

A Study on The Current Health and Safety Status of The Workers Indulged in Chemical Factories of Mumbai and Its Satellite Cities

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Abstract

The purpose of the study is to assess the Health and the Safety of Workers indulged in different hazardous Chemical factories of Mumbai Region. The Researcher has conducted a Cross-Sectional study of those Workers who are hired across 12 different factories across the City of Mumbai and its satellite regions, namely, Palghar, Dahanu and the city of Kalyan-Dombivali. A Cross-Sectional study pertaining to different factories has been deliberately conducted by the Researcher so that they can effectively lay hold of the wide variety of situations existing with a wide number of workers employed in different Chemical sectors. It is quite pertinent to note that more is the exposure to the perilous chemicals, more are the probabilities of various form of health-related ordeals to occur. It is a well-known fact that as compared to the other segment and its different populace of the society, the workers indulged and employed in hazardous factories spend majority of their precious hours with different type of Chemicals. Hence, against the backdrop of these consequentially grave circumstances, the researcher has contemplated conducting an empirical study to comprehend the overall health and safety status of those very workers who are associated with chemical substances on an everyday basis.

Keywords: Chemicals, Subaltern, Class Struggle, Informal Workers, Marginalization, Safety, Health.

INTRODUCTION:

It is gratuitous to state that Chemicals form an integral part of our day to day lives. We subconsciously indulge ourselves in the indirect consumption of Chemicals in order to accomplish our day to day necessities. From Soap to Detergents to Bleaching Powder to Toothpaste, every product uses a substantial amount of Chemicals. Therefore, without a doubt, it is quite safe to draw the inference that Chemicals form an indispensable reality of our daily lives. However, the very intricate point to note here is that enormous amount of laborious work is necessitated to produce and utilize these chemicals in various products that we get to use on a daily basis. The Workers are the ones indulging themselves with a wide array of Chemicals on a daily basis and hence, their amount and their intensity of exposure to these chemicals are comparatively more than others. Therefore, it becomes quite imperative for their Employers, the Government and the Community as a whole to contemplate of their overall health & safety.

The dismal picture is for the enormous number of chemicals utilized, seldom anything constructive is known about its short term or long term side effects. The workers' whose health is reckoned to be at the most risk are themselves oblivious about the possible repercussion arising out of the chemicals. Although,

by each passing day the overall level of awareness is increasing as more and more workers are gradually forming a strong solidarity in the form of unions, however, sufficient knowledge to tackle different work place calamities and incidents are still reckoned to be a far off dream by many experts.

Workers are compelled to work with toxic components and substances and the most intriguing aspect of the picture is many of these workers are compelled to work with absolutely little to zero protection. This particular phenomenon seems to be completely true when it comes to the Workers working in the developing countries as well as the underdeveloped countries, where labor legislations either do not exist or are never stringently enforced as well as implemented. Most of the Workers belonging to these Developing and the Underdeveloped countries are reckoned to be unequivocally poverty stricken as well as illiterate, therefore, their Financial scarcity and lack of awareness are manipulated by their Employers for their own benefits. It is also imperative to note that many chemicals which have been banned in the Developed countries due to their potential hazardous attributes are still being used in developing countries. For example, Lead and Mercury have been federally banned in the USA but still these are found to be in usage in developing countries like India. Hence, the workers of these developing as well as the underdeveloped countries are still made to work with such toxic chemicals, often with very minimal protection. Apart from the Factories and other such analogous production units, the sector of Agriculture does not seem to be different either. Agricultural laborers belonging to Developing and Underdeveloped countries are made to work directly with different form of Chemicals, such as, Weedicide, Herbicide, Pesticides and Insecticides with bare hands and no shields are being provided to them. The most saddening aspect is most of these Agricultural laborers are widely scattered, have no solidarity within them and do not have any union to represent their rights. These landless Agricultural laborers constitute a large chunk of the highly unmoderated sector which is known as the Informal Economy. The Informal sector workers are also found to be working in large proportion in various hazardous factories on contractual basis and in most of the circumstances, these workers are not even entitled to receive basic form of health and/or safety benefits either from the State or from their Employers.

Therefore, by keeping these points in deep consideration, the researcher will be conducting an in-depth study to comprehend the Health and Safety status of these Workers who are found to be employed in 12 Chemical Factories found across the city of Mumbai and its nearby Satellite Cities.

METHODOLOGY OF THE STUDY

Statement of Research:

To study the current Health and Safety status of the workers indulged in Chemical factories of Mumbai and its Satellite Cities.

Objectives of Research:

- 1.> To assess the current Health and Safety status of the Workers engaged in the perilous working environment of Chemical Factories.
- 2.> To understand the issues being faced by the Workers employed in the perilous working environment of Chemical Factories in terms of Health and Safety.

Area of Research:

The Area of this Research will encompass 1 Chemical Factory from Malad (West), Mumbai (Suburban), 1 Chemical Factory from Borivali (East), Mumbai Suburban, 1 Chemical Factory from Santacruz (West),

Mumbai (Suburban), 1 Chemical Factory from Marine Lines (South Mumbai), 1 Chemical Factory from Mankhurd, 1 Chemical Factory from Chembur, 2 factories from Dahanu (District Palghar), 2 Chemical Factories from Dombivli city and 2 Chemical Factories from Kalyan city (Mumbai Metropolitan Region). The reason as to why different factories belonging to diversified locations have been chosen by the Researcher is because the Researcher wanted to collect data pertaining to different work settings in order to grasp a better picture of the status of the Workers' health and safety. Therefore, the study on different factories will enable the researcher to draw conclusions more reliably.

Sampling:

The study will be purely based on Primary Data and with the help of Interview Schedule, the Researcher will collect the data and analyze it in the proper manner manually as well as with the help of Computer. A total of 12 samples were drawn from 12 different factories located across the city of Mumbai as well as its nearby Satellite regions.

