

Osh Problems and Improving Suggestions in Metal Sector of Turkey Within the Perspective of Employees

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Abstract

Metal sector in Turkey is the sector that has the highest work-accident rate. The aim of the paper is to acquire feedback in two issues from employees in metal sector so that improvements required for high priority fields could be detected and work-accident rate could be reduced to a certain level as well. While the first issue, consists of factors which employees thought for that negatively affects Occupational Health and Safety (OHS) in the workplace environment, the second issue is their suggestions for changes in the improvements of OHS in the workplace. the research is conducted with 325 employees and 27 workplaces. In the first group, 427 views are taken out of 321 employees and in the second group 94 employees gave 97 answers. In this research, “content analysis” is used as the assessment method. According to results, factors that negatively affect OHS in Metal Sector are gathered in 13 basic group and suggestions for improvements are gathered in 8 basic groups.

Keywords: Occupational Health and Safety, Metal Sector

Introduction

The concept of work accident has many definitions. According to one definition work accident can be defined as unplanned events that stem from unsafe motion and conditions that risk employee’s life’s and causes injuries and damages machines and equipment and leads to production delay (Ceylan, 2011:19). But it needs another definition for the compensation of the cost of an employee who has an accident. Work accidents that are reported in Turkey, are firstly technically inspected by social security. If the accident is in accordance with the “Social Insurances and Universal Health Insurance Law” with article 5510 and paragraph 13, some assistance is given from social security system.

Work accident is the incident which occurs;

a) when the insurance holder is at the workplace,

b) due to the work carried out by the employer or by the insurance holder if he/she is working on behalf of own name and account,

c) for an insurance holder working under an employer, at times when he/she is not carrying out his/her main work due to the reason that he/she is sent on duty to another place out of the workplace,

d) for a nursing female insurance holder under item (a) of paragraph one of Article 4 of this Law, at times allocated for nursing her child as per labor legislation,

e) during insurance holder's going to or coming from the place, where the work is carried out, on a vehicle provided by the employer, and which causes, immediate or delayed, physical or mental handicap in the insurance holder.

The metal sector is in the manufacturing sector and with its large activities field it contains spectrum of widely subsectors because of its nature. It functions in variety of production fields ranging from automobile sector to electrical equipment, from work machines to heavy industry products (Bingöl, 2010:16), from steel and iron to non-metals like copper and aluminum and it operates from consumer electronics, telecommunication equipments, military electronics, and other professional and industrial machines, computer machines, the electrical machine production to electric and electronic industry (The Ministry of Science, Industry and Technology, 2013:9; Alp, 2010:45) and ministry of industry and technology. Although in sector activities, technology intensive production takes place heavily, labor concentration is also significant (ÇSGB, 2011:13).

The work place and the number of employees data is obtained from collection of SGK data between the years 2010-2013 for the purpose of comparing workplace and employees in all sectors.

Table 1. The Comparison of the Numbers in Workplaces and Employees between Metal Sector and Other Sectors (Turkey Scale)

Year	Workplace/Employees Numbers	Metal Sector	All Sectors	All Sectors Rates	The Number of Employees Per Workplace
2013	Workplace Numbers	86.375	1.611.292	5,36%	13,11
	Employees Numbers	1.132.449	12.484.113	9,07%	
2012	Workplace Numbers	85.565	1.538.006	5,56%	12,76
	Employees Numbers	1.092.250	11.939.620	9,15%	
2011	Workplace Numbers	84.368	1.435.879	5,88%	12,67
	Employees Numbers	1.068.837	11.030.939	9,69%	
2010	Workplace Numbers	82.545	1.325.749	6,23%	11,77

	Employees Numbers	971.372	10.030.810	9,68%	
2009	Workplace Numbers	81.584	1.216.308	6,71%	10,71
	Employees Numbers	874.346	9.030.202	9,68%	

Source: It is collected from yearly statistics of Social Security Instution (SSO) (www.sgk.gov.tr).

According to 2013 data, while %5.36 of all workplaces belongs to the metal sector, of all the insured employees % 9.07 of them work in the metal sector. In the last five year, in spite of the increase in the number of workplace and the number of employees, the proportion of insurance holder in workplaces in the metal sector is decreasing. The reduction in workplace rate is small as compare to reduction in the number of employees. This shows that small scale enterprises in metal sector are evolved to large scale ones. While the number of employees per workplace is 10.71 in 2009, this rate is 13.11 in 2013 as a parallel to other sectors, the number of workplace and the insurance holder is on the increase. When comparing this increase with other sectors, it is possible to say that metal sector narrowed little in all sectors.

