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FACTORS INFLUENCING ANESTHESIA TECHNICIANS IN PROVIDING ANESTHESIA EDUCATION TO SURGICAL PATIENTS WITH CARDIOVASCULAR DISORDERS

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ABSTRACT
Education on anesthesia for cardiovascular disorders includes matters related to anesthesia from pre, intra, to post anesthesia and will affect how prepared the patient is to face post-anesthesia conditions. Education on anesthesia has not been implemented optimally, its implementation only focuses on pre-anesthesia preparation, while for intra and post anesthesia its implementation has not been optimal. This is influenced by several factors. Through this study, we want to know the factors that influence anesthesiologists in providing education on anesthesia procedures in surgical patients with cardiovascular disorders. The research design used was a correlation analytic study with a cross-sectional approach. The population taken was anesthesiologists in Indonesia with a purposive sampling technique. The sample in this study was 254 anesthesiologists with a purposive sampling technique. Bivariate analysis with the chi square test was carried out to test the factors that influence anesthesiologists in providing education on anesthesia procedures in surgical patients with cardiovascular disorders. The results of the study concluded that work patterns had a significant relationship with the provision of education (p <0.001), while length of work (p 0.823) and workload (p 0.113) were not significantly related to the level of education provision. Further research is recommended on the dominant factors that influence the provision of education on anesthesia procedures in surgical patients with cardiovascular disorders.

Keywords: anesthesia action education; anesthesia technician; cardiovascular

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INTRODUCTION

Heart and blood vessel disease is one of the main problems of the cardiovascular system because it causes high morbidity and mortality rates. Based on the results of the 2018 Riskesdas, the prevalence of heart disease based on a doctor's diagnosis in Indonesia is 1.5% or around 1,017,290 people. Around 30% of deaths in the world are caused by cardiovascular disease and coronary heart disease is the highest contributor to mortality in the cardiovascular disease group (World Health Organization, 2017). There are more than 6 million surgical procedures performed on patients over the age of 65. Patients over the age of 65 are the group most vulnerable to cardiac morbidity and mortality. Most postoperative patients experience mild pain or as much as 58.2%. While some show moderate pain or as much as 41.8% (Eagle, 2020). The implementation of surgery and anesthesia requires proper preparation, both physical and mental preparation. Pre-operative preparation care in the room is very important to support the success of subsequent actions during the surgical process. Preparation for surgery that can be done includes physiological preparation, where this preparation is a preparation that is carried out starting from physical preparation, supporting preparation, examination of anesthesia status to informed consent (Waladow, JR, Budi, B., Apriliyani, I., 2022)

Anesthesia providers are part of a multidisciplinary team that is responsible for providing quality health services to patients. (Yuliatin et al., 2020). Anesthesia education for patients undergoing surgery with cardiovascular disorders is very important to provide information on how they should prepare for surgery and what they will face and do after surgery is complete (Kang et al., 2018). As an anesthesia provider who plays a major role during surgery, they also have a major responsibility in providing anesthesia education. Anesthesia education includes matters related to anesthesia from pre-, intra-, to post-anesthesia and will affect how prepared the patient is to face post-anesthesia conditions (Indonesian Anesthesia Association [IPAI], 2018). The anesthesia education provided must be adequate, otherwise it can endanger the patient's recovery process which causes post-operative complications and increases hospital readmission (Yuliatin et al., 2020).

Anesthesia education has not been implemented optimally, based on interviews with several anesthesia technicians working in hospitals, it was stated that the anesthesia education carried out only focused on pre-anesthesia preparation, while for intra and post-anesthesia the implementation was not optimal due to the high workload. The results of the interview are supported by research by Yuliatin et al., (2020) which states that the workload factor is one of the causes of inadequate delivery of health education to patients, in their research data was found that 56.2% of nurses had a high workload, and 43.7% of nurses who had a high workload carried out health education poorly. Based on the background above, it can be concluded that more specific research is needed regarding the factors that influence anesthesiologists in providing education on anesthesia procedures in surgical patients with cardiovascular disorders. The aim of this study was to determine the factors that influence anesthesiologists in providing education regarding anesthesia procedures in surgical patients with cardiovascular disorders.

METHOD

This study used a cross-sectional correlation design. The population of this study was all anesthesiologists in Indonesia. The sample in this study was 254 anesthesiologists with a purposive sampling technique. The inclusion criteria in this study were anesthesiologists who had a membership card of the IPAI Organization, had an active Anesthesiologist Registration Certificate (STR), were working in anesthesia services in the operating room of a hospital institution, 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.
Data collection was carried out by approaching the head of the IPAI DPD. Through the IPAI DPD, prospective respondents were collected online via the WA group media to be given an explanation related to the research. After being given an explanation, prospective respondents were given informed consent as a sign of agreement to become research respondents. Prospective respondents who were willing to become respondents were then given a questionnaire in the form of a Google form containing statements. Questionnaire filling time + 30 minutes. then the data was analyzed using SPSS for determine the factors that influence anesthesiologists in providing education regarding anesthesia procedures in surgical patients with cardiovascular disorders.

