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# An Overview of the Theory of Planned Behavior Approach in Nursing Care for Dengue Fever Patients

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## Abstract

**BACKGROUND:** The surge in cases of dengue hemorrhagic fever that occurred in East Sumba, Indonesia, in early 2019, required nurses to take a fast and appropriate attitude in dealing with patients. Professional nursing care is the basis in nursing services to overcome patient problems.

**AIM:** This study aimed to obtain an overview of nursing care in dengue fever patients using the theory of planned behavior approach.

**METHODS:** This study used a comparative non-experimental design with two approaches: A cross-sectional approach in the first stage and secondary data analysis in the second stage. This study was conducted in 2019 with 45 nurses determined by simple random sampling. Data were collected using questionnaires and observation sheets and analyzed with partial least square.

**RESULTS:** Behavioral beliefs, evaluation of behavioral beliefs, normative beliefs, and motivation to comply with the majority of respondents are in the excellent range. Almost all respondents have a desire or intention to document complete nursing care, which is influenced by attitudes toward subjective behavior and norms, while perceived behavior control does not affect nurses' intentions.

**CONCLUSION:** Based on the theory of planned behavior, nurses carry out nursing care as a form of professional obligation, and its quality is determined by the nurse's intention to behave.

## Introduction

Dengue fever is still commonly found in tropical and subtropical areas in various parts of the world, especially in Southeast Asia [1], [2], [3]. Asia ranks first regarding the number of dengue fever sufferers each year, data displayed worldwide. Meanwhile, from 1968 to 2009, the WHO notes that Indonesia is the highest contributor to dengue fever cases in Southeast Asia, even today, it is still one of the leading health problems where the number of dengue fever sufferers and their spread continues to increase along with the increase and mobility of the population in Indonesia [2], [4], [5].

The Indonesian Ministry of Health recorded 53,075 dengue cases in 2018, 68,407 cases in 2017, and 204,171 cases in 2016. The Ministry of Health's statement quoted by Jamil in an i-news media article stated that the incidence of dengue fever per February 1, 2019 recorded 15,132 cases with a death rate reaching 145 souls throughout Indonesia. This data were conveyed by the Director of the Vector and Zoonotic Infectious Diseases Ministry of Health, who revealed that the province with the highest dengue fever cases and deaths due to dengue fever was East Java Province with 3074 cases and 52 deaths [6]. Furthermore, the second position is occupied by West Java with 2204 cases and 14 deaths, then; followed by East Nusa Tenggara with 1092 cases and 13 deaths, and North Sumatra with 1071 cases and 13 deaths [7]. As well as, the increase in dengue fever cases in East Sumba Regency which has occurred since 2017 and is very unsettling to the community where dengue fever patients treated at one of the private hospitals in 2017 with 21 cases, and in 2018, there were 72 patients and two deaths [8]. This number jumped dramatically in early 2019 by 350 cases and six deaths due to dengue fever [9].

The condition of a patient whose life is threatened under treatment can lead to massive stress for the patient and their family and the entire health team involved in inpatient care in the hospital [9], [10], [11]. In this condition, nurses as health workers who take part in inpatient care in hospitals must provide professional nursing care [12]. An experienced nurse should have nursing clinical leadership skills expected to create comfort for clients when the clients are having medical treatment [13]. Professional nurses should also be able to identify different needs in the client's sense of comfort. The comfort created helps the client in the

healing process, so the healing process occurs more quickly [14]. Nurses' provision of comfort to clients can be in the form of attitudes or behaviors shown with a caring attitude, friendly attitude, polite attitude, and empathy attitude that nurses offer to clients when providing nursing care [14], [15].

The theory of planned behavior, according to the Ajzen, writes that a person's behavior is determined by how much intention he has to take action [16]. The meaning is the result of the individual's norms and attitudes, while the attitude includes his belief in the norms and beliefs, the urge to obey the rules, and behavior and the final evaluation of the behavior itself. This is what determines the behavior displayed by the individual. If he perceives positively, then he will behave, and vice versa. Subjective norms are how an individual is driven to perform a behavior under the expectations of others associated with him [15], [16].

Being a nurse is a life choice and even an ideal for some people. However, some people become nurses due to coercion or coincidence, even making the nurse profession the last alternative in determining their life choices. A nurse devotes herself to looking after and caring for clients without discriminating in any way. Every appropriate action and intervention carried out by a nurse is very valuable to the lives of others [14]. Therefore, this study aims to understand the theory of planned behavior approach in nursing care for dengue fever patients.

