

# Implementation Of Surgical Patient Safety By Nurses In Hospital

**Nian Afrian Nuari**  
Nursing Departement  
STIKES Karya Husada Kediri  
Kediri, Indonesia  
[nian.afrian@gmail.com](mailto:nian.afrian@gmail.com)

**Sony Susanto**  
Civil Engineering Department  
Kadiri University, Kediri  
Kediri, Indonesia  
[sonysusanto@unik-kediri.ac.id](mailto:sonysusanto@unik-kediri.ac.id)

## Abstract

Surgical patient safety is a global issue that is currently widely reported patient demands for medical errors that occur in patients. The nurse is an important part in carrying out surgical patient safety because as part of the team in the surgical room. The purpose of this research is to analyze the application of surgical patient safety in hospital. The research design used was an analytic correlation with the cross sectional approach with the sample of nurses of Surgical Room of RS "X" and "Y" in City "A" as many as 48 people with total sampling technique. Data were collected using questionnaire and observation checklist and then data were analyzed using Spearman Rho. There was a significant positive correlation between age, education level, work experience, knowledge, attitude, work culture and motivation with the application of surgical patient safety by the nurse. While the gender factor has no correlation with surgical patient safety by nurses. Implementation of surgical patient safety in addition to individual factors there is several other factors that play a role such as age, education level, work experience, knowledge, attitude, work culture and motivation. Therefore, its application needs to be improved with the formulation of special policies on documenting surgical patient safety to improve the quality of service.

**Keywords :** Patient Safety, Surgical Room, Nurse, Hospital

## 1. Introduction

Surgical patient safety is the most important global issue right now, it is now widely reported the patient's demands for medical errors that occur in patients. Nurses have an crucial role in the implementation of patient safety. The performance of nurses has contributed to the implementation of quality nursing care so as to develop a patient safety culture in the hospital (Moody, Pesut, & Harrington, 2006). Nurses have a duty in socializing patient safety in patient care environment. Patient safety becomes an important role in providing effective and quality nursing services (Armellino, Quinn Griffin, & Fitzpatrick, 2010).

Patient safety is a matter of great concern in the hospital because it is able to provide quality services including risk assessment, identification and management of issues related to patient risk, incident reporting and analysis, incident and follow-up learning abilities and implementation of solutions to minimize risks and prevent injury caused by errors resulting from an action or not taking action that should be taken (WHO, 2008). In the patient's safety there is a term of patient's safety incident, here in after called incident, any unintentional incident and

conditions that result or potentially result in patient-preventable injuries, consisting of Unexpected Occurrences, Nearly Injured Occurrences, Genesis No Injury and Potential Injury Event (Depkes, 2008)

The surgical room is a unit that provides a surgical process that contains many risks and the number of cases of accidents in the operating room is very high, if the implementation does not pay attention to the patient, patient preparedness, the procedure then the patient will be injured. The surgical room is a nurse work area that requires the competence of a good patient safety implementation as an indicator (Boltz, Capezuti, Wagner, Rosenberg, & Secic, 2013). Less effective communication is a common reason for faults in the operating room, as well as during pre-and postoperative care.

The most contributing factor to these errors is the absence or lack of standardized pre-surgical processes. If the only discipline is applied then work accidents, operational failures and other problems concerning patient safety can undoubtedly be reduced. This is then known as the verification process, Sign In, Time Out, Sign Out for patients who will undergo surgery. There are 3 stages to look again the condition of the patient during the operating room environment. Sign In, is the first verification for a moment the patient arrives in the reception room or the preparation room. the check list is also required to confirm the location (site marking) on the body to be manipulated by surgery. Where, left or right, front or back and confirmation of equipment readiness and how anesthesia will be used. In the advanced stages, verification is performed when the patient is ready on the operating room already in the anesthetic state, where the anesthesia team is on alert and the surgical team has been in a sterile position, this phase is called Time Out. Shortly after the completion of the operation, before the patient is removed from the surgical room, reassured will be some things concerning the name of the procedure that has been done is known as patient safety.

