

**A STUDY TO ASSESS THE KNOWLEDGE ABOUT OCCUPATIONAL HEALTH  
ILLNESS AND MEDICATION USE AMONG SUGAR FACTORY WORKERS IN  
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**ABSTRACT**

Occupational health hazards or occupational disease as a source or situation with potential for harm in terms of injury or ill health, damage to property, damage to the workplace environment, or a combination of these. The workers are working in sugar industries are prone to face a number of stress. Repeated attacks can cause fine scarring of the lungs and impaired breathing. This study is conducted with the aim to assess the knowledge about health illness and medication use among sugar factory workers in Bharathinagar. This is a cross sectional study, conducted in a sugar factory at Bharathinagar, Mandya district, over a period of 6 months. The workers were selected by convenient sampling technique. Out of 140 workers, majority of the workers are in the age group of 51-60 years (48.57%), All are male workers. Majority (68.57%) of the workers having monthly income between 20000- 25000, majority (44.29%) of the workers are having the working experience between 21-30 years, majority (42.86%) of the workers have the habits of both alcohol and smoking. From the study we revealed that (57.14%) of the workers are suffering from the musculoskeletal problem and majority (89.28%) of the workers are having the knowledge of risk of exposure to noise, (61.42%) of the workers are having the knowledge of risk of exposure to heat, (85.71%) of the workers are having the knowledge of risk of exposure to dust. Most of the workers had poor knowledge about self-reported practice regarding personal protective equipment. The finding of this study shows that most of the workers had knowledge about occupational health hazards, and unsatisfactory self-reported practice.

**KEYWORDS:** sugar factory, occupational health hazards, workers.**INTRODUCTION**

Occupational health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards. Health has been defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Occupational health is a multidisciplinary field of healthcare concerned with enabling an individual to undertake their occupation, in the way that causes least harm to their health.<sup>[1]</sup>

Occupational health and safety (OSH) issues are an important part of quality management, risk management and corporate social responsibility (CSR). Workplace-related health impairments, injuries and illnesses cause great human suffering and incur high costs, both for those affected and for society as a whole. Occupational health and safety measures and health promotion in workplaces are aimed at preventing this.<sup>[2]</sup>

Occupational health hazards or occupational disease may be defined as source or situation with potential for harm in terms of injury or ill health, damage to property, damage to the workplace environment, or a combination of these.<sup>[3]</sup> Globalization and rapid industrial growth in the past few years have added further to complexities of occupational health related issues.<sup>[4]</sup> The aim of our study is to assess the knowledge about health illness and medication use among sugar factory workers in Bharathinagar.

**MATERIALS AND METHODS**

This is a Cross-sectional study, carried out the workers in sugar factory at Bharathinagar, Mandya district. The workers were selected by convenient sampling technique. 140 workers of sugar factory were included based on the inclusion criteria. This present study was conducted after getting the ethical clearance from the ethical committee of Mandya Institute of Medical

Sciences (MIMS) Mandya.

### METHODS OF DATA COLLECTION

**Procedure:** The participants will be interviewed using a semi structured pretested questionnaire. The questionnaire will contain questions regarding their demographic details followed by questions to assess their knowledge regarding occupational hazards.

#### Study Tool

**I. Tool I-** Structured interview questionnaire was constructed by the researcher after reviewing the relevant literature and recent scientific articles; this tool consists of four parts.

**1. Part 1-** Sociodemographic characteristics such as name, age, income, residence, education level, marital status and years of work experience.

**2. Part 2-** Current complaints such as Musculoskeletal problem, Eye, Ear and Nose problem, Cardiac problem, Skin problem, Respiratory problem.

**3. Part 3-** Health history

- Past health history such as diabetes, hypertension,

cardiovascular disease, liver disease, hearing loss and others.

- Awareness about dyspnoea, chronic cough, chest pain, hearing disturbances, tinnitus, headache, blurring vision and others.

