Description of Noise Measurement and Hearing Complaints at Workers in Hospital X Ponorogo

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Abstract. Noise is unwanted noise that comes from activities or activities within a certain period of time and can cause health problems for workers. The purpose of this study is to provide an overview of the impact of noise on labor at Hospital X Ponorogo. This research method is a descriptive study with cross sectional approach. Measurements were made on workers in the Technician Room, Patient Registration Room, Medical Record Room, Administration Room, Nutrition Room, Laundry Room. Data retrieval is done using a Sound Level Meter noise meter. The results showed there were complaints of noise in the workforce at X Ponorogo Hospital. Based on the Decree of the Minister of Health of the Republic of Indonesia Number 1204 of 2004 concerning Hospital Environmental Health, the noise intensity does not exceed the established Threshold Value (NAV) of 78 dBA. The conclusion in this study is that workers should and should provide information on the importance of the use of ear muffs and ear plugs, the need for regular hearing health checks at least once a year, and to carry out and pay attention to aspects of occupational safety and health at Hospital X Ponorogo.

Keywords: Noise Measurement, Hearing Compalints, Hospital

1. Background

Occupational safety and health is a form of effort to reduce the risk of hazards at work and workplace accidents. The effort covers the noise of workload, worker's behavior, with the aim that every worker can work safely and healthily. Work safety is very closely related to noise, personal protective equipment, work processes, and how to do work (Suwardi, 2018).

Hospital occupational safety and health is an effort to guarantee and protect the safety and health of workers in the hospital, so as to prevent potential occupational accidents in hospitals (Regulation of the Minister of Health of the Republic of Indonesia, 2016).

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Occupational safety and health are conditions that provide workers with safety and health for their work, agencies, companies, as well as for the community and the surrounding environment. There needs to be an awareness of workers regarding occupational safety and health in order to minimize and even risk occupational accidents. Occupational safety and health are preventive measures for any unsafe actions and conditions that cause work accidents (Daryanto, 2018).

Work productivity can be disrupted due to noise at work. Noise results in disturbing concentration in activities or activities at work. There are several aspects that can cause interference with humans, namely sound duration, noise intensity, frequency (Kuswara, 2014).

According to Chandra (2012), noise is defined as unwanted sounds or sounds that can interfere with hearing, both frequencies below the threshold value or frequency above the threshold value that can result in health and other health problems.

In a study conducted by Dewanty (2015) obtained the results of measurements on laundry officers at the Government General Hospital Dr. Soetomo Surabaya as many as 8 officers experienced hearing impairment in the right ear, and 6 officers experienced hearing impairment in the left ear, so there is a relationship between hearing loss and noise intensity, which exceeds the value required by Decree of the Minister of Health of the Republic of Indonesia Number 1204 of 2004 concerning Hospital Environmental Health ie the noise intensity does not exceed the established Threshold Value (NAV) of 78 dBA with an exposure time of 8 hours.

Hospital X Ponorogo has implemented occupational safety and health efforts supported by prevention and control of workplace hazards and hazards in the workplace in the form of noise measuring devices, Light Fire Extinguisher, Management of Hazardous and Toxic Materials, has hospital infrastructure in terms of safety, and has sources human resources in the field of occupational safety and health with occupational safety and health education.

Data related to hearing loss of workers at Hospital X Ponorogo shows that there are still complaints of noise in the form of reduced hearing intensity of workers, effects on hearing in the form of buzzing ears From these data it is evident that interference with workers still occurs a lot.

2. Method

This research method is a descriptive study with cross sectional approach that aims to give an idea of the impact of noise on labor, then conducted observations and collected at the same time. So that each object of research is only measured once in the same time.

The population in this study were all employees who worked at X Ponorogo Hospital as many as 324 workers with a sample of 179 respondents. The room was investigated in the section in the Technician Room, Patient Registration Room, Medical Record Room, Administration Room, Nutrition Room, Laundry Room.

The sampling technique uses Proportional Cluster Random Sampling, which is a sampling technique in proportion to each professional group, namely 18 respondents Medical, 57

respondents Nurse, 11 respondents Midwife, 57 Non Clinical respondents, 18 respondents Health Workers, outsourcing 18 respondents.

3. Result

Noise is one of the dangers in the hospital which certainly has a negative risk for workers in the hospital. Danger of noise which is. Various effects of noise among them are the reduced sensitivity of hearing workers, communication disorders, the influence on psychological, and the sociological influence of labor (Moeljosoedarmo, 2008).

