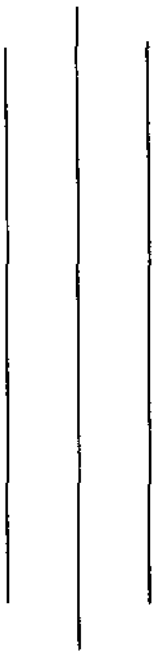
A study on

Sickness absenteeism and Preventive Measures of Occupational Health Problem in Textile Industries of Kathmandu and Paper Industry of Nawalparasi



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Summary

All around the world, industrial workers may be exposed to different types of hazards, which might be the causes of illness or disease and consequence will be absence in the work place. Though scientific background and guidance were provided by WHO to the government for general health protection of their workers and for the prevention of occupational diseases. But we are far behind in occupational health planning, lacking clear policy and guidelines and poor implementation of existing guidelines. The aim of this study was to find out the extent of sickness absenteeism and its influencing factors and preventive measures taken among workers in Textile industries of Kathmandu and Paper industry in Nawalparasi. It is a non-experimental, descriptive, cross-sectional study. Altogether 324 industrial workers were interviewed. The selection of the workers was done by systematic random sampling. Interview was conducted by using structured and semi-structured questionnaire for data collection.

From this study it was found that 44.8 percent of workers had sickness absenteeism and the average absenteeism was reported as 4.2 days per person per year. Out of those, 64 percent were absent entirely due to sickness. Major reason for sickness absenteeism according to the respondent workers were found as social and family obligation (62%), respiratory illness (29%), Alimentary illness (22%), Muscular skeleton illness (15%), ill factory management (9%) and occupational accident (7%). The major finding of occupational health related factors were lack of knowledge about relation of occupational health and causation of disease (30%), provision of social security (50.9%), provision of medical expenses (54.6%), pre-placement medical examination (15.4%), periodic medical examination (33%), regular health care services (58.3%) and no any protective device (54.6%). Some relation between sickness absenteeism and age of workers, education of workers, per week working hours, housekeeping of working place and protective device of working place were found in this study but significant association with sickness absenteeism were only with regular health care services and level of employees.

Based on the findings, the recommendations are; There should be improvement of hygienic condition of working environment, ventilation system and dust control; Establishment of proper ergonomics, regular counseling, health education services, pre-placement medical examination, periodic medical examination and regular health care services in working place; The designing and implementation of interaction program between health workers and industrial worker should be in place to share knowledge of occupational disease and its' prevention. There should also be proper respective management of protective device and safety system within the work environment. .

CHAPTER I

1. Introduction

1.1 Background of the study

Occupational Health is the prevention of disease and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations. It is the application of preventive medicine in all places of employment. In past, occupational health was related only to factory and mines. But now all type of occupation is included. According to ILO/WHO, "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 among workers of departure from health caused by their working condition; the protection of workers in their employment from risk resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment, and to summarize to adaptation of worker to man and of each man to his job[1]. WHO's program on workers' health is concerned with the control of occupation health risk, the protection and promotion of health of working population and the humanization of work.

Although in the sixteenth-century Italian physician Ramazzini, is often cited as the "father of occupational medicine", occupational disease in the modern sense evolved after Industrial revolution of nineteenth century. In Nepal the history of occupational health was started from Biratnagar Jute mills.

The industrial workers today are interacted with three types of working environment, that are man and *physical*, *chemical* and *biological* agents; man and *machine*; man and *man*. And the industrial workers may be exposed to Physical hazards, Chemical hazards, Mechanical hazards, Biological hazards and psychosocial hazards depending upon his/her occupation. When the worker affected with any type of hazards, he/she might be develop disease and may occur absence in the working place. Thus absenteeism is taken as useful index in industry to assess the state of health of worker and their physical, mental and social well-being. In other hand different studies have also shown that if the worker is entitled to sick leave with pay, he/she report as sick but entirely not due to sickness. So there might be different causes of sickness absenteeism. Scientific background and

guidance were provided by WHO to governments for the general health protection of workers and for the prevention of occupational diseases. But governments especially of developing countries are far behind in occupational health planning, policy and implementation of guideline.

The assessment of extent of sickness absenteeism with its cause and measures of prevention of occupational disease provide information for planning and implementation of occupational health program. The objective of this study is to conduct an in-depth investigation of extent of sickness absenteeism with its cause and find out measures of prevention of occupational disease under taken by some certain factory. It is expected that the result of this study will help program planner and manager to obtain substantial occupational disease prevention and health promotion of worker.

1.2. Statement of the problem

Many people are at serious risk of ill health and accident because of the condition of their working place and harmful event and even disaster might be the consequence of exposure. The problem is increasing in developing countries rather than developed countries. In one of Indias's storage battery industries worker were found to be exposed to mean atmospheric lead concentration of 37.5 mg/m; 67 percent of such workers presented clinical symptoms of lead poisoning [2]. Exposures to mineral and vegetable dust occur in many work places. Some health problems are caused by noise or high temperature. Noise-induced hearing loss is a frequent finding among workers in noisy work place such as steel mills. Exposures to biological agent are quite common especially among rural workers, handlers of animal product and health care personals. Accidental poisoning is also the major problem in working place. In Pakistan some 2800 malaria control workers were poisoned and 5 died after spraying a formulation of Melathin. In highly industrialized countries, musculoskeletal problems, resulting from failures to take ergonomic factors into consideration, account for some 40 percent of reported occupational disease [2].

Research under taken by National Productivity Council in sickness absenteeism showed a marked increase from around 8 to 13 percent in 1950 to 15 to 20 percent in recent year. The rate of absenteeism was reported to be 8 to 10 days per head per year in India[3]. It is

found that the causes of sickness absenteeism are not only due to sickness but also due to economic causes, social causes, and non occupational causes among total reported sick leave. About 10 percent of the days lost to be due to occupational accident [4].