**4. Part 4-** Health habit such as smoking, Alcohol and others.

**II. Tool II-** Questionnaire to collect knowledge of workers about occupational health hazards such as noise, dust and heat.

**III. Tool III-** Self-reported practice questionnaire about using workers personal protective equipment and self-reported practice about most commonly first aid in the factory.

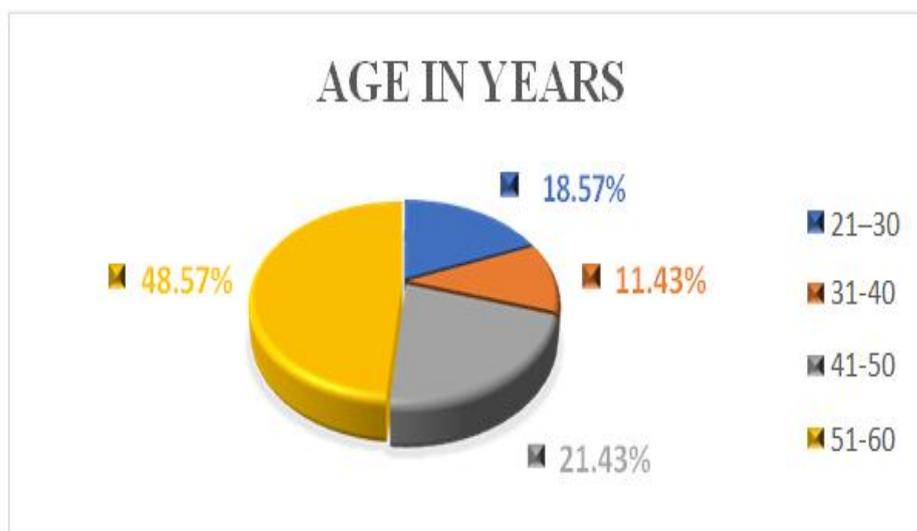
### RESULT AND DISCUSSION

#### Age wise categorization

The study revealed that, 48.57% of the workers were in the age group from 51-60 years and 21.43% aged from 41-50 years, while only 11.43% aged from 31-40 years with mean age of  $35 \pm 19.72$  years.

**Table 1: Distribution of workers based on their age.**

SL NO	AGE IN YEARS	NUMBERS OF WORKERS (n=140)	Percentage (%)
1	21-30	26	18.57
2	31-40	16	11.43
3	41-50	30	21.43
4	51-60	68	48.57
	Mean $\pm$ SD	35 $\pm$ 19.72308 years	



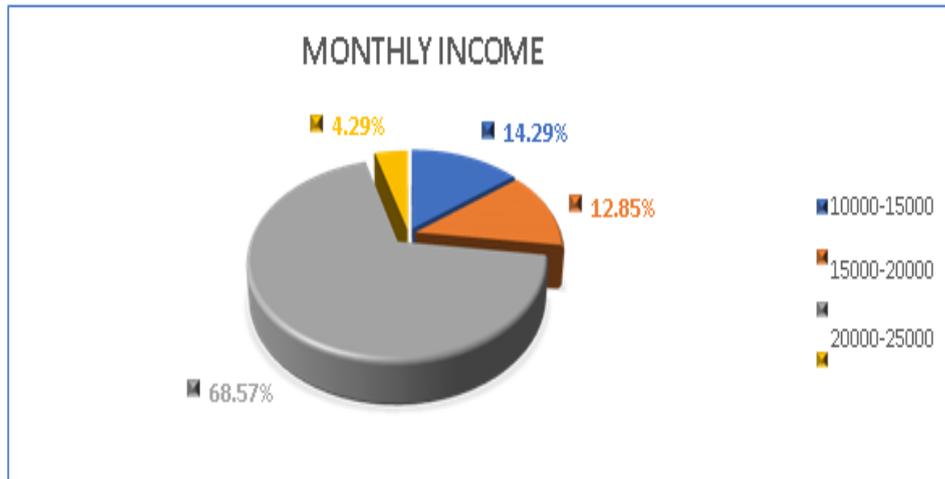
**Figure 1: percentage distribution of workers based on their age group.**

#### Income wise categorisation

The study revealed that, 68.57% of the workers get monthly income of 20000-25000 rupees, while 4.28% ranged from 25000-30000 rupees.

