Analysis of Determinants Related to Work Accidents in Nurses in Hospital Dr. Mm Dunda Limboto

Rosita Abdul[1], Netty Ino Ischak[2], Djuna Lamondo[3]

[1,2,3]Department of Public Health, Postgraduate, Gorontalo State University, Gorontalo City

ABSTRACT: Labor is a human resource which is a very important asset and is an inseparable element in the process of production service activities and other supporting elements (Mudjimu, 2019). Hospitals as a part of the health service system generally provide services to the community in the form of health services including medical services, medical support services, medical rehabilitation, and nursing services. This research aims to analyze the determinants of factors related to work accidents among nurses at RSUD. Dr. M.M Dunda Limboto . Analytical survey research method with a cross-sectional study design. The population is all RSUD ASN nurses. MMDunda Limboto has as many as 152 people. Sampling used Simple Random Sampling, the sample size was 110 people which was calculated using the Slovin formula. Analysis was carried out using the chi-square test and linear regression test. The results of the chi-square test research showed age (ρ value 0.000), obesity (ρ value 0.018), education (ρ value 0.000), years of service (ρ value 0.000), knowledge (ρ value 0.000), attitude (ρ value 0.000). The linear regression test obtained the variable gender and length of service, F counts 13.972 and ρ value 0.000, R=0.455 and R Square =0.207. This research concludes that there is a relationship between age, obesity, education, length of service, knowledge, attitude, and work accidents among nurses at RSUD. Dr. M.M Dunda Limboto . Gender and length of service are the variables most related to work accidents among nurses at RSUD MM Dunda Limboto at 20.7%, a medium level of significance. Therefore, it is recommended that nurses use PPE such as gloves, masks, eye protection, and protective gowns when necessary and take part in regular safety training.

KEYWORDS: Age, Obesity, Education, Years of Work, Knowledge, Attitudes, Work Accidents.

INTRODUCTION

Labor is a human resource which is a very important asset and is an inseparable element in the process of production service activities and other supporting elements (Mudjimu, 2019). Hospitals as a part of the health service system generally provide services to the community in the form of health services including medical services, medical support services, medical rehabilitation, and nursing services. These services are carried out through outpatient units and inpatient units. The development of hospitals initially only provided services that were certified as healing (curative) to patients through inpatient care. Advances in science, especially medical technology, increased income, and public education. Health services in hospitals today are not only curative but also restorative (rehabilitative). These two services are integrated through health promotion (promotive) and prevention (preventive) efforts (Susatyo Herlambang, 2016).

The International Labor Organization (ILO), stated that the number of cases of Occupational Accidents and Occupational Illnesses in the world reached 430 million per year, consisting of 270 million (62.8%) Occupational Accident cases and 160 million (37 .2%) cases of work-related diseases, and cause the death of 2.78 million workers every year. 40% of cases of work accidents and occupational diseases occur in young workers. Estimated economic losses reach 3.94% - 4% of a country's Gross Domestic Product (GDP) (ILO, 2018).

Employment Social Security Administering Agency (BPJS). The work noted that the number of work accidents in Indonesia was 265,334 cases from January to November 2022. This number increased by 13.26% compared to throughout 2021 which amounted to 234,270 cases. One country in Asia whose work accident rate is still fluctuating is Indonesia. Especially for health workers, needle sticks are also the most frequently experienced injuries. This can be seen from the total number of health workers experiencing an increase in injuries of 38-73% or 95 to 182,000 out of 250,000 nurses who have experienced such injuries (BPJS Employment, 2022).

Based on data from the Employment Social Security Administering Agency (BPJS Employment), in 2019 there were 114 thousand

Analysis of Determinants Related to Work Accidents in Nurses in Hospital Dr. Mm Dunda Limboto

cases of work accidents. In 2020 this figure increased, where BPJS employment recorded 177 thousand cases of work accidents. In Gorontalo Province, based on data from BPJS Employment Gorontalo Branch, in 2018 the number of work accidents was 64 cases, in 2019 the number of work accidents was 92 cases, in 2020 the number of work accidents reached 99 cases, and starting from January 1 - 5 In December 2021, the number of work accidents was 20 cases (BPJS Employment, Gorontalo Branch, 2021).

