Factors Related to Nurses' Behavior Regarding BTCL (Basic Trauma Cardiac Life Support) in Implementing Emergency Measures

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Abstract

Background: Basic Trauma Cardiac Life Support (BTCLS) is an action to provide assistance to victims of disasters or emergencies to prevent death or organ damage so that their productivity can be maintained at the level before the disaster or emergency event occurred. **Objective:** To determine the factors related to nurses' behavior regarding BTCLS in implementing emergency measures at Cendrawasih Dobo Regional Hospital . **Method:** The type of research used in this study is quantitative analytical descriptive research with a cross-sectional study approach using the Cross Sectional Study Test with a sample size of 32 respondents. **Results:** From the analysis results obtained a significance value between the relationship between knowledge and nurses' behavior about BTCLS of (p = 0.011), which means there is a significant relationship between knowledge and nurses' behavior about BTCLS in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital and for attitudes and nurses' behavior about BTCLS of (p = 0.491) which means there is no significant relationship between attitudes and nurses' behavior about BTCLS (Basic Trauma Cardiac Life Support) in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital . **Conclusion:** There is a significant relationship between the relationship between knowledge and nurses' behavior about BTCLS in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital, and there is no significant relationship between attitudes and nurses' behavior about BTCLS in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital.

Keywords: Attitude, BTCLS (Basic Trauma Cardiac Life Support), Emergency, Nurse Behavior, Knowledge.

1. Introduction

Nurse competence plays a crucial role in ensuring the delivery of high-quality nursing care, which directly affects patient satisfaction. Competence encompasses knowledge, attitudes, and skills that enable nurses to provide professional services in accordance with Law No. 36 of 2014 concerning Health Workers. This law requires nurses to demonstrate professional practice by holding a valid Nursing Personnel Registration Certificate (STRTK) and attending competency-based training programs relevant to their clinical practice (Situmorang & Muflihatin, 2022; Jamil & Merisdawati, 2022).

Basic Trauma Cardiac Life Support (BTCLS) is one of the essential training programs for nurses in managing emergency conditions. BTCLS equips nurses with the ability to provide initial and advanced assistance to patients in critical situations, thereby preventing death or permanent organ damage. The training emphasizes six phases of emergency management, including detection, suppression, pre-hospital management, hospital treatment, and rehabilitation (Team INCT, 2019). Previous studies have consistently shown that BTCLS training improves nurses' knowledge, skills, and behavior in emergency management, particularly in performing primary surveys and life-saving interventions (Meilina & Bernarto, 2021; Anggraini et al., 2022). For example, Karmila (2018) reported a significant relationship between nurses' knowledge of basic life support (BLS) and their behavior in implementing primary surveys in the emergency department.

Despite its importance, the implementation of BTCLS training remains limited in many healthcare settings. The World Health Organization (WHO) highlights that nurses in Southeast Asia, including Indonesia, often face excessive workloads due to both nursing and non-nursing duties, which negatively impacts their motivation, opportunities to upgrade knowledge and skills, and ultimately the quality of care delivered (Ilhamsyah, 2023). This situation is further reflected in the increasing demand for emergency services. According to the Ministry of Health, emergency room visits in Indonesia accounted for 13.3% of all general hospital visits, demonstrating the urgent need for well-trained nurses in emergency care (Kemenkes RI, 2022).

At Cendrawasih Dobo Regional Hospital, which employs 138 nurses, only 34 have participated in BTCLS training, while 104 have never attended. Preliminary findings revealed that many nurses rarely perform emergency procedures such as cardiac arrest management, airway clearance, and emergency deliveries. Interviews indicated that barriers to training participation include financial constraints, limited time, and mismatches in training allocation. These conditions suggest that the number of BTCLS-trained nurses is insufficient relative to the hospital's needs, potentially affecting the quality of emergency care services provided.

Given the importance of BTCLS training in improving nurses' competence and patient outcomes, it is necessary to investigate the relationship between nurses' participation in BTCLS training and their performance in providing emergency nursing care.