Patient safety solutions are systems or interventions made, as well as preventing or reducing injury to patients from the health-care process in the Operation Room. Ensure correct action on the right side of the body to avoid deviations that should be prevented. Cases with the erroneous procedure or wrong side of the wrong side surgery are the result of miscommunication and the absence of information or information not before, this procedure is called the Sign Out stage. Based on that in the hospital has been applied prevention of injury to patients who will run the operation by enacting verification or sign in and time out and sign out. Socialization has been conducted on all involved teams ranging from medical personnel and paramedics. Success in the implementation of course there must be agreement and discipline in implementing the policies implemented by the Hospital. Based on the background, the purpose of this research is to analyze the factors of surgical patient safety implementation by the nurses in the hospital.

## **2. Methodology**

The sample in this research is all nurses operating room of Hospital "X" and "Y" in town "A" counted 48 respondents by using total sampling, that is with all population used as research sample counted 48 respondents. Nurses are divided into assistant nurses, instrument nurses, circulating nurses or on loops. This research was done during January 2017 - March 2017, at Surgical Room Hospital X and Y in the Town A, Indonesia. The research design used was an analytic correlation with the cross sectional approach.

### **2.1 Questionnaire Design and Data Collection**

Data collection at Operating Room in Hospital X and Y in the Town A by distributing questionnaires directly to respondents by signing informed consent. Nurses consist of assistant nurses, instrument nurses, circulating nurses or on loops. Data collection on knowledge, attitude, work culture and motivation is done by filling out the questionnaire. Data collection about the implementation of surgery patient safety, the researchers gave a check mark on the observation sheet and made direct observations to the respondents without the knowledge of the research respondents. After the questionnaire in the content, the researcher checks the completeness of the questionnaire filling. Then the questionnaires were collected at the researcher for processing and data analysis. The implementation of ethic feasibility is carried out in accordance with the procedure by conducting ethical feasibility test at the relevant institution. The execution of data retrieval under the protocol of Hospital X and Y ( Management Board Approved). All respondents in this study do inform consent procedurs.

## 2.2 Data Analysis Method

Research data were analyzed by descriptive statistic and Bivariate analysis. To know the relation of factors such as gender, age, education level, work experience, knowledge, attitude, work culture and motivation with the application of surgical patient safety done by a statistical test of Spearman Rho (0,05).

## 3. Result

Based on table 1, it was found that the majority of the gender of nurses in this study were male. Male nurses are found in operating rooms in several hospitals. The most frequent age of Nurse in this study was 31-40 years of age with a nursing diploma education background. Most of the operating room nurses have had a 6-10-year work experience shown in Table 1. However, nurses with more than 10 years of work experience were found to perform better surgical patient safety as shown in Table 2.

Table 1: Descriptive Results

Variable	Category	F	%
Gender	Male	30	62,5
	Female	18	37,5
Age	20-30 years	2	4,2
	31-40 years	26	54,2
	41-50 years	12	25
	>50 years	8	16,7
Education Level	Nursing Diploma	28	58,3
	BSN	20	41,7
Work Experience	1-5 years	6	12,5
	6-10 years	28	58,3
	>10 years	14	29,2
Knowledge	Well	20	41,7
	Enough	28	58,3
	Low	0	0
Attitude	Positive	36	75
	Negative	12	25
Work Culture	Well	28	58,3
	Enough	20	41,7
	Low	0	0
Motivation	Enough	25	52,1
	High	23	47,9
Surgery patient safety implementation	Well	40	83,3
	Enough	8	16,7
	Low	0	0

Table 2. Crosstab Results

Category		Surgical Patient Safety Implementation		Total
		Enough	Well	
Gender	Male	6	12	18
	Female	2	28	30

Age	20-30 years	0	2	2
	31-40 years	6	20	26
	41-50 years	2	10	12
	>50 years	0	8	8
Education Level	Nursing Diploma	8	20	28
	BSN	0	20	20
Work experience	1-5 years	4	2	6
	6-10 years	4	24	28
	>10 years	8	40	48
Knowledge	Well	8	20	28
	Enough	0	20	20
Attitude	Negative	6	6	12
	Positive	2	34	48
Work Culture	Enough	8	12	20
	Well	0	28	28
Motivation	Enough	8	17	25
	High	0	23	23

A good nurse's knowledge can contribute to the implementation of surgical patient safety, while the positive attitude of the nurse is also related to the implementation of a good patient surgical safety as shown in table 2. Nurses who have a good working culture are found to have good surgical patient safety implementation. It is also found in highly motivated nurses who will be able to perform a good patient safety surgery shown in table 2.

