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Work Related Hazards Encountered By The Workers Of Selected Flour Mills In Pudukkottai District

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Abstract:

The basic principle of every organization is to provide a safe environment at all stages of the production cycle. Health and safety of the employee are equally important for the job to be done. Usually the term 'flour dust' could be referred to particles coming from finely milled cereal or non-cereal grains, the 'grain dust' consists of particles produced during grain harvesting and handling, excluding milling. Flour mills consist of heavy machinery that creates a heavy noise, finest flour particles throughout the industrial area. A lot of respiratory hazards and hearing issues due to the heavy noise created by the machinery. In these units, heavy noise created by the machinery causes hearing impairment among the workers and slips and falls in the working area. A random sampling method was followed to check the hazards encountered by the workers of flour mills in selected flour mills of Pudukkottai district. Clinical symptoms, respiratory illnesses, musculoskeletal problem were analysed. Many of them are uneducated and they are unaware of the importance of safety measures to be followed inside the industry premises. This study revealed the importance of educating and implementing safety measures like masks and ear muffs usage among the workers.

Keywords: occupational hazard, allergies, irritation, musculoskeletal

I.Introduction:

The food industry is a crucial contributor to a Nation's economic growth and standards among the most rapidly evolving sectors. Good health is a fundamental aspect of every workers' life, serving as the foundation both personal well- being and professional efficiency. Globally biggest food company searching for various method of modified the compliance, safety, value and nutritional properties of food. (Rashidi et al.,2011). Additionally, health reflects and individuals' socio-economic status and overall security. The saying "health is wealth" perfectly captures its immense value. (Mukthar et al.,2021).

The current study has been taken up with the following objectives.

1. To identify the flour mills in Pudukkottai district.
2. To do a random survey to identify the occupational hazards with a structured questionnaire.
3. To analyze the work-related hazards encountered by the workers of selected Flour Mills on statistical interpretations.

II. MATERIALS AND METHODS:

2.1 Statement of the problem:

Flour mills involve machinery that can pose risks of injury, such as lacerations, crush injuries and amputations,. slippery floors and inadequate safety measures can lead to falls, resulting in injuries. Grain storage areas can pose a risk of suffocation , especially during cleaning or maintenance tasks. Handling sacks of grain can lead to back injuries and other musculoskeletal problems. Flour mills are prone to fires and explosions due to the presence of flammable dust and machinery.

2.2 Selection of the respondents:

In the current study, the workers from Cereal- based flour mills in the age group of 20-60 were chosen using a simple random sampling method. 60 samples were selected from various flour mills from Pudukkottai district.

2.3 Research Design:

A simple random sampling technique was used to find out the current study on the Work related hazards encountered by the workers of selected Flour Mills in Pudukkottai district.

2.4 Tools and methos used for the data collection:

A structured questionnaire was developed and face to face interview was done to collect the details from the respondents. The questionnaire includes the details about personal criteria, job nature, physical condition, life style parameters, medical care services, other benefits. The offline survey was conducted by personal interview and explained the contents before filling the questionnaire.

2.5. Data analysis and Interpretation:

Data collected through direct interviews with the structured questionnaire. The collected data were coded, tabulated and analyzed with suitable Standard Packages for Social Sciences (SPSS).

1. Sampling method: Simple Random sampling method
2. Sampling units: : cereal based flour mills
3. Sample size : 60

III. RESULTS AND DISCUSSION:

The study on Work related hazards encountered by the workers of selected Flour Mills in Pudukkottai District' was done and the results are discussed below:

Table 1
3.1 Age Of The Workers

S.No	Age	Frequency (N=60)	Percent
1	20-30	12	20
2	31-40	21	35
3	41-50	5	10
4	51-60	21	35
	TOTAL	60	100