2. Materials and Methods

This study employed a quantitative descriptive-analytical design with a cross-sectional approach, which is a type of observational research analyzing data collected at a single point in time from the entire sample population or a predetermined subset (Arikunto, 2017). The aim of measurement and observation of both independent and dependent variables was to identify factors related to nurses' behavior regarding Basic Trauma Cardiac Life Support (BTCLS) in the implementation of emergency care at Cendrawasih Dobo Regional Hospital. The study population consisted of all 34 nurses at Cendrawasih Dobo Regional Hospital who had participated in BTCLS training or held valid BTCLS certificates. The sampling technique used was total sampling. The inclusion criteria were: (1) nurses willing to participate as respondents, (2) nurses currently working at Cendrawasih Dobo Regional Hospital, (3) nurses not on leave during the study period, and (4) nurses who had completed BTCLS training and obtained certification. The exclusion criteria were: (1) nurses unwilling to participate, (2) nurses not working at Cendrawasih Dobo Regional Hospital, and (3) nurses without BTCLS training certificates. Data analysis was conducted using the Chi-Square test to examine the relationship between independent and dependent variables (Arikunto, 2017).

3. Results

Table 1. Respondent Characteristics Results

Respondent Characteristics	(n=32)	
	n	%
Age		
20-30 Years	13	40.6
31-40 Years	18	56.3
41-50 Years	1	3.1
Gender		
Man	13	40.6
Woman	19	59.4
Length of working		
0-5 Years	24	75.0
6-10 Years	3	9.4
> 10 Years	5	15.6
Education		
Bachelor's Degree	4	12.5
Nursing Profession	28	87.5
Total	**32**	**100**

The data obtained in table 1 about the characteristics of respondents in the study of factors related to nurses' behavior regarding BTCLS (Basic Trauma Cardiac Life Support) in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital, namely the majority of respondents aged 31-40 years as many as 18 people (56.3%). In terms of gender, the majority were female as many as 19 people (59.4%), and the length of service of the respondents was mostly 0-5 years as many as 24 people (75.0%) and the education of the respondents was mostly with professional education of Nurses as many as 28 people (87.5%)

Table 2. Results of Frequency Distribution of Knowledge, Attitude and Behavior Variables of Nurses Regarding BTCLS

Student Knowledge	(n=32)	
	n	%
Knowledge		
Good	21	65.6%
Bad	11	34.4%
Attitude		
Good	15	46.9%
Bad	17	53.1%
Nurse Behavior challenges BTCLS		
Positive	19	59.4%
Negative	13	40.6%
Total	**32**	**100**

Based on Table 2, of the 32 respondents, 21 people (65.6%) had good knowledge, and 11 people (34.4%) had poor knowledge. The results of the 32 respondents who had a good attitude were 15 people (46.9%), and those who had a negative attitude were 17 people (53.1%) and the results of the nurses' behavior regarding BTCLS were positive as many as 59 people (59.4%), and did not have a negative nurses' behavior regarding BTCLS as many as 13 people (40.6%)

Table 3. Analysis of the relationship between knowledge and nurses' behavior regarding BTCLS

Variable		Nurses' Behavior Regarding BTCLS				Total	P = Value
		Positive		Negative			
		n	%	n	%		
Knowledge	Good	9	42.9	12	47.1	21	
	Bad	10	90.9	1	9.1	11	P= 0.011
Total		19	59.4	13	40.6	32	

From the results of the data analysis above in table 3, a significance value was obtained between the relationship between knowledge and nurses' behavior regarding BTCLS of ($p = 0.011$) with a chi square correlation of this value <0.05, so the working hypothesis H0 was rejected and Ha was accepted, which means there was a significant relationship between the relationship between knowledge and nurses' behavior regarding BTCLS (Basic Trauma Cardiac Life Support) in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital.

Table 4. Analysis of the Relationship between Attitudes and Nurses' Behavior About BTCLS

Variable		Nurses' Attitudes About BTCLS .				Total	P = Value
		Positive		Negative			
		n	%	n	%		
Attitude	Good	10	66.7	5	33.3	15	
	Bad	9	52.9	8	47.1	17	P= 0.491
Total		19	59.4	13	40.6	32	

From the results of the data analysis above in table 4, a significance value was obtained between the relationship between attitudes and nurses' behavior regarding BTCLS of ($p = 0.491$ with a chi square correlation value of >0.05, so the working hypothesis H0 was accepted and Ha was rejected, which means there was no significant relationship between attitudes and nurses' behavior regarding BTCLS (Basic Trauma Cardiac Life Support) in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital.