#### 4. Hypothesis Testing

Table 3. Analysis Result

Correlation Variables	N	P-Value	CC
Gender - Surgical Patient Safety Implementation	48	0,016	0,346
Age - Surgical Patient Safety Implementation	48	0,304	0,151
Education Level - Surgical Patient Safety Implementation	48	0,008	0,378
Work Experience - Surgical Patient Safety Implementation	48	0,001	0,458
Knowledge - Surgical Patient Safety Implementation	48	0,007	0,377
Attitude - Surgical Patient Safety Implementation	48	0,000	0,516
Work Culture - Surgical Patient Safety Implementation	48	0,000	0,529
Motivation - Surgical Patient Safety Implementation	48	0,002	0,429

Based on the Table 3, there is a significant correlation between age, education level, work experience, knowledge, attitude, work culture and motivation with surgical patient safety implementation by nurses. While the age factor has no relationship with surgical patient safety by the nurse.

## **5. Discussion of Results**

### **5.1 Gender**

From the results of this research found that there is no correlation between Gender and the application of surgical patient safety as shown in Table 3. This proves that neither nurses nor males have significant differences in carrying out a surgical patient safety checklist. Both male and female nurses are able to apply surgical patient safety checklist. This is in accordance with the findings that sex does not have a relationship with the empowerment of someone in the behavior (Nuari, 2014).

### **5.2 Age**

Age factor also affects the maturity of one's mindset so as to affect one's knowledge. Like table 1 shows that the average respondent aged 31-40 years is 54.2%. Memory is influenced by age (Notoatmodjo, 2012). Age affects the ability to catch and the mindset of a person. Easier age will be easier to concentrate and focus on completing the job.

### **5.3 Education Level Age**

Educational factors also affect the knowledge of respondents as shown in Table 3. Of all respondents who have nursing Diploma education as much as 58.3% and 41.7% educated undergraduate of nursing (Bachelor of Nursing). In general, the higher the level of education a person will be the better the knowledge. The higher the education level of a person, the easier it receives the information so the more it receives the knowledge it possesses. Although the majority of respondents have Diploma in Nursing their knowledge is good. This is due to work experience in the operating room long enough. With more experience with daily routine, knowledge about surgery safety patient is very good. Although a person has a low education if he gets good information then it will be able to increase one's knowledge. The intellectual ability owned by individuals will affect ability individual acceptance of something. Individuals will be more mature of the change process in him so much easier received positive external influences so that readiness to change good (Nuari, 2016). Every nurse working in the operating room has, at some level, received information both directly from colleagues and through training primarily associated with surgical patient safety in the operating room.

### **5.4 Work Experience**

Work Experience is also one of the factors that influence the knowledge of nurses. Like table 1 shows, most of the old nurses worked 5 years and above or less than 10 years old and some worked longer than 10 years. The working period is an individual experience that will determine growth in the work. A lot of work experience will tend to make someone feel at home in an organization this is because having adapted to the environment so that will feel comfortable in its job. Patient safety incidents are reported to occur in the surgery room so that the patient's safety improves greatly (Shu et al., 2015).

### **5.5 Knowledge Of Surgical Patient Safety**

Based on the result as shown in Table 1, that most 58,3% of respondent have enough knowledge about surgical patient safety in the surgical room and 41,7% have good knowledge. Information obtained from both formal and nonformal education can have immediate impacts resulting in changes or increased knowledge. Information will give effect to one's knowledge.

