



Study Survey of Worker' s Environment at Used Goods Shop in El. Mount Sarik, Padang City

Mahaza¹; Erdi Nur¹; Sri Lestari Adriyanti¹; Sari Arlinda^{*1}; Herwati¹

¹) Poltekkes Kementerian Kesehatan Padang

ARTICLE INFO

Article history:

Received 11 March 2021

Accepted 21 June 2022

Published 10 July 2022

Keyword:

Risk Analysis
Workers

ABSTRACT

There are quite a lot of used goods storage places, such as Gunung Sarik Village, which gives an overview of the working environment conditions, workers in carrying out their work lack the awareness to wear personal protective equipment (masks), gloves and shoes while working. The population of this research is entrepreneurs and all workers who work in used goods shelters totaling 30 people. The instruments used are questionnaires and observation sheets. Data were obtained through interviews using a questionnaire. Data analysis uses the stages of environmental risk analysis which include the identification of hazards, and risk characteristics. Furthermore, the data is presented in the form of tables and narratives. The results of the study are environmental factors in the proper work of storing used goods that are at risk of work accidents, including work tools, physical and chemical work environment, nature of work, work methods, and work processes. More than half (53%) of workers in used goods storage facilities do not wear Personal Protective Equipment (PPE) when working. 26.7% of workers feel subjective complaints at work. The complaints they feel are Loss of Sense of Touch in the hands, Irritation of the eyes, and Blurred Eyes. For used goods storage managers, provide personal protective equipment such as (Safety glasses, masks, gloves, and gloves for workers to work) Conduct coaching activities for workers in wearing personal protective equipment to protect themselves against work hazards that will occur and for those who have experienced Subjective complaints such as eye irritation and blurry eyes should always wear safety glasses at work.

This open access article is under the CC-BY-SA license.



Kata kunci:

Analisis Risiko
Pekerja

*⁾ corresponding author

Sari Arlinda

Department of Environmental Health,
Poltekkes Kementerian Kesehatan Padang

Email: sariarlinda29@gmail.com

DOI: 10.30604/jika.v7iS1.1147

Copyright @author(s)

ABSTRAK

Tempat penampungan barang bekas yang cukup banyak seperti Kelurahan Gunung Sarik diperoleh gambaran kondisi lingkungan kerja, pekerja dalam melakukan pekerjaannya kurang memiliki kesadaran untuk memakai alat pelindung diri (masker), sarung tangan dan sepatu selama bekerja. Populasi penelitian adalah pengusaha dan semua pekerja yang bekerja di tempat penampungan barang bekas berjumlah 30 orang Instrumen yang digunakan adalah Kuesioner dan lembar observasi. Data diperoleh melalui wawancara dengan menggunakan kuesioner. Analisis data menggunakan tahapan pada analisis risiko lingkungan yang meliputi identifikasi bahaya, dan karakteristik risiko. Selanjutnya, data disajikan dalam bentuk tabel dan narasi. Hasil penelitian adalah Faktor-faktor lingkungan di tempat penyimpanan barang bekas yang berisiko kecelakaan kerja antara lain: alat kerja, lingkungan fisik dan kimia kerja, sifat pekerjaan, cara kerja, dan proses kerja. Lebih dari separoh (53%) Pekerja ditempat penyimpanan barang bekas tidak memakai Alat Pelindung Diri (APD) saat bekerja. 26,7% dari pekerja merasakan keluhan subjektif dalam bekerja keluhan yang dirasakan adalah Kehilangan Indra Peraba pada tangan, Iritasi pada mata,

Mata Kabur. Untuk Penegelola Penampungan Barang bekas menyediakan Alat Pelindung diri seperti (Kaca mata Safety, Masker, Sarung Tangan, Sapetu untuk pekerja untuk bekerja Mengadakan kegiatan pembinaan kepada tenaga kerja dalam memakai alat pelindung diri untuk melindungi diri terhadap bahaya kerja yang akan terjadi dan bagin yang sudah mengalami keluhan subyektif seperti Iritasi pada mata dan mata kabur seharusnya selalu memakai Kaca Mata *safety* dalam bekerja.



This open access article is under the CC-BY-SA license.