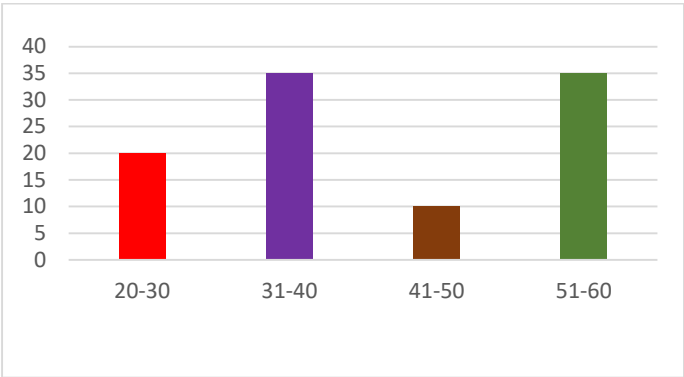


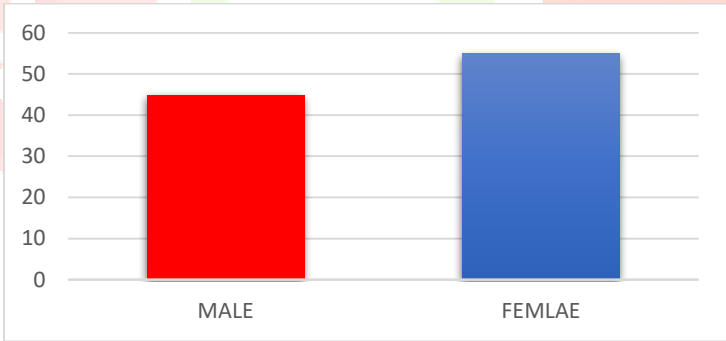
FIGURE 1

The table displays the distribution of workers across different age groups, with four age categories: 20-30, 31-40, 41-50, and 51-60. The frequency column indicates the number of workers in each age group, while the percent column shows the corresponding percentage of the total workforce. The highest percentages, 35.0%, are observed in both 31-40 and 51-60 age groups, while the lowest percentage, 10.0%, is in the 41-50 age group. The total number of workers is 60, with all percentages summing up to 100%.

Table 2

3.2 Gender of The Workers

S.No	Gender	Frequency(N=60)	Percent
1	Male	26	43.2
2	Female	34	56.7
	TOTAL	60	100.0



The table presents a distribution of workers based on gender, showing both frequency and percentage values. The data indicates that out of a total 60 workers, 26 are male, which accounts for 43.2% of the workforce, while 34 are female, representing 56.7% of the total. The cumulative percentage sums up to 100%, ensuring that the data comprehensively covers all workers.

Table 3

3.3 Recent Health Problems

S.No	Health Problems	Frequency (N=60)	Percent
1	Yes	24	40
2	No	36	60
	TOTAL	60	100.0

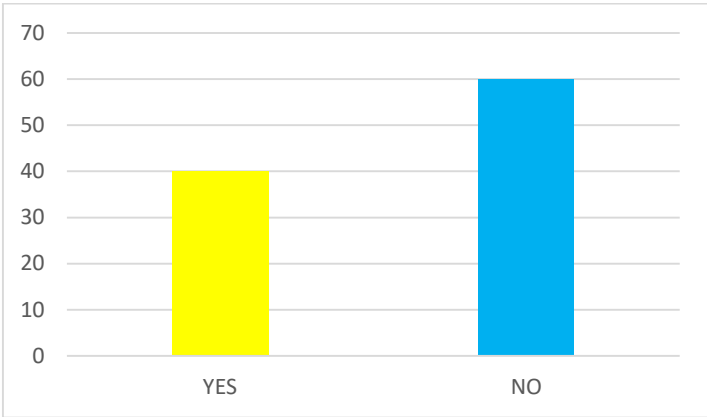


FIGURE 3

The presents data on the occurrence of recent health issues among a group of individuals. The data indicates that 24 individuals (40.0%) reported experiencing a recent health problem, while 36 individuals (60.0%) reported no recent health problems. The total number of participants in this study is 60 (100%), providing a comprehensive overview of the distribution of recent health issues in the surveyed population.

Table 4
3.4 Sleeping Patterns

S.No	Sleeping Pattern (Hours /day)	Frequency(N=60)	Percent
1	6	17	28.3
2	7	29	48.3
3	8	14	23.3
	TOTAL	60	100.0