**Table 2: Distribution of workers based on their income.**

S No.	Monthly Income (In Rupees)	Numbers Of Workers (N=140)	Percentage (%)
1	10000-15000	20	14.29
2	15000-20000	18	12.85
3	20000-25000	96	68.57
4	25000-30000	6	4.29
	Mean $\pm$ Sd	35 $\pm$ 35.62303	

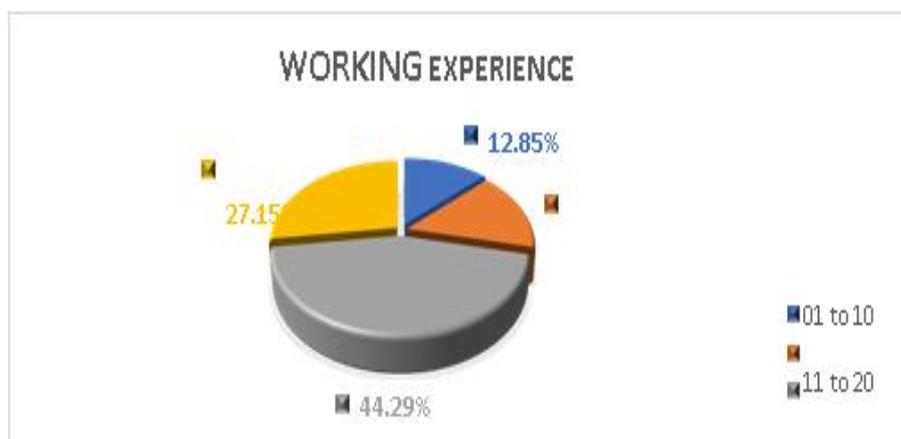
**Figure 2: percentage distribution of workers based on their income.****Working experience wise categorisation**

Our study shows that, 44.28% were ranged from 21-30

years of working experience, while only 12.28% was less than 10 years.

**Table 3: Distribution of workers based on their working experience.**

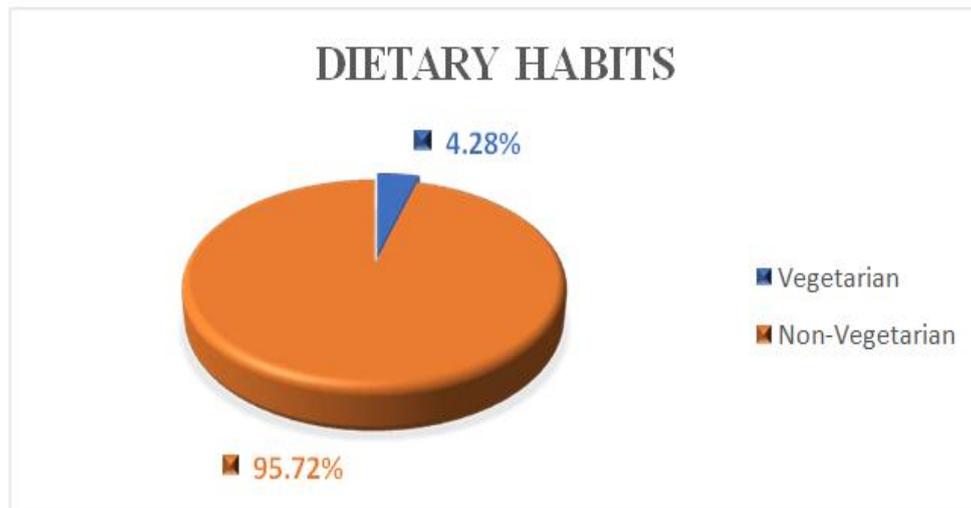
S No.	Working Experience (In Year)	Numbers Of Workers (N=140)	Percentage (%)
1	01-10	18	12.85
2	11-20	22	15.71
3	21-30	62	44.29
4	31-40	38	27.15
	Mean $\pm$ Sd	35 $\pm$ 17.29162	

**Figure 3: percentage distribution of workers based on their working experience.****Dietary habits wise categorisation**

Our study shows that, 95.72% of the workers were non-vegetarian, while only 4.28% were vegetarian.