Work Accidents in Metal Sector

According to 2012 data %25 of work accidents in all sectors happened in the metal sector in Turkey (SSO Yearly Statistics, www.sgk.gov.tr). It is seen in Table 2.

Table 2.
The Number of Work Accident in Metal Sector

Total number of accidents in metal sector	19.289
Total number of accidents in all sectors	74.871
Accident rate in metal sector	% 25,763

Source: It is collected from yearly statistics of SSO (www.sgk.gov.tr).

Since the machine and equipment used in metal sector are harsh, cutting and many enterprises in this sector are small and medium scale enterprises that employs uninsured workers, unable to take protective measures efficiently, in addition to this the existence of untrained employers and employees and their unconscious attitudes; are problems that jeopardize employees (Demir, 2009:13). MESS (Turkish Employers' Association Of Metal Industries) made a Work Accident and Occupational Diseases research in 174 member workplaces in 2012. The research of MESS 2012 results shows that; 6215 people had an accident out of 135011 people (MESS, 2012). %4.6 sector workers had an accident rate in the member workplaces of MESS. This rate is highly lower than the data of metal sector's work accident frequency in the statistics of SSI. The research of MESS results shows work accident frequency is low degree in unionized large scale

enterprises and increasing unionization diminishes Work Accident and Occupational Diseases.

The Research Methodology

Metal sector in Turkey has the highest frequency work accident rate in Turkey. The aim of this paper is to acquire feedback in two issues from employees so that reduction in work accident rate could be reduced to certain level and improve the high priority fields as well.

In this research two questions are asked to 325 people from 27 enterprises in metal sector in Denizli Province. These questions are:

- In your opinion, what are the factors with negative effect on occupational health and safety at your workplace?
- **In your opinion, what sorts of changes are necessary to improve safety at your work place?**

In this research answers, that are obtained is analyzed by content analysis.

Analysis of Respondents’ Opinions Considered as A Negative Effect on the Occupational Health and Safety (OHS)

In this section, content analysis was conducted on answers of respondents, given to the 2 open-ended questions in the safety culture survey in terms of both generally and of workplace. Within this scope, answers were coded for digitization.

During analysis of respondents’ answers, it was determined some respondents expressed multiple opinions. Even these opinions were considered as positive, negative and neutral. During analysis, all opinions were evaluated within the relevant category and this situation was resulted in multiple opinion record for some respondents. Therefore, total number of opinion/evaluation could exceed number of respondent. In Table 3, general evaluation results regarding answers of respondents were displayed.

Table 3.

Factors Effective on Occupational Health and Safety at Workplace - General Evaluation

IN YOUR OPINION, WHAT ARE THE FACTORS WITH NEGATIVE EFFCT ON OCCUPATIONAL HEALTH AND SAAFETY AT YOUR WORKPLACE?		
Total number of respondent		854
Number of respondent who made evaluation		321
Number of invalid evaluation		6
Total number of respondent included in evaluation		315
NUMBER OF POSITIVE OPINION	NUMBER OF SUGGESTION	NUMBER OF NEGATIVE OPINION
8	10	409

The question requiring respondents to indicate factors negatively effective on occupational health and safety was answered by 321 respondents; and 315 answers were found appropriate for including in the analysis. Of the received answers, there were 8 positive opinions, 10 suggestions and 310 negative opinions.

Positive Opinions

Positive opinions expressed in feedbacks of respondents revealed that all precautions concerning with the OHS were taken; employee were provided necessary equipment; and no any negative situation concerning the OHS occurred at the work places.

1 Respondent: *“In my opinion, there is nothing with negative effect on the OHS, adequate OHS is ensured; excessive efforts prevent regular operations”*.

1 Respondent: *“Employees are supplied necessary equipment; but employees were inclined not to conform to the rules.”*

1 Respondent: *“Along the last couple of years, there have been advancements in my workplace in terms of the OHS. However, more is needed for resolution of the OHS problems.”*

1 Respondent: *“Safety precautions at the workplace are sufficient; we just need to be careful while we are working.”*

Suggestions

Employees’ suggestions are relevant with the OHS specialist, communication, participation, processes relevant with auditing and improvement of work processes and workplace.