INTRODUCTION

Manpower is everyone who is able to do work to produce goods and/or services to meet their own needs and for the community (Law No. 13 of 2003). The workforce is the implementer of development to achieve general welfare and a better quality of life. Therefore, efforts to protect workers against hazards that can arise during work are a very basic need, so it is hoped that workers can work safely and comfortably so that passion or enthusiasm for work can increase and in the end work productivity will also increase (Aulia, 2008). Humans as workers are always in contact with machines, equipment and workplaces that are likely to pose work risks. Every workplace has a risk of accidents. The amount of risk that occurs depends on the type of industry, technology and risk control efforts undertaken. There are many potential hazards in the workplace and result in losses for the company, workers and the surrounding community. Occupational Health and Safety (K3) is the main means for preventing work accidents, disability and death so that the consequences of work accidents originating from potential hazards can be prevented. Occupational safety and health (K3) is a working condition that is free from the risk of accidents that can result in injury, disease, damage and environmental disturbance (Fauzi,2020).

A workplace where a work process is carried out that contains risks or hazards originating from humans, machines, work tools, and other materials. To eliminate or reduce accidents or losses that occur, a series of hazard identification activities and risk assessments are carried out with existing methods in the company, then an assessment of the level of hazard risk is carried out and how control measures are taken. (Sitorus, 2010). Occupational health and safety in the field of construction services is a way of managing things that might affect work results which at extreme levels will result in failure. This risk management program includes the tasks of evaluating the risks faced, analyze, measure and determine the magnitude of the risk and then look for several alternatives to deal with or overcome the risk (Rummimper et al, 2015).

The cause of occupational health and safety disorders is due to a health hazard that will arise when someone comes in contact with something that can cause interference or damage to the body when there is excessive work. Health hazards can cause occupational diseases, a source of hazards in the workplace. Potential health hazards usually come from the work environment including chemical factors, physical factors, biological factors, ergonomic factors, and psychological factors. Therefore, Occupational Health and Safety is very important for the benefit of ourselves and the environment in which we work (Ningsih, 2019).

Occupational diseases can arise after an employee who was previously proven to be healthy starts his job. The causative factors can occur from physical groups, chemical

groups, biological groups, physiological groups and psychological groups. Management of risk analysis is the overall probability of events that are likely to occur, which hinder the progress and targets of the project. Meanwhile, risk analysis is the process that composes the risk management process, risk identification, risk response planning and project control monitoring. Therefore, risk analysis in terms of development will be important to do. By carrying out risk management, it is hoped that project targets will be free from work accidents that occur in the development process (Asmarantaka, 2014).

Health problems or diseases can occur to both formal and informal sector workers caused by their work and are referred to as occupational diseases. One example of informal sector work is scavengers. From a health point of view, the risk of danger as a scavenger is of course very large, because garbage certainly contains a lot of pathogenic bacteria due to decay of organic substances that can enter the body through pores, skin and respiration. If the components of hazardous substances in used goods enter the body, it will cause various kinds of diseases (Triyanto, 2009).

Occupational diseases are diseases that arise as a result of exposure or exposure to risk factors in the workplace and need serious attention. If the number of workers is quite large, if the health and safety of workers does not receive attention, it can cause a decrease in worker productivity and competitiveness and can cause a very large economic burden in the event of occupational diseases (Ilyas,2004).

Health problems in the community in the storage of used goods are experiencing respiratory, digestive and skin diseases. Large enough used goods storage facilities in Padang City are located in Kuranji and Naggalo Subdistricts, such as Gunung Sarik and Kalumbuk Villages, Gunung Sarik, and Kalumbuk Villages. Based on the results of a preliminary survey at the research site, there are several work processes including the process of weighing incoming goods, the process of sorting paper, the process of restoring/maintaining machines and other mechanical devices, and the storage process. Every workplace is formulated in Article 2 of Law no. The year 19970 concerning occupational safety aims to ensure that workers are healthy and safe at work, production sources can be used efficiently, but the conditions of the work environment are often seen in risky working conditions such as incidents of being hit by damaged goods that have accumulated. Risky behavior at work such as not wearing masks, boots and helmets, gloves when handling dirty items and sharp objects. processes in the work environment, namely from loading and unloading, sorting, and weighing.¹⁴

Workers in carrying out their work lack the awareness to obediently wear personal protective equipment (masks), gloves and shoes during work. From the results of a brief interview, researchers found that some of the workers encountered various health complaints during work,

including: shortness of breath, coughing, and frequent sneezing. From the description above, it encourages researchers to conduct research with the title Environmental Risk Analysis of Workers in Used Goods Shelters. (Permenkes, 2009).