**Table 4: Distribution of workers based on their dietary habits.**

SI No	Dietary	Numbers Of Workers (N=140)	Percentage (%)
1	Vegetarian	6	4.28
2	Non-Vegetarian	134	95.72
	Mean ± Sd	70 ± 64	



**Figure 4: percentage distribution of workers based on their dietary habits.**

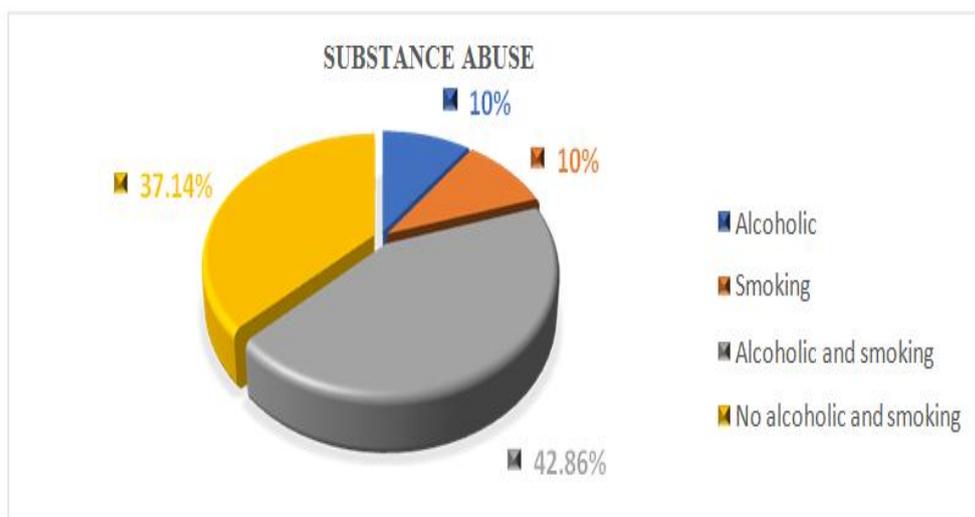
**Substance abuse wise categorisation**

In our study revealed that, 42.85% workers are having the habits of both alcoholic and smoking. And 37.14% of

workers are not having any habits of smoking and alcohol, and 10% were alcoholic and remaining 10% were smokers.

**Table 5: Distribution of workers based on their substance abuse.**

SI No	Substance Abuse	Numbers Of Workers (N=140)	Percentage (%)
1	Alcoholic	14	10
2	Smoking	14	10
3	Alcoholic And Smoking	60	42.86
4	No Alcoholic And Smoking	52	37.14
	Mean ± Sd	35 ± 21.18962	



