

Occupational Hazards in Tobacco Factory workers : Experience from Rangpur

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Abstract

The purpose of this study was to determine the level of awareness of occupational hazard among tobacco factory workers in a selected area of Rangpur. Data were collected by face to face interview with a semi structured questionnaire. 58% of the respondents were male and 42% was female (N=120). It was found that 65.8% respondents were unmarried and the rest of 34.2% respondents were married. The mean ages of the respondents were 17.5SD ±4.16. 24% respondents were educated in secondary level, 51 % were educated in primary level and rest of 25 % respondents has no educational background. Monthly income of 65% respondents were between tk.1501 to tk.3000, 28% were between tk.3001 to tk.4500, 3.5% were between tk.1501 to tk. 3000 and rest of 3.5% respondents were more than tk. 4500. 55% respondents were heard that occupation hazards due to cultivation of tobacco and 45 % respondents don't. In service occupational hazards were realized by 75.8% respondents, 17.5% respondents did not have any idea. Out of 120 respondents, 25% were told that Anemia due to occupational hazards, 8.3% were lung diseases, 28.3% were cough, 13.3% skin diseases and 7.5% was others. Knowing the risks of lung diseases avoiding masks the 81.7% respondents agree with this and 18.3% respondents don't know. 46.7 % respondents know to use aprons while working in the factory and 53.3% could not. 48.3% respondents had knowledge on the risk of cancer, 51.7% respondents had no proper idea if, he/she could not wearing apron and mask.

Keywords: Awareness, Occupational hazards, Tobacco.

INTRODUCTION

Tobacco (*Nicotiana tabacum*) is a plant and its non-edible leaf is dried to produce cigarettes, pipe tobacco, cigars, chewing tobacco and snuff. It is universally known that tobacco use brings health hazard. Tobacco use contributes to chronic diseases and health problems

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including cancers, cardiovascular diseases, strokes, tuberculosis, respiratory diseases, gastrointestinal disorders, cancer in oral cavity, reduced physical fitness, increased risk of osteoporosis and broken bones, cataracts, blindness, and increased time needed to recover from illness. Cigarette smoking and tobacco uses also lead to the alteration of the lipoprotein levels (Gaur, Kasliwal and Gupta, 2012).

Rangpur is one of the most important tobaccos growing and processing zone in Bangladesh and almost 95 % of workers are women. From this point of view the present investigation has been undertaken in several tobacco processing plants, those grades and process tobacco leaves, in order to study the prevalence of different physiological abnormalities of tobacco workers who were occupationally exposed to tobacco dust in their work place. Tobacco industries provide livelihood to tobacco workers who are engaged in tobacco cultivation, processing and rolling of bidis /cigarettes. Environment of tobacco industries are usually polluted by tobacco dust. Inspirable dust concentration is about 150-fold higher in tobacco factories. Endotoxin concentration also increased in the air of tobacco factories (Khaleque A. 1988).

Workers of tobacco industries are chronically and predominantly exposed to tobacco dust and majority workers of tobacco industries are smokers non-smoker tobacco workers are also exposed to passive smoking at their work places. Inhalation is the common route of absorption of air borne contaminants caused by tobacco dust and smoke and deterioration of lung functions is related to inhalation of dust. Tobacco dust exposure induces oxidative stress among tobacco workers that leads to impairment of lung functions and lung diseases (Kumar S. N., 2010).

There are many tobacco factories in many parts of Bangladesh and in Rangpur district a remarkable population is engaged in tobacco industrial activities. But unfortunately they are not aware that they are at the risk of impaired lung functions. To the best of our knowledge, assessment of tobacco workers lung functions status has not been studied in our country. From the public health point of view it is urgent to protect their lung health. Considering this the present work was carried out to study the status of lung functions in tobacco industry workers by measuring Forced Vital Capacity, Forced Vital Capacity in first second and Percentage of Forced Vital Capacity in 1st Second (FVC, FEV1 and FEV1%). The outcome of this study would help to create awareness among the tobacco workers and authorities and they may take appropriate measures to protect lung health against tobacco hazards (Gaur K., 2012).