METHOD

This type of research uses a qualitative descriptive method by means of a survey and down to the field. The survey was carried out with the aim of knowing the conditions of the working environment at the used goods shelter. When this research was carried out in June to November 2020 (six months attached schedule). The research was conducted in a used goods storage area in Gunung Sarik Village, Kurnji District, Padang City. The scope of this research is to know the environmental factors that are at risk of potentially causing occupational health and safety, risky conditions of the work environment, the characteristics of the risk of the work environment, the use of personal protective equipment (PPE) for workers and workers' subjective complaints about pollutants in the work environment in the Shelters. Second hand. Data Collection Techniques, namely primary data obtained or collected directly from the source through a questionnaire. Data analysis is a univariate analysis using descriptive statistics.

RESULTS AND DISCUSSION

From the results of the survey, the steps are: Risk Identification is carried out to find the risks that occur by finding answers to what, how and why a safety risk occurs. This risk identification is carried out based on the particleboard production process by way of questions and answers with the company's safety management, observations and observations on production activities as well as conducting a literature study of company data, Risk Analysis At this stage, an analysis of all data that has the potential to affect occupational health and safety risks has been identified previously. In analyzing risk, refer to the list of potential risks, the likelihood value and the risk consequence value. While the like lihood value describes the probability or frequency of occurrence of each potential risk, the consequence value is the magnitude of the impact that will be caused when the potential risk occurs. Risk assessment is carried out based on the results of a questionnaire or brain storming, and existing historical data, Risk Evaluation At this stage a risk evaluation is carried out by knowing the risk value of each potential risk. (Notoatmodjo, 2007)

Most of the sex distribution of workers in used goods shelters (73.3%) are male and 26.7% female. From the Age Characteristics, in general, they are between 18 to 49 years old (89%), the education level of workers is more than half (56.7%) of the workers have an elementary school and junior high school education and 34.3% have education level high school and university. Meanwhile, the status of workers in the former stem shelter is married (77%), 10% is a bachelor and 13% is widow/widower. The length of work of workers in used goods shelters is 73% have worked for more than 2 years and 27% have worked for less than 2 years.

Occupational Health and Safety is part of the overall management system which includes the organizational

structure, responsibilities, implementation, procedures, processes and resources needed for the development, implementation, achievement, review and maintenance of occupational safety and health policies in the context of handling risks related with work activities in order to create a safe, efficient and effective workplace.

The content of the conclusions is the formulation of answers to the objectives of the study, not the summary of the results of the study. Conclusions made in concise, clear and robust based on the results and discussion (maximum 1 page), made in the form of paragraphs (not numerical), contain the findings of the study as a synthesis of the results of data analysis and the results of discussions. More highlight the things that are new contributions to the development of health sciences. The thing to note is the consistency triangle (problem-goal-conclusion must be consistent). Suggestion for further research to cover the lack of research. Not load beyond implications for further research. Recommendations are made concise, clear and concise, and made in the form of paragraphs (not numeric).

Characteristics of Respondents

Most of the sex distribution of workers in used goods shelters (73.3%) are male and 26.7% female. From the Age Characteristics, in general, they are between 18 to 49 years old (89%), the education level of workers is more than half (56.7%) of the workers have elementary school and junior high school education and 34.3% have education level high school and university. Meanwhile, the status of workers in the former stem shelter is married (77%), 10% is bachelor and 13% is widow/widower. The length of work of workers in used goods shelters 73% have worked for more than 2 years and 27% have worked for less than 2 years.

Occupational Health and Safety is part of the overall management system which includes the organizational structure, responsibilities, implementation, procedures, processes and resources needed for the development, implementation, achievement, review and maintenance of occupational safety and health policies in the context of handling risks related with work activities in order to create a safe, efficient and effective workplace.