**Figure 5: percentage distribution of workers based on their substance abuse.**

**DISEASE WISE CATEGORISATION**

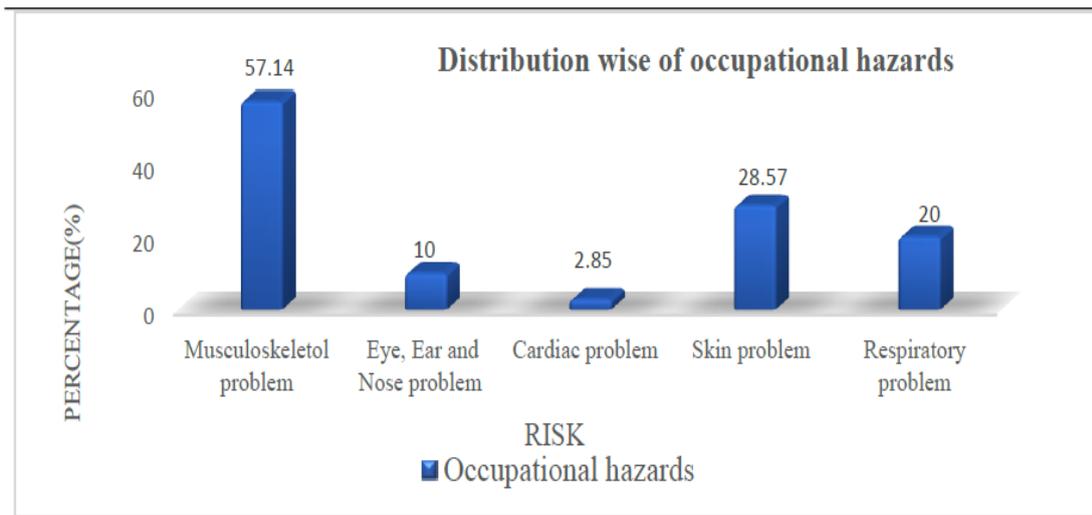
**Occupational hazards**

There were altogether 5 different types of occupational health hazards observed during the study period. The

types of occupational health hazards observed with their corresponding number of workers is shown in below table.

**Table 6: List of occupational hazards.**

SI No	Risk Of Occupational Hazards	Numbers Of Workers (N=140)	Percentage (%)
1	Musculoskeletal Problem	80	57.14
2	Ear, Nose And Eye Problem	14	10
3	Cardiac Problem	4	2.85
4	Skin Problem	40	28.57
5	Respiratory Problem	28	20



**Figure 6: Percentage distribution of workers according to the risk of occupational hazards,**

**Knowledge of workers regarding the risk of exposure to Noise**

In our study revealed that 89.28% of workers know that risk of noise during work. As regard to risks of noise,

72.86% reported that effect of noise was headache, 65.71% reported difficulty of communication between others, 54.28% reported lack of ability to concentrate and while only 10.71% don't know the risk of noise.

**Table 7: Knowledge of workers regarding the risk of exposure to Noise (n=140).**

KNOWLEDGE	NUMBERS OF WORKERS(n=140)	PERCENTAGE (%)
<b>Do you know the risk of exposure to noise?</b>		
• Yes	125	89.28
• No	15	10.72
<b>Risk of noise</b>		
• The difficulty of communication between others	92	65.71
• Feeling annoyance, depressed, nervous, and easy to excite	26	18.57
• Lack of ability to concentrate	76	54.28
• Hearing loss	14	10
• Hypertension	0	0
• Sleep disturbance	20	14.28
• Headache	102	72.86
• Don't know	15	10.71

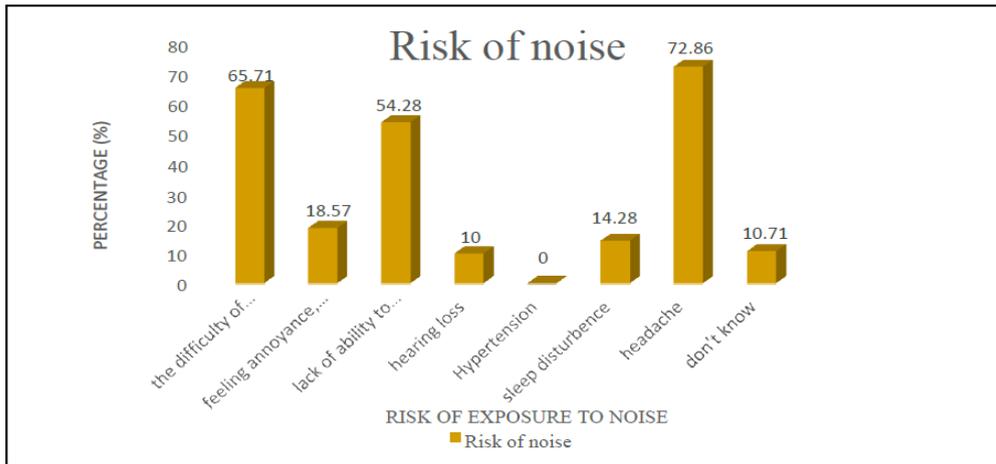


Figure 7: Percentage distribution of workers according to the risk of exposure to Noise.