1 Respondent: *“Communication among employees must be strengthened.”*

1 Respondent: *“A meeting must be held with employees once a month for general consulting”*.

1 Respondent: *“Participation of employees must be ensured with the decisions concerning safety.”*

1 Respondent: *“Dust and smoke in the work environment must be evacuated; it is necessary to listen to employees, too”*.

2 Respondents: *“Everything was done about the OHS; however, employees do not fulfill their commitments; employees need to be more careful”*.

1 Respondent: *“OHS auditing must be conducted by independent specialists. Success could not be achieved by specialty employed under the employer”*.

1 Respondent: *“Room of the OHS specialist must be located in the facility. Controls must be maintained on continuous based. Employees*

displaying negative behaviors must be warned. They are conducted partly; but, they must be conducted more frequently along different shift”.

2 Respondents: *“The division operating with grinding wheel is required to be separated from the work environment; material handling and shipment stages must be improved”.*

Negative Opinions

Negative opinions obtained from respondents were classified under 13 titles. Data on categories and divisions regarding these opinions was exhibited in Table 4.

Table 4.
Categorical Classification and Proportions of Negative Opinions

Q.No	Negative Opinion – Category	Number	Rate
1	Problems in Work Environment	164	40.1
2	Problems Caused by Employees	54	13.20
3	Problems Caused by Employer	39	9.54
4	PPE and Other Equipment-Material Problems	33	8.07
5	Psychological Problems	30	7.33
6	Problems with Machineries	23	5.62
7	Problems Directly Related with Health and Safety	22	5.38
8	Problems Related with Training and Information Sharing	10	2.44
9	Long Shifts	9	2.2
10	Problems Related with Supervisor	7	1.71
11	Wage Problems	7	1.71
12	Communication Problems	6	1.47
13	Auditing Problems	5	1.22
TOTAL		409	100

Based on the study findings, 40.1% of negative opinions expressed by respondents are related with their work environment. Whereas 13.2% of respondents complained about that their coworkers were not paying attention to the OHS adequately, 8.7% stated the problems with the equipment used in the Personal Protective Equipment (PPE) other tools. Proportion of the respondents expressed psychological problems such as disappointments, low motivation and stress caused by various factors was determined as 7.33%. Whereas rate of the negative opinions relevant with machineries such as maintenance and repair activities was determined as 5.62%, the one relevant with working under direct and continuous risk/hazard and ignorance of this situation was 5.38%. Other negative opinion categories expressed by respondents were training and information sharing problems (2.44%), long shifts (2.2%), supervisor (1.71%), low wages (1.71%), communication (1.22%), auditing problems (1.22%). Problems related with these groups were examined under following titles/tables.

Problems in Work Environment

Problems in work environment are oriented in five groups: confined work area, disorganized work area, thermal discomfort, ventilation and other. Distributions regarding these problems were exhibited below Table 5.

Table 5.
General View of Problems in Work Environment

Q.No	Problems Related with Work Environment	Number	Rate
1	Poor Ventilation	71	43.29
2	Confined Work Area	33	20.12
3	Thermal Discomfort	31	18.9
4	Other	15	9.15
5	Disorganized Work Area	14	8.54
TOTAL		164	100

Problems caused by work area mostly arise because of poor ventilation at large-scale work areas (43.29%). Some of the respondents' opinions concerning this subject were summarized below. Respondents' opinions classified in the thermal discomfort are mostly result of improper air conditioning of the work area, related with ventilation problems.

1 Respondent: *“Since flection and multi-wire machineries are located in the same area of the wire drawing building, smoke/vapor exhausted by the multi-wire machineries are released into the room air while doors and ventilating channels are not used appropriately due to adverse weather conditions. We need to breath in this smoke/vapor. When we enter the wire drawing building, this foggy view of air is already remarkable. I consider this situation as a negative factor for our health”.*

1 Respondent: *“We are working under risk all the time ambient air is dusty; and highly noisy and we work with machines. Safety precautions certainly are not adequate”.*

1 Respondent: *“There is poor ventilation; iron dusts pose great risk for our health”.*

1 Respondent: *“Ventilation system of the facility is insufficient. I am working at the grinding division. There is too much dust; it is hard to breath!”*

1 Respondent: *“Safety at work is not only consisted of wearing ear protectors or goggles. We cannot breathe because of poor ambience air!”*

1 Respondent: *“Uniforms and shoes are not distributed on time. There is no sufficient glove distributed to workers. Smoke exhaustion of multi-wire machineries is not adequate. We stay in a bluish smoke in the building. We breathe in poison!”*

1 Respondent: *“In my opinion, safety at work is only show-off. Our ears were burned because of ear protectors during summer. They were worn*

just perfunctory. Smoke coming from multi-wire machine dispersed across the facility; we breathe in poison. Working conditions are rather heavy...”