Case on Dr. Hospital M. M Dunda Limboto in the inpatient room in 2020 there were 26 cases, in 2021 there were 20 cases, in 2022 there were 10 cases and in 2023 there was an increase of 34 cases. Cases that occur include being pricked by a needle, being hit by a spill, slipping or not wearing personal protective equipment (PPE), and others. The data sources are in the form of monthly reports for each inpatient unit and a summary of the annual report of the Occupational Safety and Health Management Committee (K3RS RSUD Dunda, 2023).

Work accidents are unexpected and unexpected events. Work accidents often occur among health workers, especially hospital nurses. Therefore, efforts are needed to foster the implementation of Occupational Safety and Health (K3) to avoid work accidents. Work accidents are unplanned events that cause injury, pain, or damage in the workplace. Work accidents usually occur in workplaces that have high potential danger.

Nurses always come face to face with danger so the risk of their work is very high. However, despite this, there are still many nurses who are not aware of the risks that can threaten them, thus potentially causing accidents and work-related illnesses (Nazifah, 2020). Efforts to implement occupational safety and health (K3) in hospitals involve the workforce, work methods/methods, work tools, work processes, and work environments which include improvement, prevention, treatment, and recovery. Health workers who often have direct contact with patients are nurses whose work conditions and equipment have the potential to pose a dangerous risk (Pasaribu, 2020).

Potential dangers that arise nurses in hospitals Apart from infectious diseases, other potential dangers are influenced by the hospital's financial situation, namely accidents (explosion, fire, accidents related to electrical installations and other sources of injury), radiation, dangerous chemicals, anesthetic gases, psychosocial disorders, and ergonomics (Ministry of Health 2010).

Research results in many countries show that the world of care and health work has much higher rates of accidents, injuries, and illnesses compared to other industrial worlds (Aslam et al. 2015). Work accidents in hospitals can affect the work productivity of nurses and other health professionals (Marbun 2020).

The initial survey was conducted by researchers at RSUD MM Dunda Limboto and obtained data in the form of monthly reports for each inpatient and outpatient unit in 2023 as many as 3 4 cases of work-related accidents from the number of nurses in the inpatient ward of 27 8 nurses. Apart from that, interviews conducted with 2 heads of inpatient rooms revealed information that work accidents occurred because most nurses did not use personal protective equipment (PPE). 3 Another nurse said that nurses were aware of the risk of work accidents but did not comply with S standards O rational Procedures (SOP) are still widely found. While physical dangers for nurses such as the risk of cuts, being pricked by needles, and being splashed with infectious fluids certainly pose occupational safety and health hazards, in reality, several cases befall nurses due to this negligence. There is still a lack of discipline in using protective equipment Due to discomfort and being in a hurry or being in a hurry, this is the reason for needle sticks or other things. Based on this background, researchers are interested in conducting a research entitled "Analysis of Determinants Related to Work Accidents among Nurses at Dr. MM Dunda Limboto ”.

METHODS

This research uses the Analytical Survey method which aims to analyze the factors related to work accidents among nurses at RSUD.MMDunda Limboto. The research design used was a Cross-Sectional Study

a. Population and Sample

**1.	Population**

The population in this study were all RSUD ASN nurses. MMDunda Limboto has as many as 152 people.

**2.	Sample**

The sample in this study was MMDunda Regional Hospital nurses Limboto. The sample in this research was taken using the Simple Random Sampling technique. The number of samples is determined using the Slovin formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where :

n		: Sample size

N		: Population size

e		: Percentage of allowance for inaccuracy in sampling errors that can still be tolerated or desired, 5% = 0.05.

