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Postural stress among workers involved in handicraft small scale industry

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Abstract

Craft traditions have withstood the passage of time and still epitomize Indian industrial culture around the world. The craft sector is the second-largest employment sector in India. There are 23 million craftspeople in India. Many agricultural and pastoral communities depend on their craft skills as a secondary source of income. The inherent skills in embroidery, weaving, basketry, etc. are means to social and economic independence. Textiles are decorated by various techniques, of which embroidery is only one. The city of Lucknow in Uttar Pradesh, India, has a prominent place in the history of India, particularly for its art, historical monuments, and rich cultural heritage. Lucknow is also known around the world for its many fine handicrafts. Chikankari is considered to be the most popular among these and is recognized worldwide. It is a fine art of embroidery made with untwisted yarn with the help of a needle on a fine cloth. Posture is the position of the body while performing the above work activities. Awkward posture is a deviation from the ideal working posture of arms at the side of the torso, elbows front, and wrists straight, which is adopted by all the workers involved in handicraft work. Hence, the present study aims to study the postural stress of workers and related health problems.

So the descriptive-experimental research design was followed. It was found that awkward posture typically includes reaching behind, twisting, working overhead, kneeling forward, and backward bending. Awkward posture during work increases the risk of injury. The more the joints depart from their natural position, the greater the likelihood of injury. Repetition is how frequently we complete the same motion or exertion during a task.

Keywords: Craft work, small scale industry, postural stress, squatting, bending, awkward posture, risk and injury, spinal cord

Introduction

Posture is the position of body while performing work activities. Awkward posture is deviation from ideal working posture of arms at the side of torso, elbows front, with wrists straight. Awkward posture typically includes reaching behind, twisting, working overhead, kneeling forward or backward bending and squatting. If the posture is awkward during work, there is an increased risk for injury. More the joints depart from the natural position greater the likelihood of injury. Repetition is how frequently we complete the same motion or exertion during a task. WMSD's are group of disorder affecting the bones, muscles, ligament and tendons of human body. There are certain risk factor like awkward position, force, repetitive activities and inadequate rest. Manual workers whether skilled or unskilled are most vulnerable group of employees at risk of developing musculoskeletal disorder.

Material and Methods

For selection of locality for center based workers Self Employed Women Association Chikan Office in Aminabad will be contacted and two centers A.K. Chikan Industry Chowk, Nath Chikan center Sitapur road, will be selected from the list. For this list will be prepared about the total centers exist in Lucknow city. The unit of enquiry will be centers of chikankari and key informants will be center based workers. For random selection of workers, lists will be obtained from four selected from each centers of chikankari. Hence to reach to total sample 20 workers from each list comprised of total workers will be obtained. The total sample size comprised of 40 workers.

Results and Discussion

Table-1 depicts that among physical constraints A.K. Chikan Industry workers experienced itching in eyes, backache and neck pain whereas Nath Chikan center workers experienced neck pain with highest mean value 3.0. Least important physical constraint as reported by A.K.

Chikan Industry workers were finger pain and knee pain and Nath Chikan center worker reported for itching in eyes,

watering in eyes, finger pain and knee pain.

Table 1: Distribution of the respondents on the basis of constraints faced

Sl. No	Physical Constraints	A.K. Chikan Industry Workers (n=20)	Nath Chikan center Workers (n=20)
		Mean	Mean
1	Itching in eyes	3.0	1.0
2	Inflammation in eyes	2.0	2.0
3	Watering in eyes	2.0	1.0
4	Backache	3.0	2.0
5	Shoulder pain	2.0	2.3
6	Leg pain	2.0	2.0
7	Hand pain	2.0	2.3
8	Neck pain	3.0	3.0
9	Elbow joint pain	2.0	2.0
10	Finger pain	1.0	1.0
11	Knee pain	1.0	1.0
12	Low back pain	2.0	2.1

Chikankari is basically an embroidery that can be better performed in sitting posture because it need concentration. Workers do this work in different sitting positions i.e. sitting cross legged, sitting leg extended, squatting, stooping or kneeling, posture either due to habit or due to need of work. Data in table-2 reveals that majority 36.00 percent Nath Chikan center based and 38.00 percent A.K. Chikan Industry

based workers perform their work in sitting on floor with Cross legged position, whereas, 24.00 percent Nath Chikan center based and 22.00 percent A.K. Chikan Industry based workers in Squatting position. Least were reported in Leg extended position on floor. None of the worker adopted stooping and kneeling posture for this work.

Table 2: Distribution of respondents on the basis of posture adopted for chikankari.

S. No.	Posture adopted	A.K. Chikan Industry Workers (n=20)	Nath Chikan center Workers (n=20)	Total (n=40)
1	Sitting Posture			
a	Cross legged on floor	18 (36.00)	19 (38.00)	37 (92.5)
b	Leg extended position on floor	06 (12.00)	08 (16.00)	14 (35.0)
2	Squatting posture	11 (22.00)	12 (24.00)	23 (57.5)
3	Stooping posture	-	-	-
4	Kneeling posture	-	-	-

Figures in parentheses indicate the percentage values

Table-3 showed the medical history of chikankari workers since last one year and the data regarding various illnesses are mentioned below. It was crucial to diagnose the occurrence of illness/sickness among different group of workers as it has an impact on their health status which in turn affects their working efficiency also. It was evident from the table 3

majority of the total workers i.e. 80.00 percent had reported body ache as the main common illness faced by them which was due to poor working posture for longer duration, and were least reported illness was cough, cold and fever i.e. nearly by 30 percent of workers.

Table 3: Medical History of chikankari workers during last one year n=40

S.No	Illness/ symptoms	Occurrence		
		A.K. Chikan Industry Workers (n=20)	Nath Chikan center Workers (n=20)	Total n=40
1.	Cough, cold, fever	15 (30.00)	10 (20.00)	25 (62.5)
2.	Headache	13 (26.00)	12 (24.00)	25 (62.5)
3.	Body-ache	16 (32.00)	16 (32.00)	32 (80.00)
4.	Back-pain	12 (24.00)	11 (22.00)	23 (57.5)
5.	Skin-rashes, Allergy	10 (20.00)	7 (14.00)	17 (42.5)
6.	Wounds	9 (18.00)	6 (12.00)	15 (37.5)

Poor neck posture leads to a forward head position, which is one of the most common causes of neck, head, and shoulder tension and pain. This can result in injuries like sprains and strains of the neck, leading to weak neck muscles. Thus, after reviewing the health status of the worker, an ergonomically sound workstation, table, or chair, and an intervention programme related to a safe work culture may be recommended.

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