

# Independence in Resolving Safety and Health Issues and Occupational Occupations of Road Sweepers in Town X

Umi Salmah<sup>1</sup>, Isyaton Mardiyah Syahri<sup>1</sup>, Sri Novita Lubis<sup>1</sup> and Yenny Obsi Satra<sup>2</sup>

<sup>1</sup>Fakultas Kesehatan Masyarakat, Universitas Sumatera Utara, Medan, Indonesia

<sup>2</sup>Fakultas Ilmu Budaya, Universitas Sumatera Utara, Jl. Universitas No.21 Medan, Indonesia

**Keywords:** Age, Education, Working Length, Independence, Occupational Accident.

**Abstract:** The biggest contributor to occupational accidents is the unsafe act. It needs self awareness from the workers to avoid them from increasing harmful acts so that they can be independent. The purpose of this study is to find out the independence in solving the problem of k3 and the incident of occupational accidents on road sweepers in city X. This is a descriptive research with *cross sectional study* approach, 21 districts in city X and the population of 815 people. Based on the Slovin's formula, it is obtained 260 people as the sample. Based on the analysis result obtained age  $\leq 48$  years counted 163 people (62,7%), elementary education 135 people (51,9%) and work period  $\leq 22$  years counted 200 person (76,9%). Respondents with the category of Self-Independent is as many as 130 people (50%). The low level of independence in overcoming the problem of OSH on road sweeper workers and the most respondents claimed to have experienced work accident in the last year that is as many as 139 people (53.5%). Needs to improve the road sweepers' independence on k3 through training, illumination and module of information resources by considering education and worker age.

## 1 INTRODUCTION

According to the data in Social Insurance Administration Organization for employment (later is called as BPJS Ketenagakerjaan), there has been 105,182 cases of occupational accidents in Indonesia until the end of 2015. The heavy accidents occurred 2.375 cases from the total accidents which can result in deaths. It is recorded that the number of accidents increased to 5 % each year. The heavy occupational accident has increased highly which is about 5% - 10% every year (Nasional.kontan.co.id/news, 2016).

The biggest contributor to occupational accidents is the unsafe act which is the reflection of workers' behavior on work safety. Avoiding workers from doing harmful actions requires increased awareness. To raise awareness and concern about OHS among others is by guidance of safe behavior (Cecep, 2013). Research to investigate unsafe work behavior on worker accidents found that there is lack of safety awareness, work pressure, co-worker attitude and the result strengthens the important role of safety procedure, experience, work security, education, and safety orientation and training (Rafiq and Dongping, 2017).

Briefly, the process of Heinrich's Dominoes' (domino theory) explains that the social environment where humans act unsafely, can be improved by means of continuous education and training (Tarwaka, 2012). The results of quasi experimental study in which the training involves the behavioral modeling, a large number of exercises, and dialogues, are generally more effective than other health and safety training methods (Burke at all, 2011).

Health and Occupational Safety (K3) should be instilled and built through coaching and training. We create workers who are cultured by Health and absolute workplace safety through coaching and training (Ramli, 2013). Coaching and training for workers is aimed at making self-employed workers in workplace. Independence is the attitude (behavior) and mental of the workers in order to have the ability to manage themselves, in accordance with the rights and obligations, so that it can solve the problem of K3 that they experience and can be responsible for all decisions that they have taken. The effort is an effort to encourage workers to behave safely in work that aims to

prevent Occupational Health and Occupational problems.

Given the magnitude of safety and health problems experienced by the road sweeper identified from the research results, there are 15 sources of potential hazards, ie 3 physical factors hazard: solar thermal, cold in rainy season and car horn noise; 2 biological factors hazardous and vector-borne diseases; 3 chemical dangers are dust, garbage smell and vehicle fumes; 1 physiological factor hazard is uncomfortable work clothes used; 3 hazards of psychological factors are reprimanded, harassed and workload and 3 safety hazards that are bumped into a vehicle, beaten by a madman and impaled by a sharp object (Salmah, 2016; Salmah dan Lubis 2017). Health problems occurring on the road sweeper also experienced by other countries which can be concluded that is respiratory irritation, shortness of breath and backache, noise, heat, cold, toxic substances, and physiological disorders (Co.NKU at all, 2005; Smilee at all, 2014; Astraful at all, 2015; Kanjanar dan Wattasit, 2015). Based on the above it is necessary to do a study to determine the independence of road sweepers in coping with the problem k in the workplace. This study aims to determine the independence in solving health and safety problems and occupational accidents in road sweepers in City X so it can be used as input for the activities of prevention program of work accident in the future.

