

THE INFLUENCE OF PATIENT SAFETY CULTURE MODEL TOWARD PRESSURE ULCER RISK PREVENTION IN A GOVERNMENT HOSPITAL IN BANJARMASIN

Jenny Saherna, Rina Annisa

Nursing and Health Sciences Faculty, University of Muhammadiyah Banjarmasin

Email: jenny@umbjm.ac.id

ABSTRACT

The basic purpose of bedrest for the patient supposed to the patients lies on the back in the bed for 24 hours to minimize all the patient's organ system. The unsafety behavior, careless, lack of attention or motivation from the nurses to the patients can cause adverse event, such as pressure ulcer for the patients. Patient safety culture model for the nurse is better to decrease the number of accidents, the failed and also to optimally the service to the patients. The purpose of this study focused to examine the influence of patient safety culture model toward pressure ulcer risk prevention. This field research is mixed methods research model sequential explanatory. It used total sampling technique of 102 nurses in the five wards and quota sampling to select 3 informants from the patient culture control team in a Government Hospital. Multiple linear regression analyses were performed to identify quantitative data. Semi-structured guide in-depth interview used to collect the qualitative data. The summary of multiple linear regression analysis of all independent variables indicated that perceptions of patient safety were the most influential indicator to pressure ulcer risk prevention. The in-depth interview also indicated nurses' perceptions of patient safety as an important factor that influences incident reporting, resources, and patient involvement as important factors that influence patient safety culture application on pressure ulcer risk prevention.

Key Words : Patient Safety Culture Model, Pressure Ulcer Risk

Introduction

The security and safety is a basic need that becomes the priority. The patient safety culture plays the important role for health nursing organization to increase the patient's safety (Chen & Li, 2010; Ulrich & Kear, 2014). The hospital accreditation standard focuses on patient safety, patient safety, good governance, and MDGs, with 80% standard content is patient safety (Swensen, Dilling, Mc Carty, Bolton, & Harper Jr, 2013). That policy needs continuously effort and focuses on every health nursing member to repair and develop the patient safety culture (Budihardjo, 2008).

World Health Organization (WHO, 2011) records that one of ten patients had got injured when he got health service in developing country, adverse event as the inpatient is 3-16%. The adverse event in /new Zeland was reported 12,9% from inpatient number, the adverse event in England was reported for 10,8%, In Canada was

reported 7,5%. Joint Commission International (JCI) was also reported that the adverse event was about 10% in The United Kingdom, 16,6% in Australia (Swensen et al., 2013). More than 23,3% incident of patient safety violation was done by the nurse, but the patient safety data about near miss and adverse event in Indonesia is rarely to report. One of the incidents that are rarely to report is pressure ulcer (Yusuf et al., 2012)

The insecurity behavior, careless, lack of attention or motivation from the nurses to the patient can cause an adverse event of pressure ulcer for the patient. The pressure ulcer incident in Indonesia is 33,3%. This number is higher if we compare with the pressure ulcer incident in ASEAN that only about 2,1-31,3 % (Yusuf et al., 2012). Bawelle (2013) said that all of the patient safety programs have done, but the problem in the field refers to patient safety concept. It is because even though the patient has ever participated in

the socialization, but the number of accident and prevalence of pressure ulcer is still mazy. It is because of the difference of methodology, sample, clinical setting, and other variables.

Each service unit has the difference of the large risk potential. A lot of hospitals apply safety system, but in fact, there is still adverse event happen. Even though the system can be done well, the adverse event can be pressed minimally. But the fact shows that the system can not be done optimally if the competency and the culture do not support (Agency for Healthcare Research and Quality, 2016; Budihardjo, 2008; Wagner, Smits, Sorra, & Huang, 2013).

The application of patient safety culture in decreasing adverse event as has explained, it makes the researchers interested in doing the research about the influence of patient safety culture model toward pressure ulcer risk prevention in a government hospital in Banjarmasin.

Methodology

This research is field research with mixed methods research with the sequential explanatory model. There were 105 nurses as the informants. There were 102 nurses from ICU room, Surgery room, Orthopedic, Neurology and Stroke Centre as the sample. They were taken as the total sampling technique.

The researchers also took 3 nurses as quota sampling technique. They were as the nurses for

patient safety tackling team. The research instruments were the questionnaire that adopted from The Agency for Healthcare Research and Quality (AHRQ) survey, semi-structural interview, observation, and field documentation.