1 Respondent: *“Gases and solvent smells in the work environment are disturbing. Ventilation is insufficient.”*

1 Respondent: *“There is disturbing dust in the work environment. This situation must be resolved.”*

Some of the negative opinions regarding problem of confined work area were exhibited below.

1 Respondent: *“Working area of the facility is quite limited and insufficient. There is almost no free space to walk in the work area.”*

1 Respondent: *“Confined space and disorganized structure of the work environment elevate risk of work accident”.*

1 Respondent: *“Working area and inventory areas for manufactured goods are quite limited”.*

1 Respondent: *“Storage of raw materials within the factory causes problem. Machineries are one in another; they are closely spaced”.*

Some of the negative opinions regarding disorganized structure of the work area were exhibited below:

1 Respondent: *“Disarrangement within factory regarding materials is significant cause of accident. All personnel need to work carefully and in an order”.*

1 Respondent: *“Work environment must be clean and organized”.*

1 Respondent: *“Omission of displacement of broken materials results in fall of other materials while they are being handled”.*

1 Respondent: *“Disorganized layout of machineries, confined free-movement areas and leaking roof are problems experienced in the facility.”*

1 Respondent: *“Layout is not organized properly and the administration makes decision without considering the OHS quickly.”*

Some of the negative opinions regarding the thermal comfort problems were explained below:

3 Respondents: *“The environment is unaired; there is dust, smoke and dirty air in the environment while it is hot in summer and cold in the winter.”*

1 Respondent: *“Wire drawing division is highly noisy and it is extremely hot in the summer. It is adversely effective on both employees’ health and manufacturing”.*

1 Respondent: *“Tower area is excessively hot; and it is rather difficult to handling material with the tower because of its height. Carrying heavy materials up and down at the tower is both difficult and risky”.*

1 Respondent: *“My working environment is quite cold in the winter. However, other divisions are quite hot. I wish I could be in other divisions”.*

1 Respondent: *“Because of the heat in the working environment, helmet and goggle cause extreme sweat. Furthermore, helmet cause headache when it is worn in the hot weather. Therefore, risk of work accident increases. If I wear goggle to long, I feel the rush in my eyes because of heat. Either thermal comfort conditions in the working environment must be improved or obligation for wearing helmet near the vertical machineries must be removed.”*

Other problems related with working environment are about poor and slippery ground, working on the wet surface, smoking in the work area, material handling area and shipment areas. Some of the negative opinions regarding this subject were exhibited below:

1 Respondent: *“Waist wader must be supplied for washing operation in tanks; I want appropriate work gear and shoes as they are obliged by the standards”.*

1 Respondent: *“We work in water; this negatively affects me; I want this to be fixed.”*

6 Respondents: *“The factory area is highly confined; there is no smooth ground; our uniforms and pallet truck are insufficient”.*

1 Respondent: *“The smoke that occurs during ventilation given to the bullion under process has negative impact on our breathing although we use mask; this issue must be fixed...”*

Problems Caused by Employees

Problems caused by employees include the ones among the safety culture factors: safety awareness of employees and behaviors. In this group, the opinions regarding the subjects on employees' disorderly, careless and irresponsible working habits, paying no attention to their work, having undisciplined attitude and behavior toward the job, ignorance towards safety at work on purpose, misuse of equipment, ignorance of security precautions and omission of rules. Furthermore, it was emphasized that using the PPE and wearing helmet, goggle and etc. in excessively hot-cold and/or with poor ventilation would result in excessive sweating, headache and other health problems and probability of work accident. Some of these opinions were summarized below:

1 Respondent: *“Employees working in manufacturing facility do not pay attention to safety at work.”*

1 Respondent: *“Insensitivity and ignorance among employees have negative impact on OHS at work place. There is no any activity which could influence employees emotionally regarding the OHS”.*

1 Respondent: *“Employees do not use their protective gear all the time. They must get used to wear them while they are at work”*