RESULT

Based on table 1, the majority of anesthesiologists are male, namely 184 people (72%), the majority have a shift rotation work pattern, namely 140 people (55%), the majority have a length of service <10 years, namely 130 people (51%), and the majority have a moderate workload, namely 162 people (64%).

Table 1.
General characteristics of anesthesiologists (n=254)

Characteristics	f	%
Gender		
Man	184	72
Woman	70	28
Work Pattern		
One Shift	114	45
Shift Rotation	140	55
Length of work		
< 10 years	130	51
>10 years	124	49
Workload		
Low	44	18
Currently	162	64
Tall	42	18

Table 2.
Level of provision of education on anesthesia procedures (n=254)

Education Level	f	%
Good	158	62
Not enough	96	38

Based on table 2The majority of anesthesiologists have a level of education provided in the sufficient category, namely 158 people (62%).

Table 3.
Relationship of factors influencing anesthesiologists in providing education on anesthesia procedures in surgical patients with cardiovascular disorders (n=254)

Factor	Level of Education Provision		
	Less n(%)	Good n(%)	p-value
Work Pattern			
One shift	34 (29.8)	80 (70.2)	<0.001
Shift rotation	62 (44.3)	78 (55.7)	
Length of working			
< 10 years	50 (38.5)	80 (61.5)	0.823
> 10 years	46 (37.1)	78 (62.9)	
Workload			
Low	22 (50.0)	22 (50.0)	0.113
Currently	62 (36.9)	106 (63.1)	
Tall	12 (28.6)	30 (71.4)	

Based on table 3, it is known that the level of education provision has a significant relationship with work patterns ($p < 0.001$). The majority of respondents have a one-shift work pattern and have a good level of education provision (70.2%).

DISCUSSION

Based on the results of the study, it was found that most of the levels of education about anesthesia procedures were in the good category, namely 158 people (62%). The level of education provision is greatly influenced by various factors. In this study, it was found that work patterns have a significant relationship with the level of education provision. The majority of respondents have a one-shift work pattern, namely the morning shift, and have a level of education provision in the good category. These results are supported by research conducted byHarrington et al. (2016) stated that shift work patterns are related to the quality of education provided in hospitals. In their study, it was explained that night shifts tend to produce lower levels of education compared to morning or afternoon shifts. Night shifts have

fewer staff, while the workload is higher. In this situation, time and opportunity to provide education to patients are often limited, especially because the focus of medical personnel is more on urgent clinical actions than communication with patients (Harrington et al., 2016).

Kulikowski et al. (2019) also found that medical personnel working the night shift often experienced decreased cognitive and communication performance, caused by circadian rhythm disturbances. This condition affects the ability of medical personnel to provide detailed and comprehensive information to patients regarding anesthesia procedures. A study by Smith et al. (2018) supports this finding by stating that medical personnel on the morning shift have more time to interact with patients, so education can be provided more comprehensively, in contrast, on the night shift, Jones et al. (2017) found that education is often shorter and less structured, because medical personnel have to handle more emergency and urgent cases, which causes more limited time to provide education.

This study also revealed that although the majority of anesthesiologists reported moderate workloads, they were still able to provide good quality education to patients. This finding indicates that high workloads do not always hinder anesthesiologists' ability to convey important information related to anesthesia for cardiovascular disorders. This is consistent with the findings of Jones et al. (2019) which stated that experienced and skilled medical personnel in communication were still able to provide effective education despite facing high work pressure. This study also foundthat longer tenure does not always provide better education compared to anesthesiologists with shorter tenure. Education provided to patients is greatly influenced by various factors, one of which is the interpersonal skills and communication skills of medical personnel. A study by Miller et al. (2016) found that good communication skills are more important than length of work experience in providing quality education to patients. Medical personnel with shorter tenure but good communication training are able to provide education that is just as effective as experienced medical personnel. This confirms that length of service is not the only determining factor in the ability to provide education, but rather relevant skills in interacting with patients are more significant.

CONCLUSION

Shift work patterns are closely related to the level of education provided about anesthesia procedures. Night shifts, especially when workloads increase and fatigue occurs, tend to decrease the quality of education. Therefore, implementing strategies such as standardization of education, management of staff fatigue, and use of educational technology are essential to ensure that patients receive complete and quality information about anesthesia procedures, regardless of the time of their stay. Workload and tenure were not significantly associated with the level of anesthesia education provided to patients. Although workload can be challenging, factors such as communication skills, protocol standardization, and teamwork play a greater role in determining the quality of education provided. This suggests that improvements in these aspects may be more effective in improving the quality of patient education than simply focusing on reducing workload.

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