## 2 RESEARCH METHODS

The type of research methodology used in this study is descriptive research with *cross sectional study* approach to know the description of the level of independence and work accidents that occurred in road sweeper workers in city X. The the study was conducted in 21 sub-districts in city X with the population of Melati group street sweepers working in cleaning services of 815 people. Samples were obtained based on the Slovin formula of 260 road sweepers in 21 subdistricts. Workers are given a self-reliance questionnaire with independence measurements taken from 2 indicators namely the ability to make decisions in preventing accidents and changes in conformity, by giving a check mark on one of the answers that are already available.

## 3 RESULTS

### 3.1 Frequency Distribution of Respondent Characteristics

From the below table obtained respondents aged  $\leq$  48 years as many as 163 (62.7%), and those aged  $>$  48 years as many as 97 people (37.3%). Respondents with elementary school education are 135 people (51.9%), junior high school 61 (23.5%), high school (equal to 62 people (23.8%) and college (2 degree) 2 people (8.0%). Respondents who have a working period of  $\leq$  22 years as many as 200 people (76.9%), and  $>$  22 years as many as 60 people (23.1%).

Table 1: Distribution of Age Frequency, Level of Education, Working Period, Knowledge and Unsafe Actions on Road Sweepers In Town X

Age (Year)	Frequency (n)	Percentage (%)
$\leq$ 48 Years	163	62,7
$>$ 48 Years	97	37,3
Total	260	100
Education	Frequency (n)	Percentage (%)
Elementary school	135	51,9
Junior high school	61	23,5
High School/ equal	62	23,8
College	2	8,0
Total	260	100
Work Period (Year)	Frequency (n)	Percentage (%)
$\leq$ 22 Year	200	76,9
$>$ 22 Year	60	23,1
Total	260	100

### 3.2 Distribution Frequency of Independence in Occupational Health and Safety Respondents

Frequency Distribution Level of Independence of Road Sweepers In Town X presented in table form (see Appendix for table).

From the table above, it is obtained that 256 people (98.4%) respondents are the most cautious in working. The highest number of respondents stated that sometimes they were looking for information about workplace health problems are 212 people (81.5%). Most respondents who stated that they did not think that Health and safety was more important

than salary / money are 114 people (43.9%). Table can be seen in appendix

Respondents who at least stated that they were always looking for information about the causes of occupational health and safety issues at work were 32 people (12.3%). The fewest respondents stated that sometimes they were careful in their work, ie 3 people (1.2%). The least respondents stated that they never stated cautious in their work as much as 1 person (0.4%).

Table 2. Level of Independence

Level of Independence	Frequency (n)	Percentage (%)
Independent	104	40
Less Independent	130	50
Not Independent	26	10
Total	260	100

From the above table obtained the most respondents with the category of Self-Independent is as many as 130 people (50%). The least respondent with the category No Self is as much as 26 people (10%).

### 3.3 Frequency Distribution of Respondent Work Accident

From the table below, it is obtained that the most respondents who claimed to experience occupational accident in the last year are 139 people (53.5%). Respondents who did not have an accident were 121 people (46.5%).

Table .3. Distribution of Frequency of Worker Accident of Road Sweeper In Town X

Work accident	Frequency (n)	Percentage (%)
Yes	139	53,5
No	121	46,5
Total	260	100

## 4 RESULTS AND DISCUSSION

### 4.1 Independence in Solving Occupational Health and Safety Issues on Road Sweepers in City X

Independence of respondents in the study was conducted on the basis of existing situational workplace, most respondents who always work carefully are 256 people (98.4%). Road sweepers are cautious in their work but still seem to be unsafe

workers like others who do not follow work procedures such as sweeping in the middle of the road and against the flow of vehicles. If we take a look at the results of this study that the respondents stated cautious but lack of understanding about how careful it is, in other words, road sweeper workers do not understand how to prevent accident or illness caused by the job. Workers also do not understand the position of the survivors when they are working, and less understanding that the wrong attitude of work impacts on health problems. Workers also do not understand that collecting garbage must use work equipment and use personal protective equipment such as gloves. Similar results to a study of street sweepers in Kota Baru found 24 people (52.2%) applied poor PPE (Sari P dkk, 2013).

Provide an understanding to workers that waste can cause various diseases is also very important by employers. Giving audiences such as counseling is essential to raise the workers awareness. Health and safety counseling is a form of effort undertaken to encourage and strengthen workers' awareness and behavior about OSH so as to protect workers, property, environment (Sari P dkk, 2013). There is a significant relationship between knowledge and attitude with accident prevention behavior (Notosiswoyo, 2014).

