

Original Research

Dominant Factor Affecting to Intention of Nursing Students toward Basic Life Support (BLS) Effort: Using Theory of Planned Behavior Approach

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ABSTRACT

The less intention of nursing students toward Basic Life Support (BLS) effort could affect less quality of basic life support performed by nursing students. The study aimed to analyze the dominant factor affecting the intention of nursing students toward basic life effort using the theory of planned behavior approach. The samples were 100 respondents who met inclusion criteria using the purposive sampling technique. The instrument was a self-administered questionnaire that consisted of the variables from the theory of planned behavior. The data analysis using logistic regression. The result showed that attitude was the dominant factor affecting to intention ($p=0.000$; $OR=47.175$). followed by subjective norm ($p=0.011$; $OR=19.002$) and perceived behavioral control (PBC) ($p=2.344$; $OR=10.428$). Nursing students' intention could be optimized through the effort to enhance attitude toward basic life support enhancing external support (supervisors and nursing student peers). and enhancing perception about the function of self-control to utilize the resources (perceived behavioral control).

Introduction

Basic life support was an effort to identify and give primary emergency intervention in cardiac arrest cases through giving chest compression and ventilation (Link *et al.*, 2011). El Sayed *et al.* (2017) proved that early recognition and immediate intervention in cardiac arrest through emergency medical services (EMS) activation, early CPR with Automatic Electrical Discharge (AED) could give optimum outcomes and prevent death because of cardiac arrest. Chockalingam & Wilde (2014) also proves that BLS efforts, including high-quality CPR could prevent deaths related to cardiac arrest.

The health worker team was an essential part of reducing mortality due to cardiac arrest through basic life support efforts (Perkins *et al.*, 2015). Nurses, including nursing students who have been equipped with Basic Life Support skills, are expected to optimally provide BLS efforts when dealing with emergency patient conditions in hospitals and communities (Kardong-Edgren *et al.*, 2010). The depth of ventilation and chest compressions were indicators of the quality of basic life support. They were the main factors supporting the optimum outcome of basic life support recommended by the American Heart Association (AHA) (Neumar *et al.*, 2015).

Nursing students' intention toward basic life support efforts was the main component that determines the optimum outcome of BLS performed by nursing students. Ajzen (2012) through the theory of planned behavior, explained that person's intention toward the behavior was the main factor that determine a person's decision to perform the behavior. This theory assumed that a person would perform behavior if they have any intention to perform that. A person's intentions are influenced by three factors that consisted of attitude (attitude toward behavior), subjective norm (supported from external factors), and perceived behavioral control (perception of self-control towards external support) (Ajzen, 2012).

The Theory of Planned Behavior (TPB) was widely used in health studies, especially to identify the behavior of health workers (Hoffman *et al.*, 2013). This theory was also

used in the emergency nursing scope. Panchal *et al.* (2015) used TPB to predict the intention of health workers toward CPR practice. Magid, Ranney, & Risica (2019) also used the TPB to determine nursing students' intentions related to CPR practice and analyze the dominant factors influencing the intention. Based on the above background, researchers intended to use the theory of planned behavior to analyze the dominant factors that influence nursing students' intention toward basic life support efforts.

Method

This study used was correlative design with a cross-sectional approach. The researchers aimed to analyze the correlation between independent variables (attitude, subjective norm, and perceived behavioral control) with the dependent variable (nursing students' intention toward basic life support) and analyze the dominant factors affecting the intention. Data collection regarding independent variables with dependent variables was conducted at one time on each respondent.

The sample was 100 respondents who met the inclusion criteria that had passed from the basic life support subject in the fourth semester and were willing as respondents. The sampling method used was purposive sampling. This sampling method enables the researchers to consider the candidate of respondents based on the condition of the place and timing of the study. This study was conducted at the Akademi Kesehatan Rustida Banyuwangi from March to May 2020.

The instrument was a self-administered questionnaire derived from the theory of planned behavior: attitude, subjective norm, and perceived behavioral control (PBC). The attitude consists of two indicators including behavioral belief and outcome evaluation. The subjective norm consists of two indicators including normative belief and motivation to comply. The perceived behavioral control (PBC) consists of two indicators: self-efficacy and power of control factors. Last the intention of nursing students toward basic life support efforts. The questionnaire used alternative answer choices (Likert scale) with

scale categories were 1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree. The instrument has passed the validity and reliability test (Cronbach alpha value = 0.918).

The data analysis technique used SPSS 16. We divided into three steps: descriptive test to identify the demography feature of each variable using descriptive frequency test, correlative test to analyze the correlation between independent with dependent variable using rank spearman test, and logistic regression test to determine the dominant factor influencing the intention using binary logistic regression test.