## Methods

This study used a comparative non-experimental design. This research was conducted with two approaches, namely, a cross-sectional approach in the first stage and secondary data analysis in the second stage. The study was conducted in August–October 2019 at a private hospital in East Sumba. The sample in this study was 45 nurses who met the study's inclusion criteria taken at simple random from 50 nurses in the inpatient room. The inclusion criteria included vocational nurse education, dengue fever patients, communication well, and being willing to be researched. In contrast, the exclusion criteria include: Being assigned to college and working in the outpatient room.

The data in this study were obtained from filling out the nursing documentation observation sheets and the TBP-AJZEN instrument, which identified attitudes toward behavior, subjective norms, and perceptions of behavioral control, and intentions. This research instrument was developed by Wahyuni [17]. The TBP-AJZEN questionnaire consists of 59 questions to measure attitudes, subjective norms, perceived behavioral control, and intentions. The nursing documentation observation sheet consists of 30 question items.

The first stage in this study was an initial meeting with the respondent selected to explain the research to be conducted and submit an informed consent sheet if the respondent understood and was willing to become a research respondent. Selected respondents were then given a questionnaire to fill out. Researchers waited for respondents during filling out the questionnaire and immediately checked the completeness of filling out the questionnaire. In the second stage, the researchers reviewed the medical record documents of dengue patients – the researcher filled in the observation sheet based on the researchers' observations and made clarifications. The research results were analyzed with descriptive analysis and partial least square.

### *Ethical consideration*

The Health Research Ethics Commission has approved this research at Poltekkes Kemenkes Kupang with the number LB.02.03/1/0017/2019.

## Results

Respondents showed varying characteristics, which the majority of respondents were women (73.3%), and almost half of the respondents were in the age range of 21–30, as many as 48.9% and 93.9% with a vocational nurse education background. These results are shown in Table 1, which showed that the most of the respondents were in the excellent category for behavioral beliefs and evaluation of behavioral beliefs, although there were still respondents in the less category.

**Table 1: Characteristics of respondents by sex, age, and level of education**

| Characteristics of respondents | Total (n) | Percentage |
|---|---|---|
| Sex | | |
|   Male | 12 | 26.7 |
|   Female | 33 | 73.3 |
| Age (years) | | |
|   21–30 | 22 | 48.9 |
|   31–40 | 18 | 40 |
|   > 40 | 5 | 11.1 |
| Level of education | | |
|   Vocational Nurse | 42 | 93.3 |
|   Bachelor of Nursing | 3 | 6.7 |
| Total | 45 | 100 |

Subjective norms variable included normative beliefs and motivation to comply. The results also show that the most of the respondents have reasonable normative beliefs and good motivation to obey. Perceived behavior control in this study included control beliefs and nursing perceived with the results showing that more than half of respondents' control beliefs were in the moderate category while nursing perceived respondents were in a suitable category. The

intention is the seriousness of nurses in documenting nursing care, with 80% of results showing a desire to establish nursing care. The descriptive analysis results are presented in Table 2.

**Table 2: Descriptive analysis of attitude, subjective norms, perceived control behavior, and intentions**

| Parameter | Component | Total (n) | Percentage |
|---|---|---|---|
| Attitude toward behavior | Behavioral beliefs | | |
| | Well | 25 | 55.6 |
| | Enough | 12 | 26.7 |
| | Less | 8 | 17.8 |
| | Evaluation of behavior beliefs | | |
| | Well | 20 | 44.4 |
| | Enough | 18 | 40 |
| | Less | 7 | 15.6 |
| Subjective norms | Normative beliefs | | |
| | Well | 30 | 66.7 |
| | Enough | 11 | 24.4 |
| | Less | 4 | 8.9 |
| | Motivation to comply | | |
| | Well | 24 | 53.3 |
| | Enough | 16 | 35.6 |
| | Less | 5 | 11.1 |
| Perceived behavior control | Control beliefs | | |
| | Well | 16 | 356 |
| | Enough | 29 | 64.4 |
| | Less | 0 | 0 |
| | Nursing perceived | | |
| | Well | 31 | 68.9 |
| | Enough | 13 | 28.9 |
| | Less | 1 | 2.2 |
| Intention | Have a desire | 36 | 80 |
| | Has no desire | 9 | 20 |

The results of observations in documenting nursing care showed that almost all respondents had the desire to write the expansion of nursing care from review to documentation or to complete the patient's status in the medical record. These results are shown in Table 3.