1 Respondent: *“Although all OHS equipment is procured, employees do not pay attention to equipment”.*

1 Respondent: *“Because of heat of the work environment, helmet and goggle cause excessive sweating. Additionally, helmet causes headache when it is worn in excessively hot environment. Therefore, risk of accident increases. If I wear goggle continuously, rashes occur in my eyes when it is too hot...”*

Problems Caused by Employer

In general, problems caused by employer were oriented on more and faster production. According to the perceptions of employees, it was expressed that safety is put in secondary place in order to accelerate production; continuous high work pace and request for completion of the assigned work under heavy working conditions, business decisions are taken without considering the OHS codes, precautions are taken after an incident happen, pressures are made on employees regarding fulfilling the OHS rules and discrimination is made between white and blue collar employees. 61.54% of negative suggestions were concerning fast-paced manufacturing subject (24 expressions). Some of the opinions regarding this group were summarized below:

1 Respondent: *“Lack of qualified employee, insufficient education, insensitive employer who aims to make more money and unfavorable working conditions are negatively influent on safety at work.”*

1 Respondent: *“Works should not be done hastily so as to prevent careless performance.”*

1 Respondent: *“Time factor is the most important obstacle. Since products are required to be completed in certain time, the risk increases at this point”.*

1 Respondent: *“In my work place, production is important instead of human life. We are expected to be fast and hasty while we are performing our task”.*

3 Respondents: *“There is no appropriate working environment, working conditions are quite heavy; our performance is exceeding our capacity; we are trying to do too much work with less people.”*

2 Respondents: *“The most important factor effective on the OHS is discrimination between the white and blue collar employees. There is unjust wage policy; discrimination between white and blue collar is disturbing; and there is double standard. For instance, “... although it is forbidden to talk within the facility; they could talk! In case no any discrimination is made among employees and there is fare wage policy, everyone could copy with safety precautions more effectively”.*

PPE and Other Equipment-Material Problems

Negative opinions in this group are concerning about procurement of the PPE-material-equipment (tool), appropriate shoes, uniform, gloves, low quality of the PPE -material-equipment or they prevent employees to practice their work, demand for light-weight and useful PPE gear and inappropriate usage of the PPE gear. Some of these opinions were summarized as follows:

1 Respondent: *“It is necessary that our masks must be replaced with the new ones in larger size and safer. Additionally, other OHS equipment must be fully available”*.

2 Respondents: *“Goggles that wear during the grinding operation are inadequate. It will be safer to have greater mask.”*

1 Respondent: *“Since ambiance is rather noisy, ear protector remains insufficient to repress the noise. There is poor ventilation; and too much pressure on employees. There is no effort to motivate employees”*.

1 Respondent: *“Utilized protective materials need to be lighter and handy”*.

4 Respondents: *“Since tools and equipment are sufficient to perform the work, we use other materials. Tools and equipment that we need during our operation must be fully ready”*.

1 Respondent: *“We should be provided waist wader to use while we are washing tanks; uniforms and shoes which conform to standards could be supplied to us.”*

2 Respondents: *“Our summer shoes are torn apart; so our feet freeze at night shift. If we get sick and take a sick day, we are blamed about this. (Nevertheless, winter is always expected to arrive, they must be ordered beforehand; isn't this more logical?)”*

6 Respondents: *“Since there is no rechargeable forklift at inflexion and multi-wire group, especially in places working with 800-iron reel, we, operators, turn reels manually. This is serious issue with safety at work”*.

1 Respondent: *“While I am doing my job, I need to use power handy lift. But it is hard to find, since there is no sufficient”*.

Psychological Problems

In general, most of the suggestions in this section emphasize disappointment, stress and low motivation (at 60% rate) (18 respondents). It is reported that intensive work, low wage and spoilt working relationships result in fatigue, inattentiveness and sleep disorders.

1 Respondent: *“Everyone is down at this work place; employees are mistreated; and questions are answered in a negative tone”*.

