \pm SD	Percentage of Mean of Score	Overall Discomfort
(i)	Neck	4.00 \pm 0.86	80.00	Severe
(ii)	Shoulder	3.80 \pm 0.95	76.00	Severe
(iii)	Upper Arm	3.80 \pm 0.86	76.00	Severe
(iv)	Lower Arm	3.96 \pm 0.73	79.20	Severe
(v)	Upper Back	4.04 \pm 0.97	80.80	Very Severe
(vi)	Mid Back	4.60 \pm 0.50	92.00	Very Severe
(vii)	Lower Back	4.44 \pm 0.50	88.80	Very Severe
(viii)	Buttocks	4.24 \pm 0.43	84.80	Very Severe
(ix)	Right Thigh	3.96 \pm 0.45	79.20	Severe
(x)	Left Thigh	4.04 \pm 0.45	80.80	Very Severe
(xi)	Right Leg	4.16 \pm 0.62	83.20	Very Severe
(xii)	Left Leg	4.08 \pm 0.64	81.60	Very Severe

Overall Discomfort Score attained: Very mild = upto 20%, Mild = 20-40%, Moderate = 40 – 60%, Severe = 60 – 80%, Very Severe = >80%

3. Conclusion

From the findings of the study it can be concluded that the respondents are found to felt different level of discomfort in different parts of the body. Thus, the condition may be improved through ergonomic intervention. More focus is to be given on work, worker and the work environment.

4. Reference:

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Pictures Showing Their Involvement and Causes of MSD's