**Table 3: Descriptive analysis of documentation of nursing care**

| Parameter/component | Have a desire (%) | Has no desire (%) |
|---|---|---|
| Nursing assessment | 77.8 | 22.2 |
| Nursing diagnoses | 82.2 | 17.8 |
| Nursing planning | 77.8 | 22.2 |
| Nursing implementation | 77.8 | 22.2 |
| Nursing evaluation | 77.8 | 22.2 |
| Nursing documentation | 80 | 10 |

Testing the validity and reliability of this research is done by evaluating the value of the outer model, which is seen in the value of convergent validity, where the value of outer loading obtained by an indicator must be >0.6 to be said to meet convergent validity. The outer loading values obtained for all indicators in the attitude to behavior variable and subjective norms are declared valid and reliable, while the perceived behavior control variable is rejected because it does not meet convergent validity. The outer loading value described in Table 4 shows that there is one invalid indicator, namely, control beliefs indicators, so that the indicator is reduced because the outer loading value is <0.6, while other indicators are declared valid where the outer loading value is generated by the standard criteria, namely, above 0.6. This shows that the structural validity of the indicators has been tested.

The reliability test in this study is described in Table 5, where the constructor variable is said to meet the reliability test if the minimum value for Cronbach

**Table 4: Results of convergent validity**

| Variable | Indicator | Outer loadings |
|---|---|---|
| Attitude toward behavior (X1) | Behavioral beliefs (X1.1) | 0.936 |
| | Evaluation of behavior beliefs (X1.2) | 0.899 |
| Subjective norms (X2) | Normative beliefs (X2.1) | 0.928 |
| | Motivation to comply (X2.2) | 0.887 |
| Perceived behavior control (X3) | Control beliefs (X3.1) | 0.399 |
| | Perceived (X3.2) | 0.980 |
| Intentions (Y1) | | 1.000 |
| Nursing documentation (Y2) | Nursing assessment (Y2.1) | 0.839 |
| | Nursing diagnoses (Y2.2) | 0.707 |
| | Nursing planning (Y2.3) | 0.773 |
| | Nursing implementation (Y2.4) | 0.868 |
| | Nursing evaluation (Y2.5) | 0.790 |
| | Nursing documentation (Y2.6) | 0.766 |

alpha and the composite reliability value is reached (0.6 and 0.7). The test results show a value >0.7 except for perceived behavioral control, as well as the Cronbach alpha value of each variable also leads to a value >0.6 except for perceived behavioral control, so it can be concluded that each variable is reliable.

**Table 5: Results of composite reliability and Cronbach alpha value**

| Variable | Composite Reliability | Cronbach Alpha |
|---|---|---|
| Attitude toward behavior (X1) | 0.914 | 0.815 |
| Subjective norms (X2) | 0.904 | 0.790 |
| Perceived behavior control (X3) | 0.684 | 0.347 |
| Intentions (Y1) | 1.000 | 1.000 |
| Nursing care documentation (Y2) | 0.910 | 0.880 |

The evaluation of the inner model was carried out to test the research hypothesis, where the path coefficient value and the t-count value in the inner model are presented in Figure 1. The data presented in Figure 1 show the constructed value of the attitude variable toward behavior and subjective norm variables that influence nurses' intentions and documentation of nursing care. This can be seen from the values obtained, which are greater than the t-statistical value, while the perceived behavior control variable has no effect on the intention and documentation of nursing care because the value obtained is 0.665 or less than the t-statistic.
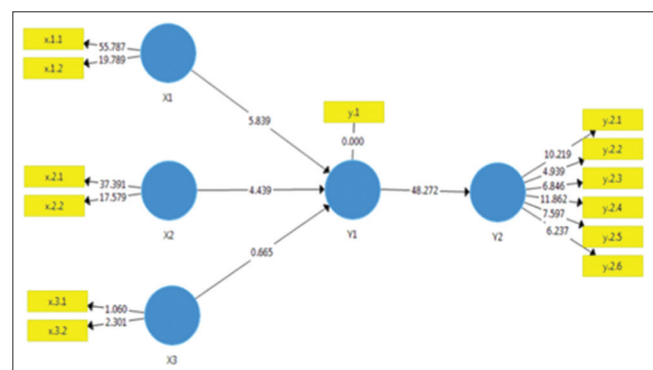


*Figure 1: Evaluation results of the inner model*

Multivariate analysis results show that the outer loading value for all indicators of the attitude toward behavior and subjective norms meets convergent validity because it has a value >0.6. In contrast, the perceived behavior control variable is rejected because it does not meet convergent validity. The inner evaluation model shows that the value of the construct of attitude toward behavior and subjective norms influences the intentions

and documentation of nursing care. This can be seen from the values obtained, which are greater than the t-statistic value (1.96), while the perceived behavior control does not affect the intentions and documentation of nursing care because the value obtained is 0.665 or less than the t-statistic.