The Interview Schedule will be used as its core methodology and the type of Sampling which will be used would be Purposive Sampling, a sub-type of Non-Probability Sampling. The reason as to why the Researcher chose Purposive Sampling is because in this type of Sampling, the Researchers are allowed to choose only those units which possess exactly those attributes that the Researcher requires in their study.

Data collection:

The data for the research study and analysis will be collected from the following two sources. They are as followed: -

- 1.> **Primary Data:** The data for the research analysis will be collected through the primary methodology of Interview Schedule.
- 2.> **Secondary Data:** Secondary data will be collected from Books, Journals, Articles and authenticated Websites.

Data analysis: After collecting relevant data in light of the objectives of the research study on the Current Health and Safety status of the workers indulged in Chemical factories of Mumbai and its Satellite Cities, the analysis of the data will be completed.

Review of Literature:

1.> Effects of Occupational Hazards on Job Stress and Mental Health of Factory Workers and Miners: A Propensity Score Analysis- PMC

A study by Yaoqin Lu, Zhe Zhang, Huan Yan, Baoling Rui, and Jiwen Liu

In this study, a total of 6500 factory workers were selected who were susceptible to toxic components like Asbestos Dust, Silica Dust, Coal Dust, Lead, Benzene in their work places. Through the medium of this study, the conclusive analysis has been ushered that majority of the workers being selected to be studied were observed to go through the predicaments of intense job stress. They further observed that job stress has presented itself as an adverse risk factor for not only psychological health but also physiological health. It was further observed that workers working in harsh ambience are more susceptible to adverse mental effects, such as, the miners who are expected to discharge their duties in environments encompassed by high temperature, intense darkness, high pressure, etc.

Their study further exhibited that 47.35% of factory workers and 38.27% of the mining workers experienced the turmoil of job stress as well as other form of mental illnesses, hence warranting more attention on the part of the Employers as well as the Management to look into the issues being faced by these workers. The study further drew the assessment that the preponderance of occupational hazards and its influence on the intensity of mental stress were positively correlated with each other. Amongst the different type of toxic components that the workers were reiteratively exposed to, Benzene has been reckoned to be one of the most hazardous chemicals to affect not only the overall metabolism of the workers but it also makes these workers more susceptible to job stress and psychological predicaments.

2.> Work related COPD after years of occupational exposure:

A study by YounMo Cho, JongIn Lee, Min Choi, WonSeon Choi, Jun-Pyo Myong, Hyoung-Ryoul Kim, and Jung-Wan Koo

The Study tends to deflate the commonly established hypotheses that mostly Cigarette Smoking gives birth to various lung diseases, such as, Chronic Obstructive Pulmonary Disorders. The study tends to proceed ahead with the Hypotheses that occupational exposures too can be an equally pertinent causative factor in fortifying COPD. The study reflects various other Epidemiological studies which has time and again projected sufficient evidence proving the direct correlation between COPD and Occupational Exposure. Various Chemical toxins such as Silica Dust, Gases and Fumes, may suddenly be released, especially during an Industrial accident or disaster and may end up severely irritating the walls of the Lungs.

The study further projects that the workers exposed to more than 15 years of chemical exposure were more likely to find their lungs working less efficiently as compared to the workers who have less than 15 years of experience. Hence, through the medium of various Secondary data analysis, the study further goes on to draw the Empirical conclusion that several years of Cigarette smoking along with incessant exposure to chemicals at work place together accentuate the probability of chronic lung ailments, such as, COPD.

Theoretical Perspectives:

1.> KARL MARX THEORY OF CLASS STRUGGLE:

According to the Marxian interpretation, the society as a whole is divided into two group of mutually antagonistic classes. The first group is encompassed by the Bourgeoisie I.E. the Capitalists whom Marx and Engels referred to as the owners of means of production and on the other side of the polar is being encompassed by the Proletariats I.E. the working class, whom Marx and Engels referred to as the oppressed group which engage in providing their labour in return of Wages. According to the Marxist school of interpretation, the Capitalists are able to maximise their profits only at the expense of the hard labour being provided by the workers and hence, the widening disparity existing between the Capitalists and the Workers produce struggle between the two classes and hence, this contradiction has been termed as Class Struggle by Marx and Engels. One of the principle factors that has been cited by Marx and Engels is the tendency of the Capitalists to keep the Workers in oblivion and therefore keeping them away from the core decisions pertaining to the products that they produce. According to Marx, it's the workers who put in their entire labour of hard work and produce the said products but it's the Capitalists thriving financially by earning all the profits. The Workers are not accorded any form of say in regards to the products that they produce and hence, a class revolution ensues in the long run and the result is a Communist based Classless society.

The reason as to why the researcher chose this Theoretical Conceptualization is because the theory of Class Struggle being propounded by Marx and Engels reflect how the Workers/Proletariats are kept in utter oblivion and are further discouraged from participating in any matter pertaining to the products that they produce, therefore, on the same principle, most of the workers working in most of the hazardous places/factories are kept in equal form of oblivion. They are compelled to work in perilous and unsafe environment therefore, being susceptible to various form of Physiological as well as Psychological ordeals but in spite of this they are not much accorded with the rights to express their grievances in regards to their work places. These assertions of the Researcher have been proved through the medium of various Literature Reviews that has been conducted for this Research. Hence, indirectly the Marxist theory of Class Struggle reflects the alienated condition that the workers are compelled to experience while selling their labour in return of some wages.