RESEARCH QUESTIONS

What are the occupational hazards and socio-economic condition of tobacco factory workers in selected area of Rangpur district?

OBJECTIVES

- ⇒ To assess the type of occupational hazards.
- ⇒ To identify the risk factors of occupational hazards.
- ⇒ To determine the socio-demographic condition of tobacco factory workers.

LITERATURE REVIEW

Bangladesh is the most densely populated country of the world. A large proportion of the people are living below the poverty line, with an in enviable living condition and health status. The import and usage of tobacco products are progressively increasing in Bangladesh. National health data in Bangladesh revealed that tobacco use is a major public health problem with prevalence of 37% and imposes a huge burden on health care services with its associated mortality and morbidity especially coronary heart disease and cancer. It has been known for many decades that tobacco is the leading preventable cause of ill health and premature death in the world. It causes 1 in 10 deaths among adults and about 4 million premature deaths worldwide (WHO, 2004).

“Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities, and to summarize, the adaptation of work to man and of each man to his job (Bhisey R. A., 1993).

Very few studies on health hazards and quality of life of the workers in tobacco industries have so far been conducted in Bangladesh. So the present study could be taken as an attempt to investigate the effect of tobacco on the health status and quality of life of tobacco industries workers. Since the 1990s, tobacco companies have increased the development and marketing of products which they claim have the potential to reduce the risk of disease and death compared with conventional tobacco products. Any scientific evaluation must start with the recognition that these products are diverse in nature, intent and apparent claims. The different products include modifications of more traditional products: all, however, contain tobacco and deliver nicotine and tobacco toxins. Little information is available about the contents or emissions of most of these products, and what is available comes primarily from the companies that make and sell the products. Although new tobacco products have the theoretical potential to reduce the risk of disease in people who are unable to abstain from tobacco completely, the risks and overall public health harm could be increased, depending upon how the products are actually used. The sheer diversity of product offerings makes it even more urgent to introduce regulation to protect health-conscious smokers from being misled by this new generation of unevaluated and unapproved products. Without strong regulatory oversight aimed at protecting health, people will continue to be hostages of the promises of tobacco product developers and marketers (Rahman M. M., 2009).

The extent of the tobacco industry’s true knowledge of the addictiveness and disease-causing effects of its products may never be known. Finally, it is clear that the tobacco industry continues to design and market products to perpetuate and expand its markets and that it will exploit opportunities to undermine prevention and cessation efforts (Chaudhary K., 2000).

“There is clear evidence that tobacco package health warnings increase consumers’ knowledge about the health consequences of tobacco use.” The warning messages “contribute to changing consumers’ attitudes towards tobacco use as well as changing

consumers' behavior." At the same time, such warning labels have been subject to criticism, a 2007 meta-analyses indicated that communications emphasizing the severity of a threat are less effective than communications focusing on susceptibility, and that warning labels may have no effect among smokers who are not confident that they can quit, which lead the authors to recommend exploring different, potentially more effective methods of behavior change (Khaleque A., 1988).

MATERIALS & METHODS

The study design was descriptive study which will be conducted to assess the awareness of occupational hazard among tobacco factory workers in selected area of Rangpur. The target populations of the study were tobacco factory workers in profession. Both male and female workers participated. The study was conducted in Haragasa of Rangpur district. The study duration was 6 months from June to November, 2012.

FINDINGS OF THE STUDY

Table 1: Distribution of the respondents by age, educational level & monthly income:

Out of 120 respondents, the age of 27.5% respondents were between 10 to 14 years, 35.83% were between 15 to 19 years, 36.67% respondents were between 20 to 25 years. Among 42% respondents were female, the rest are 58% male. 24%, highest level of education was 51% in primary level, 24% in secondary and 25% had no formal educational background. Most of the respondents 65 % grossly monthly income between tk.1501 to tk.3000 and least income 3.5% were more than tk. 4500.