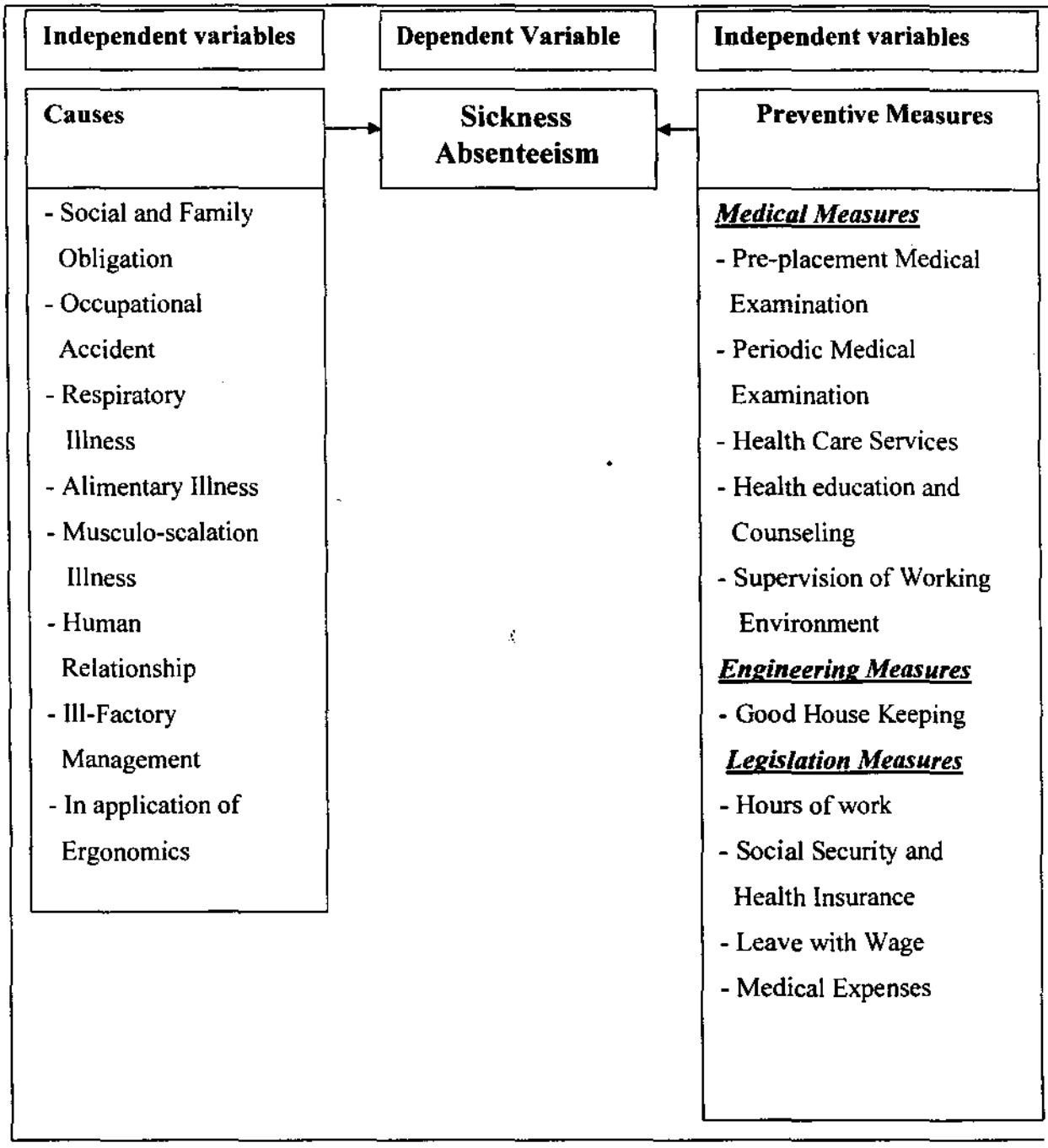
In Nepal at present several occupational activities are being promoted but the industrial development is very poor. The current law has been developed and practiced with several modification, but all industries are not followed the occupational health related law. A few studies are conducted in occupational health so the information of health problems experienced by industrial workers and sickness absenteeism in industries are still lacking. Most of the occupational health problem could be prevented, but unfortunately both employer and employee have lack of knowledge. The first objective of sound occupational health and safety management is to ensure safe working condition for all employees in all industries. But lacking of depth information is the major hinder to regularize the action for health protection of workers and prevention of occupational disease in industrial sectors.

1.3. Rationale for the study

ILO/WHO Committee on occupational health recommended various measures for the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations including Nutrition, Communicable Disease, Women and Child Health, Health Education and Family Planning. For the prevention of occupational diseases, there are various measures viz. Medical measure, Engineering measure and Legislation measure.

The SLTHP (1997-2017) and 10th five years plan (2002-2007) have given priority to health promotion and prevention activities based on PHC principle and identified (EHCS). Occupational Health covering Chronic Respiratory disease, Accident, Cancer, Eye and Skin Disease and hearing Loss is one of the parts of EHCS. However we have no guideline, treatment protocol and proper policy to adders these occupation health problems. Depth information about sickness absenteeism, its causes and measure of prevention taken by employers is necessary to know for further planning, policy making and implementation for government as well as private industrial to achieve optimum health of workers.

1.4. Conceptual framework



1.5 Research Question

1. What is the extent of sickness absenteeism among workers on textile industries in Kathmandu and Bhreekuti paper industry Nawalparasi?
2. What are the Causes affecting the sickness absenteeism?
3. What are the actions under taken by industries to prevent occupational health problem?

1.6 Objectives

1.6.1. General Objective

- To find out the extent and influencing factors of sickness absenteeism and preventive measures among workers on textile industries in Kathmandu and Bhreekuti paper industry Nawalparasi

1.6.2. Specific Objectives

- To find out the prevalence of sickness absenteeism among workers in Textile industries and paper industry
- To identify the causes of sickness absenteeism
- To assess preventive measures of occupational diseases adopted by industries for employees

1.7. Variables

1.7.1. Dependent variable

- Sickness Absenteeism

1.7.2. Independent variables

- Social and Family obligation
- Occupational accident
- Respiratory illness
- Alimentary Illness
- Musculo-scalation illness
- Human relationship
- Ill-Factory management

- In application of ergonomics
- Pre-placement medical examination
- Periodic medical examination
- Health care services
- Health education and counseling
- Supervision of working environment
- Good house keeping
- General ventilation
- Dust control
- Working hours
- Social security and health insurance
- Leave with wage
- Medical expenses

1.7.3. Background variables

- Age
- Sex
- Ethnicity
- Marital status
- Number of child
- Designation
- Educational status

CHAPTER II

2. Methodology

2.1. Study Design

This is the non-experimental, descriptive and cross sectional study.

2.2. Study Area

Sammridi and Nepo textile industries of Bhaktapur, Shree textile industry of Lalitpur in Kathmandu valley and Bhreekuti Paper industry of Nabalparasi were the study areas.

2.3. Study Population

Workers of the above mentioned industries were the study population.

2.4. Sample Unit

Worker of the industries was the sample unit of the study.

2.5. Sample Size

Twenty to forty percent of the workers, working in those industries were determined as sample size for the study. Altogether 324 workers were interviewed.