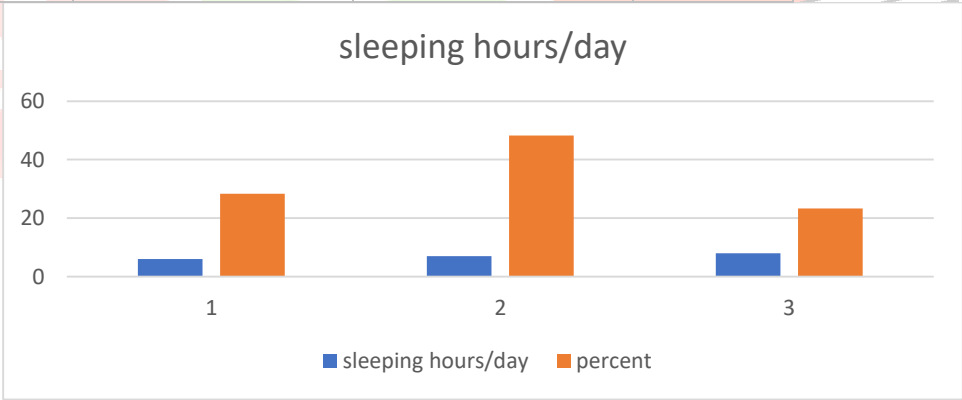


Figure 4

The provided data on the sleeping duration of individuals as part of their personal habits.. The data reveals that 17 individuals (28.3%) sleep for 6 hours, 29 individuals (48.3%) sleep for 7 hours, and 14 individuals (23.3%) sleep for 8 hours. The total number of respondents is 60 (100%), giving an overall insight into the distribution of sleep duration among the participants. Based upon the shift timings . the sleep pattern may get disturbed , which will result in the health of the individuals .

Table 5
3.5 Sleep Disturbance Due To Work

S.No	Sleep Disturbance Due To Work	Frequency (N=60)	Percent
1	Yes	16	26.7
2	No	44	73.7
	TOTAL	60	100.0

The table show that data on sleep disturbances due to work, out of a total 60 individuals surveyed , 16 people (26.7%) reported experiencing sleep disturbance , while 44 individuals (73.7%) did not face any sleep related issue caused by work.

Table 6
3.6 Proper Lighting Facilities

S.No	Proper Lighting Facilities	Frequency (N=60)	Percent
1	Yes	56	93.3
2	No	4	6.7
	TOTAL	60	100.0

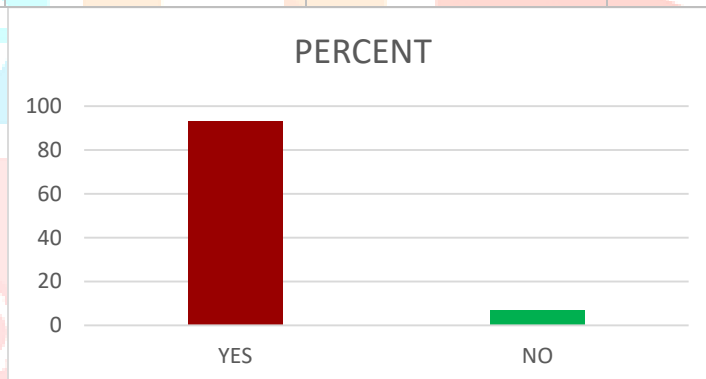


FIGURE 5

The present data is on proper lighting facilities in the workplace environment. It shows that out of total 60 respondents, 56 (93.3%) reported they are having proper lighting facilities, while 4 (6.7%) indicated the absence of such facilities. This data suggests that the majority of respondents have access to adequate lighting in their workplace, which is crucial for ensuring a comfortable and productive work environment.

Table 7
3.7 Bathroom & Toilet Facilities

S.No	Bathroom & Toilet	Frequency (N=60)	Percent
1	Regularly	55	91.7
2	Moderately	3	5.0
3	No	2	3.3
	Total	60	100.0

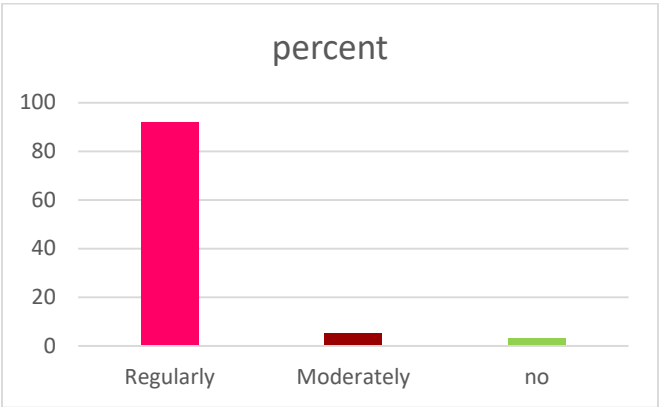


FIGURE 7

The table presents data on the availability and maintenance of bathroom and toilet facilities in the workplace. Out of 60 respondents, 55 (91.7%) reported that the bathroom and toilet facilities are maintained regularly, while 3 (5.0%) indicated that they are moderately maintained. However, 2 respondents (3.3%) stated that there are no bathroom and toilet facilities available. These findings suggest that the majority of the respondents have access to sanitary facilities, which is essential for workplace hygiene and employee well-being. The rest of the workers needed the basic quantity their working atmosphere .

