



Diagnosis for Occupational Health and Safety in One Construction Company Dedicated to The Assembly of Structure and Laying of Steel Sheet of the State of Tlaxcala

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ABSTRACT

Abstract. The objective of this research is to obtain a diagnosis with the application of tools to help determine how the application of safety standards is currently and occupational health, as well as its relationship with the state of physical and mental health and climate organization in which the activities are carried out. for a small company dedicated to the assembly structure and lamination, which is located in the state of Tlaxcala, with the purpose of generating a safer environment for the workers and of greater confidence for the company at the moment of carrying out the work giving a strengthening as an organization. Three techniques are used research, such as the survey, which served to know their physical, mental and climate health organization, this information is used to match how these states influence the application of the rules. The interview and in-depth observation were also used to detect areas of opportunity in the process, this information Supports the design of a system appropriate for the execution of the works. Some of the results obtained are the state of workers in their physical health, to what extent they have suffered health problems in the last months that have worked. Mental health, experiencing discomfort and discomfort during the time they have worked. Safety to what extent your work is exposed to certain conditions and the organizational climate will reveal the relationship between partners as well as the employer worker relationship.

To cite this article

[Cruz, I. J. R., Rivera, J. L. M., & López, A. T. (2019). Diagnosis for Occupational Health and Safety in One Construction Company Dedicated to The Assembly of Structure and Laying of Steel Sheet of the State of Tlaxcala. *The Journal of Middle East and North Africa Sciences*, 5(4), 7-10]. (P-ISSN 2412- 9763) - (e-ISSN 2412-8937). www.jomenas.org. 2

Keywords: Security, Health, Organizational Climate, Risk, Regulations.

1. Introduction:

The diagnostic investigation arises in response to a situation or problem that needs to be analyzed to find a possible solution and then identify the characteristics of the Context and determine the actions to follow. Its objective is the analysis based on the observation of the scenario. This type of research seeks to identify which factors intervene in a given scenario, in order to generate a global idea of the object of study, and thus allow decisions to be made from that information collected and analyzed. Once the most relevant aspects of the object have been made of identified study, allows to categorize the opportunities and order them according to the importance of proposing a possible solution.

To do the research it is necessary to use instruments. such as the survey, interview open and in-depth observation that will give the information to be able to diagnose a small company that requires the development of appropriate strategies.

The problem that needed to be addressed to make a diagnostic investigation arose at analyze what in Tlaxcala are industrial parks which are in constant growth and

remodeling, to mention the names of the most outstanding are: Industrial City Xicotécatl I located in the municipality of Tetla de la Solidaridad, city Industrial Xicotécatl II located in the Municipality of Huamantla, Industrial City Xicotécatl III located in the municipality of Tlaxco as well as the park of Santa Isabel Xiloxoxtla.

Despite the growth and new businesses that have been established in these parks, find a problem when it comes to reviewing what is the knowledge and application of the occupational health and safety procedures, due to the lack of importance given to the protection of the workers when they carry out their tasks, even if they are located in heights higher than 1.80 meters and depending on the structure of the ship can reach 18 meters in height even more.

During the first semester of 2018, the number of affiliates to the IMSS (formal employment: permanent - eventual) of the construction industry, recorded a growth of (+) 6.5% in relation to the same period of 2017, meaning the creation of 101 thousand 527 formal jobs (This growth can be explained by the process of formalization of

employment that companies' builders are doing before the IMSS). Balbuena & Antonio (2018).

	2017	2018	Variación % 2018 vs. 2017	Variación absoluta en el número de empleos con relación a 2017
Junio	1,602,679	1,689,103	(+) 6.5%	(+) 101,527
Ene. – Jun.	1,558,244	1,659,771	(+) 5.4%	(+) 87,026

Figure 1. Number of workers in the construction industry affiliated with the IMSS to June 2018. CEESCO 2018 with information from (INEGI 2016).

The survey is a widely used tool, Sampieri (2010), says that must meet three essential requirements are validity, reliability and objectivity. The interview is the most used technique in the different areas of knowledge, being the interaction between two people, planned and that obey an objective, Bernal Torrez (2010).

For the observation, Bernal Torrez (2010), mentions that it is a research technique scientific and a rigorous process that allows knowing directly, the object of study. And later describes and analyzes situations about those studied. The reality, through the type of observation natural where the observer is a mere spectator of the observed situation; therefore, there is no intervention of this in the course of events.

2. Methodology:

The study was framed as qualitative research, with a non-experimental design, being a cross-section. investigation of a descriptive and field type, where the aspects relative to the workers engaged in the assembly of structure and rolling identified and analyzed in the state of Tlaxcala.