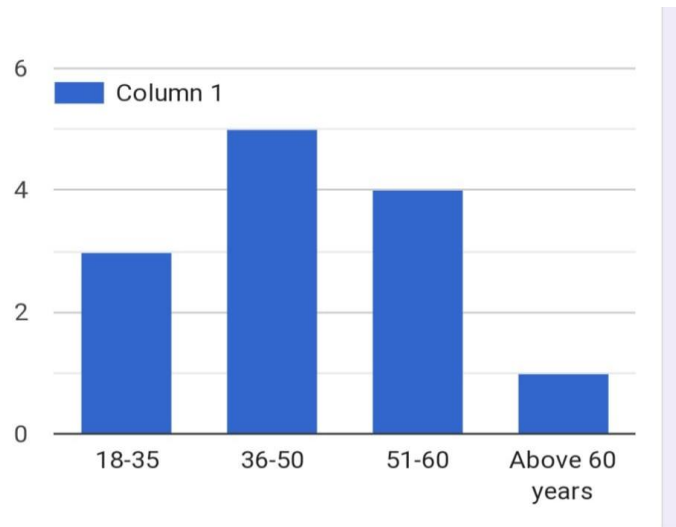
2.> THE SUBALTERN THEORY OF POST COLONIALISM:

The Post-Colonial theory tries to highlight how the Colonial Populations are excluded, marginalized and further oppressed from acquiring the resources to Hegemony due to the unjust domination of the Imperialists. The Post-Colonial theory tries to identify how the Colonial Populace have never been allowed to express their perspectives and their side of the story. As a result of witnessing a certain group of People experiencing complete exclusion, the Subaltern Theory has emerged in this arena, this school of thought has delved itself into studying History from the lower level and representing as well as interpreting views from the perspectives of the traditionally oppressed and unheard.

The reason as to why the Researcher chose this Theoretical Perspective is because off late it has become imperative to hear the perspectives of the previously unheard and unheeded section of the society. The percentage of the Working class population in India is an overwhelming 59.5%, in spite of their overwhelming presence in the overall Economy of the Country, their perspectives and perceptions were seldom heard or put forth. The Subaltern theoretical perspective tried to balance the overall canvas of literary works by encompassing the perspectives of the Subaltern section of the society and hence, this theory bears a reflection to this research being undertaken as this study tries to incorporate the status, the perspectives of those workers who are engaged in extreme hazardous activities in return of some wages. How much do their Employers represent their rights, how much do their Employers allow their Workers to express their Grievance and Redressal, how much do their Employers allow all of the Workers to participate in core decision making platforms, is a matter of intense debate and uncertainty. Therefore, through the medium of this Research, the Researcher attempts to further the propositions of the Subaltern theory by representing the voices of the otherwise oppressed and marginalized I.E. the working classes.

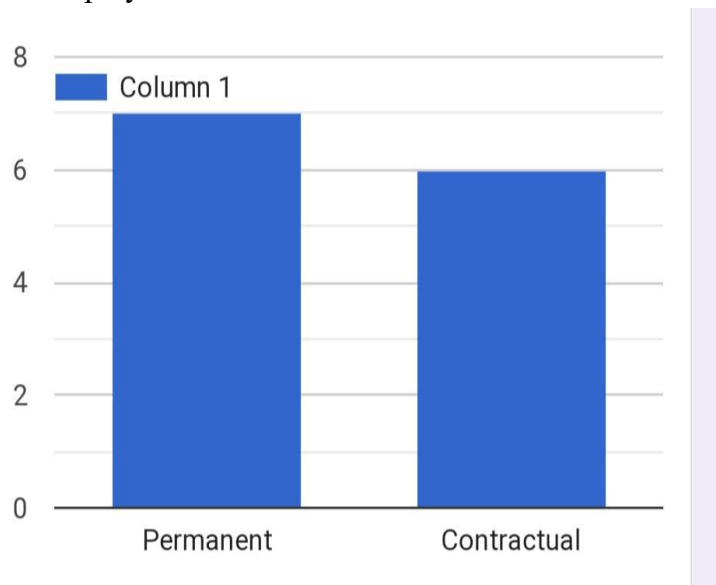
DATA ANALYSIS:

The current age of the factory workers:



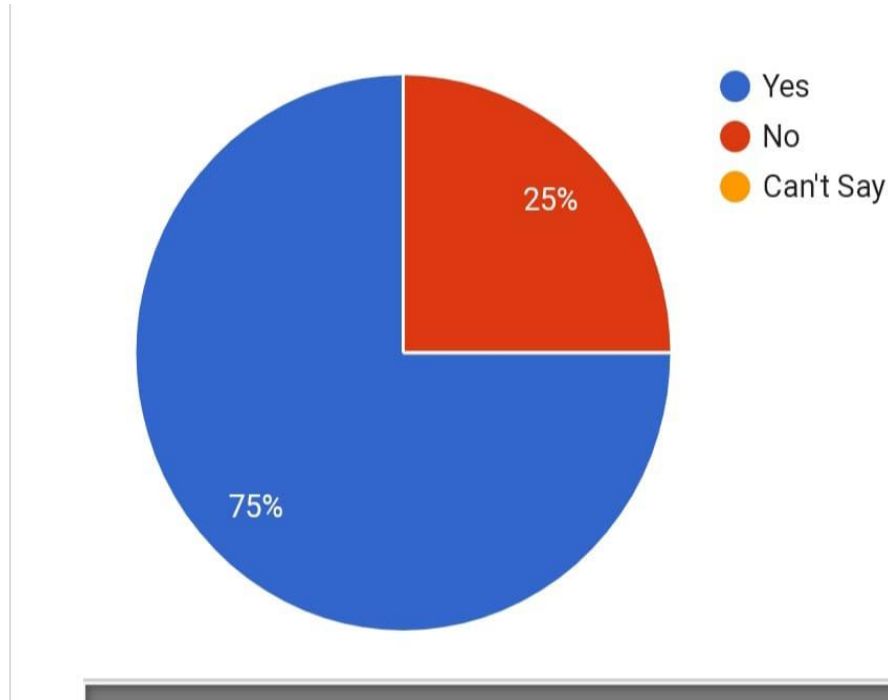
From, Figure 1 it is observed that approximately 25 % workers working belong to the age group of 18-35 years, 33% of the workers belong to the age group of 36-50 years, 25 % of workers belonging to the age group of 51-60 years and the remaining 16% of workers belonging to the age group of above 60 years.

1.> The nature of the worker's Employment:



From Figure 2, it is observed that 60% of the factory workers being interviewed were working as Permanent Employees and the remaining 40% of the employees were Contractual I.e. Temporary Employees.