Variables	Frequency (f)	Proportion (%)
Age		
10-14 years	33	27.5
15-19 years	43	35.8
20-25 years	44	36.7
Total	N= 120	100
Mean 17.5 SD ±4.16		
Educational level		
No education	30	25
Primary	61	50.8
Secondary	29	36.7
Total		

Monthly Income (Taka)		
500-1500	3	2.5
1501-3000	79	65.8
3001-4500	35	29.2
> 4501	3	2.5
Marital status of respondents		
Married	41	34.2
Unmarried	79	65.8
Total	N=120	100.0

Figure 1: Distribution sex by the respondents:

One hundred twenty respondents were participated in the study. About 42 % respondents were female, the rest of 58 % respondents were male. Through this research it has been found that women are working almost equally.

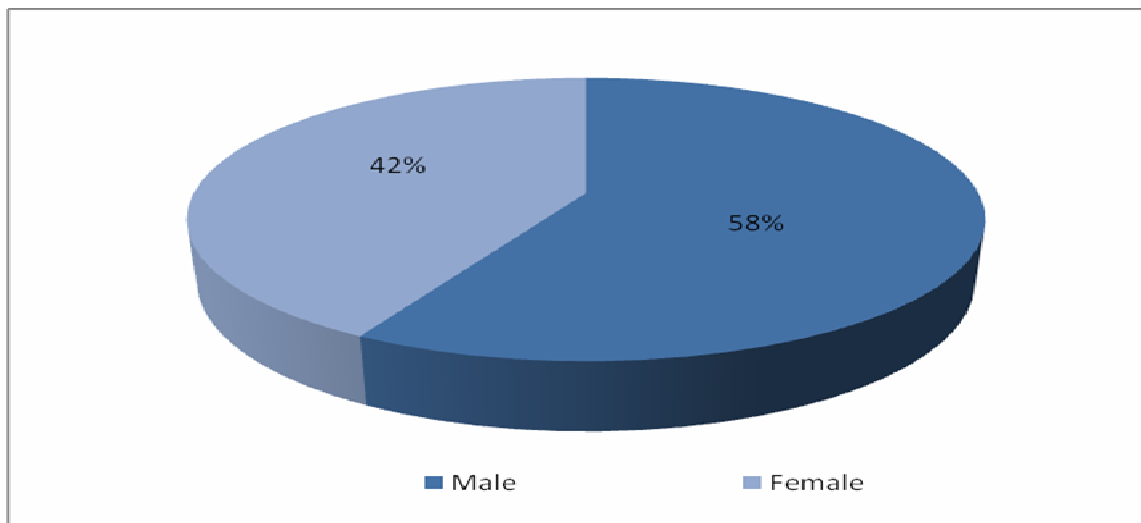


Figure 2: Distribution of respondents by job experience:

50% of the respondents job experience were between 5 to 8 years, the job experience of 3.3 % respondents were between 9 to 12 years, the job experience of 45.8% respondents were less than 4 years and the job experience of 0.8 % respondents were more than 13 years.

