



THE RELATIONSHIP BETWEEN LENGTH OF WORK AND EDUCATIONAL LEVEL OF ANESTHETISTS ON THE LEVEL OF KNOWLEDGE ABOUT NON-PHARMACOLOGICAL THERAPY IN TREATING POST-SPINAL ANESTHESIA HYPOTENSION

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ABSTRACT

Pharmacological therapy in treating hypotension after spinal anesthesia causes various side effects including tachycardia, headache, edema, body electrolyte imbalance, acid base imbalance, volume overload, anaphylaxis and coagulopathy. Non-pharmacological therapy can be an alternative choice to avoid the side effects of pharmacological therapy. Knowledge is one of the things needed in implementing non-pharmacological therapy. Knowledge is influenced by several factors, including education level and length of work. Through this research, we want to know the relationship between length of work and level of education with the level of knowledge of non-pharmacological therapy. The research design used is correlation analytical research with a cross-sectional approach. The population taken were anesthetists in Bali using a total sampling technique. The sample in this study was 102 anesthetists using a total sampling technique. Bivariate analysis with the chi square test was carried out to test the relationship between length of work and level of education with the level of knowledge of non-pharmacological techniques in treating hypotension. The results of the study concluded that the level of knowledge had a significant relationship with length of work ($p < 0.001$) and level of education ($p < 0.001$).

Keywords: anesthesia; hypotension; non-pharmacology; knowledge; spinal

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INTRODUCTION

The industrial world is the largest development in terms of employment for Indonesia. In the national industrial sector, good and competent workers are needed. So it is necessary to increase worker productivity so that a company can compete with other companies (Ministry of Manpower, 2019). Productivity is how to produce or increase the highest possible yield of goods and services by utilizing human resources efficiently. Therefore, productivity is often interpreted as the ratio between output and input in certain units. Productivity is also a very important factor in maintaining and developing the success of an organization / company. As we know every organization / company invests vital resources (human resources, materials, and money) to produce goods or services. Using these human resources effectively will provide better results. Work productivity is the relationship between output (goods and services) with inputs (labor, materials, money or income) which is measured by success for

companies in carrying out their production with efficiency in working (Sutrisno. 2010). So if a worker is able to produce products according to predetermined standards in a shorter unit of time, then the worker shows a better or higher level of productivity.

Work productivity has an important meaning as a view of life and mental attitude of all workers, where workers always try to improve the quality of life, today's situation must be better than yesterday and tomorrow's quality of life must be better than today (Umar. 2000). This provides encouragement to try and increase productivity in carrying out the work carried out. In addition, the importance of work productivity is planning, developing and implementing productive ways by using resources efficiently while maintaining quality. Therefore, the productivity of workers needs serious attention from company leaders. So that it can try to improve and increase the productivity of workers. Work productivity is influenced by many factors, one of the factors that has a very important role is nutritional adequacy. Fulfillment of nutritional adequacy during work is one form of implementing occupational safety and health requirements as an effort to improve the degree of occupational health. Nutrition is a factor that will determine employee work performance, adequacy and balanced calorie distribution during work.

According to WHO (world health organization) in 2018 consists of 9.7% underweight, 38.5% overweight in men, 39.2% in women, 11.1% obesity in men, 15.1% women. According to basic health research in 2018, the prevalence of overweight from 8.6% to 13.6% obesity from 10.5% to 21.8%, underweight from 18.4% to 19.6% (Reskesdes. 2018). So that one of the factors that affect the state of nutrition is diet. This is because the quantity and quality of food and drinks consumed will affect the level of individual health. Good nutrition makes body weight normal, the body is not susceptible to infectious diseases, increased productivity and protected from chronic diseases and premature death. Poor nutrition is a risk factor for NCDs (non-communicable diseases), such as cardiovascular diseases. In accordance with Permenakertans No. Per. 03/Men/1982 concerning occupational health services, regulated the main duties of health services, one of which is regarding nutrition and the implementation of meals at work.