2.> If any health problems arose which they specifically would like to attribute as a result of their working in the factory:



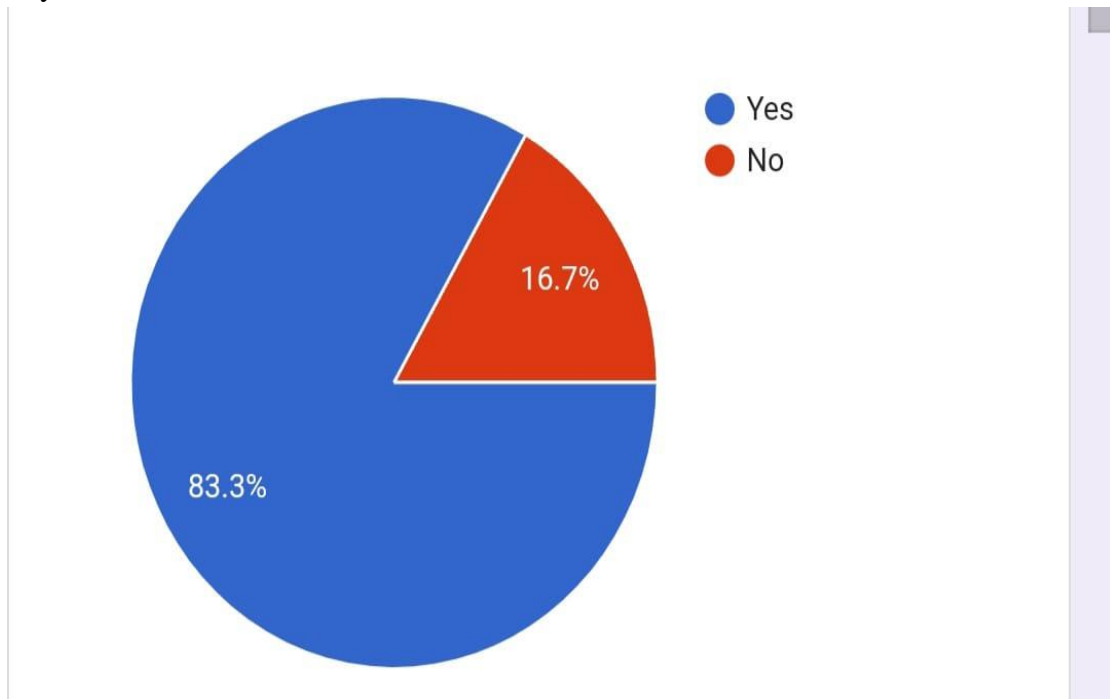
From Figure 3, it is observed that approximately 75% of the Factory workers have acknowledged that they have been suffering from some or the other form of ailment as a result from working in the factory and 25% of the remaining workers declined having any form of ailment as a result from working in the factory.

3.> Mentioning the type of health issues that the workers have been suffering from as a result of working in the factory:

DATA	FREQUENCY	PERCENTAGE
CHRONIC/ACUTE COUGH	04	33.33%
CHRONIC/ACUTE ITCHING	03	25.00%
HEADACHES/MIGRAINES	02	16.66%
EYE IRRITATION	02	16.66%

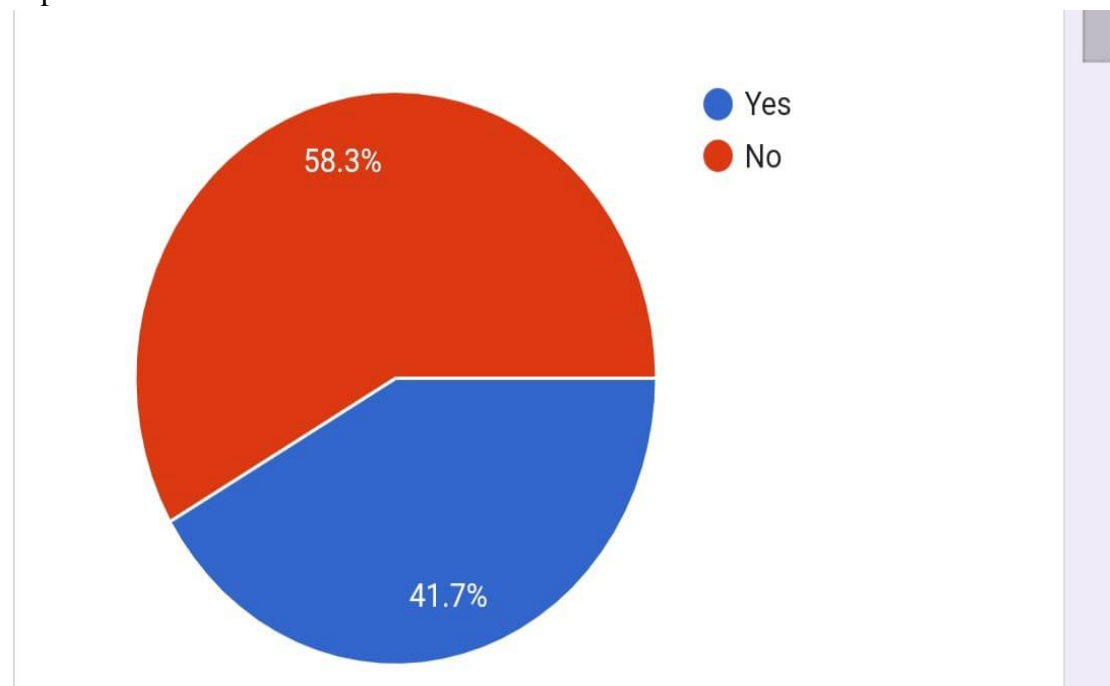
From Table 4, it is observed that out of the workers experiencing health predicaments as a result of them working in the factory, approximately 33% out of them have reported of having severe respiratory congestion in the form of either chronic or acute cough, approximately 25% of workers reported of experiencing itching, approximately 16% of workers reported of experiencing either headaches or migraines and the remaining 16% of the workers reported of experiencing Eye Irritation.