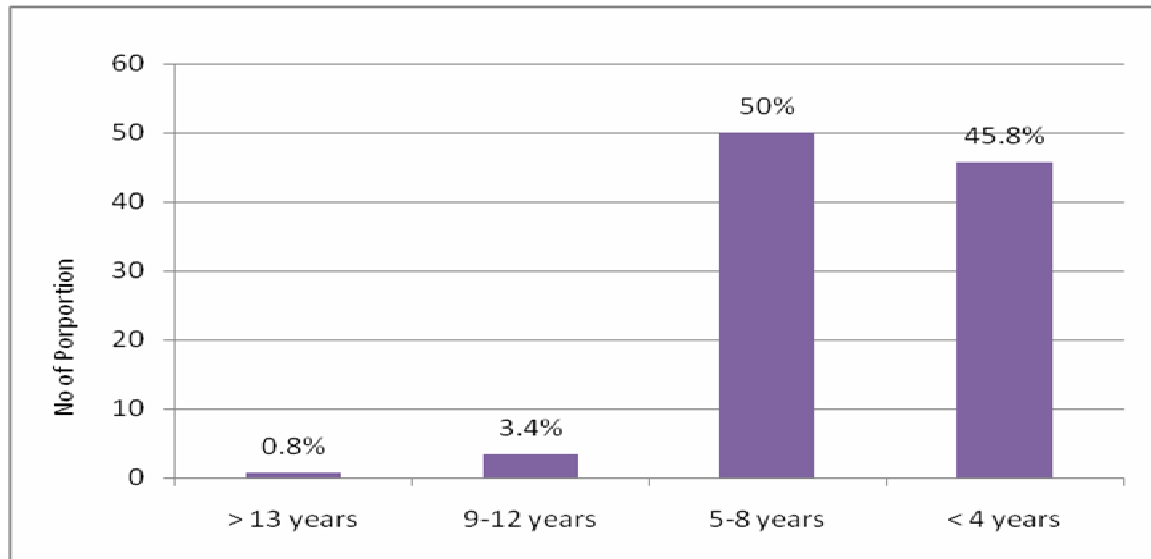


Figure 3: Distribution of the respondents by the reason for doing this job

Among 120 respondents, 36.7 % respondents told that they were doing this job for parents desire, 16.7 % respondents told that they were doing this for economical necessity, 30.8 % respondents told that they were doing it for near to home, 15.0% respondents had told that they were doing for no job without this work and about 1% had told its their familial work.

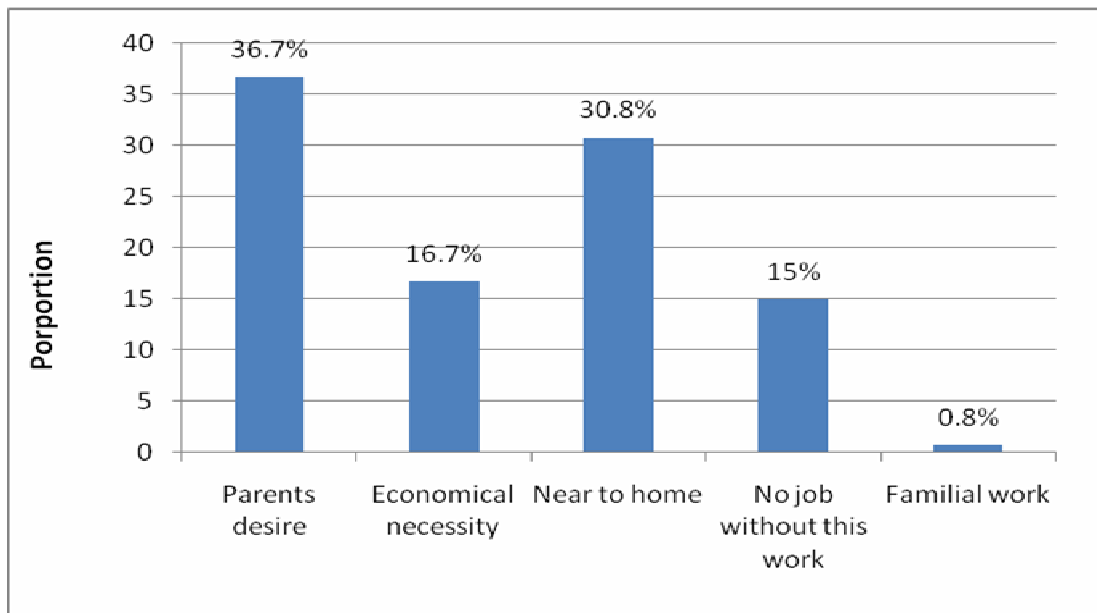
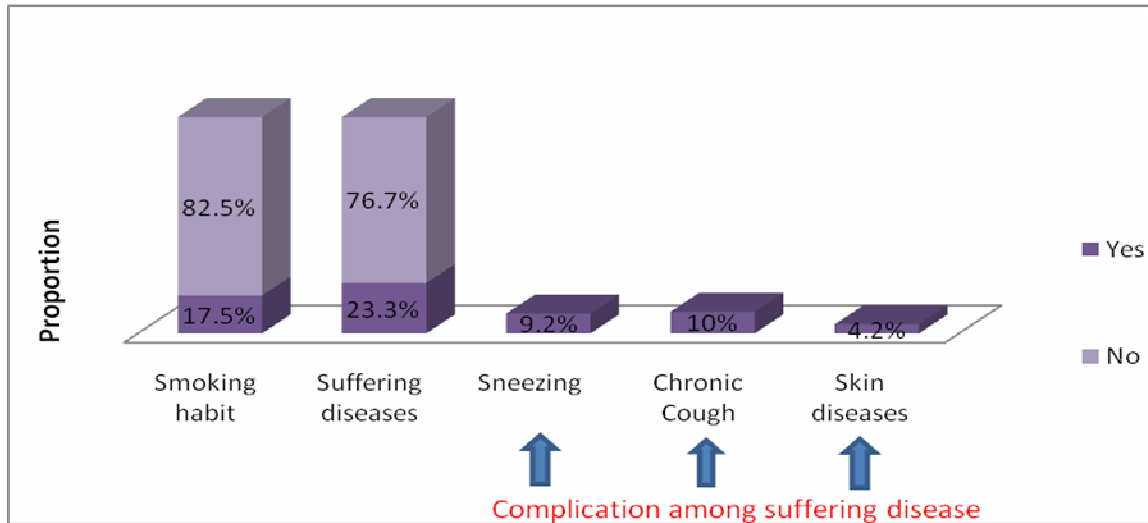