Table 8
3.8 Proper Ventilation

S.No	Proper Ventilation	Frequency (N=60)	Percent
1	YES	58	96.7
2	NO	2	3.3
	TOTAL	60	100.0

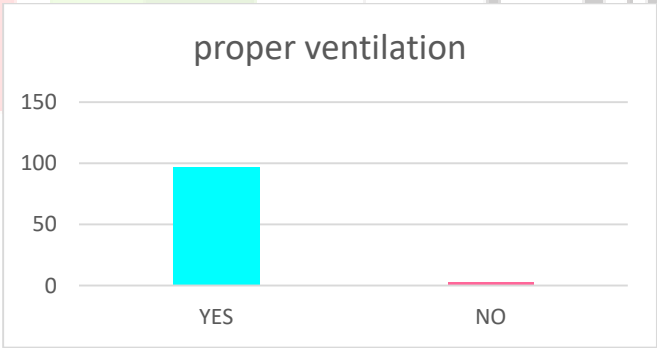


FIGURE 8

The table presents data on the availability of proper ventilation in the workplace. Out of the total 60 respondents, 58 (96.7%) reported that their workplace has proper ventilation, while only 2 respondents (3.3%) indicated that proper ventilation is lacking.

Table 9

3.9 First Aid Kit

S.No	First Aid Kit	Frequency (N=60)	Percent
1	Yes	53	88.3
2	No	7	11.7
	TOTAL	60	100.0

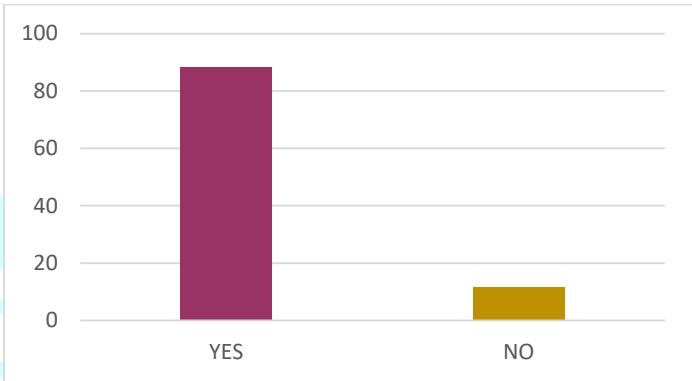


FIGURE 9

The table presents data on the availability of a first aid kit in the workplace. Out of total of 60 respondents, 53 (88.3%) reported that a first aid kit is available, while 7 respondents (11.7%) indicated that their workplace lacks a first aid kit. These findings highlight that while the majority of workplaces are equipped with essential medical supplies for emergencies, a small percentage still lack this critical safety measure, which could impact employee well-being and emergency response efficiency. It is mandatory to check whether the facilities are utilized properly.

TABLE 10
3.10 CLEANLINESS IN YOUR WORKSPACE

S.NO	CLEANLINESSIN YOUR WORKSPACE	FREQUENCY (N=60)	PERCENT
1	EXCELLENT	25	41.7
2	GOOD	31	51.7
3	AVERAGE	4	6.7
	TOTAL	60	100.0

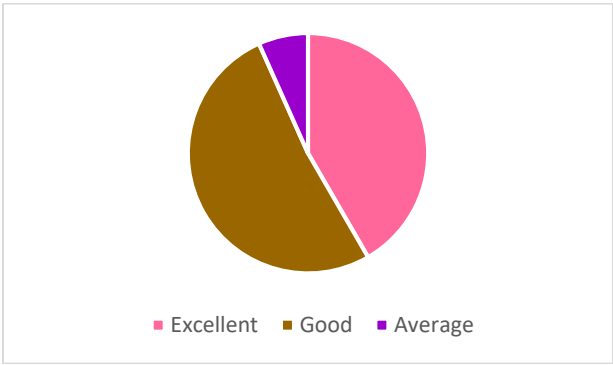


FIGURE 10

The table presents data on the cleanliness of workspaces as reported by 60 respondents. Among them, 25 (41.7%) rated their workspace cleanliness as "Excellent," while 31 (51.7%) considered it "Good." However, 4 respondents (6.7%) rated the cleanliness as "Average." These findings indicate that the majority of employees perceive their work environment as well-maintained, with only a small fraction expressing concerns about cleanliness. A clean workspace is essential for promoting a healthy and productive work environment, reducing health risks, and enhancing overall employee satisfaction.