4.> Awareness of the Workers about the possible health effects arising as a result of their Occupation primarily with the Chemicals:



From Figure 5, it is observed that approximately 83.3% of the Workers are aware of the possible repercussions on their health arising as a result of their perilous indulgence with Chemicals and the remaining 16.7% of Workers acknowledged that they have minimal to zero knowledge or information about the possible repercussions on their health as a result of their indulgence with the Chemicals.

5.> Any form of Occupational Accidents/Hazards or any other such analogous injury incident occurring at Workplace:



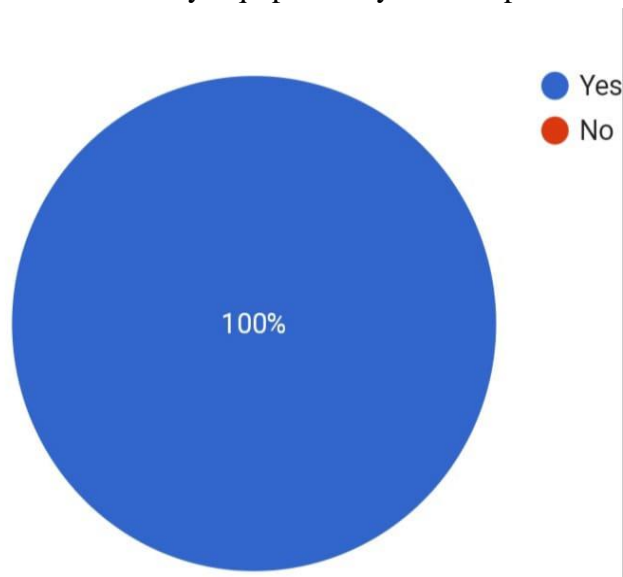
From Figure 6, it is observed that approximately 58.3% of Workers acknowledging that they never have experienced any form of accident and/or injury at their workplaces and the remaining 41.7% acknowledging that they have experienced some or the form of injury while being at their Workplaces.

6.> Describing in details the exact type of Workplace related Injury/Accident taking place at their Workplaces:

CAUSATIVE FACTOR:	THE MANIFESTATION:	FREQUENCY:	PERCENTAGE:
ACCIDENTAL CHEMICAL SPILL/PESTICIDE SPILL	SKIN IRRITATION, RASHES AND EYE IRRITATION	03	60%
CHEMICAL SOLVENT BURST	BODY INJURY	01	20%
HEAVY WORK LOAD & OVER TIMING	ACUTE COUGH	01	20%

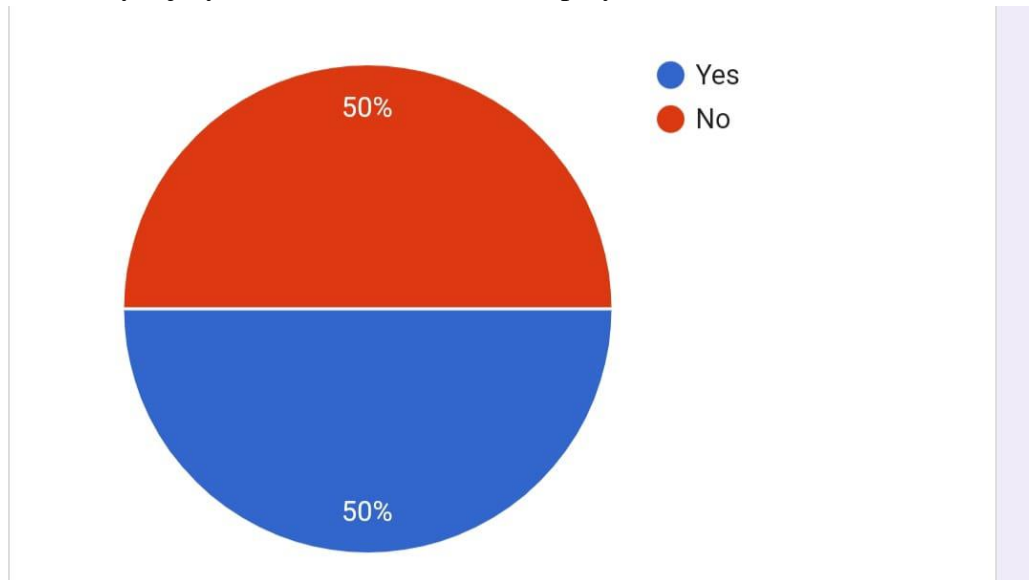
From Figure 7, it is observed that out of the Respondents acknowledging that they have been susceptible to some or the other form of accident and/or injury, the majority I.E. approximately 60% of the workers, 3 workers claimed accidental chemical/pesticide spill to have occurred with them and 2 out of the 3 workers reported of experiencing immediate skin irritation and rash, whereas, the remaining 1 worker reported of experiencing eye irritation as a result of the accidental chemical spill, approximately 20% I.E. 1 Worker claimed he has been susceptible to Chemical Solvent burst and the remaining 20% I.E. 1 worker reported of having over worked and as a result of his over exposure to Chemicals, this in turn made him burst into uncontrollable Coughing.

7.> If the Workers are provided with Safety Equipment by their respective Employers:



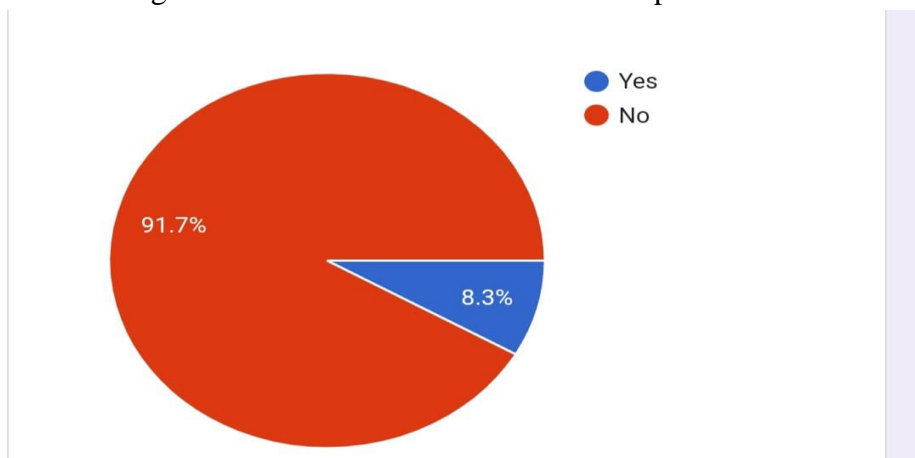
From Figure 8, it is observed that all of the Workers being interviewed in the research study are provided with basic safety equipment for their protection from the perilous chemicals that they are compelled to encounter while working.