Figure 4: Distribution of the respondents by smoking habits & its complications

Among one hundred twenty respondents, only 17.5 % of the respondents had smoking habits and the rest of 82.5 % respondents had no smoking habit, 23.3 % of respondents told that they had been suffering for diseases and the rest of 76.7 % respondents did not suffering for any diseases, 9.2% respondents were suffer from Sneezing for the complication of smoking, 10.0% respondents were suffering from Chronic Cough and 4.2% respondents were suffering from Skin diseases.

**Table 2: Distribution of the respondents by recurrent suffering**

86.7 % of tobacco factory workers had no illness or any diseases at present, 13.3 % respondents said that they suffering for diseases. 8.3 % respondents had suffered for Skin Diseases and the 5.0 % respondents had suffered Chronic Cough.

Variables		Frequency (f)	Percentage (%)
Recurrent suffering by diseases	Yes	16	13.3
	No	104	86.7
Type of diseases	Skin diseases	10	8.3
	Chronic cough	6	5.0

Table 3: Distribution of the respondents by the knowledge of occupational hazards & its effects:

45% respondents have heard about occupation hazards and 55 % respondents don't hear about it. 75.8 % respondents replied that they have occupational hazards in their job, 6.7% respondents told no hazards in their job and rest of 17.5 % respondents did not have any idea. Among one hundred twenty respondents, 25 % respondents told health hazards are Anemia, 8.3 % said lung diseases, 28.3% told Cough, 13.3 % told Skin Diseases and the rest of 7.5 % respondents said others.