The first stage, all the collected data was done the hypothesis test. It used multiple linear regression to examine the influence of the element of patient safety culture model with ulcer risk prevention. The next stage, it was done in deep interview to the informan to examine the factor that caused the element of patient safety culture influenced toward ulcer risk prevention. Beside that, it also was done field observation and checked the document that relate to patient safety. It was for increasing the understanding of the object that was researched and showed it as the researcher finding.

Results

The result of the research showed that the informants characteristic were 41,0% informants who work in ICU room, 51,0 % informants were permanent nurses' hospital, 40,2% informants work at the hospital more than 9 years, 27,5% informants stay at ward now. They have worked for 7 until 9 years there, and only 66,6% informants said that the duration of their work is appropriate of the standard. It is between 20 to 30 hours/week, and other reported that their working hour is more than the total number above.

Table 1. Multiple Linear Regression for Single Set of Predictors:
Model Summary and Coefficients

| Variables | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------------------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| Constant | 5.160 | 1.753 | | 2.944 | .004 |
| Communication Openness | -.042 | .094 | -.044 | -.446 | .656 |
| Feedback and Communication | -.300 | .067 | -.570 | -4.486 | .000 |
| Frequency of Events Reported | .090 | .064 | .151 | 1.404 | .164 |
| Handoffs and Transitions | .011 | .045 | .024 | .247 | .805 |
| Hospital Management Support | -.027 | .089 | -.036 | -.304 | .762 |
| Nonpunitive Response to Error | -.024 | .050 | -.039 | -.473 | .638 |
| Organizational Learning | .173 | .081 | .207 | 2.140 | .035 |
| Perceptions of Patient Safety | .331 | .082 | .418 | 4.042 | .000 |
| Staffing | .067 | .058 | .117 | 1.157 | .250 |
| Supervisor Expectations | -.045 | .082 | -.051 | -.554 | .581 |
| Teamwork Across Units | -.047 | .091 | -.049 | -.516 | .607 |
| Teamwork Within Units | -.228 | .085 | -.315 | -2.674 | .009 |

R = 0.685, R Squared = 0.433, p = 0.05, N = 102

Dependent variable: pressure ulcer risk prevention

Table 2. Results of Multiple Linear Regression for Single Set of Predictors: ANOVA

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|-------|-------|
| Regression | 90.528 | 12 | 7.544 | 5.673 | .000b |
| Residual | 118.344 | 89 | 1.330 | | |
| Total | 208.873 | 101 | | | |

Predictors: communication openness, feedback and communication, frequency of events reported, handoffs and transitions, hospital management support, nonpunitive response to error, organizational learning, perceptions of patient safety, staffing, supervisor expectations, teamwork across units, teamwork within units.

Summary of the linear combination of the independent variables (communication openness, feedback and communication, frequency of events reported, handoffs and transitions, hospital management support, nonpunitive response to error, organizational learning, perceptions of patient safety, staffing, supervisor expectations, teamwork across units, teamwork within units) indicates that those variables were significantly related to the dependent variable (pressure ulcer risk prevention), $R = 0.685$, $R^2 = 0.443$, $p = 0.05$. An estimation of 43.3% of the variance of pressure ulcer risk prevention was correlated with patient safety culture model, the perceived communication openness, feedback and communication, frequency of events reported, handoffs and transitions, hospital management support, nonpunitive response to error, organizational learning, perceptions of patient safety, staffing, supervisor expectations, teamwork across units, teamwork within units. There are 56.7% of the variation can not be explained through this model which means that there are other factors that might be able to influence pressure ulcer risk prevention (This is shown in Table 1).

Based on the independent t test and the significance of level indicated in table 1, the measures of patient safety culture model predictors, communication openness (t statistic = -4,446, $p > 0,05$), frequency of events reported (t statistic = 1,404, $p > 0,05$), handoffs and transitions (t statistic = 0,247, $p > 0,05$), hospital management support (t statistic = -0,304, $p > 0,05$), nonpunitive response to error (t statistic = 0,473, $p > 0,05$), organizational learning (t statistic = 2,140, $p > 0,05$), staffing (t statistic = 1,157, $p > 0,05$), supervisor expectations (t statistic = -554,

$p > 0,05$), teamwork across units (t statistic = -516, $p > 0,05$), teamwork within units (t statistic = -2674, $p > 0,05$), have not significantly correlation to the pressure ulcer risk prevention. On the other hand, there were significant positive correlation between patient safety culture model and pressure ulcer risk prevention, indicated by feedback and communication (t statistic = -4,486, $p < 0,05$) and perceptions of patient safety (t statistic = 4,042, $p < 0,05$). Overall, perceptions of patient safety was the highest t test result that contribute to be the strongest indicator of the twelve indicators of pressure ulcer risk prevention.

