

# Occupational related health problems of workers in ginning mill

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■ **ABSTRACT** : Cotton is one of the major cash crops grown in the country. India is the third largest producer of cotton after China and the United States. When cotton is harvested, it is transported to ginning mill for further process. A cotton gin is a machine that quickly and easily separates cotton fibres, from their seeds. Ginning factories discharge large amounts of cotton dust, which leads to decreased pulmonary function in the exposed subjects. The present study was undertaken to study the occupational health hazards among the workers of ginning mill and to study the existing clothing practices of workers. The workers in ginning mill suffer from health problems like eye irritation, coughing, headache, hearing and breathing problems. All these health problems are caused due to inhalation of cotton fibres and dust in work place. In addition to these, hearing impairment among workers may be attributed to exposure of high level noise and also due to non-usage of any kind of functional clothing at work place. Hence, it is necessary to educate the workers regarding health hazards caused due to ginning operations. Further, there is a need to design and construct protective clothes for workers based on their needs and create awareness among the workers for usage of functional clothing.

■ **KEY WORDS** : Cotton, Ginning, Health hazards, Functional clothing, Awareness

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Cotton is one of the major cash crops grown in the country. In terms of global production, India is the third largest producer of cotton after China and the United States. When cotton is harvested it is transported to ginning mill for further process. Ginning sector acts as bridge between the farmers field and textile industry. Ginning of cotton plays a significant role in determining the quality of raw material for textile and clothing industry.

A cotton gin is a machine that quickly and easily separates cotton fibres, from their seeds, allowing for much greater productivity than manual cotton separation. The fibres are processed into clothing/other cotton foods and any undamaged seeds may be used to grow more cotton/to produce cotton seed oil and meal.

Cotton industry workers are exposed to various hazards in different departments of textile factories, especially in

the ginning, spinning and weaving sections which play an important role in the high incidence of industrial health hazards. Ginning factories discharge large amounts of cotton dust, which leads to decreased pulmonary function in the exposed subjects. Byssinosis and other related respiratory abnormalities are well-known occupational respiratory diseases in textile mill workers caused by cotton dust pollution (Jannet and Jeyanthi, 2006). Cotton ginning and pressing have been identified as traditional industries under the unorganized sector which functions on a seasonal basis. The textile industry in India provides employment to large population, but the health hazards among the laborers in these ginning factories have been overlooked. Hence, the present study was undertaken to study the occupational health hazards among the workers of ginning mill and to study the existing clothing practices of workers.

**RESEARCH METHODS**

**Locale and sample selection:**

Cotton ginning mill located at Narendra village, Dharwad district was chosen for the study. Totally 60 respondents (30 each male and female) were interviewed to elicit the information on health hazards among the workers.

**Tools used:**

Self-structured questionnaire was used for eliciting information regarding demographics of respondents, type of activity performed, health problems encountered during work and occupational dress pattern of workers. Data were collected by personal interview method.

**RESEARCH FINDINGS AND DISCUSSION**

Data in Table 1 indicate the demographic characteristics of workers. Fifty per cent of workers belonged to the age group of 34 - 40 years, whereas one fourth of them were below 33 years. Majority of workers (53.3%) were illiterates followed by Primary education (23.3%) and High School (20%) education. Further, it is observed from the table that 90 per cent of respondents belonged to the nuclear family and very few (10%) belonged to joint family system.

It is inferred from Table 2 that majority of male workers performed activities like pressing and packing cotton bundles

Sr. No.		No. of respondents	Percentage
<b>Age</b>			
1.	Below 33yrs	16	26.6
2.	34-40yrs	30	50.0
3.	Above 40 yrs	14	23.3
<b>Education</b>			
1.	Illiterate	32	53.3
2.	Primary education	14	23.3
3.	Secondary education	12	20.0
4.	Intermediate	2	3.3
5.	Graduation and above	-	-
<b>Type of family</b>			
1.	Nuclear	54	90.0
2.	Joint	6	10.0

Sr. No.	Activity performed	Male (n=30)		Female (n=30)	
		No	%	No	%
1.	Preliminary cleaning	-	-	13	43.3
2.	Loading cotton in machine	-	-	8	26.6
3.	Collecting cotton from machine	8	26.6	4	13.3
4.	Cotton bale formation	7	23.3	5	16.6
5.	Pressing and packing cotton bundles	15	50.0	-	-

