

Occupational Disease At Air Pollution, Electric Motors, Health

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Abstract

This writing aims to understand the concept of PAK, examine the causes and risk factors of PAK, understand the spectrum of diseases associated with PAK, and know how to detect PAK early. The benefits include a source of information and insight for readers about the concept of PAK, reading and reference material for students and the community, as well as a source of knowledge in the field of OSH in the workplace. As a result, this paper is expected to contribute to increasing understanding and awareness of the importance of OHS in creating a safe and healthy work environment.

Keywords: *air pollution, electric motors, health*

INTRODUCTION

Occupational Safety and Health is an effort of cooperation, mutual understanding and participation of employers and employees in the company to carry out joint duties and obligations in the field of occupational safety, health and security in order to increase productivity. Through the implementation of K3, it is hoped that a safe, healthy workplace will be created which includes the personalities of employees, customers and visitors to a work location so as to reduce or be free from work accidents and occupational diseases. The implementation of OHS, among others, is based on PP No. 50 of 2012 concerning the Implementation of Occupational Safety and Health Management Systems, OHSAS 18001 international standard for the implementation of OHS Management Systems.

Translated with DeepL.com (free version)The death rate due to work accidents and occupational diseases is quite high. According to data from the International Labor Organization, every year about 380,000 workers or 13.7% of the 2.78 million workers die from accidents at work or occupational diseases.

Also, more than 374 million people are injured, wounded or fall ill every year due to accidents that occur with workers (ILO, 2018).

Occupational safety and health is an important component of decent work. The physical conditions and mental demands of the workplace determine the condition of the worker. Occupational accidents cause great human, social and economic losses, as do occupational diseases and occupational diseases. So through the concept of epidemiology, it can be seen how the host-agent-environment contributes to the workplace environment.

METHODS

This research uses descriptive qualitative research methods. According to Sukmadinata (2016), this research aims to provide an overview and describe phenomena that occur both naturally and human engineering with a focus on the characteristics, quality and interrelationships between activities. The data source used in this research is secondary data. According to Creswell (2016) qualitative research is a type of research that explores and understands meaning in a number of individuals or a group of people who come from social problems. Secondary data in this study were obtained from reference books, journal documents, online news, archives and other literature reviews. The data collection method in this research is carried out through analysis, describing and explaining the condition of the data situation in the field based on the research problem being studied.

RESULT AND DISCUSSION

Occupational Disease

Occupational disease is one part of health problems related to a person's work and is influenced by various surrounding factors. Occupational diseases or better known as occupational diseases are diseases caused by work factors or acquired during work. Work environment factors are very influential and play a role as a cause of Occupational Diseases. Occupational diseases and accidents among the people in Indonesia have not been well recorded. As a causal factor, it

often occurs due to a lack of worker awareness and inadequate worker quality and skills. Many workers underestimate the risk of work, so they do not use safety equipment even though it is available.

Factors Causing Occupational Disease

Work for humans is a necessity to earn income to fulfill the needs for life. In the workplace, there are potential hazards that can cause health problems for workers. Potential hazards or exposure to workers can come from the work environment, work methods and tools used at work. Health problems for workers are also closely related to the amount of exposure time, the longer the exposure, the greater the risk of health problems that will be obtained by workers.

Occupational diseases are diseases caused by work and/or the work environment. Occupational diseases are diagnosed and established through a seven-step diagnosis that includes determining the clinical diagnosis, identifying the exposures experienced by the worker at work, determining the relationship between the exposure and the clinical diagnosis, the magnitude of the exposure, whether individual factors play a role, ensuring that there are no other influential factors outside the main occupation, and finally determining the occupational diagnosis.

The causes of occupational diseases are grouped into 5 groups, namely physical causes (including noise, vibration, ionizing radiation, non-ionizing radiation, air pressure, extreme temperatures), chemical causes, namely various chemicals, biological causes (including bacteria viruses, fungi, parasites etc.), ergonomic causes (such as awkward positions, repetitive movements etc.) and psychosocial causes (including workloads that are too heavy, monotonous work, work stress etc.). Occupational diagnosis that is specific to a particular job can be done by a general practitioner and various occupational diseases can be diagnosed by an Occupational Specialist doctor as a referral at an advanced referral health facility (FKRTL), namely a hospital. This is stated in the Consensus on Management of Occupational Diseases in Indonesia in collaboration with several multidisciplinary medical and professional disciplines.

Unlike the diagnosis of diseases in general, the diagnosis of occupational diseases has medical aspects, community aspects and legal aspects. Thus, the purpose of conducting occupational disease diagnosis is to form the basis of disease management in the workplace, limit disability and prevent death, protect other workers and fulfill workers' rights. Work for humans is a necessity to earn income to meet the needs for life. In the workplace, there are potential hazards that can cause health problems for workers. Potential hazards or exposure to workers can come from the work environment, the way of working and the tools used when working. Health problems for workers are also closely related to the amount of exposure time, the longer the exposure, the greater the risk of health problems that will be obtained by workers.