So :

$$n = \frac{N}{1 + N(e)^2}$$

Analysis of Determinants Related to Work Accidents in Nurses in Hospital Dr. Mm Dunda Limboto

$$n = \frac{152}{1 + 152\,(0.05)2}$$

$$n = \frac{152}{1 + 152\,(0.0025)}$$

$$n = \frac{152}{1 + 0.38}$$

$$n = \frac{152}{1.38}$$

$$n = 110,145 \text{ rounded up to 110 samples.}$$

b. Data collection technique

Research instruments are the tools used to collect research data in the form of questionnaires (list of statements), observation formulas, and other formulas related to data recording and so on (Notoatmodjo, 2018). The instrument used in this research is a questionnaire sheet, namely several written questions that are used to obtain information from respondents in terms of their personality or things that respondents know in the research (Arikunto, 2018). The questionnaire sheet is prepared in such a way as to suit the needs of the variables to be studied to obtain information that is relevant to the research objectives. Before being used as a data collection tool, the questionnaire used in this research had gone through the questionnaire testing stage which included testing the validity and reliability of the research data.

RESULTS AND DISCUSSION

1. The Relationship between Education Level and Work Accidents among Nurses at RSUD Dr. MM Dunda Limboto

Education	Work accident				Total		ρ *value*
	Happen		Not Occur				
	n	%	n	%	N	%	
Diploma III	27	24.5	32	29.1	59	53.6	
Diploma IV/Bachelor	4	3.6	13	11.8	17	15.5	0,000
Professional/Postgraduate	2	1.8	32	29.1	34	30.9	
Amount	33	30.0	77	70.0	110	100.0	

Source: Primary Data (2024)

Table 1 shows that of the 33 respondents (30.0%) who had experienced work accidents, most of them had a Diploma III in Nursing, namely 27 people (24.5%), 4 people had a Diploma IV/Bachelor's degree in nursing (3.6%). %) and 2 people had professional/postgraduate education (1.8%). Of the 77 respondents (70.0%) respondents who had never had a work accident, the majority had a Diploma III in Nursing and Professional/Post-Graduate Nursing education, namely 32 people (29.1%) each and a Diploma IV/Bachelor of Nursing degree. 13 people (11.8%).

The chi-square test gets a ρ *value* of 0.000. By fulfilling the hypothesis ρ *value* (0.000) < α (0.05), it can be interpreted that there is a relationship between education and work accidents among nurses at RSUD Dr. MM Dunda Limboto.

2. The Relationship between Work Period and Work Accidents among Nurses at Dr. MM Dunda Limboto

Table 2. Relationship between Work Period and Work Accidents among Nurses at RSUD Dr. MM Dunda Limboto

Years of service	Work accident				Total		ρ *value*
	Happen		Not Occur				
	n	%	n	%	N	%	
<10 Years	18	16.4	16	20.8	34	30.9	
10-20 Years	15	13.6	40	36.4	55	50.0	0,000
>20 Years`	0	0.0	21	27.3	21	19.1	
Amount	33	30.0	77	70.0	110	100.0	

Source: Primary Data (2024)

Analysis of Determinants Related to Work Accidents in Nurses in Hospital Dr. Mm Dunda Limboto

Table 2 shows that of the 33 respondents (30.0%) who had experienced work accidents, the majority had a work period of <10 years, namely 18 people (16.4%) and a work period of 15 years (13.6%). Of the 77 respondents (70.0%), most of the work period was 10-20 years, namely 40 people (36.4%), work period >20 years was 21 people (27.3%) and work period was <10 years as many 16 people (20.8%).

The chi-square test gets a ρ *value* of 0.000. By fulfilling the hypothesis ρ *value* (0.000) < α (0.05), it can be interpreted that there is a relationship between work experience and work accidents among nurses at RSUD Dr. MM Dunda Limboto.

3. The Relationship between Attitude and Work Accidents in Nurses at Dr. MM Dunda Limboto

Attitude	Work accident				Total		ρ *value*
	Happen		Not Occur				
	n	%	n	%	N	%	
Positive	12	10.9	65	59.1	77	70.0	0,000
Negative	21	19.1	12	10.9	33	30.0	
Amount	33	30.0	77	70.0	110	100.0	

Source: Primary Data (2024)

Table 3 shows that of the 33 respondents (30.0%) who had experienced work accidents, the majority were negative, namely 21 people (19.1%), while 12 people (10.9%) had a positive attitude. Meanwhile, of the 77 people (70.0%) of respondents who had never had a work accident, the majority had a positive attitude, namely 65 people (59.1%), while 12 people (10.9%) had a negative attitude.