8.> If the Workers are covered under Workmen’s Compensation Benefits, a statutory accountability of Employers for any injury or death caused to the Employees:



From Figure 9, it is observed that out of 12 Workers being interviewed in the Research, 6 Workers acknowledged of having being covered under the Workmen’s Compensation Benefits Act, which is reckoned to be a compulsory responsibility of the Employers to cover all of the Workers employed in Factories, Manufacturing, Mining and Construction sectors. The remaining 6 Employees reported of not being covered under the above mentioned Act.

9.> If the workers are provided with any other Voluntary Health benefits/perks by their Employers owing to the dangerous working conditions that the Workers are susceptible to:



From Figure 10, it is observed that only 8.3% worker I.E 1 out of 12 Workers have acknowledged of receiving some health benefit coming from the end of his Employer when he was sick, the remaining

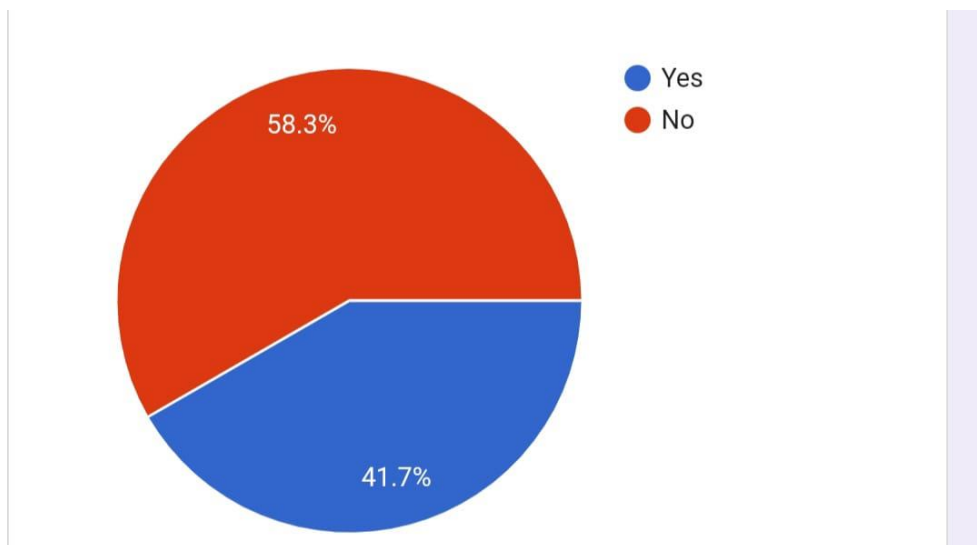
91.7% I.E. 11 out of 12 Workers asserted that they do not receive any form of Voluntary benefits or analogous contribution from any of their Employers.

10.> To describe in detail, the exact type of Voluntary benefit being received if in case the respondents' answer to the previous question has been Yes:

DATA	FREQUENCY	PERCENTAGE
CASH COMPENSATION BY THE EMPLOYER WHILE THE WORKER WAS SICK	01	100%
OTHER VOLUNTARY HEALTH BENEFITS BY THEIR RESPECTIVE EMPLOYERS	00	00%

From Figure 11, it is observed that only 1 out of 12 workers have received Voluntary Health benefit from his Employer, the benefit being procured was Cash Compensation when the Worker was hospitalized and was unable to report to work for a considerable number of days due to excessive itching and hence was given Compensation in the form of Cash.

11.> If regular inspections are conducted to conduct investigations on the overall safety of Workers along with their health:



From Figure 12, it is observed that only 5 out of 12 workers I.E. 41.66% have responded that regular and periodic inspections are being conducted by the Labor inspectors whereas, the remaining 7 out of 12 employees I.E. 58.3% of workers asserted that no such periodic inspections are being conducted to assess the safety as well their health status.

DATA ANALYSIS AND CONCLUSION:

1.> The data pertaining to the workers' nature of Employment being interviewed was pertinent because the researcher wanted to draw a comparative analysis between the Permanent Employees and the Contractual Employees representing the Informal Sector when it comes to acquiring of benefits and/or perks in terms of their health and safety in such hazardous work place in which both the Permanent and the Temporary workers are employed. The data revealed that approximately 58.33% of the workers being interviewed in the research were Permanent Workers I.E. representing the Formal Sector and the remaining 44.67%, which still forms a substantial number is being dominated by the Contractual workers I.E representing the Informal Workers. The data gives us the insight that the Informal workers simultaneously form a substantial proportion in the Secondary sector. Recruitment of informal workers on the basis of a mere contract provides to be more beneficial for the Employers as majority of the Contractual workers are being paid lesser amount of wages, unequivocally zero health benefits as well as zero compensation as compared to their fellow Permanent workers.

2.> The data pertaining to any health problems arising as a result of the workers' occupation needed to be ascertained. The reason as to why the researcher decided to collect this data was because it was deemed pertinent for the researcher to first assess if the workers were really suffering from any sort of health predicament and if yes, then the researcher wanted to draw the correlation if the Workers' primary indulgence with Chemicals is the primary reason for their overall deterioration of their health. The result which was evoked exhibited that an overwhelming number of workers, I.E. 11 out of 12 workers being interviewed acknowledged that they have observed sudden health issues right after they commenced working in the Chemical factory, whereas, only 1 worker claimed of not experiencing any form of substantial changes in his health ever since he commenced working in the factory. Therefore, this data gives us the salient insight that due to the workers' direct indulgence with chemicals bear a direct brunt on the health of its workers and should be dealt with extreme caution.