2.6. Sampling Design

The above mentioned industries of respective districts were purposively selected and systematic random sampling procedure was applied to select the worker for interview.

2.7. Data Collection Technique/Tools

Interview was conducted with low degree of flexibility and was taken by trained interviewers. Structured and semi-structured questionnaire were used as research instrument for data collection.

Data was collected from individual respondents by using the following methods:

1. Interview
2. Observation
3. Discussion with management
4. Review of records

The tools used during data collection were open and close ended structured questionnaire and semi structured questionnaire.

2.8. Data Collection Process

2.8.1. Permission to proceed

Permission from Factory management was taken before starting the data collection process.

2.8.2. Selection of interviewer

With the permission of related District Public Health Officer, an agreed number of health workers of related districts were selected as an interviewer.

2.8.3. Orientation to the interviewer

Two days in-depth orientation was organized for those interviewers in each district.

2.8.4 Data collection

The interviewers took interview using questionnaire with workers.

2.9. Pre-test

The questionnaire was pre-tested at industries and it was readjusted as per need.

2.10. Data processing and Analysis

During data collection time, questionnaires were checked in the field to ensure that all the information has been properly collected and recorded. If inconsistency of data, error in recording and missing or incorrect information was found due to the mistake of interviewers; it was corrected and verified by revisiting the same individual in the industry. During data processing the information was checked again for completeness and internal consistency. No any incomplete questionnaire has been found during the period.

The data was manually edited, categorized and coded in the field. All the records and questionnaires were processed in computer. Data was entered in dBase and compiling and analysis was done in SPSS. Frequency counts and Cross-tabulation were used for analysis to make inferences according to objectives, characteristics, method and design.

2.11. Statistical test

Relationship of sickness absenteeism regarding different independent variables and background variables were compared and tested by using non-parameter test (X^2).

3.12. Exclusion criteria

- The criteria were to exclude those workers who do not want to participate in interview was the criteria but no any such workers were found during interview.

2.13. Reliability and Validity

Following activities were carried out to ensure reliability and validity

- Orientation to the interviewers
- Pre-testing of questionnaires in similar setting
- Cross checking and editing of the filled up forms of data in the field
- Supervision and monitoring by research core team
- Use of simple Nepali language questionnaires

2.14. Limitation of the Study

- Due to limitation of time and resources, it is not possible to explore all causes affecting sickness absenteeism.
- Observation and inspection of engineering measures Buildings with respect to occupational disease prevention was not possible due to technical reasons.

2.15. Ethical Consideration

Verbal consent was taken from respondents for interview, by explaining the objectives of the study so that ethics of the respondents is respected. Privacy and confidentiality of the respondents was also maintained. It was assured to the interviewees that information is only for official and academic purpose.

2.16. Relevancy and Applicability

It is expected that the information obtained from this study may be useful to the policy maker and planner to plan and program the occupational health and make occupational health guideline in order to prevent occupational diseases among the workers in different type of industries and achieve optimum health for more productivity.

CHAPTER III

3. Findings

The general objective of the study was to find out the extent and influencing factors of sickness absenteeism and preventive measures among workers on textile and paper industries. This study was conducted in Sammridi and Nepo textile industries of Bhaktapur, Shree textile of Lalitpur in Kathmandu valley and Bhreekuti Paper industry of Nabalparasi where altogether 324 workers were interviewed. The finding result has been divided in general characteristics of study population, Occupational health related characteristics, Causes of sickness absenteeism, preventive measures of occupational diseases and association between different factors and sickness absenteeism.

3.1. General Characteristics

3.1.1. Age of the respondents

The greater numbers of respondents (33%) were found of age group of 20-30 years followed by 31.5 percent among age group of 31-40 years. Respondents of age group more than 61 years were found lesser (0.9%). The median age was 34 year (Table no. 3.1.1).

3.1.2. Sex of respondents

Very few numbers of female workers in the industries were found in comparison with male workers. Among total workers only 15.7 percent were female where as 84.3 were male workers. (Table no. 3.1.1).

3.1.3. Marital status

The majority of respondents (79%) were married and only 21 percent were unmarried. (Table no. 3.1.1).

3.1.4. Number of live children

Table no. 3.1.1 shows that 32.4 percent respondents have been found no son during the period of interview. The majority of respondents (41%) were having one son and 0.6 percent respondents have 3 plus sons. The maximum number of son was found five sons in some cases. Nearly 35.5 percent of respondents were found having one daughter where

as 17.9 percent respondents were observed to have no daughter. The percentage of respondents who have no daughter is lesser than the percentage of those who have no son. And the percentage of three plus daughter is higher (8.3%) than the percentage of three plus son (0.6%).

Table no. 3.1.1 Percentage distribution of respondents by age, sex, marital status and living children

General characteristics	*Number (n=324)*	*Percentage*
Age of respondents		
Less than 20	21	6.5
20-30	107	33.0
31-40	102	31.5
41-50	78	24.1
51-60	13	4.0
More than 61	3	0 .9
Sex of respondents		
Male	273	84.3
Female	51	15.7
Marital status of respondents		
Married	256	79.0
Non Married	68	21.0
No of living son		
0	105	32.4
1	133	41.0
2	16	4.9
3 and above	2	0.6
No son due to no marriage	68	21.0
No of living daughter		
0	59	17.9
1	115	35.5
2	55	17.0
3 and above	27	8.3
No daughter due to no marriage	68	21.0

Note: Median age of respondents: 34 years
Maximum no of son: 5
Maximum no. of daughter: 5

3.1.5. Ethnicity

Regarding the ethnicity of respondents, majority of respondents (48.5%) were of Brahmin/ Chhetri followed by Janajati (36.7%). Among the respondents Madhesi were 9 percent where as Dalit group such as Damai, Kami, Sarki and Sunar were found only 1.9 percent [Table no 3.1.2].

3.1.6. Designation of respondents in the occupation

Majority of respondents were lower level workers (60.5%) i.e. they were physical worker followed by medium level lower than officer (38.6%). The percentage of officers was found only .9% (Table no. 3.1.2).

3.1.7. Educational status

Table no.3.1.2 shows that the literacy rate of respondents is 92 percent whereas 8 percent of respondents are found still unable to read or write. Only 14.5 percent of respondents are found of SLC and higher.