We used the validity and reliability test to conduct and measure the questionnaire's effectiveness based on the theory of planned behavior application instruments. The validity test uses the product-moment of Pearson. The result showed that each item of variables (attitude, subjective norm, perceived

behavioral control, and intention) were valid (significant value <0,005 and Pearson correlation was positive). The reliability test using Cronbach alpha. The result showed that all variables were reliable (Cronbach alpha value >0,60).

Results and Discussion

Attitude, subjective norm, perceived behavioral control (PBC), and nursing students' intention toward Basic Life Support (BLS) efforts

The results of the univariate analysis provide an overview of each variable's frequency distribution that consisted of attitude, subjective norm, perceived behavioral control (PBC), and intention, which are shown in the table below.

Table 1. Frequency Distribution of Attitude, Subjective Norm, PBC, and Intention

Variable	n	%
<i>Attitude:</i>		
• Good	47	47
• Less	53	53
<i>Subjective norm:</i>		
• Good	45	45
• Less	55	55
<i>Perceived behavioral control (PBC):</i>		
• Good	44	44
• Less	56	44
<i>Intention :</i>		
• Good	49	49
• Less	51	51

Sources: primary data, 2020

Table 1 showed that the majority of respondents had an attitude toward basic life support on less category (53%), had subjective norm on less category (55%), had PBC on less category (56%), and had an intention on less category (51 %). The results of this study followed the concept of the theory of planned behavior (TPB) founded by Ajzen (2012) that a person's planned behavior was the result of the manifestation of each variable, including attitude, subjective norm, perceived behavioral control (PBC), and intentions. The results also showed that the quality of each variable was at the same level (less category).

This result was consistent with a previous study conducted by Wati *et al.* (2017) that most nursing students had less intention as CPR bystanders. The less intention was manifested by less intention to perform BLS independently, conducted as standard, and high responsibility and confidence.

Ajzen (2012) revealed that less intention toward behavior performed by the person was associated with less belief value. The findings showed that most respondents had belief toward basic life support in less category as manifested with less belief about the importance of BLS efforts for themselves

and others and the perceived advantages of the behavior for them. The belief was derived from knowledge, positive attitude, and support from the external environment (nursing student peers and academic supervisors) (Magid *et al.*, 2021).

The result about attitude showed that most respondents had less attitude, which manifested with less belief about the importance of BLS efforts and the advantages they have gotten for themselves and others. This was consistent with the attitude concept described by Ajzen (2012) that the quality of attitude was derived from beliefs toward the importance of behavior and the advantages of the basic life support effort (behavioral beliefs and outcome evaluation).

The less confidence regarding the importance of BLS efforts and the advantages gotten could make the quality of attitude toward basic life support less in a category. Attitude strengthening efforts were carried out internally by enhancing knowledge and belief toward the importance of basic life support efforts and the advantages that could be gotten for self and others.

The majority of the subjective norm in this study was in less category, which manifested by less attention to support and suggestion from supervisors and nursing student peers in order to BLS efforts and less motivation to perform that. The results of this study were consistent with the concept of subjective norm described by Ajzen (2012) that the quality of subjective norm was derived from the environmental supporting (normative belief), as well as high motivation to perform that (motivation to comply).

Arafat and Ibrahim (2018) proved that less intention to perform basic life support happened on nursing students with less support from the external environment (suggestion from supervisors and nursing student peers). The efforts to enhance the subjective norm's quality could be reached by increasing perception about the importance of external support, especially from supervisors and nursing student peers, and motivation to comply with it.

The majority of perceived behavioral control (PBC) in this study was in less

category, which manifested by inability to identify the internal factors (knowing about BLS, self-preparing to perform BLS, and self-confidence to perform BLS), as well as inability to utilize the opportunities from the environments (time, facilities, and guidance).

The results of PBC from this study were consistent with the PBC concept explained by Ajzen (2012) that the quality of PBC was derived from the ability to identify and manage the internal factors (strengths and weakness) and the ability to control the opportunities from external support (time, facilities, and guidance). Less ability to control internal factors and inability to utilize the opportunities from the environment could make Perceived Behavioral Control (PBC) in less category.