1 Respondent: *“It is not appropriate to place a supervisor next to each employee for higher production; it must be ensured that workers feel relaxed.”*

4 Respondents: *“Wages are low; workmanship is cheap; these cause inattentiveness.”*

1 Respondent: *“Psychology of employees must be taken into consideration!”*

Problems with Machineries

Suggestions in this group are usually oriented on omission of timely and appropriate machine maintenance, lack of emergency stopping buttons (at necessary locations), insufficient machinery equipment and low performance of machineries. Some of these opinions were summarized below:

1 Respondent: *“Using grinding machines without protectors, inefficient operation of cranes, missing protector bars at lathe constitute problem.”*

1 Respondent: *“Complete emergency stop buttons must be placed on rectification machines”.*

4 Respondents: *“Machine maintenance must be implemented on time; especially lifting equipment must be checked frequently”.*

1 Respondent: *“Protector lids must be placed on machines”.*

1 Respondent: *“Working with old machines and materials. Using machines under heavy-duty conditions apart from their essential purpose; and omission of emergency stop buttons where they should be”.*

1 Respondent: *“Machines are maintenance-free and very old. Periodical maintenance of machines should be completed on time.”*

Problems Directly Related with Health and Safety

Suggestions in this group are essentially gathered under poor OHS measures in spite of a job with high level of danger/risk, omission of high risk factors in usage of the PPE, failure in taking necessary measures about chemicals, dusts and gasses in the work place. Some these opinions were summarized below:

1 Respondent: *“I need cable of the welding machine hanging in the air because when it is on the floor, forklift runs over it, reel rolls over, this is very dangerous situation!”*

1 Respondent: *“...against the explosion risk that may occur during the casting process, an emergency exit door must be built for the evacuation of the employees behind the molds.”*

2 Respondents: *“At this point, there is a situation something like hungry people could not be understood by rich; heavy works of blue collars*

are somehow made. So many workers quit from job, or take sick days, there are so many work accidents; 90% of blue collars have herniated disc problem. But, you have not succeeded going beyond ear protector or gloves. I hope you consider this survey carefully and interpret the answers accurately...”

1 Respondent: *“1-Reels are rolled from distance by wire-drawing operators without noticing others and this could result in work accident when it hits somewhere or someone. 2-feet of scrap pots are on feet of scrap machines which cause a space elevating one side. This inclination causes the scrap machine to remain slack and it might fall down on our foot.”*

1 Respondent: *“Safety at work could not be ensured by only wearing ear protector. There are numbers of job not implemented because of associated risk. The OHS remains only as a document instead of practice; when raining rain water leaks through the roof over machines! We cover the transformer with plastics.”*

Problems Related with Training and Information Sharing

Opinions expressed in this section are related with providing insufficient training on the OHS for employees and their coworkers and about the PPEs. Some of these opinions were summarized below:

1 Respondent: *“There is lack of harmony among employees; supervisors do not give sufficient information.”*

1 Respondent: *“Employees lack information about the OHS, they need to be informed more about the OHS.”*

4 Respondents: *“Employees are not sufficiently knowledgeable and trained about the OHS.”*

Long Shifts

In this section, employees mentioned about Long Shifts and frequency and length of exhausting shifts. Some of these statements were given below:

7 Respondents: *“Shifts are rather long. If shifts are shortened and excessive work hours are trimmed, risk of accidents is minimized.”*

2 Respondents: *“Excessive work causes fatigue!”*

Problems Related with Supervisor

In this group, it is usually mentioned about poor information share by supervisors, discontentedness of workers as a result of intervention of supervisors into their business, their insulting attitude, discourse and behavior, supervisors’ omission of necessary safety measures. Some of these were summarized below:

2 Respondents: *“Our supervisors intervene into everything.”*

1 Respondent: *“A chief must be put next to each employee to increase production...”*

1 Respondent: *“Behaviors and language of our master and other supervisors towards us are quite insulting and disturbing.”*

1 Respondent: *“Immediate supervisor and department chiefs do not fulfill necessary safety conditions and not encourage employees to do so.”*

1 Respondent: *“Medium level supervisors have not realized significance of the OHS subject...”*

Wage Problems

Opinions in this section are related with disadvantaged wages of employees or unfair distribution of wage.

4 Respondents: *“Employees worries about their survival. Any increment in their wage will make them satisfied; and they would perform their work more intact and safe.”*

Communication Problems

It was understood that all of the contents of opinions in this group were put in word along the content of opinions classified in other groups. Mentioned opinions include negative impact on the OHS due to miscommunication among departments, independent action of employees because of poor communication among employees, loss of harmony among employees, lack of discussion among employees about safety issues, ensuring participation of employees into decision making process concerning safety and omission of taking suggestions of employees concerning the OHS.