Workers who experience high noise intensity can cause hearing loss in the form of sensorineural deafness. Sensorineural deafness is a noise trauma that occurs due to organ damage in thesensorineural part of the inner ear which causes it due to the impact of the accumulation of noise in a long time (Kristianto, 2012).

The results of this study found that workers experienced noise complaints. Measurements were made at six noise measurement points, namely the Technician Room, Patient Registration Room, Medical Record Room, Administration Room, Nutrition Room, Laundry Room. The details are as follows:

Table 1: Tabulation of Complaints over Noise in Hospital X Ponorogo

Complaint	Amount	Percentage (%)
There is a complaint	129	72,06 %
There are no complaints	50	27.94%
Total	179	100.00 %

Based on the tabulation of the results of complaints due to noise shows that of 179 respondents experiencing noise more than 78 dBA as many as 129 respondents with a percentage of 72.06% which means that in Hospital X Ponorogo 129 respondents experienced noise.

Table 2: Tabulation of Noise Measurement Results at Hospital X Ponorogo

Room Name	Noise Measurement Results
Engineer Room	80 dBA
Patient Registration Room	85 dBA
Medical Record Room	85 dBA
Administration Room	80 dBA
Nutrition Room	82 dBA
Laundry Room	84 dBA

Based on the tabulation of the results of the measurement of the noise level showed that in six rooms experienced noise of more than 78 dBA namely the Technician Room with the results of the noise measurement that is 80 dBA, the Room for Patient Registration with the results of noise measurement that is 85 dBA, the Medical Record Room with the results of the noise measurement is 85 dBA, Administration Room with 80 dBA noise measurement results,

Nutrition Room with 82 dBA noise measurement results, Laundry Room with 84 dBA noise measurement results.

4. Discussion

In the Technician Room there are sound sources in the form of tools, tubes, and others, the Room for Patient Registration and Medical Record Room for noise originating from interacting patient activities, as well as the location for Patient Registration Room and Medical Record Room close to the highway, in the Noise Administration Room comes from the activities of officers in a large room that does not have a barrier, the Nutrition Room has noise from food cooking activities, while in the Laundry Room the noise comes from laundry equipment.

In this study shows the measurement of noise and hearing complaints among workers are interrelated, measurements at six measurement points show that the results are above the Threshold Value (NAV) of noise, which is 78 dBA, which has been stipulated in the Decree of the Minister of Health of the Republic of Indonesia Number 1204 of 2004 concerning Hospital Environmental Health.

The results of this study are in line with Transiska's research (2015) The Effect of Noise Place Conditions and Human Factors on Employee Accident Rate at PT. Putri Midai Bangkinang, Kampar Regency, namely the influence of Noise Places and human factors on work accidents as much as 62.3%, while the remaining 37.7% was influenced by other variables not examined in this study.

Impact of Noise Factors on Labor

Noise that occurs at six measurement points, namely the Technician Room, Patient Registration Room, Medical Record Room, Administration Room, Nutrition Room, Laundry Room is very high, the average is above the NAB determined by the Decree of the Minister of Health of the Republic of Indonesia Number 1204 of 2004, namely the value the 78 dBA threshold.

In these six rooms, a lot of workers work so that some workers experience things as follows: (1) Communication problems, which result in labor, which in general workers speak loudly. (2) Physiological disorders so that some workers who work at X Ponorogo Hospital claimed to have felt dizzy, pain in the stomach, high blood pressure. (3) Psychological disorders in some workers in the form of insomnia, irritability. (4) Impaired voice clarity which can indirectly cause danger to the safety and health of the workforce.

5. Conclusion

The conclusion in this study is the noise intensity at six noise measurement points shows that the results are above the Threshold Value (NAV) of noise, which is 78 dBA, which has been stipulated in the Decree of the Minister of Health of the Republic of Indonesia Number 1204 of 2004 concerning Environmental Health of Hospitals. performed in the Technician Room,

Patient Registration Room, Medical Record Room, Administration Room, Nutrition Room, Laundry Room, with measurement results of more than 78 dBA.

Suggestions from researchers is to provide protective equipment in the form of ear muffs and ear plugs, to prevent and reduce the negative impact of noise, provide a silencer in the guard room. The hospital is expected to hold an ear health examination, socialization related to occupational safety and health, mainly related to noise hazards.

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