Table no. 3.1.2 Percentage distribution of respondents by ethnicity educational status, designation, yearly salary and yearly income (from other sector) of respondents

General characteristics	***Number (n=324)***	***Percentage***
Ethnicity		
Brahmin/Chhetry	157	48.5
Janjati	119	36.7
Madise	29	9.0
Dalit	6	1.9
Others	13	4.0
Educational status of respondents		
Illiterate	26	8.0
Literate	45	13.9
Primary level	43	13.3
L. secondary level	52	16.0
Secondary level	47	14.5
SLC and higher level	111	34.3
Designation of respondents in the occupation		
Lower level (workers)	196	60.5
Medium level (table worker	125	38.6

lower than officer)		
Higher level (officers)	3	0.9
Yearly salary of respondents		
Salary less than 25000	16	4.9
Salary 25001 to 50000	155	47.8
Salary 50001 to 99999	148	45.7
Salary more than 100000	5	1.5
Yearly income from other sector (including family income)		
Income less than 10000	181	55.9
Income 10001 to 50000	107	33.0
Income 50001 to 100000	20	6.2
Income more than 100000	16	4.6

Note: Minium salary 12000
Maximum salary 148800
Mean salary 52205

3.1.8. Yearly salary of respondents

Majority of the respondents (47.8%) expressed their yearly salary is in the range of Rs. 25001 to 50000, followed by the classes having Rs. 50001 to 99999 Salary (45.7%). Nearly 5 percent respondents expressed that their yearly salary was less than Rs.25000 per year and among them some has got only 12000 Rs per year which is very less amount. Mean salary of total workers was Rs. 52205 per year (Table no. 3.1.2).

3.1.9. Yearly income from other sector (including family income)

Majority of the respondents (55.9%) expressed their yearly income from other sector rather than this job (including family member income) was less than Rs. 10000 per year. That means 55.9 percent are fully dependent on this job. Followed by 33 percent workers who expressed their yearly income from other sector was in between the range of Rs.10001 to 50000 per year. Only 4.6 percent workers have more than Rs. 100000 yearly income from other sector. (Table no. 3.1.2).

3.2. Occupational health related characteristics

3.2.1. Knowledge of occupational health and causation of disease

The Table no 3.2.1 shows nearly 30 percent respondents have no knowledge about relation of occupational health and causation of disease where as majority of respondents

(36.7%) have poor knowledge that is, they have heard about occupational diseases. Nearly about 26 percent respondents were found to have very good knowledge of relation of occupational health and causation of disease (Table no. 3.2.1).

Table no. 3.2.1 Percentage distribution of respondents by their knowledge level on relation of occupation and causation of disease

Knowledge level	*Number*	*Percentage*
No knowledge	96	29.6
Poor knowledge	119	36.7
Fair knowledge	26	8.0
Very good knowledge	83	25.6
Total	324	100.00

3.2.2. Provision of leave in the job

Table no. 3.2.2 presents the distribution of respondents by provision of leave in the job as the respondents expressed. Nearly three forth of the respondents (75.9%) were found expressed to have provision of leave in the job and other 24.1 percent expressed they have no provision of any leave.

Table no. 3.2.2. Percentage distribution of respondents by mentioned provision of leave in the job

Provision of leave in the job	*Number*	*Percentage*
No	78	24.1
Yes	246	75.9
Total	324	100

3.2.3. Provision of pay for sick leave

Table no. 3.2.3 shows the distribution of respondents by provision of pay for sick leave. Near about fifty percent of respondents expressed that they will get pay when they take sick leave in the job. But other 50 percent found to have no provision of pay for sick leave.

Table no. 3.2.3. Percentage distribution of respondents by provision of pay for sick leave

Provision of pay for sick leave	*Number*	*Percentage*
No	164	50.6
Yes	160	49.4
Total	324	100.0

3.2.4. Sick leave days taken by respondents in a year

More than half of respondents (55.2%) were found to have no sick leave taken during past one year. And remaining 44.8 percent respondent expressed that they took sick leave during that period. Those who took sick leave, the higher percentage (28.1) were one to seven days sick leave during that year. Only 2.2 percent respondents said that they took more than 30 days sick leave in the same period. In an average 4.2 days sick leave were taken by respondents in a year.

Table no. 3.2.4. Percentage distribution of respondents by sick leave days taken in a year

Sick leave days taken	*Number*	*Percentage*
No sick leave taken	179	55.2
1 to 7 days	91	28.1
8 to 14 days	37	11.4
15 to 30 days	10	3.1
More than 30 days	7	2.2
Total	324	100.0

Not: Mean sick leave days taken in a year by a respondent 4.2

3.2.5. Sick leave days taken entirely due to sickness

Out of 145 respondents who took sick leave during that period were asked to find out, how many days was taken in a year entirely due to sickness. Twelve percent respondents did not take the sick leave days entirely due to sickness but took sick leave for other purpose. Whereas 60 percent of respondents took 1 to 7 days sick leave in the year entirely due to sickness. Only 1.4 percent respondents were found that they took more than 30 days sick leave in a year. In an average 6.6 days sick leave was taken by a respondent in a year as entirely due to sickness (Table No 3.2.5.).

Table no. 3.2.5 Percentage distribution of respondents by number of days sick leave taken which is entirely due to sickness

Sick leave days taken	*Number*	*Percentage*
No sick leave days taken entirely due to sickness	18	12.4
1 to 7 days taken	87	60.0
7 to 15 days taken	29	20
15 to 30 days taken	9	7.2
More than 30 days taken	2	1.4
Total	145	100.0

Note: Rest of the 179 respondents had no taken sick leave in the year.
Mean sick leave days taken entirely due to sickness in a year by a respondent 6.6

3.2.6. Sick leave days taken entirely not due to sickness

Out of 145 respondents who took sick leave during that period were asked to find out, how many days were taken in a year entirely not due to sickness. Nearly sixty-four percent respondents did not take the sick leave for other purpose that means they took the sick leave entirely due to sickness. Where as 26.9 percent of respondents took 1 to 7 days sick leave in the year entirely not due to sickness. Only 0.6 percent respondents were found that they took more than 30 days sick leave in a year for other purpose. In an average 2.6 days sick leave was taken by a respondents in a year as entirely not due to sickness (Table No. 3.2.6.).