1. The use of Personal Protective Equipment (PPE) for workers in Used Goods Shelters. Workers in used goods shelters based on the use of personal protective equipment Of the 14 workers who wear personal protective equipment, 64.4 percent wear hats while working, 4% wear gloves, 7.1% wear Boud Shoes, and 7.1% use masks. and safety glasses.
2. A work accident (accident) is an unwanted event or event that is detrimental to humans, damages property or losses to the process (Didi Sugandi, 2003: 171). Storage of used goods as it was found that only 7.1% of workers used gloves. Judging from the complaints felt by workers in used goods shelters, eye irritation is very likely to occur because only 7.1% of workers wear safety glasses, it is very compatible with PPE: Eye and Face Protection in the Workplace) Potential events to the eyes/face are the entry of dust, powder and smoke. This is generally caused by operational work such as grinding, chiseling, sanding, and spraying. Hazardous materials can also be harmful if they come into contact with the eyes, for example, splashes of hazardous materials. Welding, metal cutting and working activities that expose you to heat, glare, ultraviolet or infrared radiation can also cause eye

irritation. There are several ways that can be done so that the eyes are not exposed to a lot of materials that can harm the eyes, for example by installing good ventilation or lighting arrangements. In addition, efforts to install signs and provide eyewash areas in case of eye contamination at any time. From these different types of hazards, we cannot arbitrarily determine the use of safety goggles. (Tarwaka, 2014).

Risk is an impact that can affect the project positively and negatively, as a result of the lack of certainty that occurs. Risk can be associated with the possibility and impact of unexpected events. (Tjakra., et-al, 2011) 13. Future events cannot be known with certainty. This event or an output of an activity or event can be in the form of a good event or a bad event, if what happens is a good event then it is an opportunity, if the event is a bad thing then it is a negative risk. (Tjakra., et al, 2011)13 . Kerzner (2001) explains the concept of project risk as a measure of the probability and consequences of a predetermined project goal. Risk has two scales for one event, namely the probability scale of the event and the scale of the impact of the event. (Tjakra., et-al, 2011)16. Flanagan and Norman (1993) describe risk as a factor causing unexpected conditions that can cause loss, damage or loss. (Tjakra., et-al, 2011) (Handayani, 2018).

According to PMBOK risk is defined as an uncertain event or condition, which if it occurs can have an impact on project objectives, which include scope, schedule, cost, and quality. Risk itself can be interpreted as an uncertainty that something will happen, which has a negative or positive impact on the project's objectives, both in terms of time, cost and quality. (Suwandi, 2010)

Risk is a complex phenomenon that includes physical, financial, cultural and social dimensions and for most managers considers risk more on an unpredictable event that may occur in the future and the results can affect profits and initial goals. Risk management is the planning or analysis of prevention in managing problems that are closely related to events or a human activity to the analysis assessment, treatment planning to prevent by mitigating risk using empowerment or managing resources. The risk management strategy begins with identifying what things can happen and determining risk prevention/mitigation, then looking for ways to deal with these risks (Labombang, 2011) (Rahman, 2004).

According to Wideman, the purpose of risk management is to recognize risks in a project and develop strategies to reduce or even avoid them, on the other hand, ways to maximize existing opportunities must also be sought. (Neolaka, A,2008)

Based on the Regulation of the Minister of Manpower No. 3 of 1998, an accident is an unwanted and unexpected event that can cause human and/or property casualties. A work accident according to Standard AS/NZS 4801:2001 is any unplanned event that causes or has the potential to cause injury, illness, damage or other loss. Meanwhile, according to OHSAS 18001:2007, the definition of a work accident is a work-related event that can cause injury or illness (depending on the severity) of death or events that can cause death. In terms of Occupational Safety and Health (K3), hazards are classified into 2, that is : Safety Hazard and Occupational Health Hazard. (Notoatmodjo S 2007)

Risk assessment is an assessment process used to identify potential hazards that may occur. The purpose of the risk assessment is to ensure that the risk control of the process, operation or activity carried out is at an acceptable level. The assessment in the risk assessment is Likelihood (L) and

Severity (S) or Consequence (C). Like lihood indicates how likely the accident is to occur, while Severity or Consequence indicates how severe the impact of the accident is.14

Risk control is an effort to overcome the potential hazards contained in the work environment. The main thing to do is to determine the priority scale which can then help determine which risks take precedence to control or what is called the risk control hierarchy. The hierarchy or method used to control risk includes the first is elimination, which is an effort to eliminate hazards, then the second is substitution, which is replacing the source of risk with a lower level of risk, then the third is engineering, namely reducing the level of risk by changing the workplace or reducing the frequency in carrying out dangerous activities, the fourth administration is to focus on the use of SOPs as a step to reduce risk and the last is Personal Protective Equipment (PPE), which is to reduce the severity of hazards by wearing PPE.12.