The highest number of respondents stated that sometimes they were looking for information about workplace health problems 212 people (81.5%). This study also found workers who find out their own information about occupational safety and health issues that exist in the workplace such as with the foreman, family and by looking at the internet. It is necessary to increase self-reliance by constantly improving the knowledge of the situation and working conditions by ensuring that workers are familiar with the needs of their work so that they are protected from the dangers of accidents and illness. It can be concluded that each worker will be more familiar with the needs of the job because of a system to monitor their efforts to implement Work safety and health, work experience and knowledge is also one of the resources in the integration process of occupational safety and health (Somad, 2013).

Most respondents stated that they did not feel OSH more important than salary / money are 114 people (43.9%). It shows that some workers work more material-oriented than prioritizing safety and health. From the results of this study, it shows that the worker's motive is to make money that can give workers satisfaction. The results shows that

motivation has positive and significant effect on job satisfaction (Juniari at all, 2015).

Those who use a complete self-indulgence tool are only 60 people (23.1%). This is only occasionally, there are even road sweepers who do not use personal protective equipment. This may be due to the minimal education of the respondents, the majority of primary schools. This is in line with the results of research on educational factors and policies on Personal Protective Equipment that have significant relationship with compliance using Personal Protective Equipment of all factors studied namely age factor, work period, knowledge, motivation, personality, training on Personal Protective Equipment, communication, and training using Personal Protective Equipment (Sertiya at all, 2015).

The results of this study indicate that the road sweepers who have experienced occupational accidents in the past year are 139 people (53.5%). Work accidents experienced in the form of impaled food sticks, impaled needle spikes and other sharp objects. Being hit and bumped by a vehicle and falling and slipping while pushing and lifting garbage. Based on the results of this study there is a need for safety and health efforts aimed at the safety and health of workers. Occupational safety and health includes the value of labor protection from work accidents or diseases (Ramli, 2013). The purpose of occupational safety and health is to avoid injury, illness, and death (Cascio, 2014). The magnitude of the proportion of workers who have had workplace accidents is assumed to be due to low knowledge of work risk, not using Personal Protective Equipment, lack of concentration at work, lack of care and ignoring work procedures. Efforts should be made to increase the independence of sweeping workers on occupational safety and health through training, extension and module of information resources by considering the educational factors and age of the workers. It is also hoped that the workers will give priority to their safety while working among others by increasing their knowledge and insight about occupational safety and health.

## 5 CONCLUSIONS

The independence in overcoming health and safety problems on road sweeper are still low and the respondents who has Self-Independent category are 130 people (50%) and the most respondents stated that they have experienced occupational accidents in

the workplace in the last year are 139 people (53,5%).

Efforts should be made to increase the independence of sweeping workers on occupational safety and health through training activities, extension and module of information resources by considering educational factors and age of workers. It is hoped that the workers will give priority to their safety while working, among others, by increasing their knowledge and knowledge about occupational health and safety.

## ACKNOWLEDGMENTS

Thank you for the support provided by the University of North Sumatra through research institutes that have provided opportunities in basic research leading scholarship fund resources DRPM Kemenristekdikti Fiscal Year 2018. thanks to the research and development agencies of Medan City Government, Sanitation Department of Medan City Government and all road sweepers, Melati Group, as respondents in this study.

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## APPENDIX

Table 2: Frequency Distribution Level of Independence of Road Sweepers In Town X

No	Statement	Always		Sometimes		Never		Amount	
		n	%	n	%	n	%	n	%
1.	Use full personal protective equipment (shoes, masks, gloves, hats)	60	23.1	196	75,4	4	1,5	260	100
2.	I pay attention to work health and safety	223	85.8	28	10.8	9	3.4	260	100
3.	I know the risk of work	201	77.3	22	8.5	37	14.2	260	100
4.	I work carefully	256	98.4	3	1.2	1	0.4	260	100
5.	I follow the work procedure	65	25.0	173	66.5	22	8.5	260	100
6.	I focus on my work	220	84.6	27	10.4	13	5.0	260	100
7.	I am looking for information on what causes occupational safety and health issues at work	32	12.3	212	81.5	16	6.2	260	100
8.	I communicate with coworkers in understanding workplace conditions	65	25.0	173	66.5	22	8.5	260	100
9.	I give ideas and suggestions to make my colleagues pay attention to work safety and health	78	30.0	176	67.7	6	2.3	260	100
10.	I think Safety and health is more important than salary / money to be earned	102	39.2	44	16.9	114	43.9	260	100