Internal efforts to enhance the quality of PBC through improving the ability to manage the internal powers (identifying about strengths and weaknesses about implementing of BLS, preparing the self to perform BLS, and optimize strength and self confidence to perform high quality of BLS), meanwhile the efforts to optimize the opportunities to perform high quality of BLS could be conducted through using the external support from the environment were time, facilities, and guidance to try moore harder to perform BLS

The Correlation of attitude, subjective norm, perceived behavioral control with the intention of nursing students toward basic life support effort

The results of the bivariate analysis explained the correlation of each independent variable (attitude, subjective norm, and perceived behavioral control) with the dependent variable (intention), which is shown in the table below:

Table 2. The Result of Bivariate Analysis Correlation of Attitude, Subjective Norm, PBC with Intention

Independent variables	Dependent variable					
	Intention					
	Good		Less		r	p-value
n	%	n	%			
Attitude :					0.881	0.000
Good	45	45	2	2		
Less	4	4	49	49		
Subjective norm:					0.842	0.000
Good	43	43	2	2		
Less	6	6	49	49		
PBC:					0.663	0.000
Good	38	38	6	6		
Less	11	11	45	45		

Sources: primary data, 2020.

Table 2 showed that attitude ($r = 0.881$; $p = 0.000$), subjective norm ($r = 0.842$; $p = 0.000$), and perceived behavior control (PBC) ($r = 0.663$; $p = 0.000$) had correlation with intention of nursing students toward basic life support (BLS) effort. Majority of respondents with less attitude had less intention (49%), majority of respondents with less subjective norm had less intention (49%), and majority of respondents with less perceived behavioral control (PBC) had less intention (45%).

This study indicated that attitude, subjective norm, and perceived behavior control (PBC) had a positive correlation with the intention of nursing students toward BLS efforts. This was consistent with the TPB concept explained by Ajzen (2012) that the variables that influenced behavioral intention were attitude, subjective norm, and perceived behavior control (PBC) experienced by a person. The less quality of attitude, subjective norm, and perceived behavior control (PBC) could impact less intention of the person toward behavior to be performed.

The result of this study was also consistent with a previous study conducted by McDermott *et al.* (2015) and Cooke *et al.* (2016) that attitude, subjective norm, and perceived behavioral control (PBC) correlated with the intention of nursing students to perform CPR. However, it was contradicted with the result by Lapkin *et al.* (2015) that only attitude and perceived behavioral control had correlation with intention, whereas subjective norm did not correlate with intention toward BLS efforts. It was caused by

nursing students having high subjective norms, but they still had less intention toward basic life support.

The intentions of nursing students towards basic life support (BLS) effort were influenced by the attitude toward BLS effort (attitude toward a behavior), perception about the importance of environmental support from supervisors and peers (subjective norm), and the ability to control the internal factors and utilizing the opportunities (Perceived Behavioral Control).

Efforts to strengthen or enhance the intention of nursing students toward basic life support effort based on the study could be reached through improving the quality of attitudes toward BLS, enhancing perceptions and motivation regarding the importance of external support from the supervisors and nursing students peers, as well as enhancing the self-control abilities and the ability to take advantage of the opportunities provided by the environment (time, facilities, and guidance).

The dominant factor affects nursing students' intention toward basic life support (BLS) effort

The result of multivariate analysis explained the dominant factor affecting to the intention of nursing students toward basic life support effort that was shown in the table below:

Table 3. The Result of Multivariate Analysis of Dominant Factor Affecting to Intention

Variables	Coefficient (B)	p-Value	OR (CI 95%)
Attitude	3.854	0.000	47.175 (5.542-401.607)
Subjective norm	2.945	0.011	19.002 (1.988-181.595)
PBC	2.344	0.026	10.428 (1.323-82.201)
Constanta	-12.822	0.000	

Sources: Primary data, 2020.

Table 3 showed that the dominant factor affecting to intention was attitude ($p=0.000$; $OR=47.175$), followed by subjective norm ($p=0.011$; $OR=19.002$) and perceived behavioral control (PBC) ($p=2.344$; $OR=10.428$). The result indicated that attitude was the strongest variable that affected nursing students' intention toward basic life support efforts. Meanwhile, subjective norm and perceived behavioral control had the function to help enhance the quality of intention by nursing students toward BLS effort.

The result of this study was consistent with the TPB concept explained by Ajzen (2012) that the attitude variable was the primary variable that had the most decisive influence on intention. It was strengthened by subjective norm and perceived behavioral control variables to enhance the quality of intention performed by the person.

Ajzen (2012) also explained that behavioral intention was derived from behavioral beliefs and outcome evaluations toward behavior. Strong behavioral beliefs and outcome evaluation could make a good attitude toward behavior. Meanwhile, good subjective norms and perceived behavioral control could enhance the quality of the intention toward basic life support effort.