The ANOVA test in Table 2 showed that the F statistic (411.82) was greater than F table (1.85), the p-value of the model was 0.000, which is lower than the significance level (0.05), F statistic test was proved to be significant. This result also indicates that the proposed model might well describe the correlations of all independent variables to the dependent variable. Furthermore, the result also supports that all independent.

The conclusion of the interview with all of the informants are important to the understanding and the same point of view relate to the patient's safety perception in ulcer risk prevention between nurses, doctor and other team in the hospital. All of the simple basic treatment can minimize the incident that was not expected to the patient.

"... the immobile patients, post operation also in the wards, must do mobilization by helping of the nurse.." (I3)

"...the continuous pressure cause of the length of bed rest will be ulcer ... on the bed rest treatment less gets mobilization..." (I1)

"...firstly the management itself, SOP must be clear...Human resources, the nurse itself must have skill....it is called awareness...but

when they have orientation, we have pointed. We must do prevention when the patient is unconscious, such as tilt to the left, tilt to the right, using air mattress....(12)

The application of the first detection treatments and ulcer risk prevention must be done seriously. It involves all components and units in the hospital. The controlling from the first time when the patient comes to out of the hospital becomes the important benchmark and create the quality culture. It must be supported in reporting and suggestion about the importance of knowing the patient's indication.

“caring to all, caring from the first gate of emergency...to the wards...(12)”

“...there is a teamwork...always reminds the importance of patient safety...the official has a big role or in this case, the nurse, to care or to meet the patients once in 24 hours for one caring or if they have 7 days for their duty so it 7 x 24 hours..”

There must be cooperation and communication between nurses' teamwork, the leaders of the team, the supervisors and the head nurses when having treatment in the ward. It is for analyzing the patient's condition. That activity is for more prevention.

“...the communication between nurses, between shift is very important for the patient who has long bed rest...” (13)

“...There are full of the officials in the morning... it is unbalanced with the afternoon shift to night shift, so sometimes it becomes their reason to forget in doing mobilization...(11)

“The monitoring from the supervisor or the leader of the room to their discipline.....maybe from the human resource itself, there is morning, afternoon, and night duty, maybe we are careless..” (12)

The feeling of afraid in giving incident report also became a problem that was described by the informants. They thought that it didn't need to be afraid because it needs to be done is the evaluation to increase the strategy and safety treatment on the next stage.

“...there is still reluctant to report the incident, even though by the reporting can become evaluation...” (12)

....there is reluctant to report the incident....whereas by reporting, it can be evaluation...our survey on the field, it decreased the number of ulcers, there were the ulcers in the past, but it starts to decrease.... In the latest 2 months ...(11)

Discussion

The communication openness have not significantly influence to ulcer risk prevention. The openness and communication are as a key to give health service well. The communication between doctor and doctor, nurse and nurse is very needed in the effort of the patient's recovery. That is as a neglected thing. According to Alqattan, Cleland, & Morrison, (2018); Wagner et al., (2013), it must be increased optimally to develop first working atmosphere well.

influences significantly toward ulcer risk prevention. Feedback response to unexpected incident runs well, the problem gets respond soon to find the best solution by supervisor, the leader of the room, patient safety team, also quality control management of the hospital (Chen & Li, 2010; Wami, Demssie, Wassie, & Ahmed, 2016).

The frequency of events reported have not significantly influence toward ulcer risk prevention. The reporting of incidence is a way to invite all of the parties to care about the threat to the patient. It is used to monitor the prevention effort of error and to increase the hospital quality. Ulrich & Kear (2014) it depends on trust culture, honesty, integrity, and openness communication in the nursing care system. That is the same idea of Habib, Lawati, Dennis, Short, & Abdulhadi (2018); Smits et al. (2018). The right and clear information from the reporting system, risk assessment, incident study, audit, and analysis are used to decide the problem solution.

Handoffs and transitions have not influence significantly toward ulcer risk prevention. Handoffs and transitions between the hospital management about patient care with the room and the nurse don't run optimally. The system and culture of the complex organization in patient transmission influence to patient safety (Birmingham & Buffum, 2016; Wagner et al., 2013).