3.> The researcher further engulfs in more details by comprehending the exact type of health issues being experienced by those workers who had responded in affirmative to the previous question. A descriptive data was being acquired through the medium of which the nature of the workers' illness was determined. The data projected that approximately 33.33% of the Workers reported of experiencing either acute or chronic cough, this in turn can give us an indication of the preponderance of Chemical Pneumonitis, a medical condition in which inflammation of lungs takes place as a result of breathing chemical fumes, other 25% of the workers reported of experiencing either acute or chronic form of itching and other form of skin irritation. Several studies have so far concluded that Allergic contact dermatitis occur commonly when the skin gets in direct contact with the chemicals, hence, after analyzing the second strand of response, the researcher can comprehend the chemicals that the workers have been indulging in can instigate the probability of Allergic contact dermatitis cases, hence, it is always suggested that Chemical Resistant Gloves are mandated and worn effectively while working with the Chemicals, approximately, 16% of workers reported of experiencing headaches, which can be termed as Chemical Headache and the remaining workers reported of experiencing Eye irritation/Chemical Eye Burn as a result of their exposure to the perilous chemicals in their work settings. Chemical exposure to any part of the eye may result in a chemical eye burn, chemical burns represent 8-10% of all other Eye Injuries.

4.> The Researcher also focused on understanding the level of awareness and training obtained on the part of the workers on the possible perils/hazards associated with their works in which they all are indulged in on an incessant basis. The data exhibited an optimistic picture as compared to the other data being generated, this is because, approximately 83.3% of the workers I.E. 10 out of 12 asserted that they are aware, educated and trained about the possible consequences or repercussions associated with their perilous and hazardous work, whereas only 16.7% I.E. 2 out of 12 workers claimed that they are not well aware about the possible repercussions associated with their perilous works. The reason this data was collected by the Researcher was because it is reckoned to be of extreme pertinence on the part of Workers to be comprehensively aware of the possible consequences arising out of their work. The workers, comparatively deserve to be more informed as their nature of work compels them to be in direct contact with the chemicals and hence, apart from being accorded with sufficient information pertaining to the probable health effects, the workers deserve to be eloquently trained in order to be prepared before-hand at the onset of any minor or major incidents occurring at work places. Therefore, the data reveals that the different type of Chemical Factories and it's owners have gradually commenced in exercising care by imparting relevant health and safety based information as well as training to their respective workforces. We can draw the conclusive analysis that more the trained workforce, lesser is the gravity of workplace casualties.

5.> This data inundates itself by determining if the workers have ever experienced any form of work place hazards or incidents which might have jeopardized their health or their overall well-being. The data reveals a very surprising result, it was found that an overwhelming number of workers did experience some or the other form of work place incidents, the data further showed that 41.7% I.E. 5 out of 12 workers being interviewed have claimed to have experienced an incident firsthand, whereas, 58.33% I.E. 7 out of 12 workers on the other hand have claimed that till the current period, they did not have to experience any sort of workplace incident or disaster. If we need to go by the above mentioned data, then it should be of pertinence to note that Chemical factories are reckoned to be one of the hazardous form of work places, specifically for its workers as they are directly in contact with the Chemicals and any form of mishap or incident occurring can result in irreparable disaster and in worst cases, might lead to untimely death, hence, through the medium of this research, the researcher wanted to gain knowledge about the frequency of the disasters or incidents occurring at Chemical work places, to which the result evoked a striking result in the form of 5 out of 12 workers responding in affirmative that they had to experience some or the other form of Workplace disasters or incidents either due to their own negligence or due to some other external factors.

6.> In context to the previous data pertaining to the frequency of workplace disasters/incidents being experienced by the workers, it was pertinent for the researcher to delve in more depth and trace out the exact nature of the incidents/disasters occurring and the causative factors behind each of those disasters. Approximately, 60% I.E. 3 out of remaining 5 workers responded that they experienced accidental chemical spilling either due to their own negligence or due to faulty machines, as a result of this they had reported having skin irritation, rashes and some had also experienced eye irritation, another worker which comprised 20% claimed while working chemical solvent got burst and some minor injuries occurred in his left hand and till date he is not able to function effectively as well as efficiently with his left hand as he used to before, the remaining 20%, I.E. 1 worker asserted that once while being over burdened with

work, he subsequently got over exposed to chemicals and post this, he started coughing uncontrollably and was advised bed rest for a week by the consulting Pulmonologist. Therefore, the data mentioned above projects that chemical spilling still constitutes one of the most occurring workplace incidents, the unfortunate part is of all other industrial or workplace incidents occurring, chemical spills has been regarded as one of the hazardous incidents, spilling of chemicals can result in the spill of toxic and poisonous gases and this in turn can lead to catastrophe in the form of death.

7.> In context to the ever increasing perilousness of the Chemical factories and its possible consequences on the workers' health, it is pertinent to know if the workers are provided with sufficient protective equipment, namely, Chemical resistant Gloves, Head Gears, Custom Safety, Face Masks, Glares, etc. The data, revealed an optimistic canvas in which, 100% I.E. 12 out of 12 workers have acknowledged that they are provided with all the requisite equipment needed to function in their respective Chemical workplaces. Therefore, through the medium of this data we can conclusively infer that the owners are exercising caution and initiating relevant actions to ensure safety for their respective workers. However, in spite of the usage of several protective equipment, it is also salient to note that during any type of workplace incidents, such equipment in some cases is not able to provide the workers with sufficient protection. Hence, it is the utmost responsibility of the respective owners to assess the effectiveness of these protective equipment in shielding the health of the workers.