The result of this study was also consistent with previous studies conducted by Magid *et al.* (2021) that attitude strongly affected the intention of nursing students to perform CPR, followed by subjective norm and perceived behavioral control (PBC). Chen *et al.* (2017) also discovered that attitude is the most powerful predictor of health personal willingness to use Family-Witnessed Cardiopulmonary Resuscitation. Talbot *et al.* (2015) and Smith (2015) also reported that attitude was the dominant factor affecting nurses' intention to be CPR bystanders.

On the other hand, different results were reported from several previous studies. Javadi *et al.* (2013) and Shi & Hall (2021) proved that the dominant factor affecting to intention was the subjective norm. The same result was also reported by Wati *et al.* (2021) that subjective norm was the dominant factor that affecting to nursing students' intention as CPR bystanders. Even though nursing students had a good attitude regarding CPR, they were still unable to perform strong CPR intentions. Meanwhile, nursing students who had good subjective norms could perform firm intentions regarding CPR practice.

The quality of intention was driven by internal and external factors. Internal factor was namely as attitude was derived from beliefs about the importance of the action (behavioral belief) and the benefit of action for self and others (outcome evaluation), meanwhile external factor was namely as subjective norm was derived from perceiving about normative belief and motivation to comply (Ajzen, 2012). Meanwhile, perceived behavioral control had role to optimize the influence of internal support (attitude toward BLS) and external support (subjective norm) through enhancing the understanding about importance of BLS, preparing to perform that through identifying the internal factors and utilizing of opportunities.

Attitude could be the dominant factor affecting to intention toward basic life effort if nursing students had strong beliefs about the importance of BLS performed and strong belief about the benefits of action for self and others. Meanwhile, subjective norm could be the dominant factor affecting to intention toward basic life support if nursing students had high perception about importance of external supported from supervisor and nursing student peers, as well as willing to comply that.

Needed the Efforts to enhance the quality of intention of nursing students toward basic life support through three steps: the first was improving attitude toward basic life support by providing the understanding about BLS effort, strengthening belief about the importance of BLS for self and other, as well as advantages that were gotten for self and other.

The second was enhancing the quality of subjective norm through enhancing perception about the importance of external supports that were gotten from supervisors and nursing students peer, and motivation to comply that. The last step was through enhancing the role of perceived behavioral control to optimize the influence of attitude and subjective norm through optimizing the ability to control internal factors (identifying the internal power and managing that to perform high quality of BLS), as well as utilizing the opportunities were time, facilities, and guidance to try moore harder to perform basic life support correctly as recommended by American Heart Association (AHA).

Conclusion

The majority of nursing students with less intention toward BLS effort happened on nursing students with less attitude toward basic life support effort, less subjective norm, and less perceived behavioral control. The attitude was the dominant factor affecting intention, followed by subjective norm and perceived behavioral control. Needed the efforts to enhance nursing students' intention toward BLS effort by optimizing the functions of belief toward BLS, perception about the importance of social support, and enhancing perceived behavioral control.

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curriculum regarding improving skills toward basic life support effort.

References

- Ajzen I. (2012). The Theory of Planned Behavior. In P. A. M. Lange, A. W. Kruglanski & E. T. Higgins (Eds.). *Handbook of Theories of Social psychology* (1st ed 1, pp. 438-459). London, UK: Sage.
- Arafat, Y., & Ibrahim, M. (2018). *Social and Administrative Aspects of Pharmacy in Low and Middle Income Countries: The Use of Measurements and Health Behavioral Models to Improve Medication Adherence*. Academic Press
- Chen, C.L., Tang, J.S., Lai, M.K., Hung, C.H., Hsieh, H.M., Yang, H.L., & Chuang, C.C. (2017). Factors Influencing Medical Staff's Intentions to Implement Family-Witnessed Cardiopulmonary Resuscitation: A Cross-Sectional, Multihospital Survey. *Eur J Cardiovasc Nurs*, 16(6), 492-501.
- Chockalingam, P., & Wilde, A.A. (2014). Inherited arrhythmia syndromes leading to sudden cardiac death in the young. A global update and an Indian perspective. *Indian Heart J*, 66(1), 49-57.
- Cooke, R., Dahdah, M., Norman, P., & French, D. (2016). How Well Does The Theory of Planned Behaviour Predict Alcohol Consumption?. *Health Psychol. Rev*, 10, 148-167.
- El Sayed, M., Al Assaad, R., Aad, Y.A., Gharis, N., Refear, M.M., & Tamim, H. (2017). Measuring the impact of emergency medical services (EMS) on out-of-hospital cardiac arrest survival in a developing country; a key metric for EMS systems' performance. *Medicine (Baltimore)*, 96(11), e7570-e7578.
- Hoffmann, T., Bennett, S., & Del Mar, C. (2013). *Evidence-based Practice Across the Health Professions. 2nd ed*. Churchill Living Stone Australia: Elsevier.
- Javadi, M., Kadkhodae, M., aghoubi, M., Maroufi, M., & Shams, A. (2021). Applying Theory of Planned Behavior to predicting of patient Safety behaviors of Nurses. *Ma Soc Med*, 25(1), 52-55.
- Kardong-Edgren, S.E., Oermann, M.H., & Odom-Maryon, T. (2010). Comparison of