The chi-square test gets a ρ *value* of 0.000. By fulfilling the hypothesis ρ *value* (0.000) < α (0.05), it can be interpreted that there is a relationship between attitude and work accidents among nurses at RSUD Dr. MM Dunda Limboto.

DISCUSSION

1. The Relationship between Education and Work Accidents among Nurses at RSUD Dr. MM Dunda Limboto

The results of the research show that there is a relationship between education and work accidents among nurses at RSUD Dr. MM Dunda Limboto (ρ *value* 0.000). Data tabulation shows that 33 respondents (30.0%) had experienced work accidents, most of whom had a Diploma III in Nursing, namely 27 people (24.5%), 4 people had a Diploma IV/Bachelor's degree in nursing (3.6%).) and 2 people (1.8%) had professional/postgraduate education. Of the 77 respondents (70.0%) respondents who had never had a work accident, the majority had a Diploma III in Nursing and Professional/Post-Graduate Nursing education, namely 32 people (29.1%) each and a Diploma IV/Bachelor of Nursing degree. 13 people (11.8%). This means that more work accidents can occur in nurses with lower education.

According to researchers, the relationship between education level and work accidents in nurses shows that nurses with lower education tend to experience more work accidents compared to nurses with higher education. Nurses with less education may not have adequate clinical skills to handle high-risk situations safely. They may lack understanding of the safety procedures and protocols needed to prevent work accidents.

Researchers assume lower education often means basic training that does not cover occupational safety aspects in depth. Nurses with less education also have limited access to advanced training that can update their knowledge and skills regarding occupational safety. This is also related to less work experience, so nurses may be less trained in dealing with emergency and complex situations.

Tanjung et al. (2022) obtained similar results to this study, where of 28 welders with elementary-middle school education, 20 respondents (71.4%) had experienced work accidents. The results of the chi-square statistical test obtained a value of p=0.015 (p<0.05) which means that there is a significant influence between education and work accidents in the welding workshop business.

Education is formal education obtained at school and this greatly influences worker behavior. However, apart from formal education, non-formal education such as counseling and training can also influence workers in their work. Education influences a person's mindset in facing the work entrusted to him, apart from that, education will influence the level of absorption of the training provided to carry out work and work safety (Sucipto, 2014). The relationship between education level and available jobs means that jobs with low levels of education will work in fields that rely on physical work. This can influence the occurrence of work accidents because heavy physical loads can result in fatigue which is one of the influencing factors in the occurrence of work accidents (Suwardi & Daryanto, 2018).

Nursalam (2018) explains that the higher a person's level of education, the more knowledge they have. This means that nurses with higher education will use their knowledge to work well and be careful so as not to get injured. Normatively, the level of education is a fundamental capital for workers to achieve skills in a field of work, where the higher a person's skills in a field will also influence errors and reduce accidents (Dewey, 2018).

Analysis of Determinants Related to Work Accidents in Nurses in Hospital Dr. Mm Dunda Limboto

Green in Notoatmodjo (2014) states that education is a fundamental factor in motivating behavior, as a reference for personal learning experiences. The level of education can determine knowledge and application of traits and behavior. A low level of education will experience difficulties with the latest innovations which make it difficult to achieve changes by what is desired

2. The Relationship between Work Period and Work Accidents among Nurses at Dr. MM Dunda Limboto

The results of the research show that there is a relationship between work experience and work accidents among nurses at RSUD Dr. MM Dunda Limboto (ρ *value* 0.000). Data tabulation shows that of the 33 respondents (30.0 %) who had experienced work accidents, the majority had a work period of <10 years, namely 18 people (16.4%) and a work period of 15 years (13.6%). Of the 77 respondents (70.0 %), most of them had 10-20 years of work, namely 40 people (36.4%), 21 people had worked >20 years (27.3%), and had <10 years of work 16 people (20.8%). This means that more work accidents can occur in nurses who have less work experience.