TABLE 11
3.11 PERSONAL HYGIENE

S.NO	PERSONAL HYGIENE	FREQUENCY (N=60)	PERCENT
1	Yes	40	66.7
2	No	20	33.3
	TOTAL	60	100.0

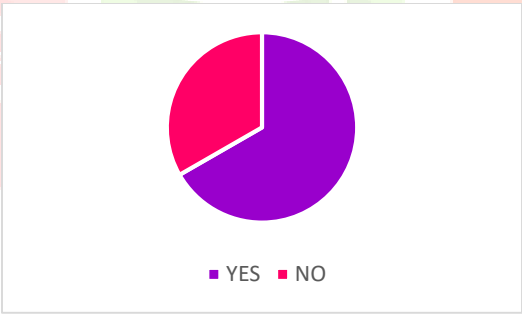


FIGURE 11

The table presents data on personal hygiene practices among employees. Out of a total of 60 respondents, 40 (66.7%) reported maintaining proper personal hygiene, while 20 (33.3%) admitted to not following proper hygiene practices. These findings suggest that while the majority prioritize personal cleanliness, a significant portion still neglects it, which could impact overall workplace hygiene, health, and productivity. Encouraging good hygiene habits is essential to ensuring a safe and sanitary work environment.

TABLE 12
3.12 USAGE OF PERSONAL PROTECTIVE EQUIPMENT

S.NO	PERSONAL PROTECTIVE EQUIPMENT	FREQUENCY	PERCENT
1	Yes	31	51.7
2	No	29	48.3
	TOTAL	60	100.0

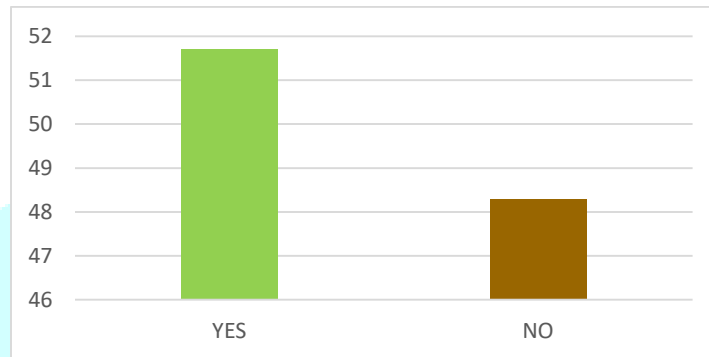


FIGURE 12

The table presents data on the usage of personal protective equipment (PPE) in the workplace. Out of 60 respondents, 31 (51.7%) reported that they use PPE, while 29 (48.3%) indicated that they do not. These findings suggest that PPE usage is relatively balanced, with slight majority of employee adhering to safety measures. However, the high percentage of non-users raises concerns about workplace safety and potential exposure to hazards. Implementing stricter enforcement, training programs, and awareness campaigns on the importance of PPE could help increase compliance and ensure a safer work environment.