Table no. 3.2.6. Percentage distribution of respondents by number of days sick leave taken which is entirely not due to sickness

Sick leave days taken	*Number*	*Percentage*
Zero sick leave days taken entirely not due to sickness	93	64.1
1 to 7 days taken	39	26.9
7 to 15 days taken	6	4.2
15 to 30 days taken	6	4.2
More than 30 days taken	1	0.6
Total	145	100.0

Note: Rest 179 respondents had no taken sick leave in the year.
Mean sick leave days taken entirely not due to sickness in a year by a respondent 2.6

3.3. Reason for sickness absenteeism

Those respondents who were found taken sick leave were asked about the reason for sickness absenteeism. Multiple or single answers for the reason were found. The top most response was "social and family obligation". Sixty-two percent responses of those respondents with sickness absenteeism mentioned that "social and family obligation" was the main reason. The second most common response was "Respiratory illness". Twenty-nine percent responses mentioned that Respiratory illness was the main reason for sickness absenteeism. Similarly third common response was "Alimentary illness". Twenty-two percent respondents reported that they could not attend the job because they suffered with alimentary illness. Fourth response was "Musculo skeleton illness". Nearly 15 percent of the respondent mentioned that Musculo skeleton illness was the main reason for sickness absenteeism. Similarly 9.0 percent responses mentioned that Ill factory management was the main reason for sickness absenteeism. Nearly 7.0 percent responses mentioned that Occupational accident was the main reason for sickness absenteeism. Other more common responses for sickness absenteeism were mentioned as "In application of ergonomics" (5.5%), "Human relationship" (2.0%) and "others" (8.2%) [Table no. 3.3.].

Table no. 3.3. Percentage distribution of respondents with sickness absenteeism in job according to reasons (n=145)

Reason of sickness absenteeism	*Responses*	*Percentage*
Social and family obligation	90	62.0
Respiratory illness	42	29.0
Alimentary illness	32	22.0
Musculo skeleton illness	21	14.5
Ill factory management	13	9.0
Occupational accident	10	6.8
In application of ergonomics	8	5.5
Human relationship	3	2.0
Others	12	8.2

(Note: Multiple responses given by respondents)

3.4. Preventive measures of occupational diseases

3.4.1. Per week working hours

The higher percentage of respondents (55.6) was found to work less than 48 hours per week. Out of total respondents 4.6 percent expressed that they have to work more than 72 hours per week. It was found that, workers are doing work in an average 55.22 hours per week (Table no 3.4.1.)

Table no. 3.4.1. Percentage distribution of respondents by their per week working hours

Per week working hours	*Number*	*Percentage*
Less than 48 hours	180	55.6
49 to 60 hours	80	24.7
61 to 72 hours	49	15.1
More than 72 hours	15	4.6
Total	324	100.0

Note: Mean hour: 55.22

3.4.2. Provision of social security

Table no. 3.4.2. presents the distribution of respondents by provision of social security as the respondents expressed. Nearly fifty percent of the respondents (50.9%) were found to have provision of social security (as health insurance) in the job and other remaining (49.1%) respondents were expressed that they have no provision of such social security.

Table no. 3.4.2. Percentage distribution of respondents by provision of Social security (as health insurance) in the job

Provision of social security	*Number*	*Percentage*
No	159	49.1
Yes	165	50.9
Total	324	100.0

3.4.3. Provision of medical expenses in the job

In the study area more than fifty percent of the respondents (54.6%) were found to have provision of medical expenses in the job where as 45.4% respondents were expressed that they have no any provision of medical expenses in job (Table no. 3.4.3.).

Table no. 3.4.3. Percentage distribution of respondents by provision of medical expenses in the job

Side effect	*Number*	*Percentage*
No	147	45.4
Yes	177	54.6
Total	324	100.0

3.4.4. Provision of pre-placement medical examination

Table no 3.4.4 shows that only 15.4 percents of respondents had done their medical examination before entering this job (pre-placement medical examination) whereas 84.6 percent were found that they had no pre-placement medical examination.

Table no. 3.4.4. Percentage distribution of respondents by provision of pre-placement medical examination mentioned by respondents

Pre-placement medical examination	*Number*	*Percentage*
No	274	84.6
Yes	50	15.4
Total	324	100.0

3.4.5. Provision of periodic medical examination

Similarly 33% of respondents expressed that there is periodic medical examination in their workplace. But according to the 67 percent respondents there is no any periodic medical examination.

Table no. 3.4.5. Percentage distribution of respondents by provision of periodic medical examination mentioned by respondents

Periodic medical examination	*Number*	*Percentage*
No	217	67.0
Yes	107	33.0
Total	324	100.0

3.4.6. Provision of health care services

More than fifty percent respondents (58.3%) mentioned that there is regular health care services in their working place. In other hand 41.7 percent respondents expressed that they did not know about such health care services (Table no 3.4.6).

Table no. 3.4.6. Percentage distribution of respondents by provision of health care services mentioned by respondents

Health care services	*Number*	*Percentage*
No	135	41.7
Yes	189	58.3
Total	324	100.0

3.4.7. Provision of health education and counseling

Table no 3.4.7 shows that only 24.1 percent of the respondents expressed that they have got counseling and health education in their work place, where as 75.9 percent respondents do not know about counseling and health education in the job.

Table no. 3.4.7. Percentage distribution of respondents by provision of health education and counseling mentioned by respondents

Health education and counseling	*Number*	*Percentage*
No	246	75.9
Yes	78	24.1
Total	324	100.0

3.4.8. Supervision on working environment

Similarly 44.8% of respondents expressed that management authority does supervision of working environment regularly. But 67 percent respondents expressed the management do not supervise the working environment (Table no 3.4.8).

Table no. 3.4.8. Percentage distribution of respondents by supervision of working environment mentioned by respondents

Supervision of working environment	*Number*	*Percentage*
No	179	55.2
Yes	145	44.8
Total	324	100.0

3.4.9. House keeping of working place

As shown in the Table no. 3.4.9., 76.2 percent respondents expressed that the house keeping of work place is normal where as 11..4 percent said the house keeping is worst. Only 12.3 percent respondents expressed that the house keeping was good.

Table no. 3.4.9 Percentage distribution of respondents by house keeping of working place mentioned by respondents

House keeping of working place	*Number*	*Percentage*
Worse	37	11.4
Normal	247	76.2
Good	40	12.3
Total	324	100.0

3.4.10. Protective device of work place

Similarly more than fifty percent (54.6%) respondent expressed that there was no any protective device/ system for machinary where as 40.1 percent respondents said the protective device was satisfactory (normal). Only 5.2 percent respondent expressed, that system was good (Table no. 3.4.10).