**Knowledge of workers regarding the risk of heat exposure**

Our study revealed that, 61.42% of workers know the risk of exposure to heat. Regarding the heat risk, 32.85%

of workers stated that feeling tired and fatigue, 31.43% of workers stated that heavy sweating and 38.57% of workers don't know about the risk of heat exposure.

Table 8: Knowledge of workers regarding the risk of heat exposure (n=140).

KNOWLEDGE	NUMBERS OF WORKERS (n=140)	PERCENTAGE (%)
<b>Do you know risk of exposure to heat?</b>		
• Yes	86	61.42
• No	54	38.58
<b>Risk of heat</b>		
• Feeling annoyance and nervous	6	4.28
• Feeling tired and fatigue	46	32.85
• Irritability	20	14.28
• Painful muscles cramp	18	12.85
• Dizziness and headache	20	14.28
• Nausea, vomiting and fainting	20	14.28
• Heavy sweating	44	31.43
• Don't know	54	38.57

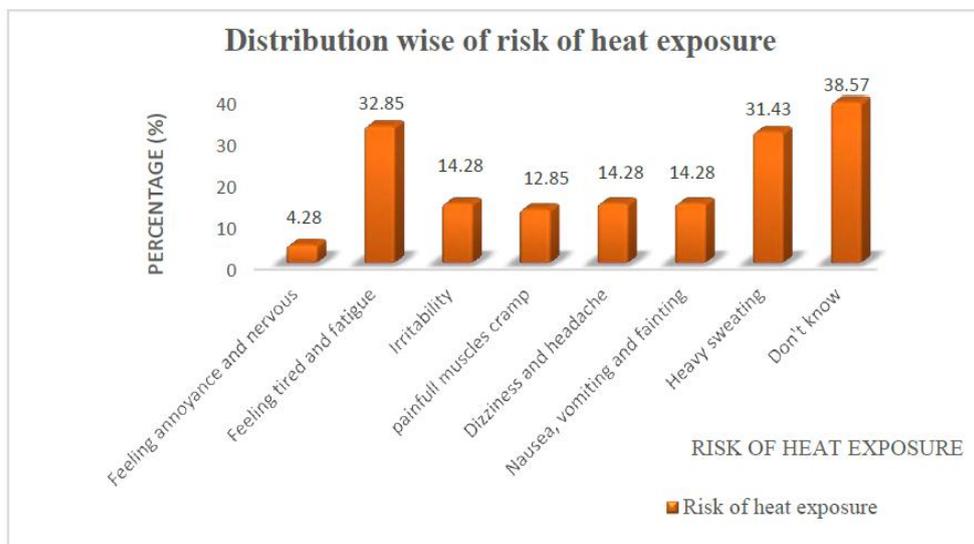


Figure 8: Percentage distribution of workers according to the risk of heat exposure.