The relationship between work experience and work accidents in nurses shows that nurses with lower work experience tend to experience more work accidents compared to nurses who have worked longer. According to researchers nurses with lower tenure usually have less practical experience in handling emergencies and complex clinical tasks, which can increase the risk of workplace accidents. The skills required to safely perform clinical tasks may not be fully mature.

Researchers assume that new nurses whose work experience is still low do not fully understand or master the safety procedures and work protocols that must be followed to prevent accidents. This means that nurses with low tenure may be less likely to comply with safety protocols due to a lack of understanding or experience.

Research by Tanjung et al. (2020) obtained similar results that of 30 welders whose work experience was <5 years, 12 (40%) of them had experienced work accidents. The results of the chi-square statistical test obtained a value of p=0.029 (p<0.05), which means that there is a significant influence between work experience and work accidents.

New workers generally do not know in depth the ins and outs of their work. Work experience is a factor that can influence the occurrence of work-related accidents. Based on various studies, increasing experience and skills will be accompanied by a decrease in the number of work-related accidents. Awareness of work-related accidents increases with increasing age and length of work at the workplace concerned (Sucipto, 2014).

A work period is a period or the length of time a worker works in a place. The experience of being alert to work accidents increases with increasing length of service and length of time working at the workplace in question. Experience is the totality that a person gets from the events they experience, meaning that a person's experience can influence their behavior in their work life. Thus, the longer a person's working period, the more experience they will gain, which will enable nurses to work more safely (Napitu, 2020).

3. The Relationship between Attitude and Work Accidents in Nurses at Dr. MM Dunda Limboto

The results of the research show that there is a relationship between attitudes and work accidents among nurses at RSUD Dr. MM Dunda Limboto (ρ *value* 0.000). Data tabulation shows that of the 33 respondents (30.0%) who had experienced work accidents, the majority were negative, namely 21 people (19.1%), while 12 people (10.9%) had a positive attitude. Meanwhile, of the 77 people (70.0%) of respondents who had never had a work accident, the majority had a positive attitude, namely 65 people (59.1%), while 12 people (10.9%) had a negative attitude. This means that more work accidents can occur in nurses who have a negative attitude regarding occupational health and safety (K3) and work accidents.

According to researchers, the relationship between attitudes and work accidents in nurses is an important aspect of occupational health and safety (K3) management. The attitude taken by nurses towards K3 can greatly influence the frequency and severity of work accidents. Attitudes towards OSH include nurses' perceptions, beliefs, and emotional responses to safety practices and procedures in the workplace. This attitude can be positive (proactive and careful) or negative (indifferent and careless).

Researchers assume that nurses who have a positive attitude towards K3 tend to be more compliant with safety procedures. They view safety rules and guidelines as an important step to protect themselves and others, so they are more careful in carrying out their duties. Conversely, nurses with a negative attitude may view safety procedures as a burden or mere formality. They may ignore protocols more often, which increases the risk of work accidents. It can be concluded that a positive attitude that supports safety practices can reduce the risk of accidents, while a negative attitude that ignores the importance of K3 can increase this risk. Therefore, it is important for health institutions to not only provide technical K3 training but also build a work culture that supports a positive attitude towards occupational safety and health.

Arifuddin's research (2023) obtained analysis results showing a P value of 0.007 (p<0.05), meaning that there was a significant relationship between attitude and work accidents for nurses at Dr. Hospital. Tajuddin Chalid Makassar. This means that the better the worker's K3 knowledge, the less likely an accident will occur.

Research by Tanjung et al. (2020) obtained similar results that of 11 welders with poor attitudes, 10 respondents (90.9%) of them had experienced work accidents. The results of the chi-square statistical test obtained a value of p=0.024 (p<0.05), which means that there is a significant influence between attitude and work accidents.