Sr. No	Problems encountered	Preliminary cleaning		Loading cotton in machine		Collecting cotton from machine		Cotton bale formation		Pressing and packing cotton bundles	
		No.	%	No.	%	No.	%	No.	%	No.	%
1.	Accumulation of dust/cotton on										
	Head	11	18.3	8	13.3	10	16.6	10	16.6	5	8.3
	Other parts of body	7	11.6	4	6.6	10	16.6	10	16.6	3	5.0
	Clothes	13	21.6	8	13.3	11	18.3	11	18.3	6	10.0
2.	Eye irritation	-	-	-	-	5	8.3	5	8.3	5	8.3
3.	Watery eyes	-	-	-	-	3	5.0	2	3.3	-	-
4.	Sneezing	9	15.0	7	11.6	9	15.0	7	11.6	2	3.3
5.	Running nose	8	13.3	6	10.0	7	11.6	5	8.3	4	6.6
6.	Coughing	3	5.0	1	1.6	3	5.0	2	3.3	4	6.6
7.	Burning sensation in chest	-	-	-	-	-	-	-	-	-	-
8.	Headache	-	-	-	-	10	16.6	-	-	-	-
9.	Hearing problem	-	-	-	-	10	16.6	-	-	-	-
10.	Breathing problem	-	-	-	-	8	13.3	5	8.3	5	8.3

(50%), collecting cotton from machine (26.6 %) and cotton bale formation (23.3%). All these activities are strenuous and involved lots of physical energy. On the other hand, greater per cent of female workers (43.3%) were involved in preliminary cleaning of cotton. Women have the skill and efficiency in cleaning activity. Other activities performed by female workers were loading cotton in ginning machine (26.6%), cotton bale formation (16.6%) and collecting cotton from machine (13.3%), as these activities are considered less tiring (Fig. 1).

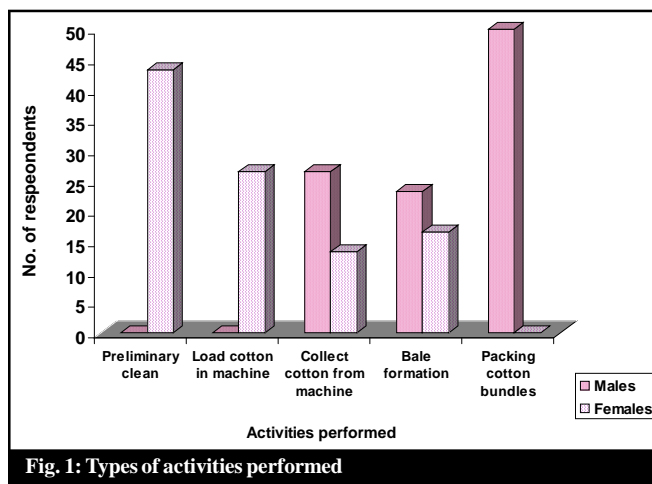


Fig. 1: Types of activities performed

Table 3 depicts the general problems encountered by the workers. Accumulation of cotton dust on clothes and body was common problem observed in ginning mill. Sneezing (15% and 11.6%), running nose (13.3% and 10%) and coughing (5% and 1.6%) were the health problems faced by the workers during preliminary cleaning of cotton and cotton loading, respectively. The dust particles along with the minute fibres detached from the cotton seed get accumulated on the body and workers involved in carrying out such activities, unknowingly inhale the particles responsible for causing the above mentioned health problems.

Further, it is observed from the table that, the workers performing activities like collecting cotton from machine and cotton bale formation suffered from eye irritation (18.3% each), sneezing (15% and 11.6%), running nose (11.6% and 8.3%), watery eyes and coughing (5% and 3.3% each), respectively. The workers working with ginning machine faced health problems like headache and hearing problem (16.6% each) and breathing problem (13.3%).

Ginning mill workers performing activities like cotton bale formation and pressing and packing cotton bundles complained about sneezing (11.6% and 3.3%), eye irritation and breathing problem (8.3% each), running nose (8.3% and 6.6%), coughing (3.3 % and 6.6%) and watery eyes (3.3%), respectively. Due to the reason that while collecting cotton from machine, the fragile and filthy fibres get dispersed into

work environment and circulate freely in the air. Since, the workers do not follow any safety measures while working, these fibres get into their eyes and nose leading to several disorders. In addition to these, hearing impairment among workers may be attributed to exposure of high level of noise created by the machinery.

It is noticed from Table 4 that, very few female workers wear occupational dresses like shirt (66.6%) as over coat and cotton cloth (46.6%) for covering face. other than these, no functional clothings were used by the workers. On the other hand, male workers do not wear any kind of functional clothes during work.

Sr.No.	Dress pattern	No. of the respondents	Percentage
1.	Upper garment		
	Shirt (as over coat)	20	66.6
2.	Face		
	Cotton cloth	14	46.6

**Conclusion:**

With rapid industrialization and mechanization in textile industries, occupational health hazards are becoming more prominent. The workers in ginning mill suffer from health problems like eye irritation, coughing, headache, hearing and breathing problems. All these health problems are caused due to inhalation of cotton fibres and dust in work place. In addition to these, hearing impairment among workers may be attributed to exposure of high level noise and also due to non-usage of any kind of functional clothing at work place. Hence, it is necessary to educate the workers regarding health hazards caused due to ginning operations. Further, there is a need to design and construct protective clothes for workers based on their needs and create awareness among the workers for usage of functional clothing.

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