TABLE 13
3.13 PRACTICE ABOUT SAFETY PROTOCOLS

S.NO	PRACTICE SAFETY PROTOCOLS	FREQUENCY (N=60)	PERCENT
1	Yes	31	51.7
2	No	29	48.3
	TOTAL	60	100.0

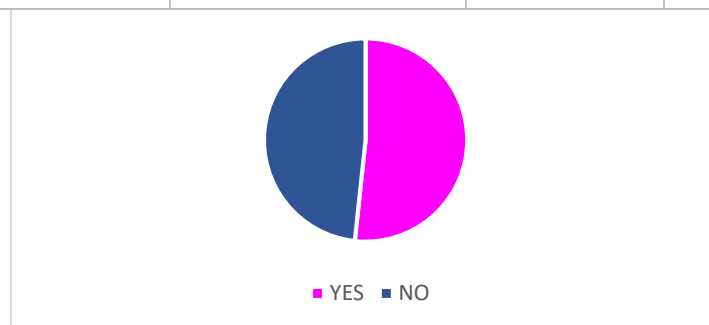
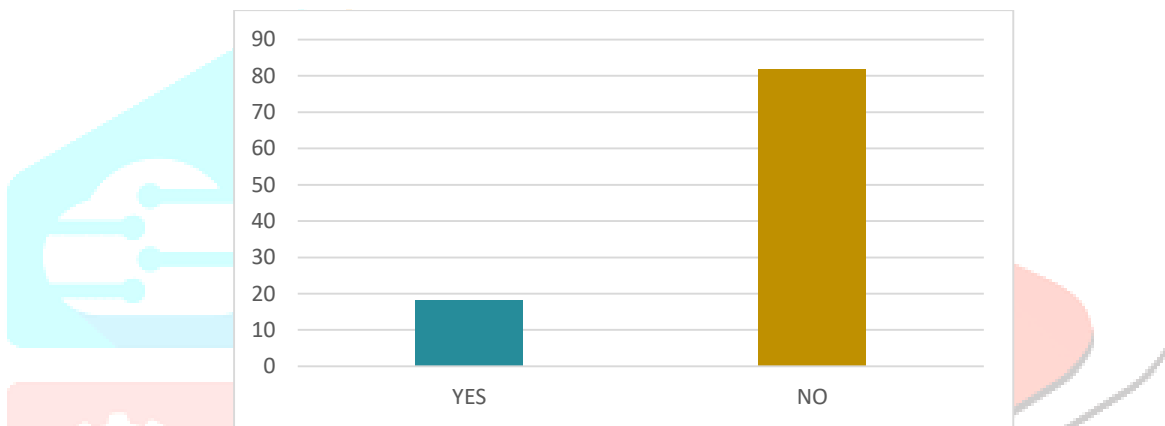


FIGURE 13

The table presents data on employees' adherence to safety protocols in the workplace. Out of 60 respondents, 31 (51.7%) reported that they practice safety protocols, while 29 (48.3%) stated that they do not follow them. These findings indicate a nearly even distribution between those who comply with safety guidelines and those who do not. The relatively high percentage of non-compliance raises concerns about workplace safety and the potential for accidents or injuries. To improve adherence, organizations should implement regular safety training, enforce strict compliance measures, and promote a culture of safety awareness among employees.

TABLE 14**3.14 POLICY DETAILS**

S.NO	POLICY DETAILS	FREQUENCY (N=60)	PERCENT
1	Yes	11	18.3
2	No	49	81.7
	TOTAL	60	100.0

**FIGURE 14**

The table presents data on employees' awareness of workplace policy details. Out of 60 respondents, only 11 (18.3%) reported being aware of policy details, while the majority, 49 (81.7%), indicated they were not aware. These findings suggest a significant gap in communication or training regarding workplace policies. To improve policy awareness, organizations should conduct regular orientation sessions, provide accessible policy documents, and encourage open communication to ensure that all employees understand the rules and regulations governing the workplace.

TABLE 15**3.15 EMPLOYER'S SUPPORT**

S.NO	EMPLOYER'S SUPPORT	FREQUENCY (N=60)	SUPPORT
1	Yes	43	71.7
2	No	17	28.3
	TOTAL	60	100.0

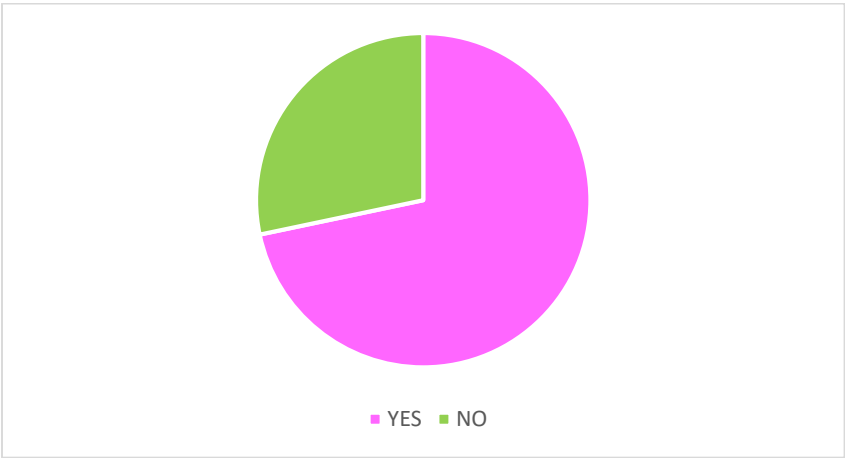


FIGURE 15

The table presents data on employer support in the workplace. Out of 60 respondents, 43 (71.7%) reported receiving support from their employer, while 17 (28.3%) indicated they did not receive such support. These findings suggest that the majority of employees feel supported by their employer, which can positively impact job satisfaction, productivity, and overall workplace morale. However, a notable percentage still lacks employer support, highlighting the need for organizations to strengthen employee assistance programs, foster open communication, and implement initiatives that ensure all employees feel valued and supported in their roles. The employers support help to improve the morale of employees working in a concern.