Analysis of Determinants Related to Work Accidents in Nurses in Hospital Dr. Mm Dunda Limboto

Attitude is a readiness to react to an object in a certain environment as an appreciation of the object. Attitude is not yet an action or activity, but is a predisposition to action or behavior. Attitude is still a closed reaction, not an open reaction to open behavior (Notoadmojo, 2012)

A good work attitude is influenced by the experience gained while carrying out duties in the nursing field. Attitude is a predisposition to behavior, so it is an initial response to a stimulus before someone carries out a behavior, so attitude will have an impact on the achievement of health indicators (Pemana, 2021). A person's attitudes can change through an emphasis on safety during training and education courses. So if workers' knowledge about the factors that cause work accidents is good, it can lead to good attitudes too. If someone has a positive attitude, they will tend to behave positively and vice versa.

By Apriyanto et al. (2024) a person's closed reaction to a stimulus is known as an attitude. Attitudes and behavior are not always in line, because often someone shows something contrary to their attitude. Confidence and pressure in social groups can change a person's perspective. Positive attitudes, which are action tendencies, are described as approaching, liking, and hoping for something, while negative attitudes, which are action tendencies, are described as avoiding, avoiding, hating, or not liking something.

Although attitude is a tendency to act in a certain way, it is also the most basic activity that is personal and conscious, so that only the individual concerned can manage and maintain his attitude. Nurses can change their perspective regarding the use of personal protective equipment (PPE) to prevent work accidents because nurses' perspectives can be positive or negative. It is possible that nurses' negative attitudes can be caused by a lack of knowledge and clear socialization regarding the use of personal protective equipment (PPE). If nurses wear personal safety equipment (PPE) while working, they can feel uncomfortable, burdened, distracted, and at risk. To improve nurses' self-awareness, there needs to be coaching that can be carried out regularly so that self-awareness arises in nurses, one of which is through training so that it can reduce the possibility of work accidents occurring in nurses at work (Apriyanto et al., 2024)

CONCLUSIONS
1. There is a relationship between education and work accidents among nurses at RSUD Dr. MM Dunda Limboto. Work accidents can occur more often in nurses with lower education.
2. There is a relationship between work experience and work accidents among nurses at RSUD Dr. MM Dunda Limboto. Work accidents can occur more often in nurses who have less work experience.
3. There is a relationship between attitudes and work accidents among nurses at RSUD Dr. MM Dunda Limboto. Work accidents can occur more often in nurses who have a negative attitude regarding occupational health and safety (K3) and work accidents.

REFERENCES
1) Anizar. 2012. *Teknik Keselamatan dan Kesehatan Kerja di Industri*. Yogyakarta. Graha Ilmu.
2) Anjaswarni, T., Milwati, S., Marpaung, K. A. A., 2022. *Analisis Faktor-Faktor Yang Mempengaruhi Kecelakaan Kerja Perawat Dalam Pelayanan Kesehatan/Keperawatan di Rumah Sakit*. Jurnal Kesehatan Kusuma Husada, 13(1), 1-17
3) Apriyanto, W. I., Su'udi, Sumiatin, T., (2024). *Pengetahuan Dan Sikap Perawat Dalam Menggunakan Alat Pelindung Diri (APD) Dengan Kejadian Kecelakaan Kerja di RSUD Dr. R. Koesma Tuban*. Jurnal Ilmiah Wahana Pendidikan, 10(5), 916-924
4) Arifuddin, N. R., Hardi, I., Kalla, R. 2023. Faktor Yang Mempengaruhi Terjadinya Kecelakaan Kerja Pada Perawat Di Rumah Sakit Dr. Tajuddin Chalid Makassar. Journal of Muslim Community Health (JMCH), 4(2),1-14
5) Aslam, Imran, Scott A Davis, Steven R Feldman, and Willis E Martin. 2015. "*A Review of Patient Lifting Interventions to Reduce Health Care Worker Injuries*." 63(6): 267–75.
6) Aswar, E., Asfian, P., Fachlevy, A.F. (2018). *Faktor-faktor yang berhubungan dengan kecelakaan kerja pada pekerja bengkel mobil Kota Kendari*. Jurnal Kesehatan Masyarakat, 1(3), 1-5
7) BPJS Ketenagakerjaan Cabang Gorontalo. 2021. *Data Kecelakaan Kerja*. Gorontalo: Badan Penyelenggara Jaminan Sosisal Ketenagakerjaan Cabang Gorontalo.
8) BPJS Ketenagakerjaan Indonesia,2022. *Data Kecelakaan Kerja Indonesia* . Badan Penyelenggara JaJaminan Sosial Ketenagakerjaan Indonesia.
9) Butar, Melda Monisca. 2013. *Analisis Kecelakaan Kerja dan Faktor yang Mempengaruhi (Studi di PT Tata Mulia Nusantara Indah, Proyek Java Cocoa Plant Gresik).* Universitas Airlangga.
10) Dauly FA.. 2020. *Faktor-Faktor yang berhubungan dengan Kecelakaan Kerja Pada Buruh Konstruksi di PT. PP (Persero) Proyek Tiffani Apartemen Kemang, Jakarta Selatan*. Skripsi. Fakultas Kedokteran dan Ilmu Kesehatan UIN Syarif Hidayatullah, Jakarta.
11) Dessler, Gary. 2015. *Manajemen Sumber Daya Manusia*. Jakarta: Penerbit Salemba Empat.
12) Determinants of Work-Related Among Nurses Working in Private and Public, Hospitals in Dessie City,2021;Comparative Cros-Sectional Study.