Table no. 3.4.10. Percentage distribution of respondents by protective device of working place mentioned by respondents

Protective device of working place	*Number*	*Percentage*
Worse	177	54.6
Normal	130	40.1
Good	17	5.2
Total	324	100.0

3.5. Association between different factors and sickness absenteeism

3.5.1. Association between respondent's age and sickness absenteeism

Regarding the sickness absenteeism and age of respondent, it is seen that there is slightly inverse relationship between sickness absenteeism and age of respondent. Sickness absenteeism was found to be declining from high (47.6%) among young respondents (less than 20 years) to low (42.6%) among older respondents (more than 40 years). Whereas no sick leave taken was found high (57.4%) among older respondents (more than 40 years) and low (52.4%) among younger respondents (less than 20 years). But $P>.05$ indicates respondent's age is not significantly associated with sickness absenteeism

Table no. 3.5.1.. Percentage distribution of absenteeism in work by respondents age

Age group of respondents		*Work absenteeism*	
		No Sick leave	Sick leave
Age less than 20 years	(n=21)	52.4	47.6
Age 20 to 40 years	(n=209)	54.5	45.5
Age more than 40 years	(n=94)	57.4	42.6
Total	(n=324)	55.2	44.8

3.5.2. Association between sex of respondents and sickness absenteeism

Regarding to sex of respondents, female were found to have low (35.3%) sickness absenteeism and high (64.7%) attendance whereas male were found high (44.5%) sickness absenteeism and low (53.5%) attendance with respect to female. Sex of respondents is also seen not significantly associated with sickness absenteeism with $p>0.05$.

Table no. 3.5.2. Percentage distribution of absenteeism in work by respondents sex

Respondents sex		*Work absenteeism*	
		No Sick leave	Sick leave
Male	(n=273)	53.5	44.5
Female	(n=51)	64.7	35.3
Total	(n=324)	55.2	44.8

3.5.3. Association between educational status and sickness absenteeism

Respondents with illiterate were found low (30.8%) sickness absenteeism and high (69.2%) attendance as compared to those secondary and above education level who were found high (48.1%) absenteeism and low (51.9%) attendance. Respondent's education was also found to be not significantly associated with sickness absenteeism with $p>0.05$.

Table no. 3.5.3. Percentage distribution of absenteeism in work by educational status of respondents

Educational status		*Work absenteeism*	
		No Sick leave	Sick leave
Illiterate	(n=26)	69.2	30.8

Literate up to primary (n=88)		59.1	40.9
Secondary and higher (n=210)		51.9	48.1
Total	(n=324)	55.2	44.8

3.5.4. Association between designation (level) of respondents and sickness absenteeism

From Table no. 3.5.4. it is seen that respondents with lower level (workers) group were found to have high (60.2%) attendance and low (39.8%) sickness absenteeism as compared to medium level 47.7 percent attendance and 52.3 percent sickness absenteeism. Here the p value is found 0.03 which indicates that level of employees is significantly associated with sickness absenteeism.

Table no. 3.5.4. Percentage distribution of absenteeism in work by designation (level) of respondents

Designation (level) of respondents		*Work absenteeism*	
		No Sick leave	Sick leave
Lower level (workers)	(n=196	60.2	39.8
Medium level including officer	(n=128)	47.7	52.3
Total	(n=324)	55.2	44.8

3.5.5. Association between pre-placement medical examination and sickness absenteeism

The table 3.5.5 shows that pre-placement medical examination is not significantly associated with sickness absenteeism with $p>0.05$.

Table no. 3.5.5 Percentage distribution of absenteeism in work by pre-placement medical examination of respondents

Pre-placement medical examination		*Work absenteeism*	
		No Sick leave	Sick leave
No	(n=274)	55.8	44.2
Yes	(n=50)	52.0	48.0
Total	(n=324)	55.2	44.8

3.5.6 Association between periodic medical examination and sickness absenteeism

Respondents with periodic medical examination were found to have low (48.6%) attendance and high (51.4%) absenteeism as compared to the respondents with no periodic medical examination were high (58.5%) attendance and low (41.5%) absenteeism . But periodic medical examination was also found not to be significantly associated with sickness absenteeism as $p>0.05$.

Table no. 3.5.6 Percentage distribution of absenteeism in work by periodic medical examination of respondents

Periodic medical examination		*Work absenteeism*	
		No Sick leave	Sick leave
No	(n=217	58.5	41.5
Yes	(n=107)	48.6	51.4
Total	(n=324)	55.2	44.8

3.5.7. Association between regular health care services in job and sickness absenteeism

Respondents with no regular health care services were found to have high (65.9%) attendance and low (34.1%) sickness absenteeism where as the respondents with regular health care services were found to have low (47.6%) attendance and high (52.4%) absenteeism. Here it is seen that who has regular health care services he/she take sick leave. The ($p=0.001$) indicates that regular health care services is significantly associated with sickness absenteeism.

Table no. 3.5.7 Percentage distribution of absenteeism in work by regular health care services for respondents

Health care services		*Work absenteeism*	
		No Sick leave	Sick leave
No	(n=135)	65.9	34.1
Yes	(n=189)	47.6	52.4
Total	(n=324)	55.2	44.8

3.5.8. Association between house keeping of working place and sickness absenteeism

Respondents who have feeling that there is worse house keeping of working place,, were found to have high (56.8%) sickness absenteeism and low (43.2%) attendance as compared to those with feeling of good house keeping of work place was low (37.5%) sickness absenteeism and high (62.5%) attendance. House keeping of work place is found inversely related with sickness absenteeism. Higher the house keeping goodness lowers the absenteeism. But p was found higher than 0.5 which indicate relation was not significantly associated.

Table no. 3.5.8. Percentage distribution of absenteeism in work by house keeping of working place mentioned by respondents

House keeping of working place		*Work absenteeism*	
		No Sick leave	Sick leave
Worse	(n=37)	43.2	56.8
Normal	(n=247)	55.9	44.1
Good	(n=40)	62.5	37.5
Total	(n=324)	55.2	44.8

3.5.9. Association between protective device of working place and sickness absenteeism

Respondents who perceived good protective device of work place were found to have low (29.4%) sickness absenteeism and high (70.6%) attendance as compared to those who have perceived worse were high (44.6) sickness absenteeism and low (55.4%) attendance. Protective device of work place was found to be not significantly associated with sickness absenteeism with p>0 .05.

Table no. 3.5.9 Percentage distribution of absenteeism in work by protective device of working place mentioned by respondents

Protective device of working place		*Work absenteeism*	
		No Sick leave	Sick leave
Worse	(n=177)	55.4	44.6
Normal	(n=130)	53.1	46.9
Good	(n=17)	70.6	29.4
Total	(n=324)	55.2	44.8

3.5.10 Association between per week working hours and sickness absenteeism

Respondents who work more than 72 hours per week were found to have high (53.3%) sickness absenteeism and low (46.7%) attendance where as respondents who work less than48 hours per week were found low (43.3%) sickness absenteeism and high (56.7%) attendance. Sickness absenteeism was found inversely related with per week working hours. Higher the per-week working hours lower the sickness absenteeism. But here association between per week working hours and sickness absenteeism was also not significant ($p>0.05$).