This is in accordance with the theory that the formation of new behaviors, especially in adults can be explained as follows: begins from the cognitive domain that individuals know about the stimulus in the form of objects that generate new knowledge to the individual (Notoatmodjo, 2012). Then affective domain that arises inner response in the form of the attitude of the individual to the object that is known, ending in a psychomotor domain that is the object that has been known and fully realized that eventually a generate response in the form of action. Knowledge-based behaviors are generally lasting (Notoatmodjo, 2012). Human behavior is influenced by two factors, namely internal factors and external factors. Internal factors include the knowledge, attitude and motivation as has been explained that one's behavior will be lasting if based on knowledge. So with the knowledge and understanding of surgical patient safety in the operating room owned by nurses will have an impact on the implementation of nurses in surgical patient safety in the

operating room. The better one's knowledge is mainly related to surgical patient safety in the operating room, then the implementation of surgical patient safety in the operating room will be better too. If we know about the importance of surgical patient safety in the operating room and the impact of not doing so then someone is definitely trying to carry out surgical patient safety properly and according to the standard. So that a person's knowledge will affect the action that will do. Nurse knowledge is the most predicting factors affecting independent nursing action.

This research is supported by Notoatmojo theory which states with high knowledge, as one is expected to behave well. Where the level of knowledge a person is the process of acceptance, new behavior, in the sense people know in advance to the stimulus in the form of material. Behavior based on knowledge will last long, on the contrary behavior that is not based on knowledge hence expected behavior does not last long, on the contrary behavior that is not based on knowledge hence expected behavior does not last long. With high knowledge, a person or nurse is expected to behave well. Relation of nurse knowledge level about patient safety with adherence of implementation of principle of giving medicine in prevention medication error in "S" hospital with result of research there is significant relation between level of knowledge about patient safety with compliance implementation of the principle of drug administration in the prevention of medication error. Surgical nurses have good competence in maintaining patient safety during surgery as they are equipped with special training (Alfredsdottir & Bjornsdottir, 2008). The patient's safety performance behavior has a close relationship with the educational background (Mansour, 2015).

## 5.6 Attitude

Like table 1 shows the attitude of operating room nurses in the implementation of surgical patient safety in the surgical room is mostly 75% have a positive attitude and only 25% of respondents have the negative attitude in the implementation of surgical patient safety in the surgical unit.

Attitudes as certain regularities in terms of feelings (affections), thinking (cognition) and predisposing a person's actions to an aspect of the surrounding environment (Azwar, 2011). The existence of variation of attitude in the implementation of surgical patient safety in the surgical room can be influenced by several factors such as experience, others that are considered important, mass media, institution or educational institution and religious institution, and emotional factor in individual (Azwar, 2011). Meanwhile, the determination of an attitude aspects of knowledge, aspects of thinking, belief and emotion plays an important role (Notoatmodjo, 2012). From the various aspects mentioned above, the knowledge factor is one factor that is quite instrumental in determining one of the main components of an attitude. The attitude of operating room nurses in the implementation of surgical patient safety in the majority surgical room that is 75% of respondents have a positive attitude. This can be influenced by several factors including the level of education, experience and information about the implementation of surgical patient safety in the operating room itself.

In addition to education, information can also influence the attitudes of respondents. A knowledge will lead to a belief that is the basis of the formation of an idea of knowing the nature or general characteristics of an object of attitude. Once trust is formed it will be the basis of one's knowledge of what can be expected from the object of attitude. If someone has a good knowledge then one's attitude will also be better so expect to have good behavior as well. Knowledge can be obtained from information-information obtained either formally or through the mass media.

In addition to educational and information factors, the respondent's experience also influences the attitude of respondents in the implementation of surgical patient safety in the surgical units. One's experience will also affect one's attitude and one's actions. To be able to have a response and appreciation one must have experience related to a psychological object. Conversely with a little experience then in taking an attitude in doing a particular action is also less good so that will result in less good behavior as well. The results showed that respondents had a working mass of 6-10 years ie 58.3% of respondents and 29.2% of respondents worked more than 10 years.