Analysis of Determinants Related to Work Accidents in Nurses in Hospital Dr. Mm Dunda Limboto

13) Dewey, J. 2018. *Experiance and Education, Pendidikan Berbasis Pengalaman. Terjemahan*. Jakarta: Teraju

14) Herdianti, Hamdani. 2018. *Faktor Manusia Dan Faktor Pekerjaan Yang Berhubungan Dengan Kecelakaan Kerja PT XY*. Jurnal Ilmiah Manusia Dan Kesehatan, 1(2), 61–67. https://doi.org/10.31850/makes.v1i2.137

15) Herlambang, Susatyo. 2016. *Manajemen Pelayanan Kesehatan Rumah Sakit.* Yogyakarta: Gosyen Publishing.

16) Hernawati, Eva. 2018. *Faktor - Faktor yang Berhubungan Dengan Kejadian Kecelakaan Kerja Berdasarkan Karakteristik Pekerja dan Unit Kerja di Area Pertambangan PT. Antam Tbk Ubpe Pongkor Bogor Jawa Barat*. Skripsi S1, Program Studi Kesehatan Masyarakat Fakultas Kedokteran dan Ilmu Kesehatan, Universitas Islam Negeri Syarif Hidayatullah.

17) Husaini., Setyaningrum, R., Saputra, M. 2020. *Faktor penyebab penyakit akibat kerja pada pekerja las*. Jurnal MKMI, 13(1), 73-79.

18) Indrianti L. 2019 *Hubungan antara Tingkat Kedisiplinan Pemakaian Masker dengan Kapasitas Fungsi Paru Tenaga Kerja Terpapar Debu Kapas pada Bagian Winding di PT. Bintang Makmur Sentosa Tekstil Industri (BMSTI) Sragen*. Doctoral dissertation, Universitas Muhammadiyah Surakarta

19) Keputusan Menteri Kesehatan RI nomor 432/menkes/SK/IV/2007 tentan *Pedoman Manajemen Kesehatan dan KeselamatanKerja di Rumah Sakit (K3RS)*. Jakarta:,Depkes RI, 2010

20) Meriana, R. U. T. 2019. *HubunganPengetahuan Dan SikapPerawat Denga Penerapan Kesehatan Dan KeselamatanKerja Di RSUD Dr. R.M.Djoelham Kota Binjai* 2019.

21) Napitu, Januarizkah. 2020. "Faktor Yang Berhubungan Dengan Kejadian Kecelakaan Kerja Pada Perawat Di Rumah Sakit." OSF Preprints. November 6. doi:10.31219/osf.io/5z9dv.

22) Nazifah, M. 2020. *Analisis Risiko Keselamatan dan Kesehatan Kerja pada Pekerjaan Perawat di Instalasi Gawat Darurat Rumah Sakit X Sumatera Selatan.*

23) Notoamodjo, S. 2018. *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.