Table no. 3.5.10. Percentage distribution of absenteeism in work by per week working hours of respondents

Per week working hour		*Work absenteeism*	
		No Sick leave	Sick leave
Less than 48 working per week	(n=180)	56.7	43.3
49 to 60 working hour per week	(n=80)	56.2	43.8
61 to 72 working hour per week	(n=49)	51.0	49.0
More than 72 working hour per week	(n=15)	46.7	53.3
Total	(n=324)	55.2	44.8

CHAPTER IV

4. Discussion

The main aim of the study was to investigate the extent and influencing factors of sickness absenteeism and preventive measures for occupational diseases among workers on textile and paper industries. The result shows that the objectives of the study are achieved and is found similar with other studies conducted in the past.

According to the study sickness absenteeism was found in 44.8 percent of workers in the job in a year. Out of those 44.8 percent, the highest percentage (28.1%) was found absent for 1 to 7 days in their job, taking sick leave in a year. Only 2.2 percent workers had taken more than 30 days sick leave in a year. The average absenteeism was reported as 4.2 days per head per year. In other hand 55.2 percent workers were found not taking sick leave within a year. (Table no, 3.2.4).

Out of 145 respondents taking sick leave during that period, 12 percent respondents did not take the sick leave entirely due to sickness but took sick leave for other purpose. Sixty percent of respondents took 1 to 7 days and 20 percent took 7 to 15 days sick leave in the year entirely due to sickness. In an average 6.6 days sick leave was taken by a respondents in a year as entirely due to sickness (Table No, 3.2.5.).

Similarly out of those 145 respondents nearly sixty-four percent respondents did not take the sick leave for other purpose that means they took the sick leave entirely due to sickness. (Table No. 3.2.6.).

A study conducted by National Productivity Council in sickness absenteeism in India showed a marked increase from around 8 to 13 percent in 1950 to 15 to 20 percent in recent year. The rate of absenteeism was reported to be 8 to 10 days per head per year [3].

This study observed that there is slightly inverse relationship between sickness absenteeism and age of respondent. The percentage of sickness absenteeism was

decreasing with the increase age of respondent where as the percentage of attendance in work was increasing with the increase age of respondent. It indicates that sickness absenteeism varies with age of workers. So the age of workers is taken as important factor affecting sickness absenteeism. But in this study age of workers is found not significantly associated with sickness absenteeism. (Table no, 3.1.1, 3.5.1).

In this study majority of respondents (48.5%) were found of Brahmin/ Chhetri caste followed by Janajati (36.7%). Dalit caste such as Damai, Kami, Sarki and Sunar was (1.9%) and Madhesi were (9%)[Table no 3.1.2]..

From this study 8 percent of workers were found to be illiterate and only 14.5 percent of respondents were found completed SLC or higher education. Low (30.8%) sickness absenteeism and high (69.2%) attendance was found in respondents those were illiterate as compared to those secondary and above education level. However worker's education was found not significantly associated with sickness absenteeism (Table no. 3.1.2, 3.5.3).

In this study it was found that 30 percent of workers have no knowledge about relation of occupational health and causation of disease where as majority of respondents have poor knowledge and some have very good knowledge of such relation (Table no. 3.2.1).

In this study, reason for sickness absenteeism was also identified. Multiple or single answers for the reason with sickness absenteeism were found. The top most response was "social and family obligation" (62%). Twenty-nine percent responses mentioned that respiratory illness was the main reason for sickness absenteeism. Similarly third common response was "Alimentary illness" (22%). Nearly 15 percent of the respondent mentioned that Musculo skeleton illness was the main reason for sickness absenteeism. Similarly 9.0 percent responses mentioned ill factory management and 7 percent responses mentioned occupational accident was the main reason for sickness absenteeism. Other more common responses for sickness absenteeism were mentioned as "In application of ergonomics" (5.5%), "Human relationship" (2.0%) and "others" (8.2%) [Table no. 3.3.].

In this study 55.6 percent respondents were found working less than 48 hours per week where as 4.6 percent expressed, they have to work more than 72 hours per week and workers are doing in an average 55.22 hours per week. Respondents who work more than 72 hours per week were found to have high (53.3%) sickness absenteeism and low (46.7%) attendance where as respondents who work less than 48 hours per week were found low (43.3%) sickness absenteeism and high (56.7%) attendance. Sickness absenteeism was found inversely related with per week working hours. Higher the per-week working hours lower the sickness absenteeism. But it was found that there was no significant association between per week working hour and sickness absenteeism (Table no 3.4.1, 3.5.10)

In regarding to social security and medical expenses, nearly half percent of the respondents (50.9%) were found to have provision of social security (as health insurance) in the job and other remaining (49.1%) respondents were expressed that they have no provision of such social security. Similarly more than fifty percent of the respondents (54.6%) were found to have provision of medical expenses in the job where as 45.4% respondents were expressed that they have no any provision of medical expenses in job (Table no. 3.4.2, 3.4.3.).

In this study 24.1 percents of workers expressed that they have got counseling and health education in their work place where as 75.9 percent respondents did not. Similarly 44.8% of respondents expressed that work environment was supervised by management authority but 67 percent respondents expressed it was not supervised (Table no 3.4.7, 3.4.8).

In this study only 15.4 percent of respondents were found to have gone through their medical examination before entering to this job (pre-placement medical examination) whereas 84.6 percent entered the job without pre-placement medical examination (Table no 3.4.4.).

Similarly 33% of respondents expressed that there is periodic medical examination in their job. But according to 67 percent respondents there is no any periodic medical examination. Respondents with periodic medical examination were found to have low

(48.6%) attendance and high (51.4%) absenteeism as compared to the respondents with no periodic medical examination were high (58.5%) attendance and low (41.5%) absenteeism . Periodic medical examination was also found not to be significantly associated with sickness absenteeism (Table no 3.4.5, 3.5.6).

In this study 58.3 percent respondents mentioned that there is a regular health care service in their work place whereas 41.7 percent respondents expressed that they did not know about such health care services. Respondents with no regular health care services were found to have high (65.9%) attendance and low (34.1%) sickness absenteeism where as the respondents with regular health care services were found to have low (47.6%) attendance and high (52.4%) absenteeism. Here it is seen that who has regular health care services he/she take sick leave. It was found that regular health care services were significantly associated with sickness absenteeism (Table no 3.4.6, 3.5.7).

