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### Ergonomic study to reduce working schedule stress of women in handicraft industry

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#### Abstract

Craft sector is the second largest employment sector in India. There are 23 million crafts people 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. Chikan embroidery is the biggest artisan's cluster of India. Apart from the artisans, thousands of people from allied activities like cutting, stitching, hand block, textile printing, jaali work, and washermen are involved in the process of chikan craft. The total number of artisans providing support services to chikan embroidery is about 50,000. The artisans of chikan embroidery are scattered in the villages of Lucknow district and other nearby district in a radius of about 125 Km. The districts covered are Unnao, Barabanki, Lakhimpur, Hardoi and Sitapur etc. Some other districts where we can find few artisans of chikankari are Raibareilly, Shahjhapur, Sultanpurn and Faizabad. Both urban and rural block of the area are largely dependent on the activities associated with chikan crafts.

**Keywords:** Embroidery workers, posture habit, risk, work stress and environment.

#### 1. Introduction

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. In India there are many popular embroidery groups such as chikankari of Lucknow, Kantha of Bengal, Fulkari of Punjab, Kutch of Gujarat and kashidakari of Kashmir. Each style of embroidery is different from the other and has its own beauty and significant value. The National Sample Survey Organisation carried out a sample survey in 2004-2005 and its results showed that out of total workforce of 401 million, only 32 million workers are employed in the organised sector and remaining in the unorganised sector. It reveals that over a decade, the employment in the organised sector has been almost stagnant or slightly declined. As per survey, there were 44.35 million enterprises and 79.71 million workers employed thereof in the non-agricultural unorganized sector of the economy. Among these 25.01 million enterprises employing 39.74 million workers were in rural areas whereas 19.34 million enterprises with 39.97 million workers in the urban area. Among the workers engaged in the unorganised sector, 70.21 million are full time and 9.5 million part times. Percentage of female workers to the total workers is 20.2 percent. The World Bank employment report (2004-05) estimated that about 26% of total share of Indian gross national product comes from the unorganized economy. In spite of the huge size of work force in the unorganised sector, there is a limited attention being paid to this work force as far as health and safety and well being issued are concerned. The majority of chikankari workers live in poor areas, lack basic health and welfare services and social protection and work in an unhealthy and unsafe working environment. For many of these operators their home and workplace are one and the same place. Vulnerability to diseases and poor health result from a combination of undesirable living and working conditions. The conditions under which most these workers operate are precarious and unsafe. The interaction between occupational hazards and poor living conditions can exacerbate the health problems of these workers.

Some of the most prevalent problems faced by these workers are: poor lighting, lack of ventilation, inadequate work space and working tools, lack of protective equipment, exposure to hazardous long hours of work. Therefore keeping in mind these facts the research study was planned with the following objective:-

1. Medical history of women workers
2. To study the physiological stress

In order to achieve the objectives of the study, descriptive cum experimental design was planned. The interview schedule was found to be an appropriate tool, which would adequately gather information pertaining to research work. The present study was carried out in Lucknow city. Both purposive/convenient and random sampling techniques were used to select the study area and samples. Sample size was determined before the data collection. A total of 120 samples were selected from Lucknow city of the Uttar Pradesh. Collected data was tabulated and analysis with descriptive as well as relational statistics.

## 2. Research Findings and Discussion

Table 1 showed the medical history of chikankari workers for last one year and the data regarding various illnesses are mentioned below. It was crucial to diagnose the occurrence of illness/sickness among different unit of workers as it has an impact on their health status which in turn affects their working efficiency also.

Various types of common illness as cough, cold and fever, headache, body ache, skin rashes and allergy, etc and chronic illness like diabetes mellitus, respiratory disease, BP problem, Arthritis, Heart disease and tingling in hand were reported by workers of last one year.

It was evident from the table 1 that on the total sample 85.0 percent reported body ache as the main common illness faced by them which was due to poor working posture for longer duration, and least reported illness were cough, cold and fever by 40 percent of workers.

When comparison was made among the different groups of workers, it was found that all workers in unit I and unit II who were involved in chikankari embroidery work had reported body ache as their major common illness and the reason might be long hour work in awkward position. The result were supported by finding of Burdort *et al.* 1991 that the main contributing factor for body ache is poor working posture. Whereas among the unit I workers who were engaged in embroidery task the main common illness reported by majority of workers i.e. 86.6 percent was body-ache.

**Table 1:** Medical History of chikankari workers during last one year  
N=120

S. No	Occurrence			
	Symptoms	Unit I	Unit II	Total
1.	Cough, cold, fever	25 (41.66)	22 (36.66)	47 (39.16)
2.	Headache	47 (78.33)	42 (70)	89 (74.17)
3.	Body-ache	52 (86.67)	50 (83.34)	102 (85)
4.	Skin rashes, allergy	31 (51.66)	28 (46.67)	59 (49.16)
6.	Diabetes mellitus	10 (16.67)	12 (20.0)	22 (18.34)
7.	Respiratory disease	2 (3.33)	3 (5.0)	5 (4.16)
8.	BP problem	14 (23.34)	23 (38.3)	37 (30.83)
9.	Arthritis	21 (35.0)	20 (33.3)	41 (34.16)
10.	Heart disease	11 (18.3)	8 (13.34)	19 (15.83)
11.	Tingling in hand	33 (55.0)	36 (60.0)	69 (57.5)

Figures in parentheses indicate the percentage values

Various type of chronic illness as diabetes mellitus, respiratory disease, BP problem, arthritis, heart disease and tingling in hand were reported by workers of last one year. Data revealed that most of the workers i.e. 57.5 percent had reported tingling in hands as the major chronic illness and least common was respiratory disease which was reported by only 4.16 percent. A commendable proportion of total workers i.e. 18.34 percent, 34.16 percent, 15.83 percent and 30.83 percent complained that they suffered from diabetes mellitus, arthritis, heart disease and BP problem, respectively.

**Table 2:** Distribution of respondents on the basis of working hours/day

S. No.	Working hour / day	Unit I (n=60)	Unit I (n=60)	Total (n=120)
1.	5-6 hrs	25 (41.70)	-	25 (20.90)
2.	7-8 hrs	28 (46.70)	60 (100.00)	88 (73.40)
3.	More than 8 hrs	7 (11.70)	-	7 (5.90)

It can be inferred from table-2 that majority 88.00 percent workers reported working hour to be 7-8 hours per day. On further analysis it was found that cent percent Unit II workers reported 7-8 hour working per day. On the other hand 46.70 percent Unit I workers worked for 7-8 hour followed by 25.00 percent 5-6 hour per day. Only 11.70 percent Unit I workers were found devoting more than 8 hours to this work.

The numbers of days constituted in embroideries per week depends to a great extent on whether she is a Unit I worker or a Unit II. Since all centers have 6 or 7 days work week. Analysis of table-4.16 reveals that 35.00 percent Unit II workers work for 7 days in a week followed by 31.70 percent for 6 days in a week and 33.40 percent for 5 days in a week. Whereas, 60.00 percent Unit I workers were also observed working for 7 days in a week followed by 40.00 percent for 5 days in a week. Therefore they need to coordinate their daily activities with chikan work. The degrees of control a woman has over how she organizes task and spends her time effects the number of hours per day and days per week that she can allocate for chikan work.

Generally it was observed that women between the age of 35-45 years were working in both chikankari industries these women belong to joint families. The common health problem found to be body ache and headache. Both the units were involving women for 7 to 8 hours per day. The working days per week were seven days.

## 3. References

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