This happens because the sharp object may have a small size. So that workers may not realize when pierced by sharp objects. Sharp objects such as nails, gravel, glass shards and so on. 2. Prevent the feet from being seriously injured, By using these safety shoes, you can minimize accidents with a fairly fatal risk for the feet. So if there is a work accident on the feet, it is enough to rest at home until the condition of the feet improves and can return to work. 3. Protects feet from hot and cold objects. Another benefit of safety shoes is to protect your feet from the floor or objects that have extreme temperatures. Because every workplace has a different temperature.4. Protects feet from harmful substances. There are also some workplaces that are close to hazardous substances. These harmful substances can hit the skin either intentionally or unintentionally. By wearing safety shoes, your feet can be protected. Therefore it is very important to use safety shoes. 5.

Reduces the risk of slipping. Some workplaces have slippery floors. It could be because the floor is being cleaned or because of the presence of spilled oil. Slippery floors are quite dangerous and can result in slipping or slipping and then falling. Safety shoes can keep your position when standing while working

CONCLUSIONS AND SUGGESTIONS

Found in the environment around the shelter of used goods, namely: A total of 73.3% of the sex of workers in used goods shelters are male and 26.7% are female, as many as 89% are between 18 to 49 years old, A total of 56.7% of workers have an education level of elementary school and junior high school and 34.3% have an education level of high school and university. Meanwhile, the status of workers in the former stem shelter is married (77%), 10% is bachelor and 13% is widow/widower. many as 73% have worked more than 2 years in used goods storage and 27% have worked less than 2 years. Of the 14 workers who wear personal protective equipment, 64.4 percent wear hats at work, 4% wear gloves, 7.1% wear Boud Shoes, and 7.1% use masks and safety glasses.

REFERENCES

Depkes RI. *Pedoman Analisis Risiko Kesehatan Lingkungan*. (2012).