In this study 76.2 percent respondents expressed that the house keeping of work place was normal where as 11.4 percent said the house keeping was worst. Only 12.3 percent respondents expressed that the house keeping was good. Respondents who have feeling of worst house keeping of work place were found to have high (56.8%) sickness absenteeism and low (43.2%) attendance as compared to those with feeling of good house keeping of work place was low (37.5%) sickness absenteeism and high (62.5%) attendance. House keeping of work place is found inversely related with sickness absenteeism. Better the house keeping, lower the absenteeism. But relation was not significantly associated. (Table no. 3.4.9, 3.5.8)

Similarly 54.6 percent workers expressed that there was no any protective system from machine where as 40.1 percent respondents said the protective device was satisfactory (normal). Only 5.2 percent respondents expressed, that system was good. Respondents who perceived good protective device of work place were found having low (29.4%) sickness absenteeism and high (70.6%) attendance as compared to those who have perceived worst protective device, were high (44.6) sickness absenteeism and low

(55.4%) attendance. Protective device of work place was also found to be not significantly associated with sickness absenteeism (Table no. 3.4.10, 3.5.9).

Regarding to sex of respondents female were found to have low (35.3%) sickness absenteeism and high (64.7%) attendance whereas male were found high (44.5%) sickness absenteeism and low (53.5%) attendance. Sex of respondents is also seen not significantly associated with sickness absenteeism (Table no, 3.5.2).

In this study it is seen that respondents of lower level (workers) , were found to have high (60.2%) attendance and low (39.8%) sickness absenteeism as compared to medium level workers 47.7 percent attendance and 52.3 percent sickness absenteeism respectively. Here the level of employees is significantly associated with sickness absenteeism. (Table no, 3.5.4).

CHAPTER V

5. Conclusion and Recommendation

5.1. Conclusion

This study was conducted to find out the factors affecting sickness absenteeism and preventive measures and relation to occupational health problem in Industries and Factories. The objective was to recommend policy makers for the preparation of guideline for occupational health.

According to the findings, the following conclusions can be drawn:

- Absenteeism is found to be higher due to sickness rather than other factors.
- Social and family obligation, respiratory illness, alimentary illness, musculo skeleton illness, ill factory management and occupational accordance found to be major causes of sickness absenteeism respectively.
- Age of workers is found to be inversely related with sickness absenteeism. Increase in the age of workers shows decrease in the sickness absenteeism and vice versa.
- Sickness absenteeism is found to be higher in male than female
- Fifty percent of workers said that they have the provision of social security and treatment facility
- Pre-placement examination of the worker was found to be very low.
- Good house keeping is inversely related to sickness absenteeism. Better the house keeping, lower the sickness absenteeism.
- Presence of protective device at work place was very low.
- Sickness absenteeism is higher in medium or higher level employee than lower level workers.

5.2. Recommendation

In order to reduce the sickness absenteeism among Factory and Industrial workers, promoting measures should be adopted by the management team of the factories and Industries. These measures will help prevent occupational diseases & accidents and improve their employees' health. The following are suggested measures:

- Establish ergonomics i.e., right person in right place for right job; to prevent occupational diseases and accidents
- Use of protective devices to prevent accidents in work place
- Behavior change communication program should be implemented to raise the awareness level of employees in order to prevent occupational diseases
- Establish proper counseling services for the workers
- There should be pre-medical check up of the employees before entering the job in order to prevent wrong placement of the workers
- There should be periodic medical checkup to prevent occupational diseases among workers in time
- Social security should be in place to promote overall health status of the workers
- there should be continuous monitoring and evaluation activities by concerned authorities to prevent occupational diseases and occupational accidents
- Notification of the disease among workers should be done to the concerned authorities to prevent it timely
- There should be proper recording and reporting of the health status of the workers

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Annex 1

"Sickness absenteeism and Preventive Measure of Occupational Health Problem in Balaju Textile and Bhreekuti Paper Industries"

Questionnaire

Name of Interviewer:

A. Respondent's ID No: B. Date:

C. Name of Industry: D. Department/ Section/ Unit:

1. Age of Respondent: 2. Sex: a. M b. F 3. Ethnicity:

a. Brahim/Chhetry b. Janajati c. Dalit d. Others .....

4. Educational Status of Respondent:

a. Illiterate b. Literate c. Primary d. L.Secondary

e. Secondary f. Higher

5. Designation of respondent:

6. Duration on this job:

7. Yearly Salary/ Remuneration/ Wages:

8. Yearly Income from other sector than this job (including income of other family members):

a. Less than 10000 b. 10000 to 50000 c. 50000 to 100000 d. more than 100000

9. Per week working hours:

10. Is there any Social Security and Health Insurance in your job?

a. Yes b. No

11. Is there provision of Medical Expenses in the job?

a. Yes b. No

12. Have you any provision of leave in this job & what's the type and how many days/yr?

a. Sick leave (days per year.....) b. Other leave (days per year.....)

13. Have you entitled to sick leave with pay?

a. Yes b. No

14. How many days have you taken sick leave in past one year? .....

15. Could you please tell me is the sick leave entirely due to sickness or other reason?

a. Entirely due to sickness (days .....)b. Due to other reason (days .....)

16. Could you please tell me the reasons of sickness absenteeism (sick leave)

a. Social and family obligation b. Occupational accident c. Respiratory illness

d. Alimentary illness e. Musculo-skeleton illness f. Human relationship

g. Ill-Factory management h. In application of ergonomics i. Others.....

17. What were the most recurrent reasons of sickness absenteeism?

a. Social and family obligation b. Occupational accident c. Respiratory illness

d. Alimentary illness e. Musculo-skeleton illness f. Human relationship

g. Ill-Factory management h. In application of ergonomics

18. Have you know about any relation between occupation and causation of disease

a. No Knowledge b. Poor Knowledge c. Knowledge d. Very good knowledge

16. Could you please tell me is there Pre-placement medical examination?

a. Yes b. No

19. Have you provided periodic medical examination?

a. Yes b. No

20. Have you provided Health care services?

a. Yes b. No

21. Is there Health education and counseling?

a. Yes b. No

22. Could you please tell me is there Supervision of working environment?

a. Yes b. No

23. What you are felt about "House Keeping" of working place?

a. Worse b. Normal c. Good

24. What you are felt about "General Ventilation" of working place?

a. Worse b. Normal c. Good

25. What you are felt about "Dust Control" of working place?

a. Worse b. Normal c. Good

26. What you are felt about "Protective Device" of working place?

a. Worse b. Normal c. Good

27. What you are felt about "Mechanization" of working place?

a. Worse b. Normal c. Good

"Thank You"