TABLE 16
3.16 HEADACHE DURING WORK

S.NO	HEADCHE DURING WORK	FREQUENCY (N=60)	PERCENT
1	Yes	40	66.7
2	No	20	33.3
	TOTAL	60	100.0

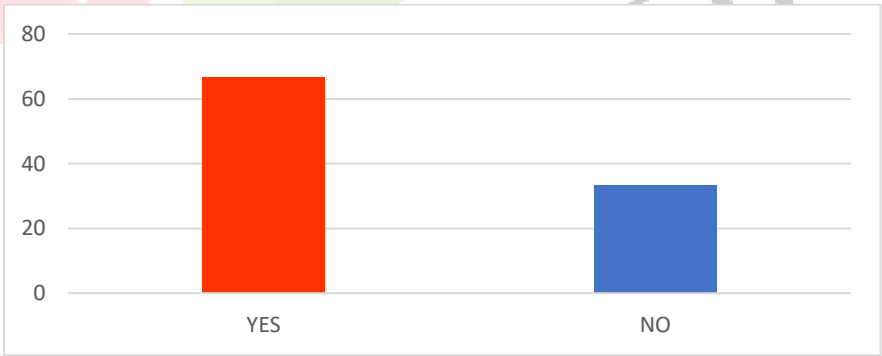
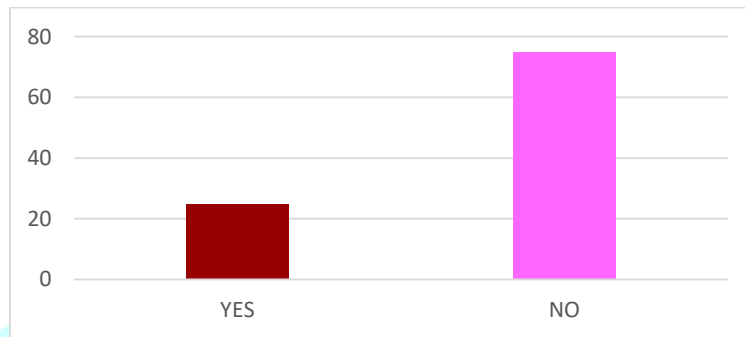


FIGURE16

The table presents data on the occurrence of headaches during work among employees. Out of 60 respondents, 40 individuals (66.7%) reported experiencing headaches while working, whereas 20 individuals (33.3%) did not face this issue. The high prevalence of headaches among workers suggests potential workplace factors such as poor ventilation, exposure to chemicals, excessive screen time, stress, or inadequate hydration. Employers should consider implementing measures like improving air quality, adjusting lighting conditions, ensuring proper hydration, and managing workload stress to enhance employees' well-being and productivity.

TABLE 17**3.17 VOMITING SENSATION**

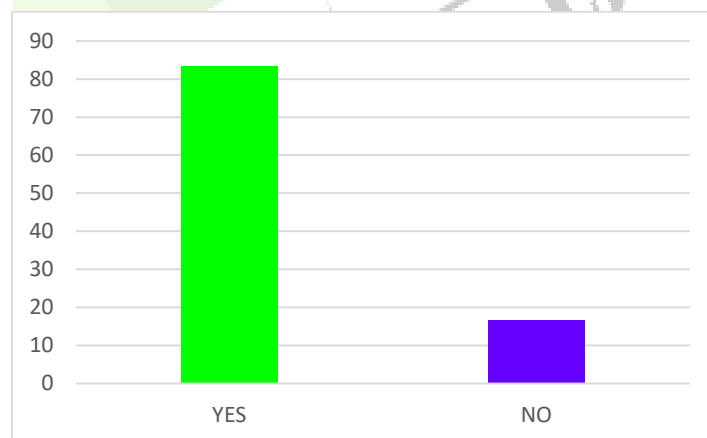
S.NO	VOMITERY SENSATION	FREQUENCY (N=60)	PERCENT
1	Yes	15	25.0
2	No	45	75.0
	TOTAL	60	100.0

**FIGURE 17**

The table presents data on the occurrence of vomiting sensations among a sample of 60 individuals. According to the table, 15 individuals (25%) reported experiencing vomiting sensations, while the remaining 45 individuals (75%) did not. The total number of responses sums up to 60, ensuring that all data is accounted for. This table provides a clear statistical representation of the prevalence of vomiting sensations within the surveyed group.

