

**Title of paper:       PREVALENCE    OF    MUSCULOSKELETAL    PROBLEMS  
                              AMONG COBBLERS IN FOOTWEAR REPAIRING WORK**

**Abstract**

Cobbling or shoe-repairing is one of the aged old occupations belonging to unorganized sector. Majority of workers are dependent on this occupation for livelihood. The cobblers work in sitting position mainly on the busy routes with congested surroundings. The present study was conducted among 100 cobblers working in Uttarakhand State, India with an objective to find out the musculoskeletal pain or discomfort faced by them during their work. The data was collected using Standardized Nordic Musculoskeletal Questionnaire. Results revealed that the cobblers suffered from pain or discomforts in different body regions especially lower back, neck and lower leg. Sitting with folded legs and continuous bending of neck during work were the major reasons of pain/discomfort.

**Keywords:** Musculoskeletal disorder, poor posture, back pain, shoe-workers, work environment.

**Introduction**

Cobblers are involved in their ages old profession of repairing footwears. Along with the repairing of all variety of footwears, they repair leather and other articles as well. Their work include prolonged sitting with forward inclined posture. Studies among different unorganized sector population have showed that low back pain has been a common problem in informal sector. The postures adopted during any work have a great impact on the health of workers. A poor posture adopted for a longer period may lead to the development of chronic back pain, neck pain or other musculoskeletal symptoms that can affect the upper as well as lower extremity (Gangwar and Kiran, 2014). Sitting for most of the working hours have resulted in the development of pain and discomfort in neck, shoulder and back which gradually leads to the alteration in normal curve of spine causing pressure on discs. This alteration can cause compression resulting in chronic pains and nerve damage (Ghosh *et al.*, 2010). The aim of this investigation was to find out the musculoskeletal risk and discomforts encountered by the cobblers.

**Materials & methods**

*Selection of subject:* The study was conducted in Uttarakhand, India. A total of 100 male cobblers working in different locations of two different districts were selected purposively.

*Selection of tools:* The Standardized Nordic Musculoskeletal Questionnaire developed by Kuroinka *et al.* (1987) was used to assess the musculoskeletal problems faced by the cobblers. It addressed perceived body discomfort, activities causing pain and health surveillance of the respondents.

**Results & Discussion**

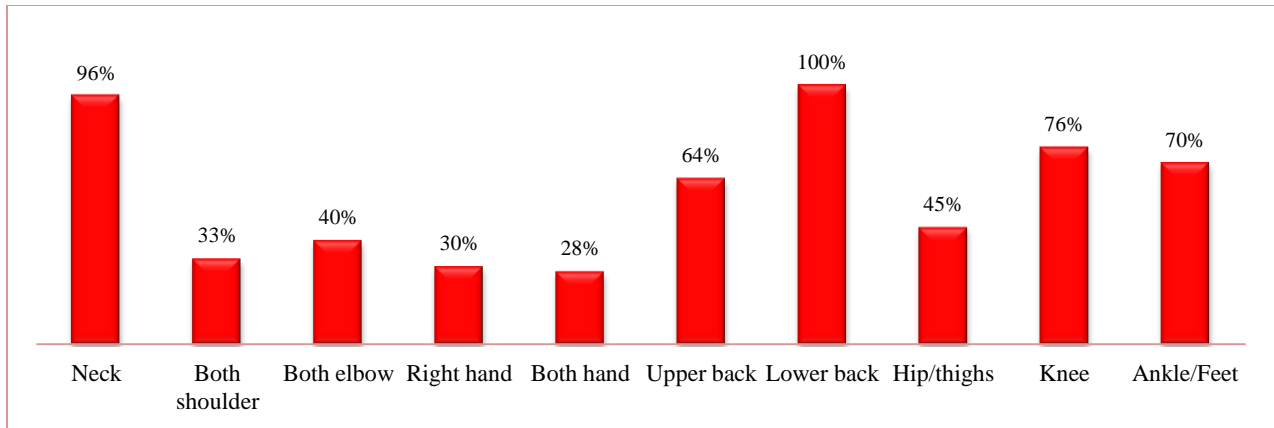
The prevalence of musculoskeletal discomforts among the respondents was analyzed using Standardized Nordic Questionnaire. The results, as depicted in table 1, showed that only 18% of the respondents had knowledge about the musculoskeletal pain/discomforts. Further 59% were being prevented from doing the normal activities when they had any musculoskeletal pain/discomforts and 37% reported to have stayed away from normal work activities when they had these pain/discomforts.