- Hartono. A. F, (2018). *Analisis Faktor Resiko Keselamatan dan Kesehatan Kerja di PLTGU Cilegon Tesis diajukan sebagai syarat untuk meraih gelar Magister Teknologi*. Dari: https://dspace.uui.ac.id/bitstream/handle/123456789/6176/ANALISIS%20FAKTOR%20RESIKO%20KESELAMATAN%20DAN%20KESEHATAN%20KERJA%20DI%20PLTGU%20CILEGON_12916279_AHMAD%20FAUZI%20DWI%20.pdf?sequence=1
- M. Socrates (2013). *Analisis Risiko Keselamatan Kerja Dengan Metode HIRARC (Hazard Identification, Risk Assessment And Risk Control)*. dari: <https://repository.uinjkt.ac.id/dspace/bitstream/123456789/26507/1/MUHAMMAD%20FIL%20SOCRATES-FKIK.pdf>
- Khamid, A, (2018). *Analisa Risiko Keselamatan dan Kesehatan Kerja (K3) Terhadap Kecelakaan Kerja dan Lingkungan Dengan Menggunakan Metode Hazard And Operability Study (HAZOP) pada proses scrapping kapal di Bangkalan Madura*. Dari: https://repository.its.ac.id/54583/1/0431144000002-Undergraduate_Theses.pdf
- Khasanah, U., Suryani, D. (2019). Kesehatan Masyarakat Universitas Ahmad Dahlan Jln Soepomo, F. *Analisis Risiko Kesehatan Kerja Pada Pekerja Pembantu Sepatu di Home Industry Sepatu Kulit Manding Yogyakarta*. Dari: http://eprints.uad.ac.id/14890/1/T1_1500029074_NASKAHPUBLIKASI.pdf
- Erliana Ima Suprapti (2015). *Analisis Risiko Penyakit Akibat Kerja dan Kecelakaan Kerja Pada Karyawan Pengasapan Ikan di Kelurahan Bandar Harjo Semarang*.
- Hendro, H., Sarumaha, S., Suliantoro, H. & Pujotomo, D (2004). *Analisis Risiko Keselamatan Dan Kesehatan Kerja Pada Pekerja Divisi Produksi di PT Samheung Indonesia. AS / NZS* vol. 4360
- Lingkungan Kerja, A., Kesehatan, D., Kerja, K., Nur, M. & Halbi, S (2019). *Analisa Lingkungan Kerja dan Kesehatan, Keselamatan Kerja (K3) pada Studi Kasus di PT. Asrindo Citraseni Satria*.
- Entjang, I. *Ilmu Kesehatan Masyarakat*. (2007). Jakarta: Citra Aditya Bakti.
- Fardiaz, S. (1992). *Polusi air dan Udara*. (Ed:2). Yogyakarta: Kanisius
- Ilyas S, (2004). *Ilmu Kesehatan Mata*. Bengkulu: Sagung Seto. Dari: http://slims.unib.ac.id/index.php?p=show_detail&id=10196
- Marpaung, N., Purwanggono, B. & Rumita, R. *Analisis Risiko Keselamatan Dan Kesehatan Kerja Pada Bagian Produksi PT Berkat Manunggal Jaya. Industrial Engineering Online Journal*, vol. 5, no. 1, Apr. 2016. dari : <https://ejournal3.undip.ac.id/index.php/ieoj/article/view/10648>
- UU Nomor 32 Tahun 2009. *Persetujuan Bersama, Tentang Perlindungan dan Pengelolaan Lingkungan Hidup*.
- Neolaka, A, (2008). *Kesadaran Lingkungan*. Jakarta:Rineka Cipta. https://books.google.co.id/books/about/Kesadaran_lingkungan.html?hl=id&id=EA6vQQAACAAJ&redir_esc=y
- Ardani, H. N., Santoso, H., Rumita, R., Sudharto, J, (2014). *Analisis Risiko Kesehatan Dan Keselamatan Kerja Pada Pekerja DIVISI MILL BOILER (Studi Kasus di PT Laju Perdana Indah PG Pakis Baru, Pati)*. <https://core.ac.uk/download/pdf/76923977.pdf>
- Handayani, P. R. (2018) *Analisis Risiko Kerja pada PT. Anugerah Rimba Nusantara dengan Metode Job Safety Analysis (JSA)*.
- Rahman, (2004). *di wilayah Provinsi DKI Jakarta, J., Barat Dan Banten, J. & Priarianto, E. Manajemen Risiko Keselamatan dan Kesehatan Kerja (K3) Pada Proyek Infrastruktur Risk Management Safety and Health (K3)*. dari : <https://ojs.unud.ac.id/index.php/jsn/article/view/28024>
- Tarwaka ILO. (2014). *Keselamatan dan Kesehatan Kerja Manajemen dan Implementasi K3 di Tempat Kerja*.
- Notoatmodjo S. (2007). *Kesehatan Masyarakat*. Jakarta: Rineka Cipta. dari: <http://repository.ui.ac.id/dokumen/lihat/1463.pdf>
- J. F. Gabriel, (2001). *Fisika Lingkungan*. Samarinda: Hipokrates. dari: http://opac.kaltimprov.go.id/ucs/index.php?p=show_detail&id=58117
- R. Indrayani, (2020). *Analisis Risiko Keselamatan Kerja Occupational Safety Risk Assessment at Development Project of Terminal 2 Juanda International Airport Surabaya Reny Indrayani FKM*. Semarang dari: <https://jurnal.unej.ac.id/index.php/IKESMA/article/view/7029>
- A.R. Rahman (2019) .Universitas Indonesia. *Analisis Risiko Keselamatan Kerja di PT Astra Daihatsu Motor Casting Plant*. dari: <https://lib.ui.ac.id/detail?id=20439746&lokasi=lokal>
- Andelia, Natasha (2018). *Analisis Manajemen Risiko Pada Pekerja Pembuat Dodol Kentang Di Desa Lubuk Nagodang Kecamatan Siulak Kabupaten Kerinci Provinsi Jambi. Journal of Applied Business Administration*. (29-39). dari ; <https://lib.ui.ac.id/detail?id=20439746&lokasi=lokal>
- Ningsih, Suci. (2019). *Analisis Resiko Keselamatan Dan Kesehatan Kerja (K3) Dengan Menggunakan Metode Hazard and Operability Study (Hazop) Pada Bagian Hydrotest Manual Di Pt. Cladtek Bi Metal Manufacturing*. dari : <https://jurnal.polibatam.ac.id/index.php/JABA/article/view/1288>