Fulfillment of workers' nutritional adequacy during work is one form of implementing occupational safety and health requirements as part of efforts to improve the degree of worker health. Nutrition is one aspect of occupational health that has an important role in increasing work productivity. According to Suma'mur, occupational nutrition is a calorie needed by the workforce to meet the needs according to the type of work with the aim of improving labor health and productivity as high as possible. Meanwhile, according to Tarwaka et al, occupational nutrition is the provision of nutrition applied to working people with the aim of improving the degree of health, the highest efficiency of work productivity. This needs to be a concern for all parties, especially workplace managers increase the workers generally spend about 8 hours every day at work. Workers who do not get inadequate energy are clearly not productive even if they come in and keep working. Which will obviously slow down the rhythm of work to be able to stay at work. This can be seen from the decrease in the results of greeting or production of workers after working a few hours, especially if the person concerned does not get input such as food or drinks needed.

Workers who have unusual or malnourished nutrition symbolize poor physical condition. This unfavorable condition considers worker productivity so that it causes workers to get tired more easily or experience excessive fatigue. Workers with excess nutritional status tend to get tired more easily because people with excess nutritional status, have excess body weight, so

the body has to work harder, and increase oxygen demand in the body, causing organs such as lungs, heart, and muscles to work harder and get tired quickly. On the contrary, malnourished workers are less easily tired because they do not have enough muscle mass. Thin people usually consume foods with little calorie content. The absence of enough calories makes a person feel that he has no energy, weak body, and easily exhausted. In line with the research conducted (Bakri et al. 2022). Based on the results of the study, workers with normal nutritional status and productive work productivity were 15 people (62.5%) and unproductive workers were 9 people (37.5%). Meanwhile, workers with fat nutritional status and productivity were 4 people (23.5%) and unproductive workers were 13 people (76.5%). Statistical test results using Chi-Square obtained P value = 0.014, because the probability value $\alpha < 0.05$, H_0 was rejected and H_a was accepted, which means there is a relationship between nutritional status and work productivity at Pt. Angkasa Pura I (PESERO) Makassar City in 2021.

And these results are in accordance with the results of previous research conducted on workers of Pt. Era Media Informasi / Gatra shows that there is a relationship between nutritional status and work productivity, with P value = 0.013 where $P < 0.05$ (OR=4.800 95% CI 1,370-16,812), meaning workers at Pt. Era Media Informasi who have abnormal nutritional status have a 4,800 times greater risk of experiencing a decrease in productivity than workers with normal nutritional status. Assessment of the nutritional status of workers needs to be carried out, because by knowing the nutritional status of workers can be determined the appropriate nutritional needs and the provision of nutritional interventions if needed. Nutritional status assessment is carried out through several ways, including: biochemical examination, clinical examination, biophysical examination and anthropometry. Anthropometry is the most frequently used method in assessing nutritional status. This method uses weight (BB) and height (TB) parameters. Through these two parameters, the calculation of the Body Mass Index (BMI) can be carried out.

Based on preliminary data collection on workers at Pt. Wijaya Karya Beton Tbk Ppb North Sumatra, data obtained from the results of BMI (Body Time Index) measurements of 17 workers, there are 35% of workers included in the fat category, 65% included in the normal category. The initial data obtained regarding the average physical activity of employees has a high level of physical activity, the average work fatigue of employees experiencing fatigue and unstable work productivity, as well as less productive employees seen from the achievement of less stable production results in 2023 every day. Therefore, based on the reality in the field, this research aims to further examine "The Relationship between Nutritional Status and Productivity of Production Workers at Pt. Wijaya Karya Beton Tbk Ppb North Sumatra".

METHOD

This research uses a cross-sectional correlation design. The population of this study were all anesthetists in Bali. The sample in this study was 102 anesthetists using a total sampling technique. The inclusion criteria in this study were anesthesiologists who had a member card of the IPAI Organization, had an active Anesthesia Registration Certificate (STR), were currently working in anesthesia services in the operating room of a hospital agency, and were willing to be respondents by signing an informed consent. . The exclusion criteria in this study were members of the IPAI Organization who were no longer active in providing anesthesia services and members of the IPAI Organization who were on leave from work.

Data collection will be carried out by contacting the chairman of the IPAI DPD for each selected province. The anesthetists who were selected as potential respondents were then gathered in the WhatsApp group to be given an explanation about the research. After the prospective respondent is willing to become a respondent by filling out informed consent, then a questionnaire in the form of a Google form is distributed to the respondent. The questionnaire used was a standard questionnaire with a Cronbach alpha value of 7.00. Respondents were given $\pm$ 45 minutes to fill out the where they had previously been given an explanation of how to fill out the questionnaire.