Auditing Problems

Opinions concerning auditing are related both internal and external auditing. Employees are of the opinion that more intensive auditing must be conducted on the OHS and ÇSGB auditing activities must be conducted more frequently. Proximity of the room of the OHS specialist to the operation area, conducting the OHS controls more frequently and conducting these controls along the shifts time to time are the expectation of this group. An opinion of a worker regarding external auditing was exhibited below:

1 Respondent: *“...We roll the reels through manpower; during auditing all implemented by means of forklift. The value assigned is determined.”*

Changes Requested by the Employees for Improvement of the OHS

In the work places where survey was applied, general analysis results obtained based on the feedback received from employees regarding development/improvement of the OHS were exhibited in Table 6.

Table 6.

General Analysis Results of Amendment Suggestions Regarding Improvement of the OHS

IN YOUR OPINION, WHAT SORTS OF CHANGES ARE NECESSARY TO IMPROVE SAFETY AT YOUR WORK PLACE?		
Evaluation Criterion	Number	Percentage
Number of Total Respondent	854	100
Total Number of Evaluating / Participant Respondent	94	11
Total Response	101	-
Valid Response	97	96
CATEGORICAL CLASSIFICATION	Number	Percentage
Training and Notification	27	27.84
Supervisors and Managers	34	35.1
Maintenance-Repair	5	5.1
Equipment	10	10.3
Work Conditions	6	6.2
Warning Signs	4	4.1
Other	9	9.27
Auditing	2	2.06
TOTAL	97	100

Suggestions for Improvement Regarding Supervisors and Managers

In suggestions related with improvement associated with supervisors and managers, improvements regarding equality among employees, sensitivity towards the OHS, consulting opinions of employees and expectation regarding practice of opinions, avoiding pressure of faster manufacture, placing greater emphasis on employees, awarding persons following rules and improvement of thermal comfort conditions. Some of these suggestions were summarized below:

1 Respondent: “*Supervisors must be knowledgeable and experienced; everybody must be treated fair. The job we do must be performed with the professionals.*”

1 Respondent: “*Management understanding must be with more determined, more persistent attitude towards the OHS.*”

4 Respondents: “*Management must exchange opinion with employees, decisions must be taken and applied according to their suggestions.*”

2 Respondents: “*If we want to improve safety at work, we need to maintain our dialogue with employers; their needs must be fulfilled; they need to be consulted; information could be received from them.*”

1 Respondent: “*Essential emphasis must be place on human life instead of job.*”

1 Respondent: “*What employees say about the OHS must be listened.*”

2 Respondents: *“5S application should be put in practice in a certain discipline on continuous based.”*

1 Respondent: *“Just attach little bit importance to worker...”*

1 Respondent: *“If a meeting could be organized together; problems and their solutions could be documented and minimized. Additionally, our suggestions are not taken into consideration; they say either costly or impossible. Is it more important to make a tiny improvement than the human life?”*

2 Respondents: *“It is necessary that the OHS specialists should pay attention in the field instead of from the office.”*

1 Respondent: *“If it could be understood what the department operators complain about most frequently, safety at work and workers’ health could somehow be ensured.”*

1 Respondent: *“Instead of solving problems on your own, they mediate among employees to resolve problems together...”*

1 Respondent: *“When a problem arises concerning safety at work, this problem is required to be checked at that moment and immediate precautions should be taken.”*

2 Respondents: *“Individuals who obey the rules must be rewarded.”*

1 Respondent: *“I would like a panel wall to be built between departments against noise and odor. Odor, ventilation and thermal comfort problems must be resolved.”*

Suggestions for Improvement in Training and Notification

In the suggestions concerning the training, it was emphasized that number and quality of trainings must be increased; be implemented more visually and practically; and information sharing activities must be organized with certain intervals. Some of these suggestions were summarized below:

22 Respondents: *“Trainings must be given more frequently and regularly.”*

4 Respondents: *“Regular information meeting must be held about the OHS.”*

2 Respondent: *“OHS Trainings must be implemented more intensively, visual and practical so that we could sense what would happen to us beforehand. Training activities must be conducted more actively and frequently by ensuring participation.”*

Suggestions for Improvement Regarding Equipment

Suggestions in this section are related with the PPEs, uniforms and equipment utilized in manufacturing and closely related with the OHS. Relevant suggestions were summarized below:

1 Respondent: *“...PPEs must not be provided only based on request of the worker. Management must distribute to employees regularly.”*