8.> The data further tries to recognize if all of the workers are covered under the mandatory Workmen's Compensation Act or otherwise. Despite, the Workmen's Compensation Act has been made mandatory for all Workers employed in all type of factories, the data still gave us a very surprising result. 50% of the workers I.E. 6 out of the total 12 workers have acknowledged that they are covered whereas, the remaining 50% of the workers claimed of not being entitled and covered under the Workmen's Compensation Act. This provides us with a contrite picture, specifically after understanding that approximately half of the total workforce indulged in hazardous activities are explicitly deprived of such an act which provides them with coverage in case of any sort of accidental injury at workplace, occupational illness and/or diseases, disabilities and death due to their occupations. It is also very salient to emphasis upon through the medium of this research is all those workers who have claimed to not have been covered under such an Act were working as Contractual laborers I.E. representing the Informal sector. The most unfortunate aspect is that the informal sector workers are the ones to be more exploited and manipulated. These workers are said to put in equal amount of hard work along with the Permanent employees, but when it comes to availing of their rights, then it has always been witnessed that these workers are paid lesser amount of wages, minimal to zero benefits as has been seen through the above mentioned data and no redressal body represent them as is being done in the case of Permanent workers. Therefore, it is of utmost importance on the part of Employers to cover each and every employee/worker under such important schemes irrespective of the nature of their employment. This hold specifically true for a hazardous sector like Chemical factories, where every work is reckoned to be risky and further life threatening.

9.> The data encompasses itself in knowing if the Employers' of these Workers also take Voluntary initiative in providing any other type of health benefits for their Employees by organizing health camps, cash compensation while sick or by conducting periodical health awareness sessions for them. The

responses to this data evoked a grim picture as an overwhelming 11 out of 12 employees, I.E. 91.66% of workers have asserted that they do not receive any other form of voluntary health benefits or perks from their employers apart from the ones which have been mandated by the Government, on the other side only 1 out of 12 workers I.E. 8.3% being interviewed has claimed to have received voluntary benefit in the form of cash compensation because the worker in question, was sick due to excessive itching and subsequent rash and was not able to report to work, therefore he was provided with compensation when he reported back to work . Therefore, it is quite pertinent on behalf of all the Employers to understand about the utter perilous conditions that the workers are compelled to work in and hence, instead of only providing the workers with the schemes and benefits that have been made compulsory by the Government, it is equally crucial for them to provide some other form of voluntary health benefits for all the Employees as this not only felicitates more loyalty on the part of all Workers but also would help the Employers in felicitating Employee retention in the long run.

10.> The last data in question tries to derive the information, if regular and/or periodical inspections are being conducted or otherwise in the work places of the Chemical Factory workers. Chemical factories being a very hazardous workplace automatically warrants a regular inspection by the concerned labor inspector in order to assess the working conditions of the workers, to scrutinize their overall physiological health and lastly to evaluate the overall safety mechanism being undertaken by the concerned Employers. The data again did not fail to give us a shocking result in the form of only 41.7% workers acknowledging that in their respective workplaces regular inspection are being conducted, whereas an overwhelming number of employees, 58.3% I.E. 7 out of 12 workers responding that inspections do take place but not periodically as it is supposed to be, it is being conducted only once in eight months/nine months or mostly once in a year, whereas the requisite norm requires that hazardous workplace inspection ought to be conducted at least once in three months. This data further projects the ever risky as well as the heart-rending conditions that the workers are compelled to work in. It should be the utmost responsibility of the Ministry of Labor and Employment to ascertain and further assure that a periodic inspection takes place, specifically, once in every three months. The rule needs to be mandatorily enforced for the hazardous and perilous workplaces such as Chemical Factories.

CONCLUSIONS:

SUGGESTIONS:

As per the different responses being evoked from the various data, it is quite evident that the overall health of the workers is directly getting affected due to their predominant indulgence with Chemicals in the course of their work but these workers' indulgence with chemicals and other such analogous form of hazardous materials is an inevitable phenomenon, but in spite of this there are certain possibilities through which their overall health and safety risk can be minimized or lessened. Hence, suggestions on the basis of the above given data are as followed:

1.> Mandatory usage of safety equipment, such as, safety glares, safety masks, safety gloves, harnesses (when applicable), specially tailored uniforms for all Employees need to be implemented. Further, the regular inspection of the above mentioned equipment need to be undertaken in order to gauge these equipments' effectiveness. Latest modified equipments or updated and more sophisticated equipments need to be immediately introduced for the sake of all Employees' safety and health.

2.> Through the basis of this research, it was found that majority of the Employers do not provide any form of voluntary health benefits for their Workers. Therefore, the inference can be safely drawn that the health of the workers is in jeopardy owing to the negligence being exhibited by their respective Employers. Hence, in order to address the gap, it is quite imperative for the owners/employers to conduct quarterly health check-up camps and also organize different training sessions through which the overall safety and the health of the workers do not get compromised.

3.> One of the striking findings of the research was that most of the Informal sector workers who were being covered in this research were not benefitted under the very imperative Workmen's' Compensation Act. It is also very pertinent to note that this act provides coverage to all of the employees who meet with any inadvertent incidents during the course of their work. Therefore, it indeed is the responsibility of the Central Government in congruence with the respective State Governments to implement such legislations through which it becomes mandatory for the concerned Employers to cover even the Contractual Workers. The Unorganized Workers' Social Security Act, 2008, has not been able to successfully mobilize the objectives that it had put forth. Till date, majority of the Informal sector laborers working as Contractual Workers in various factories are not covered by most of the schemes, programs and/or benefits. Therefore, the Government needs to immediately intervene and pass such legislations through which the lives of millions of such informal sector workers get ameliorated.

4.> Another striking revelation that the research evoked was in many of the Chemical factory workers confessing that very rarely inspections are being conducted, this startling discovery is very concerning as Chemical factories constitute one of the most hazardous workplaces, where even the least minimal-inducing disaster can provoke life threatening repercussions. Therefore, it is of extreme pertinence that the Ministry of Labor and Employment immediately intervene and initiate labor inspectors to compulsorily assess each and every hazardous work places every three months, where the lives of millions of workers, other human resources and environment are at stake.

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