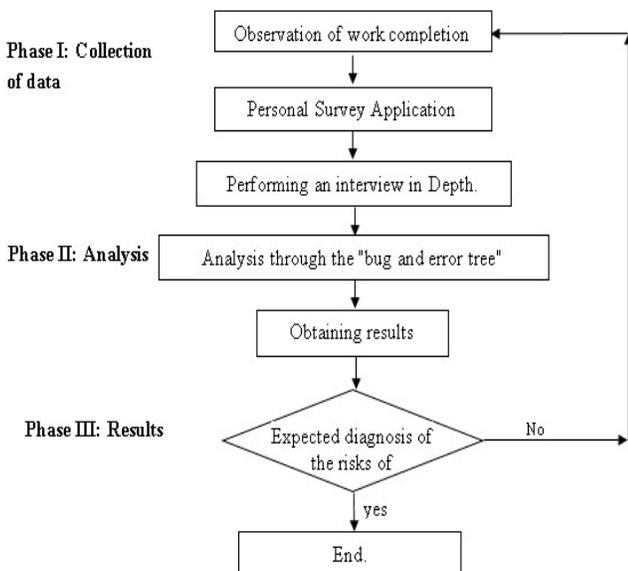


Figure 2. Description of the Method. Own Elaboration

2.1. Research Instruments

Three techniques were applied through three instruments: the survey, the in-depth interview and observation.

For the survey, the first survey on working conditions was taken as a basic instrument, occupational safety and health in Uruguay, in which the organizations ISCOD, Secretary of Labor Health of the UGT, Secretary of General Inspection of Labor and Social Security of the Ministry of Labor and Social Security of Uruguay, the Ibero-American Organization of Social Security and Secretariat of Occupational Health and Environment of the PIT-CNT. who fulfilled validation, reliability and objectivity, which will be applied through a questionnaire addressed to workers, from this instrument was subtracted a set of questions of interest from this study which were from the Physical Health section, 30 questions; from the mental health section 16 questions, from the security section 23 questions and from the organizational climate section 27 questions, having at the end a constructed format written with 96 questions, all of them in scale of Likert, policies of three options, and a section at the beginning in which data are investigated generalities such as gender, seniority in the position and the area of work.

This instrument was applied in the state of Tlaxcala, in this case it is about individuals belonging to an organization with which they work making the structure assembly and laying of a steel sheet.

The population under study belongs to the construction sector where the majority of workers has a high level of education in high school, their economic level is low and they do not care much of their health and safety, the state of Tlaxcala has a large amount of labor in this sector and in the central part of the state concentrates a large number of these companies, without however, the branch is very broad and only this study will be focused on companies belonging to the branch of the building in buildings defined as shopping centers, home, wineries among other. The total population of construction companies in the state of Tlaxcala is 216 economic units the size of the sample is 60 workers taking into account only 3 companies engaged in this activity, being a convenience sampling, technique not probabilistic where the subjects are selected given the convenient accessibility and proximity of the subjects.

2.2. Data Analysis

For the slope, the data obtained from the study population were processed using statistical tools. In this study, excel was used for descriptive statistics. Use of frequency distribution and graphic representations. (histograms and bar graphs and circular).

In the case of qualitative techniques such as in-depth interviewing, the information obtained analyzed from what the workers responded; All the registered information is examined and ordered to build interpretations and



descriptions looking to generate solid arguments and obtain the most relevant information for the interests of the investigation.

With the observation technique through the checklist, the information obtained from the items Where the answer is affirmative, considering it as a strength. and in the answers negative as a weakness, conclusions were drawn taking into account the observations section to make a small report.

3. Results:

The results of the survey, the interview and the in-depth observation, applied to the workers gave the following results in term of general data: of the respondents 100% are men, there a greater accumulation in seniority of more than between 5 and 10 years in the position, and in question of the work area 40% are in the structure assembly area and 60% in the area of laying of steel sheet.

In terms of percentages, it is observed in physical health that neck pain problems or nape and back affect almost half of the workers to some extent, with 46.60% and 25.10% of them who would suffer a lot. It is also noteworthy that the headache is present to some degree for 28.70% of workers, and that other problems such as pain in upper, lower or hand limbs would affect more than a quarter of the workers. Continuously, the headache affected some degree to 40.20% of construction workers; while the pain in upper and lower limbs arrived at 31.30% and 35.70% respectively. Also, with a percentage of 32.80% of workers affected, pain in the upper limbs.

In the psychological sense they are also remarkable: stress would affect 60.40% of workers, the depression at 8.50%, and 10.20% of them report problems related to the dream to some degree. The presence in workers of other symptoms was also analyzed related to psychological aspects, such as worry, sleep problems, emotional exhaustion, low mood, tension, etc. These in no case exceeded the score of 2.00, on a scale of 1 (the symptom had not experienced anything in the past months), and punctuation of 3 (the symptom had been experienced a lot). However, two of the symptoms analyzed almost reached that value of 2.00, indicating that he had been Present, although little. They are the problems to sleep; mean equal to 1.92, and the feeling continues of fatigue; average of 1.83, also the highest averages corresponded to the items referred to sleep problems and fatigue within each sector. Especially, in the lamination sector the average for the problems in falling asleep was 1.60 and in the construction of 1.76. Regarding the feeling of tiredness, these two sectors also presented the most significant averages high, being the average of 1.74 in the construction and of 1.81 in the branch of rolling.