This is in accordance that factors that can influence attitudes include experience (Azwar, 2011). Experience can form the basis of forming a strong attitude when it comes to a strong impression and occurs in situations involving emotions. Notoatmodjo also mentions that experience is the best teacher .. Given the

good knowledge of a person's attitude will also be positive. Therefore, personal experience can be used as an effort to gain knowledge so that it has a positive attitude. Attitude is a reaction or response that is still closed from someone to a stimulus or object (Notoatmodjo, 2012). Attitude is also a readiness or willingness to act and is also the implementation of certain motives. Attitude is a tendency to respond positively or negatively to others, objects or situations. Attitudes are not the same as behavior and sometimes the attitude is only known after a person is behaving. But attitude is always reflected in one's behaviour. Based on the research, the attitude of the respondents showed that attitude greatly affects one's behavior. This is also in line with theory of behavioral change, in which a person behaves because there are 4 main reasons, namely knowledge, beliefs, attitudes, and important people. Attitude describes likes or dislikes of objects.

## 5.7 Work Culture

More than half of 58.3% of respondents have a good working culture in the implementation of surgical patient safety in the surgical room and 44% have a sufficient work culture in implementing surgical patient safety as shown in Table 1. There are several factors causing nurse work culture in the implementation of patient surgical safety, among others, communication where good communication, accurate about the job sound will affect the motivation and performance of the nurse. The second factor is training and development, it is predicted when the nurse is followed by increased knowledge and skills will become a valuable asset for the room. Therefore, operating room nurses should be given the opportunity to continue to participate in training or workshops related to operations in the operation room. The rewards also affect the work of an organization. It is clear that every job with a heavy workload, if followed with appropriate rewards then the work culture will be good. Another factor is the cooperation between teams in a single room operating room. Activities in the operating room is a solid team activity, if one team does not have a good work culture, it does not demand the performance of other friends will decrease.

In addition to the above factors, the experience will also affect the attitude of nurses to the culture in carrying out surgical patient safety in the surgical unit. Based on the data show that almost half of 44% of respondents have a working mass of 6-10 years and more than 10 years of 28%. Duration of work and experience will influence the attitude and skill of nurse in doing surgical starch safety in operation room. Nurses who already have a lot of experience about what to do in the operating room, usually consciously they will perform in accordance with operational standards. It is also supported by the decision maker in this case the head of the room will give the behavior and a good example then the bottom will be entrusted in doing surgical starch safety in the operating room.

The work culture has several components, namely the articles of work, attitudes toward work, behavior when we work, work environment and work tools and work ethic. Work culture is a pattern of behavior inherent as a whole in each individual in an organization. Building a culture means improving and sustaining the positive side, and trying to get used to certain patterns of behavior to create a new form better (Nawawi, 2006). Dimensions of the patient safety culture relates to values, trust and behavioral norms by nurses in performing patient safety indicators (Feng, Bobay, & Weiss, 2008).

In an organization that has a good work culture in accordance with operational standards, it will lead to behavior that is used and done repeatedly. So if the team has a good culture in surgical patient safety in the surgical room, then inevitably in the team all nurses carry out surgical patient safety well. It can be concluded that the work culture of the nurses is closely related to the behavior or the implementation of surgical patient safety. Someone who has a good work culture then can achieve a good job satisfaction. Job satisfaction is a feeling of love or satisfied of the work that is experienced by the individual. This has an impact on the sustainability of the health services and hospital (Nuari, 2016).

## 5.8 Motivation

More than half of 52.1% of respondents have the motivation that is in the implementation of surgical patient safety in the surgical room and 47.9% have high motivation as shown in Table 1. Motivation is an

attempt to generate stimulation, encouragement and / or power generation in a person and or a group of people nau do and cooperate optimally implement something that has been planned to achieve goals that have been set (Azwar, 2011). This implies that the operating room nurse has both external and internal motivation when performing its work. Motivation owned by nurses will have an effect on the productivity of their work.