4. Discussion
The Relationship between Knowledge and Nurses' Behavior Regarding BTCLS

The results of the bivariate analysis showed that 21 out of 32 respondents (59.4%) had good knowledge and demonstrated positive behavior regarding BTCLS, while 11 respondents (40.6%) had poor knowledge and exhibited negative behavior. Statistical analysis revealed a significant relationship between knowledge and nurses' behavior regarding BTCLS ($p = 0.011$; $p < 0.05$), indicating that higher knowledge levels were associated with better behavior in implementing emergency measures at Cendrawasih Dobo Regional Hospital.

This finding is consistent with previous research by Rina et al. (2021), which demonstrated that nurses with higher knowledge of BTCLS were more capable in performing primary survey management in the emergency room. BTCLS training provides nurses with structured guidance to perform emergency actions appropriately, thereby improving patient outcomes.

The results are also supported by Notoatmodjo (2016), who stated that knowledge, acquired through human senses and experiences, strongly influences behavior. Knowledgeable individuals are more likely to display consistent and lasting behavior compared to those whose actions are not grounded in sufficient knowledge. In this study, nurses with good knowledge generally showed better BTCLS-related behavior, suggesting that cognitive competence is a foundation for clinical practice.

According to the researcher's assumption, differences in knowledge and behavior may also be influenced by training duration and work experience. Some respondents with lower knowledge but positive behavior had previously attended BTCLS training long ago; although their theoretical knowledge had declined, they retained positive behaviors through accumulated clinical experience. This aligns with Al-Ftlawy (2017) and Wahyuni & Haryanto (2020), who noted that experience significantly contributes to knowledge development and skill performance. Thus, length of service allows nurses to repeatedly encounter clinical cases, reinforcing their behavioral competence even if theoretical recall diminishes.

Overall, this study emphasizes that knowledge plays a crucial role in shaping nurses' behavior toward BTCLS implementation. Adequate and continuous training, supported by clinical experience, is essential to ensure consistent application of emergency procedures in line with hospital standards.

The Relationship between Attitudes and Nurses' Behavior Regarding BTCLS

Attitude is a learned predisposition shaped by personal experiences and social interactions. In this study, 15 out of 32 respondents (59.4%) had good attitudes and demonstrated positive behavior, while 17 respondents (40.6%) had poor attitudes and showed negative behavior. However, statistical analysis revealed no significant relationship between attitudes and nurses' behavior regarding BTCLS ($p = 0.491$; $p > 0.05$).

This result contrasts with Haslinda (2018), who found a significant association between attitudes and nurses' behavior in implementing BTCLS in Gorontalo, where most respondents exhibited positive attitudes. The difference may be due to variations in respondents' work environments, exposure to emergency cases, and institutional support for training.

Theoretically, attitudes consist of three main components—cognitive (beliefs and concepts), affective (emotions), and conative (tendencies to act)—which collectively influence behavior (Wawan & Dewi, 2014; Fitriani, 2018). Factors such as personal experience, cultural norms, peer influence, and institutional support contribute to the formation of attitudes. In this study, although some respondents displayed positive attitudes, they did not consistently translate into appropriate behavior, possibly due to limited exposure to emergency cases or declining skills over time.

The researcher assumes that discrepancies between attitude and behavior may be explained by work experience and training recency. Some respondents with good attitudes but poor behavior had attended BTCLS training long ago, resulting in outdated theoretical understanding. Conversely, others with less favorable attitudes were able to perform BTCLS procedures due to long work experience in special units where emergency cases were frequently encountered. This suggests that while attitude is important, it must be reinforced by continuous practice and refresher training to translate into effective behavior.

In line with previous studies (Lontoh, 2015; Innayatullah, 2016; Zahara et al., 2021), training, age, education level, and work experience remain significant factors influencing nurses' knowledge and behavior in emergency care. Thus, hospitals need to ensure regular refresher training and supportive working environments to bridge the gap between attitudes and actual practice in BTCLS implementation.

5. Conclusions

Based on the findings of this study on factors related to nurses' behavior regarding Basic Trauma Cardiac Life Support (BTCLS) in the implementation of emergency measures at Cendrawasih Dobo Regional Hospital, it can be concluded that there is a significant relationship between nurses' knowledge and their behavior in implementing BTCLS. However, there is no significant relationship between nurses' attitudes and their behavior in implementing BTCLS.

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