TABLE 18**3.18 JOINT PAINS**

S.NO	JOINT PAINS	FREQUENCY (N=60)	PERCENT
1	Yes	50	83.3
2	No	10	16.7
	TOTAL	60	100.0

**FIGURE 18**

The table provides statistical data on the prevalence of joint pain among a sample of 60 individuals. According to the table, 50 individuals, representing 83.3% of the sample, reported experiencing joint pain, while only 10 individuals, accounting for 16.7%, did not report any joint pain. The total sample size sums up to 60, confirming the completeness of the data. This table highlights that joint pain is a common issue among the surveyed individuals, affecting a significant majority of the group.

TABLE 19
3.19 HEARING PROBLEMS

S.NO	HEARING PROBLEMS	FREQUENCY (N=60)	PERCENT
1	Yes	26	43.3
2	No	34	56.7
	TOTAL	60	100.0

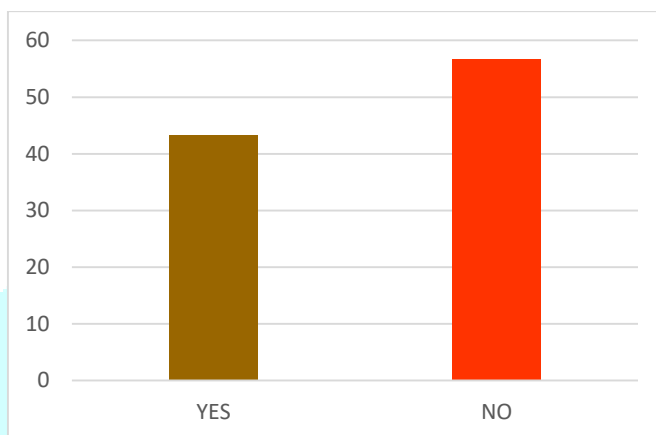


FIGURE 19

The presented in Table 25 provides insights into the prevalence of hearing problems among the surveyed individuals. Out of a total sample size of 60 participants, 26 individuals (accounting for 43.3%) reported experiencing hearing problems, while the remaining 34 individuals (56.7%) did not report any hearing issues. This data highlights that hearing problems affect a significant portion of the surveyed group, though the majority of individuals do not experience such difficulties.

TABLE 20
3.20 PROBLEM IN EYES

S.NO	PROBLEM IN EYES	FREQUENCY (N=60)	PERCENT
1	Yes	33	55.0
2	No	27	45.0
	TOTAL	60	100.0

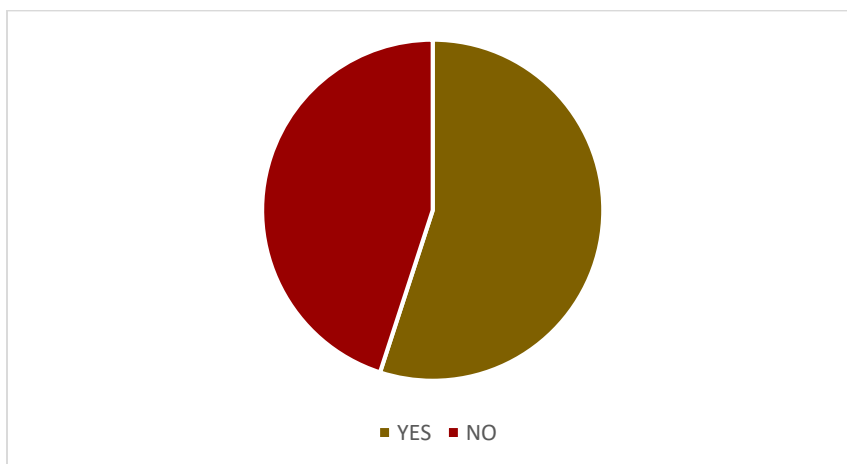


FIGURE 20

The table presented in highlights the prevalence of eye problems among the surveyed individuals. Out of a total of 60 participants, 33 individuals (accounting for 55.0%) reported experiencing eye problems, while the remaining 27 individuals (45.0%) did not report any issues with their eyes. This indicates that a majority of the surveyed individuals face some form of eye-related problem, emphasizing the need for awareness and possible medical attention regarding vision health with in the group.