Relationships with managers or supervisors are perceived as little or nothing problematic by 92% of workers in terms of conflict, and for 84% of them the level of Unpleasantness of the relationship is low. On the same

line, 95% of workers said who distrust little or nothing of their bosses or supervisors. For 78% of workers, relationships with superiors are clear, while for 95% the degree of competitiveness of the worker with a supervisor would be low.

In relation to the response categories that would be indicative of the presence of problems in the relationship with superiors to some degree, 5% of workers say that this is something conflictive, 12% state that they are unclear, 6% that there is competitiveness with their bosses or supervisors, and for 3% and 2% -respectively- relations with superiors would be distrustful and unpleasant.

Observation:

This research instrument was applied in the Productive Processes, during this process of observation in the construction company, focusing on the behavior of the workers, installation conditions, equipment material, safety procedures, methods, knowledge and skills. It is visualized that the way in which the work of everyday way.

In the process of assembly of the structure it is observed how the metallic pieces to be placed in position are prepared, in this stage the prefabricated pieces are elevated by means of a crane of 20 tons taking into account that the assemblers have to climb together with the piece or anchored to it are observed the security measures that are occupied in this act, as they are the type of harness to occupy, the way in which they are anchored to this and by means of which element, these can be lasso, cable or sling, where it is evaluated and a report is reached that the procedure is Sure, you just have to take care of the state of the elements that are used for the personal security, the harness, and that mainly the workers who come up with the piece to place do not have any physical or emotional alteration.

The laying of steel sheet is enhanced so that two groups place it, one that is dedicated to doubles of the final shape of the sheet and the second group to the carrying and placing of the sheet, all this performed at the final height where it was placed, in this case the way it is placed is observing the bending machine on the roof, the way the workers climb and how they are anchored move and be able to place, in this section is taken into account the state of physical health emotional and mental health of the workers because all the time their work is in height and not It can allow a worker not to go 100%. Caring for the state of the equipment used, the harness, lines of life, carabiners, helmets, gloves.

4. Discussion:

At the beginning of this work, it is established that the research to establish the how is the safety, occupational health and organizational climate in three companies of the state of tlaxcala, in order to be able to generate useful and true data of your current situation. The group of beekeepers of the state of Tlaxcala.



In the research process, the survey technique has been used to obtain information through descriptive statistics about the objective of the study, which is safety and occupational health, through a survey of workers to know the mental health situation and the organizational climate in which they find themselves. Given that 82% of workers they limit in a certain way even if the performance of their work is very minimal, the physical pains located in different areas, being the most common, the neck, back, waist and lower extremities.

Protection equipment:

In this section you will find all equipment such as harnesses, lifelines, helmet, shoe security, glasses among others, I am the main part to ensure that workers develop their activities safely, these should be taken care of in their physical state, which find no scratches, burns or damage of any kind that could put live at risk of the worker at the time that is required to perform the function for which they were made.

In the section on physical health, care must be taken that the workers who they will perform the works in heights do not have any cut confection or culquier lesson in any part of the body that may hinder or hinder the worker's maneuverability, they must take care of the same way the headaches that become common because the work It is made in the open air with full contact with sunlight, which can cause pain head from mild to strong. Allergies are rare but when they come to present sporadically, the company must have the necessary equipment and materials to be able to counteract its effect immediately. Workers say a lot about tiredness chronicle since it is one of the main conditions with 87% of reference among the This is due to the working days that are frequently extended three or four times a week, coupled with this stress is very present in conjunction with the chronic fatigue as one of its consequences referring 90% of workers who feel moderate to much stress.

In the sense of mental health, the aspects with greater emphasis were the feeling of concern with 76%, which is referred to by the natural situation of work, because they are contracts agree to the work, and remain in the uncertainty once it is about to conclude, This being the point this point in the workers, coupled with this the other aspect that relates in a close way is feeling hopeless about the future, with 87% of mention among those surveyed, only that at this point what is the perception of their salary intervenes They indicate that it is not enough for them to cover their personal expenses, due to the situation of their homes, number of children, payments of schools, materials, food, and objects needed to be able to maintain the home,

sinietiando that they will never be able to tracnder more of this situation.

Finally in the organizational Climate section 95% mention an open communication On the part of the company and the co-workers, mutual trust is maintained at 86% of among workers, the share of threats and physical violence is virtually nil presenting only 2% of the respondents a positive aspect to this section, innuendo not presented 0%, discrimination by race or sexuality do not have any punctuation in work, being only the assignment of humiliating tasks which can have a focus of attention with 15%, this refers to that at certain moments the workers feel that the assigned task is not your responsibility, taking into account that it is not always the same worker is assigned to this task, but it is rolled the assignment of this to avoid the feeling of humiliation that could generate.

5. Conclusion:

The polyherbal formula demonstrated thrombolytic and anti-inflammatory activities in this study, thus proffering more insights into the popular folkloric usage of the polyherbal in Nigeria and some sub-Saharan African countries. The polyherbal formula, therefore, shows potential for use in the management of conditions associated with thrombotic, thromboembolic disorders and the associated endothelial dysfunction. Molecular investigation of the bioactive components is however expedient to better understand the specific mechanisms of action.

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