24) _____. 2018. *Kesehatan Masyarakat Ilmu dan Seni*. Jakarta : Rineka Cipta.

25) _____. 2019. *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta : Rineka Cipta

26) Nursalam 2018. *Pendidikan Dalam Keperawatan*. Jakarta: Salemba Medika

27) Oksandi, H. R., Karbito, A., 2020. *Faktor-Faktor yang Berhubungan Dengan Kelelahan Kerja Pada Perawat Di RSUD dr.H.BOB Bazar Kalianda Kabupaten Lampung Selatan*. Jurnal Ilmu Kesehatan Indonesia (JIKSI), 1(1), 1-8

28) Pasaribu, Y. 2020. *Hubungan Pengetahuan Dan Sikap Perawat Dalam Keselamatan Kerja (K3)*. 2013.

29) Permana, T. A. (2021). *Pengaruh Lingkungan Kerja Dan Sistem Manajemen Keselamatan Kesehatan Kerja Terhadap Kecelakaan Kerja (Studi Kasus Di Ruang IGD RSUP Dr. Hasan Sadikin, Bandung)*. Jurnal Syntax Transformation, 2(5), 721. Https://Doi.Org/10.46799/Jurnal Syntax Transformation.V2i5.281 2721-2769

30) Rahmawati, R. Afandi. S. 2019. *Faktor-Faktor Yang Berhubungan Dengan Kelelahan Kerja Pada Perawat di RSUD Bangkinang Tahun 2019*. Prepotif Jurnal Kesehatan Masyarakat, 3(2), 41-45

31) Received January 16, 2018: *Revised March 09,2018; Safety Atitude and is Predictor Individual and Organitazional Variabels Nurses; A Cross-Sectional Study.*

32) Salmawati, L., Rasul, M., Napirah, M. R., 2019. *Factors Associated with Occupational Accidents to Nurses in Emergency Room of Anutapura General Hospital Palu City*, Preventif: Jurnal Kesehatan Masyarakat, 10(2), 104-112

33) Sucipto CD (2014). *Keselamatan dan Kesehatan Kerja*. Yogyakarta: Gosyen Publishing.

34) Sulhinayatillah 2017, *Faktor-Faktor Yang Berhubungan Dengan Kejadian Kecelakaan Kerja Pada Karyawan Bagian Produksi di PT. PP London Sumatra Indonesia Tbk, Palangisang Crumb Rubber Factory, Bulukumba Sulawesi Selatan 2017*, UIN Alauddin Makassar, Makassar.

35) Suma'mur 2016. *Higiene Perusahaan Dan Kesehatan Kerja (HIPERKES)*. Jakarta: CV. Sagung Seto.

36) Suwardi & Daryanto, 2018. *Pedoman Praktis K3LH Keselamatan dan Kesehatan Kerja dan Lingkungan Hidup*. Yogyakarta: Penerbit Gava Media.

37) Tanjung, R., Syaputri, D., Rusli, M., Sinaga, J. (2022). *Analisis Faktor Kecelakaan Kerja pada Pekerja Usaha Bengkel Las*. Formosa Journal of Science and Technology (FJST), (1(5), 435-446

38) Tarwaka. 2014. *Keselamatan dan Kesehatan Keja : Manajemen dan Implementasi K3 di tempat Kerja*. Surakarta: Harapan press.

39) Tarwaka. 2017. *Ergonomi Industri: Dasar-Dasar Pengetahuan Ergonomi dan Aplikasi di Tempat Kerja*. Surakarta: Harapan Press

40) Ulfiye Celikkalp1, Dilek F. *Factors affecting the occupational accident rates, among nurses. Rev Esc Enferm USP*.2019;53:e03524.

41) Wirdati IE, Denny HM, Kurniawan B. 2020. *Analisis Faktor-faktor Yang Mempengaruhi Kecelakaan Kerja Pada Pekerja Maintenance Elektrikal Dalam Menerapkan Work Permit Di PT. X Semarang*. Jurnal Kesehatan Masyarakat (e-Journal). 13;3(3):456-64