**Table 1: Pain and discomfort with locomotive organs**

S.No.	Parameters	Frequency
1	Do you know about musculoskeletal pain/discomfort?	18
2	Have you ever been prevented from normal activities because of musculoskeletal pain/discomfort?	59
3	Do you stay away from normal work activities because of pain/discomfort?	37
4	Activities causing pain/discomfort at work?	
	Neck bending	85
	Folded legs	50
	Sitting in uneven surface	32
	Load carrying	24

When asked about the activities causing pain/discomfort, it was found that 85% of the respondents felt pain due to continuous bending of neck during repairing works and their job requires sitting on floor with folded legs which was also the reason of discomfort as reported by 50% of the respondents. It was also found that 32% of the respondents faced discomfort due to sitting in uneven surface or due to congested surroundings. The tool box carried by the respondents weighed 18-20 kg which was also one of the reasons of pain/discomfort as stated by 24% of the respondents. The respondents were further asked questions about perceived body pain/discomforts, which lasted for atleast 24 hours. The figure 1 shows prevalence of pain in different body regions that was reported for past 12 months. During the last 12 months, all the respondents reported to have suffered from lower back pain at some time while 96% had suffered from neck pain. It was further reported that 76% of the respondents had pain in knee while 70% had suffered from pain/discomfort in ankle/feet or lower leg region. It was also found that 64% of the respondents had discomfort in upper back and 45% of the respondents reported to have pain/discomfort in hip/thighs region. It was further analyzed that 33% had suffered from pain in both shoulders, 40% had suffered from pain in both elbows, and 28% had suffered from pain in both hands while 30% reported to have suffered from pain only in right hand. The occurrence of musculoskeletal discomforts was found to be statistically significant ( $\chi^2=9.591$ ,  $p<0.05$ ) with the work experience of respondents.

**Figure 1: Prevalence of pain/discomfort in different body regions in last 12 months**



The data corresponding to the health surveillance of the respondents was also analyzed and the results as depicted in table 2 shows that only 13% had noted the problems (either pain or discomfort) before they started working while 87% said to have noticed the problem while working. It was further found that 60% were taking medical treatment for their discomfort. Most of the respondents took medicine on their own or by other means. Only 11% were consulting government hospitals and 7% were taking local advice. When asked about the problems for which the treatment is being taken it was found that 30% took for cough/cold/fever, 10% took for shoulder pain and 10% external injuries. 9% were found to be taking treatment for lower body regions and 7% for skin allergies. It was further reported that the treatment helped for only 44% of the respondents.

**Table 2: Health surveillance of the respondents**

Parameters	Frequency
1. When the problem was first noticed?	
• Before you started working	13
• While working	87
2. Is the medical treatment taken?	60
3. The treatment is taken from:	
• Doctor of government hospital	11
• Local doctor	7
• Self/others	42
4. Treatment taken for*	
• Body pain/back ache	4
• Shoulder pain	10
• Visual discomfort (vision related)	9
• Skin allergy	7
• Cough/cold/fever	30
• Cuts and wounds	10
5. Was the treatment effective?	44

\*multiple responses

The results of this present investigation revealed that workers who are involved in the job of repairing footwears are sitting with folded legs continuously when carrying out their activity. Moreover, the workers in this occupation are working by sitting beside the roadside of a busy route which makes their workstation to be in a confined area. There are evidences that workers who need to be seated for majority of their work hours had complained of discomforts. Sitting in awkward position in a confined area leads to the development of musculoskeletal symptoms. In a study by Choobineh *et al.* (2004), it was stated that 81.17% of the weavers had complained of musculoskeletal symptoms in various body regions including neck, back, shoulders etc. during last 12 months. Since weavers worked with folded or cross legged posture, leading to a poor posture, it was an identified risk factor. A study done by Ghosh *et al.* (2010) revealed that 80% of the goldsmiths had feeling of discomfort while they were at work while 30% reported to have faced discomfort during rest. The discomforts were mainly related to pain at neck (80%), lower back (75%), wrist (45%) and shoulder (20%). It was found that goldsmiths worked in a confined place with poor environmental conditions and with neck & back inclined forward in sitting posture.

## **Conclusion**

Cobbling is the only source of income for majority of the workers in India. Their earning depends only on the mending or repairing work (footwear and other articles). They work on the streets and sitting for most of the work time leads to the developing of low back pain. In addition to it, the posture adopted during sitting causes musculoskeletal discomforts as assessed using Nordic tool in the present study. It was found that the cobblers were suffering from pain and discomforts in various body regions. Due to lack of knowledge about the long term impact of these discomforts, the cobblers continued to work in their present state which could lead to the development of musculoskeletal disorder in a longer run, if not corrected. The work environment in which a worker works also affects the health and safety of that worker.

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