- two instructional modalities for nursing student CPR skill acquisition. *Resuscitation*, 81(9), 1019–1024.
- Kardong-Edgren, S., Oermann, M.H., & Odom-Maryon, T. (2012). Findings from a nursing student CPR study: Implications for staff development educators. *J. Nurses Staff Dev*, 28(6), 9–15.
- Lapkin, s., Jones, T., & Giligan C. (2015). Using the Theory of Planned Behaviour to Examine Health Professional Students' Behavioural Intentions in Relation to Medication Safety and Collaborative Practice. *Nurse Education Today*, 35, 935-940.
- Link, C.J., Aufderheide, T.P., & Niskanen, R.A. (2011). Take Heart America: a comprehensive, community-wide, systems-based approach to the treatment of cardiac arrest. *Crit Care Med*, 39(6), 26-33.
- Magid, K.H., Ranney, M.L., & Risica, P.M. (2021). Using the theory of Planned Behavior to understand intentions to perform bystander CPR among college students. *Journal of American College Health*, 69(1), 47-52.
- McDermott *et al.* (2015). The Theory of Planned Behaviour and Dietary Patterns: a Systematic Review and Meta-Analysis. *Prev. Med*, 81, 150-156.
- Neumar, R.W., Shuster, M., Callaway, C.W., Gent, L.M., Atkins, D.L., Bhanji, F., Brooks, S.C., de Caen, A.R., Donnino, M.W., Ferrer, J.M., Kleinman, M.E., Kronick, S.L., Lavonas, E.J., Link, M.S., Mancini, M.E., Morrison, L.J., O'Connor, R.E., Samson, R.A., Schexnayder, S.M., Singletary, E.M., Sinz, E.H., Travers, A.H., Wyckoff, M.H., & Hazinski, M.F. (2015). Part 1: Executive Summary 2015 American Heart Association Guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care. *Circulation*, 131(2), S315-67.
- Panchal *et al.* (2015). An "Intention-Focused" Paradigm for Improving Bystander CPR Performance. *Resuscitation*, 88(6), 48-51.
- Perkins, G.D., Handley, A.J., Koster, R.W., Castrén, M., Smyth, M.A., Olasveengen, T., Monsieurs, K.G., Raffay, V., Gräsner, J.T., Wenzel, V., Ristagno, G., & Soar, J. (2015). Adult basic life support and automated external defibrillation section Collaborators. European Resuscitation Council Guidelines for Resuscitation 2015: Section 2. Adult basic life support and automated external defibrillation. *Resuscitation*, 95(6), 81-99.
- Shi, W., & Hall, B.J. (2021). Help-seeking intention among Chinese college students exposed to a natural disaster: an application of an extended theory of planned behavior (E-TPB). *Soc Psychiatry Psychiatr Epidemiol*, 56(7), 1273-1282.
- Smith, A. (2015). *Attitude, Subjective Norm, and Perceived Behavioral Control as Indicators for Nurse Educators' Intention to Use Critical Thinking Teaching Strategies: a Structural Equation Model Analysis*. Michigan: Andrews University.
- Talbot, A., Dorrian, J., & Chapman, J. (2015). Using the Theory of Planned Behaviour to examine enrolled nursing students' intention to care for patients with alcohol dependence: A survey study. *Nurse Education Today*, 35, 1054-1061.
- Wati, S., Wihastuti, T., & Nasution, T. (2017). Analysis of Factors Affecting Behavioral intention of Nursing Student as Bystander Cardiopulmonary Resuscitation on Handling Out of Hospital Cardiac Arrest (OHCA) In Malang. *Jurnal Ilmu keperawatan*, 5(2), 230-239.
- Wati, S. G., Wihastuti, T. A., & Nasution, T. H. (2021). Application Of The Theory Of Planned Behavior To Identify Nursing Student's Intention To Be A Bystander Cardiopulmonary Resuscitation. *NurseLine Journal*, 6(1), 24-30.