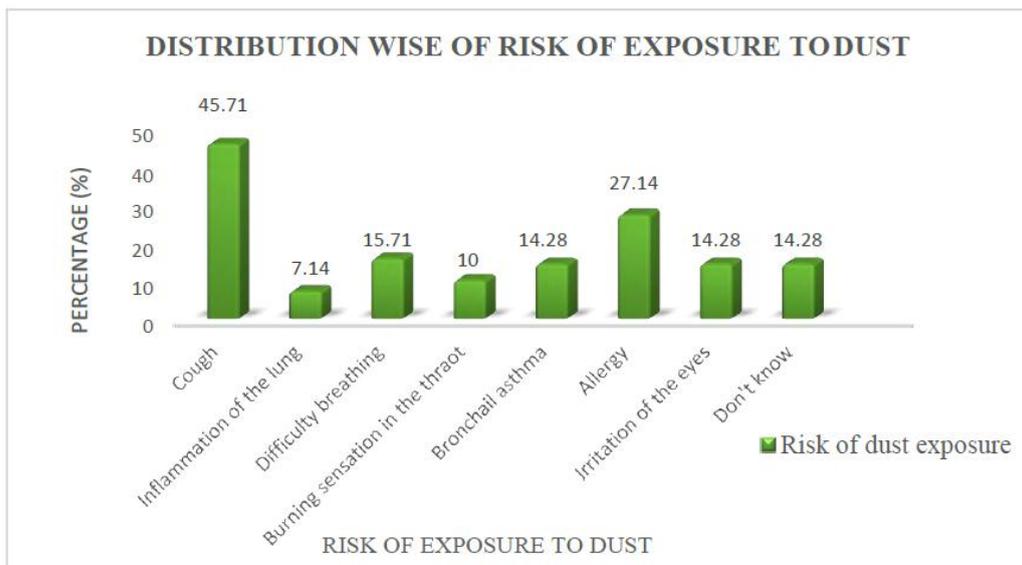
**Knowledge of workers regarding the risk of dust exposure**

Our study shows that, 85.71% of workers know that the risk of exposure to dust. Regarding risk of dust exposure,

45.71% of workers are stated that cough and 27.14% of workers stated that Allergy and 15.71% of the workers mentioned that difficulty of breathing. 14.28% of the workers don't know the risk of dust exposure.

**Table 9: Knowledge of workers regarding the risk of dust exposure (n=140)**

KNOWLEDGE	NUMBERS OF WORKERS(n=140)	PERCENTAGE (%)
<b>Do you know the risk of exposure to dust?</b>		
• Yes	120	85.71
• No	20	14.29
<b>Risk of dust</b>		
• Cough	64	45.71
• Inflammation of the lung	10	7.14
• Difficult breathing	22	15.71
• Burning sensation in the throat	14	10
• Bronchial asthma	20	14.28
• Allergy	38	27.14
• Irritation of the eyes	20	14.28
• Don't know	20	14.28



**Figure 9: Percentage distribution of workers according to the risk of dust exposure.**

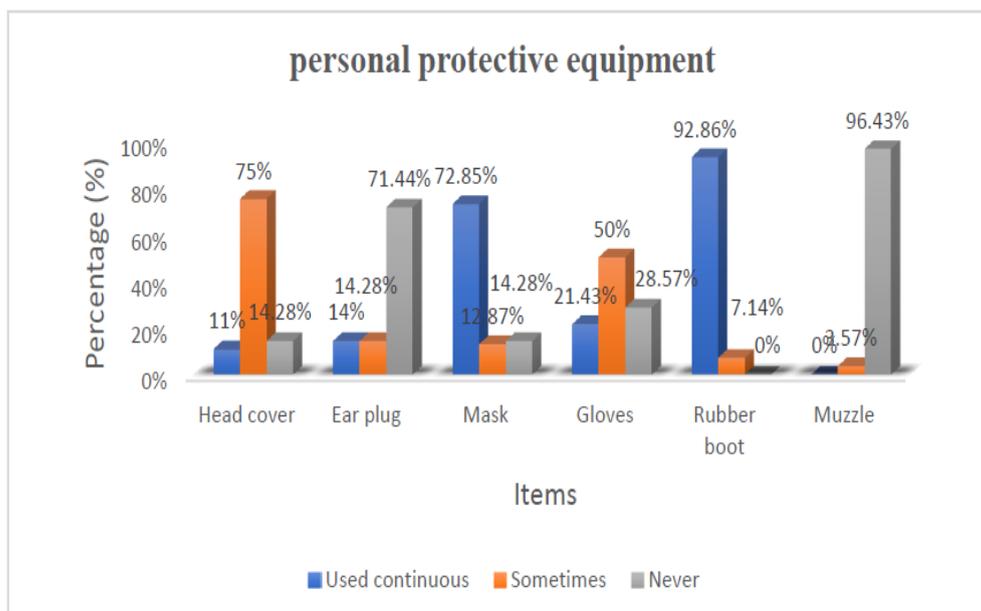
**Self-reported practice of workers regarding use of personal protective equipment**