RESULTS

Based on table 1, the majority of anesthetists are male, namely 60 people (58.8%), the majority have a diploma diploma, namely 75 people (73.5%), the majority have worked > 5 years, namely 61 people (59.8%). %, and the majority are aged 23-35 years, namely 46 people (45.1%).

Table 1.
General characteristics of anesthetists (n=102)

Characteristics	f	%
Gender		
Man	60	58.8
Woman	42	41.2
Last education		
Diploma	75	73.5
Bachelor	27	26.5
Length of work		
< 5 years	41	40.2
$\geq$ 5 years	61	59.8
Age		
23-35	46	45.1
36-45	27	26.5
45-55	29	28.4

Table 2.
Level of knowledge of anesthetists regarding non-pharmacological therapy in treating hypotension after spinal anesthesia (n=102)

Knowledge level	f	%
Good	30	29.4
Enough	61	59.8
Not enough	11	10.8

Table 3.
The relationship between length of work and educational level of anesthetists on the level of knowledge regarding non-pharmacological therapy in treating post-spinal anesthesia hypotension (n=102)

Factor	Knowledge level			p-value
	Good f (%)	Just r (%)	Less f (%)	
Length of working				
< 5 years	0	30	11	<0.001
$\geq$ 5 years	30	31	0	
Level of education				
Diploma	14	52	9	<0.001
Bachelor	16	9	2	

Based on table 2, the majority of anesthesia practitioners have sufficient knowledge of non-pharmacological therapy in treating post-anesthesia hypotension, namely 61 people (59.8%). Based on table 3, it is known that the level of knowledge has a significant relationship with length of work ($p < 0.001$) and level of education ($p < 0.001$). The majority of respondents have worked > 5 years and have a sufficient level of knowledge, the majority of respondents have a diploma and have a sufficient level of knowledge.

DISCUSSION

Based on the research results, it was found that the majority of anesthetists' knowledge of non-pharmacological therapy for treating post-spinal anesthesia hypotension was in the sufficient category, namely 61 people (59.80%). The level of knowledge is greatly influenced by various factors. In this study, it was found that the level of education and length of work had a significant relationship with the level of knowledge of anesthetists regarding non-pharmacological therapy in treating post-spinal anesthesia hypotension. This result is supported by research conducted by Purwati (2013) which states that the level of knowledge is influenced by education, for a higher level of education the level of knowledge is also better.

Mubarak (2007) also stated that education provides guidance to a person so that the person understands the problem. Education is a benchmark for a person, showing that the higher the education, the easier it is for a person to receive information, which ultimately results in more knowledge being achieved. In this study, the majority of respondents with a good level of knowledge were respondents with a bachelor's level of education. Dharmawati & Wirata (2016) stated in their research that there is a relationship between the level of education and the level of knowledge because it cannot be denied that the higher a person's education, the higher they receive information and ultimately the more knowledge they have. On the other hand, if a person's level of education is low, it will hinder the development of a person's attitude towards accepting newly introduced information and values.

Apart from the level of education, length of work is one of the factors that influences the level of knowledge. The results of this research show that the majority of respondents with a good level of knowledge are respondents with a length of work > 5 years. The increase in knowledge according to research by the Roffey Park Management Institute is influenced by experience, the main abilities which include flexibility, creativity, the ability to change and the desire to continue learning (Dharmawati & Wirata, 2016). Kistan et al (2023) also stated that the working period allows the development of nurses' knowledge because various patient cases are encountered while working at the hospital.

Knowledge is the basis for every individual or person to be able to understand everything, both new and commonly encountered and experienced. The more often the individual is exposed to a system or situation that indirectly becomes the process of maturing the individual to develop and understand more about it. Length of work is one of the factors that influences a person's knowledge of something, because the more often exposed, the more the individual will understand and even master it (Rizani et al., 2018).

CONCLUSION

In this study, it was found that the majority of anesthetists' knowledge of non-pharmacological therapy for treating post-spinal anesthesia hypotension was in the sufficient category, namely 61 people (59.80%). The level of knowledge is greatly influenced by various factors. In this study, it was discovered that the level of education and length of work

had a significant relationship with the level of knowledge of anesthetists regarding non-pharmacological therapy in treating post-spinal anesthesia hypotension.

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