Hospital management support have not significantly influence to ulcer risk. The hospital has taken out the policy relates to the patient safety and enforce standard operation procedure relates to the ulcer, but the implementation is on the nurse who gives the health care to the patient. The nurse involves more in caring the patient so she must increase caring attitude in the treatment and communication. The effective communication, the high awareness of patient's safety value go back to the application of the treatment. What a good policy that had been taken, without good implementation, the result will not be maximal (Jia et al., 2014; Liu, Liu, Wang, Zhang, & Wang, 2014).

Nonpunitive response to error have not significantly influence toward ulcer risk prevention. The blaming culture between nurses and be afraid of the incident that isn't expected still finds. That reporting is followed up to repair the mistake, the reporter is just enough to report the problem, find the way out, don't point who is the perpetrator. The nurse peers and management need to see the individual's mistakes. It must be given attention with approach system and human understanding factor by having coaching and revamping (Wami et al., 2016).

Organizational learning has not influence the ulcer risk prevention. The hospital has efforted to increase the patient safety, do the evaluation on the mistakes field. It also needs the support from all parties. It doesn't only responsible for patient safety, but it is also a part that must be done together. There are organizational learnings that haven't run yet in all hospital unit so it still finds the unexpected incidence. (Alqattan et al., 2018; Wagner et al., 2013).

Perceptions of patient safety significantly influence to ulcer risk prevention. A lot of parties think that patient safety is the important thing and urgent to be implemented. The willingness to develop that climate with the same perception becomes the basic suppose to all treatment refers to the security and the safety need. According to Bondevik, Hofoss, Hansen, & Deilkås, (2014); Smits et al., (2018); Thulth & Sayej, (2015) the nurses have the most dominant role to prevent the mistake in medication, including the incident report, self-learning and other people to do safety.

Staffing have not significantly influencing ulcer risk prevention. The adequate of the total number of nurses must be accompanied by the effort of increasing patient safety care. Ideally, someone who has experienced is better in doing the duty because he has trained. But, it must be followed by an effort to increase oneself as the progress and the complexity of service development. That effort is done to minimize the incident that is not expected, lack of performance or service quality that can disturb the patient's interest (Alqattan et al., 2018; Annisa & Wicaksono, 2017; Brewer & Verran, 2012; Jia et al., 2014).

Supervisor expectations was not significantly influenceing ulcer risk prevention. Unoptimally assessment and measuring the effectiveness of patient safety in ward care, trigger the cavity toward patient safety culture in the hospital and the patient security aspect. Besides that according to Lin, MacLennan, Hunt, & Cox (2015); Ulrich & Kear (2014); Annisa (2017), the supervisor work unit must be active to report every incident to happen. The patient condition who is a very risk also needs to be prevented and be done by taking a note about repairing the governance room.

The teamwork across units and also the teamwork within units don't influence significantly toward ulcer risk prevention. The personnel coordination in a unit runs well generally, helps each other to finish the duty so it can increase each unit performance. Even though there are some risk incidents that sometimes have less communication. It also happens with the communication between nurses in a room, endorsement between shift that has not done over hand in every shift. It is the same idea with Fujita, Seto, Kitazawa, Matsumoto, & Hasegawa, (2014); Thulth & Sayej, (2015) that an indifferent feeling to the unexpected possible incident.

Conclusion

The summary of multiple linear regression analysis of all independent variables indicated that perceptions of patient safety were the most influential indicator to pressure ulcer risk prevention. The in-depth interview also indicated nurses' perceptions of patient safety as an important factor that influences incident reporting, resources, and patient involvement as important

factors that influence patient safety culture to pressure ulcer risk prevention.

The patient safety policy has not guaranteed yet to the good implication of patient safety. It needs the supporting of willingness and desire to change from all the people who involve in hospital service. So, the intervention by giving openness communication, cooperation and exchange idea between nurse and patient safety team are very needed to increase patient safety culture in ulcer risk prevention.

Acknowledgment

This research was conducted under the cooperation between the University of Muhammadiyah Banjarmasin in the supervision of Research and Community Service Bureau, University of Muhammadiyah Banjarmasin (LP2M-UM Banjarmasin) and Directorate of Research and Community Service (DRPM-DIKTI) implementation in 2018. The research team was conveying great gratitude to the Director General of Higher Education (DIRJEN-DIKTI), who was supporting this research in their program in 2018.

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