Occupational disease is a disease caused by work or the work environment that will result in partial or total disability. Partial disability is the loss or non-functioning of a part of the labor body forever. While total disability is a state of labor unable to work at all for ever. Occupational Diseases are diseases that are triggered, facilitated or aggravated by work. This disease is caused indirectly by work and usually the cause is various types of factors, including (Nasrul, 2022):

A. Physical Factors

1. Noises
2. High Temperature
3. Radius of the string
4. Electromagnetic
5. High air pressure
6. vibration

B. Chemical Factor

1. Origin, Raw Material, Additive
2. Form, Type Of Substance

3. Admission can be acute and chronic
 4. Effects On The Body
- C. Biological factors, which can come from viruses, bacteria, parasites, fungi, insects, wild animals, and othersh
- D. Physiology
1. The causes are wrong working method, working position, working tools, working environment and wrong construction.
 2. Effects on the body, which can cause physical fatigue, muscle pain, bone deformities, changes in shape and dislocations.
- E. Mental psychology (work atmosphere and stress). the causes are monotonous and uncomfortable work atmosphere. Unfavorable working relationships, lack of pay, isolation, or inadequate talent lead to stress.

Spectrum Of Occupational Diseases

The spectrum of occupational diseases covers a wide range of conditions caused by the work environment. This can include heat-related illnesses, and heat stroke, as well as other work-related health problems.

According to the International Labor Organization (ILO) more than 2.3 million people die each year from occupational accidents and diseases, with more than 6000 deaths per day. It is estimated that around 340 million occupational accidents and 160 million occupational diseases occur each year. Occupational diseases can be caused by various factors, including the nature of work and the work environment. For example, in the agricultural sector, which contributes significantly to Indonesia's economy and employs about one-third of the national workforce, workers may be exposed to hazards that can cause occupational diseases. These illnesses can be caused by physical factors such as heat stress or psychological factors such as occupational stress. Early identification and prompt treatment are critical in preventing the development of occupational diseases. Management strategies may include relocating the affected individual to a cooler

environment, repositioning certain body parts, and providing adequate fluid resuscitation.

Therefore, it is important to address the various risk factors and potential health consequences associated with various occupations to ensure the well-being of the workforce. The search results provide information on the various manifestations and impacts of occupational diseases, particularly those related to heat exposure and other work-related health issues. However, the results do not provide an exhaustive list of specific occupational diseases. If you require more detailed information on specific occupational diseases, it is advisable to refer to medical or occupational health resources.

Early Detection Of Occupational Disease

Early detection of occupational diseases is an important aspect in maintaining workers' health. Occupational diseases can arise from various factors, such as the work process, work tools, work environment and materials used in work. According to Widyanti (2023), the PAK diagnosis process involves 7 important steps that serve as guidelines in determining and understanding the relationship between work and the disease experienced.

1. The first step is to determine the clinical diagnosis through history taking, physical examination and supporting examination. Anamnesis includes history of complaints, family history of disease and reproductive history in women. Physical examination involves inspection, palpation, percussion and auscultation, while supporting examination involves laboratory tests and specialized examinations such as spirometry, audiometry and x-rays.
2. The second step is to determine exposure, which involves risk factors in the work environment. These factors can be physical, chemical, biological, ergonomic and psychosocial.
3. The third step is to determine the relationship between exposure and disease, supported by evidence based on evidence-based methods.

4. The fourth step is to determine the magnitude of exposure, either quantitatively through environmental measurement data and length of service, or qualitatively by observing how workers work. pekerja.
5. The fifth step is to determine the role of individual factors, such as genetic factors or lack of use of Personal Protective Equipment (PPE).
6. The sixth step is to determine other factors outside of work that may affect health, such as exposure elsewhere and lifestyle.
7. The seventh step is to determine the diagnosis of PAK, which requires evidence that at least one occupational factor contributes to the disease.

Occupational health not only focuses on clinical diagnosis and treatment, but also includes hazard recognition, risk assessment and intervention to eliminate or minimize risks. The scope of prevention of occupational diseases in general is expanded into 6 ways, namely: placing workers in jobs / positions according to their health status and work capacity, conducting health promotion programs in the workplace or PKDTK, improving the work environment, improving the tasks of workers, developing and organizing work and work culture, also conducting surveillance of worker health. Meanwhile, early diagnosis can be started with the "Fit to Work" program and also conduct occupational health surveillance (Kurniawidjadja et al., 2019).

CONCLUSION AND SUGGESTIONS

Conclusion

Occupational disease is a disease caused by work or the work environment that will result in partial or total disability. Occupational diseases or better known as occupational diseases are diseases caused by work factors or acquired during work. The causes of occupational diseases are grouped into 5 groups, namely physical, chemical, biological, ergonomic causes, and psychosocial causes. The process of diagnosing PAK involves 7 steps that serve as guidelines in determining the relationship between work and the disease experienced by determining the clinical diagnosis, determining exposure, determining the relationship between exposure and disease, determining the magnitude of exposure, determining individual role factors, determining other factors outside of work, and determining PAK diagnoses that require evidence.

Suggestion

Occupational diseases are a serious problem that affects the safety of workers and can also disrupt the running of an industry/business. Therefore, it is necessary to understand matters related to occupational diseases such as knowing what are the factors that cause occupational diseases, ensuring a safe and healthy work environment and providing adequate training for workers on how to work safely in order to reduce risks and prevent occupational diseases in the workplace.

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