1 Respondent: *“It is necessary to make more equipment available in the work place.”*

1 Respondent: *“We get cold with our uniform in the winter. We must wear thicker winter uniform or sweater.”*

1 Respondent: *“The company could by purchase rechargeable trans-pallets once again or broken ones could be repaired; in my opinion, the most significant safety problem at work is herniated disc; herniated disc is seen among majority of coworkers aged 24-45...”*

2 Respondents: *“There must be numbers of power trans-pallet so that operator does not roll them manually. Ventilation aspirators must be placed on multi-wire machine areas so that exhausted smoke does not spread across the facility. Uniform and especially boots must be delivered on timely manner! We used winter boots until the middle of summer; now it is middle of winter but there is no winter boot yet!”*

2 Respondents: *“It is necessary that materials should be highly quality and useful; they must conform to the standards. The materials given to us both do not protect us and it is torture to wear them! For instance, shoes are torn from their lateral sections because of continuous wearing; we get sick because of the cold we catch in rainy weather and when it is cold but we use them since their steel toes could protect our feet.”*

Suggestions for Improvement Regarding Work Conditions

Suggestions in this section are related with wage, shift periods, shift schedule and length. These suggestions were evaluated for each person:

1 Respondent: *“Wages must be improved; it is not fare...”*

1 Respondent: *“Work periods must be reduced.”*

2 Respondents: *“Work conditions must be improved.”*

1 Respondent: *“First of all, night shift must be avoided because employees at the night shift are more absent-minded in comparison with day time employees; they might act behaviors unconsciously. The most important reason of this is that day-time sleep is not effective as much as night-time sleep...”*

Suggestions for Improvement Regarding Maintenance-Repair

Improvement suggestions concerning maintenance-repair include hazardous operation of machines, implementing activities by avoiding work accidents and ensuring implementation of periodical maintenance regularly. These suggestions were explained below on the basis of individuals:

3 Respondents: *“Maintenance must be conducted on machines regularly.”*

1 Respondent: *“Machines do not work reliably. A work accident could happen any time. In order to avoid broken cable danger, protector is needed.”*

Suggestions for Improvement Regarding Warning Signs

Improvement suggestions in this subject are related with usage of sufficient and adequate warning signs in necessary areas at the work place and making them notable. Suggestions on this regulation were explained below on the basis of individuals:

3 Respondents: *“There must be more warning plates and signs.”*

1 Respondent: *“Some safety signs and plates at the workplace are not notable much; when a worker passes through that area those signs must directly be seen. For instance, “Attention! Beware of Forklift” next to the Multi-wire machines with 456 no. It is almost not possible to see.”*

Suggestions Regarding Auditing

Suggestions in this section are related with intensification of internal and external auditing activities; and with conducting immediate external auditing without giving notification to the work place. Relevant suggestions were exhibited below:

1 Respondent: *“Auditing activities must be conducted more frequently; and they must be conducted immediately without any prior notice.”*

1 Respondent: *“If auditing is maintained in a work place on continuous based, this situation could emerge deterrence.”*

Other Suggestions

Suggestions outside the categorical classification are related with raising awareness among employees regarding the OHS, attaching more importance to the subject, and making work place safer. These suggestions were explained below:

1 Respondent: *“Safety at work must be attached more importance.”*

2 Respondents: *“It must be ensured that employees must act consciously.”*

1 Respondent: *“The OHS is applied adequately at my work place. It is necessary that employees must act more carefully to avoid from accidents.”*

1 Respondent: *“... Sanctions must be imposed on workers who do not conform to rules.”*

1 Respondent: *“We might lower the temperature in the work place.”*

1 Respondent: *“Staring all over again, safer and more organized work environment must be prepared.”*

Conclusion

The metal sector in Turkey is one of the highest work accident rate frequency. Employees claim that these accidents are result of some factors that are mentioned below:

- Problems in Work Environment
- Problems Caused by Employees
- Problems Caused by Employer
- PPE and Other Equipment-Material Problems
- Psychological Problems
- Problems with Machineries
- Problems Directly Related with Health and Safety
- Problems Related with Training and Information Sharing
- Long Shifts
- Problems Related with Supervisor
- Wage Problems
- Communication Problems
- Auditing Problems

To improve safety at work in metal sector in Turkey, employees give some suggestions. These suggestions are seen below:

- Training and Notification
- Supervisors and Managers
- Maintenance-Repair
- Equipment
- Work Conditions
- Warning Signs
- Other
- Auditing

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