## Discussion

The results showed that the most respondents had confidence and positive belief evaluations in both categories, so it can be said that respondents have a good attitude and contribute positive intentions demonstrated by nurses in documenting nursing care. This is in line with the study of Nursalam, which states that the more positive the attitude shown by nurses, the more positive the intentions of nurses in documenting nursing care [16], and also similar to what was written by Sutriyanti and Mulyadi to provide patient care is essential to be able to have critical thinking ability [18], [19]. A person's critical thinking ability is influenced by various factors that can support or reduce this ability. These factors include intellectual development, motivation, consistency, feelings, anxiety, habits, experiences, and physical conditions [19].

Planned Behavior Theory is based on the assumption that systematically, humans are rational creatures who use the necessary information to behave [15]. Before they decide to do or not do certain behaviors, humans will be thinking of the implications for their actions [20]. Planned Behavior Theory states that a nurse's positive attitude is strongly influenced by the good intentions of the nurse [15], [20].

Dengue fever is a disease that requires strict observation, especially in observing fluid needs, so it requires a record or complete documentation of actions [21], [22]. The nurses realize that documenting nursing care is a form of nurse's responsibility in writing what nurses do during the treatment of dengue patients. Complete nursing documentation can also be used as evidence in court and as a means of ensuring the quality of care provided [16], [23]. This is in line with similar research conducted by Aba and Hartono, who explained that even though nurses are aware of the importance of nursing documentation, time constraints, and various other factors such as the number of forms that must be filled in is inhibiting factors for nurses to complete the nursing care documentation [24].

Subjective norms are determinants of individual behavior related to social support in the formation of behavior. The results showed that nurses' beliefs about the expectations of others were in good categories, and nurses had positive thoughts in fulfilling the opinions of others, causing a great intention to document nursing. Statistical analysis also shows

that subjective norms affect the intention of nurses to establish nursing care. This result contradicts the study of Ahsan *et al*., which mentions subjective norms that are not determinants of nurse intentions in carrying out nursing documentation [16]. The expectation from the social environment, in this case, is that colleagues and leaders, toward the positive attitude of nurses, can increase the intention of nurses in documenting nursing.

Perceived control behavior is related to an individual's perception of whether or not the process of working something is easy [16]. The results showed that control belief was in the moderate category and perceived nursing in the good category. The statistical analysis states that Planned Behavior Theory has no significant effect on nurses' intention in documenting nursing care. This is contrary to research by Laili *et al*., which says that Planned Behavior Theory has a substantial impact on intention [25]. This condition can occur because of the knowledge possessed by the nurses. Knowledge can be learned through formal education and experience. Most respondents have a vocational nursing study background, but they are always motivated to improve their performance, including documentation of nursing care in dengue fever because they are relatively young.

Likewise, what was written by Oxyandi and Suherwin in the research results was that the performance of nurses, especially in the implementation of the nursing process, was still not following the set standard [26]. Many data in the field from the assessment process to the evaluation stage do not match the standards of nursing care. The completeness of nursing documentation is predicted due to several factors, including nurses "busyness, work experience (length of work), discipline, and education level of nurses or nurses" perceptions of the importance of writing documentation [27].

This was confirmed by Christina *et al*. in the conclusion of her research, who also found the other problems, such as the lack of the method of primary nurse assignment and medical records supervision that was not optimal, as the directive and control functions needed to be improved till the nursing care planning documentation could be more optimal [28]. This statement is corroborated by the results of research conducted by Hartati that the absence of control from the superior, whether it is the head of the room or from the field of care, makes nurses more reluctant to make sound nursing care [29].

The implications of this study can be explained based on the basic assumptions of the theory of planned change where nurses as rational individuals can use the information they get and their values and norms to determine their attitudes and behavior, especially in providing nursing care by the expectations of the patient or the patient's family. This study has limitations because it does not assess nursing actions directly but rather assesses patient's records in nursing documentation or patient medical records, so it is highly recommended

for further research to collect data. In contrast, patients are treated in the hospital to obtain and confirm more data to the nurses who do the documentation.

# Conclusion

The most important determinant of a person's behavior is the intention to behave. Nurses as rational individuals can use the information they get and their values and norms to determine their attitudes and behavior, especially in providing nursing care by the patient's expectations or the patient's family. Nurses carry out nursing care as a form of professional obligation, and its quality is determined by the nurse's intention to behave.

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