Variables		Frequency (f)	Percentage (%)
Known about occupational hazards	Yes	54	45
	No	66	55
Having occupational hazards in this job	Yes	91	75.8
	No	8	6.7
	Don't know	21	17.5
Type of health hazards	Anemia	30	25
	Lung diseases	10	8.3
	Cough	34	28.3
	Skin diseases	16	13.3
	Others	9	7.5

Table 4: Distribution of the respondents by the knowledge on put on dress:

Among 120 respondents, 81.7 % respondents told should wear musk while working and rest of 18.3 % respondents had no proper knowledge. Knowing the risks of lung diseases avoiding masks the 81.7 % respondents agreed with this and rest of 18.3 % respondents don't know. 46.7 % respondents had knowledge that aprons should be used while working in the factory and rest of 53.3 % respondents could not. 48.3% respondents had knowledge on the risk of cancer, if apron and mask are not used; and rest of 51.7 % respondents had no proper idea about it. 25.8 % respondents had knowledge about wearing hand gloves while working, 74.2 % respondents had no idea. 37.5 % respondents had knowledge about wearing glass while working and rest of 62.5 % respondents were unaware of that.

Variables	Yes		No	
	Frequency(f)	Percentage (%)	Frequency (N)	Percentage (%)
knowing about wearing musks while working	98	81.7	22	18.3
knowing the risks of lung diseases avoiding masks	98	81.7	22	18.3
knowing that aprons should be used	56	46.7	64	53.3
knowing the risk of cancer, if apron and mask are not used	58	48.3	62	51.7
knowing about wearing hand gloves while working	31	25.8	89	74.2
knowing about wearing glass while working	45	37.5	75	62.5

DISCUSSION

In the current study health complication among workers were studied and different of symptoms of health complications were found. No workers were found to use protective masks. The workers looked tired and weak. Most of them were lean and thin. They were found to work sitting on ground and keeping tobacco leaves very close to their body.

Due to illiteracy they have less confidence as well as scope to work anywhere. Once they enter into the factory, they do not want to leave due to better payment and once they get the opportunity to earn from this sector, though hazardous, they do not usually want to switch over. Unawareness of diseases creeps in naturally due to illiteracy. A cross sectional survey on a sample of 223 male and female workers at a cigar and cigarette factory in Lucca (Tuscany) showed a significantly higher prevalence of wheezing, attacks of shortness of breath with wheezing, dyspnea, and rhinitis than in a reference population. A number of study also reported respiratory symptoms among tobacco workers those study reported symptoms of cough, phlegm, dyspnea, tightness of chest, nose irritation pulmonary fibrosis among workers of tobacco industry.

CONCLUSION & RECOMMENDATIONS

In conclusion, tobacco workers took participation very willingly but have to face some problem from the owner of the tobacco factory. The problems of environmental pollution are most acute in the surrounding areas of tobacco industries. Tobacco workers are working in an unhygienic environment in their working place and they are suffering from various lungs diseases and some other types of diseases throughout the year. Continuous inhalation of tobacco dust creates many diseases. Passive smoking also creates lungs diseases of tobacco workers. Risk of lung cancer, heart diseases, bronchitis, pneumonia and respiratory illness of the workers are increasing day by day. Moreover a large number of tobacco workers live in overcrowded and unhealthy environment where basic services and utilities are either absent or grossly inadequate. Most of the workers houses are huts made of tin, bamboo or bricks. We need to create awareness among the workers regarding causes of how they are being affected physically and how could they are able to overcome the problems. As the majority of the workers were illiterate investment in education for our children and initiatives for equality for women would help the poor to rise from their deplorable conditions in tobacco-related employment, "Tobacco Control Law" should be modified to cover other types of tobacco products and to increase their prices. It is necessary to ensure the availability of health care centers and proper sanitation facilities by the industries, It is equally important that a portion of the profits gained from the sale of tobacco products should evenly distributed among those involved in the work education to bring about a lasting impact on the overall health condition of the tobacco workers. The following recommendations are made on the basis of the findings of the present study:

- Awareness and education programmes need to be implemented to target tobacco workers about occupational health hazards.
- Similar studies with descriptive approach can be undertaken with larger samples to generalize the findings in different districts.
- Government, non-government, media and donor communities should continue their work in promotion of tobacco worker's status, particularly their right to education, economic, social status.



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