Our study shows that, 92.86%, 72.85% of workers use

mask and rubber boot continuously, while 75%, 50% used head cover and gloves sometimes and 96.43%, 71.44% never used muzzle and ear plug respectively.

**Table 10: Self-reported practice of workers regarding use of personal protective equipment (n=140).**

Items	Used continuous	%	Sometimes	%	Never	%
• Head cover	15	10.71	105	75	20	14.28
• Ear plug	20	14.28	20	14.28	100	71.44
• Mask	102	72.85	18	12.87	20	14.28
• Gloves	30	21.43	70	50	40	28.57
• Rubber boot	130	92.86	10	7.14	0	0
• Muzzle	0	0	5	3.57	135	96.43



**Figure 10: Percentage distribution of self-reported practice of workers regarding use of personal protective equipment.**

## DISCUSSION

Regarding the age of workers in the study sample, more than one third with age 51 years with mean age of  $35 \pm 19.72$ . this consistence with (El-Khateb *et al.*, 2011)<sup>[5]</sup> who study some of the non-auditory effects of noise among exposed workers in abou-qurks sugar factory, EL-Minia governorate, Egypt and found that all participants with ages ranging from 25-59 years (mean age 42.4, S.D.  $\pm 8.0$ ).

In relation to years of work experience, more than one third ranged from 21-30 years. This finding contradicted with (Islam, Shakhaoat, & Abu Bakkar, 2017)<sup>[6]</sup> who study occupational health hazards and safety practices among the workers of tannery industry in Bangladesh and reported that more than half less than 5 years, one third from 5- 10 years and 14.2% was above 10 years.

Our study revealed that, 57.14% of workers are suffering from Musculoskeletal problem, that is most common among the workers of sugar factory. Skin problem and respiratory problem place the second and third position with 28.57% and 20% respectively and other problems such as Eye, Ear & Nose problem and cardiac problem falls below 10% in our study. Concerning knowledge of workers about risk of noise, more than two third of workers reported that effect of noise was headache and 10.71% don't know risk of noise this findings contradicted with (Shahid, Kousar, & Ajaz, 2014)<sup>[7]</sup> who study impact of industrial noise pollution on human health and reported that two fifth annoyance / headache and two third sleep disturbance and BP.

Concerning knowledge of workers regarding risk of dust exposure in a one third of workers mentioned that cough and 27.14% reported allergy. This result contradicted

with (Hafiz & Mark, 2010)<sup>[8]</sup> who study knowledge and practices related to occupational hazards among cement workers in United Arab Emirates and reported that three quarter mentioned that exposure to the dust in particular was a serious hazard to their health; majority mentioned respiratory symptoms (cough, sputum), allergy, eyes problem as dust-related health problems and only 5.3% mentioned stomach, liver and heart problems as dust-related problems.

Regarding types of personal protective equipment, majority of workers used rubber boot and mask continuously, while more than two third used gloves and head cover sometimes and all workers never used muzzle and ear plug. This disagree with (Esaiyas, Sanbata & Mekonnen, 2018)<sup>[9]</sup> who study occupational health and safety related knowledge, attitude and practice among wood and metal workers in Hawassa, Ethiopia and reported that majority of workers never used ear plug, helmet, two fifth used eye glasses continuously and one third used gloves and mask sometimes.

## CONCLUSION

the finding of this study shows that most of the workers had knowledge about occupational health hazards, and unsatisfactory self-reported practice.

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