High motivation can change a person to do his job well so that will also apply surgical patient safety. Nurses who have high resilienc and high work motivation will tend to overcome various problems in life, it encourages someone to do his work without the burden and without stress (Nuari, 2017). Based on other studies found that patient safety is related to nursing workload. This is evidenced by the less nurses workload, the better the application of patientt safety (Magalhaes, Dall'Agnol, & Marck, 2013). The quality of the nursing practice environment is also associated with patient safety. The better the quality of nurse work environment and nurse leadership in a hospital has a close relationship with the implementation of patient safety so as to reduce burnout (Spence Laschinger & Leiter, 2006). Patient safety climate in the hospital is in need of commitment from hospital managers and team nurses in implementing patient safety in hospital work environment (Hughes, Chang, & Mark, 2009). Patient safety is very important in indicator nursing accreditation level. Nurses should always improve competency, professional capabilities, knowledge and skills in implementing patient safety. This requires the support of health services managers to realize a good patient safety level (Teng et al., 2012).

## 6. CONCLUSIONS

Based on the research, there is a significant positive correlation between age, education level, work experience, knowledge, attitude, work culture and motivation with surgical patient safety implementation by nurses. While the gender has no correlation with surgical patient safety by the nurse. Implementation of surgical patient safety in addition to individual factors there is several other factors that play a role such as leadership, infrastructure and environment. Therefore, its application needs to be improved with the formulation of special policies on documenting surgical patient safety to improve the quality of service.

## ACKNOWLEDGMENT

The author gratefully acknowledge to STIKES Karya Husada Kediri for many support and valuable suggestions for this paper.

## REFERENCES

- Alfredsdottir, H., & Bjornsdottir, K. Nursing and patient safety in the operating room. *Journal of Advanced Nursing*, 61(1), 29–37, 2018.
- Armellino, D., Quinn Griffin, M. T., & Fitzpatrick, J. J. Structural empowerment and patient safety culture among registered nurses working in adult critical care units. *Journal of Nursing Management*, 18(7), 796–803, 2010.
- Azwar. *Sikap Manusia : Teori dan Pengukuran, Ed. 2*. Yogyakarta: Pustaka Belajar, 2011.
- Boltz, M., Capezuti, E., Wagner, L., Rosenberg, M.-C., & Secic, M. Patient Safety in Medical-Surgical Units: Can Nurse Certification Make a Difference? *MEDSURG Nursing*, 22(1), 26–37, 2013.
- Depkes. *Panduan Nasional Keselamatan Pasien Rumah Sakit*. Jakarta, 2008
- Feng, X., Bobay, K., & Weiss, M. Patient safety culture in nursing: A dimensional concept analysis. *Journal of Advanced Nursing*, 63(3), 310–319, 2008
- Hughes, L. C., Chang, Y., & Mark, B. a. Climate on Medical – Surgical Units. *Health Care Manage Review*, 34 (March), 19–28, 2009.
- Magalhaes, A. M., Dall'Agnol, C. M., & Marck, P. B. Nursing Workload and Patient Safety: A mixed method study with an ecological restorative approach. *Rev Lat Am Enfermagem*, 21 Spec No, 146–154, 2013.
- Mansour, M. Factor analysis of nursing students' perception of patient safety education. *Nurse Education Today*, 35(1), 32–37, 2015.
- Moody, R. F., Pesut, D. J., & Harrington, C. F. Creating Safety Culture on Nursing Units. *Journal of Patient Safety*, 2(4), 198–206, 2006.



- Nawawi, H. *Evaluasi dan manajemen kinerja di lingkungan perusahaan dan industri*. Yogyakarta: Gajah Mada University Press, 2006.
- Notoatmodjo, S. *Pendidikan Dan Perilaku Kesehatan*. Jakarta: Rineka Cipta, 2012.
- Nuari, N. A. Analisis Korelasi Personal Factor , Perceived Benefit Dan Perceived Barrier Dengan Pemberdayaan Diri Pasien Diabetes Mellitus Tipe II Berbasis Teori Health. *Jurnal Ilmu Kesehatan Gaster*, XI(2), 2014.
- Nuari, N. A. Quality of Work Life and Job Satisfaction of Nurses in Amelia Hospital Pare. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*, 3(1), 1, 2016.
- Nuari, N. A. Resilience Of Efficacy Perawat Berbasis Tingkat Stres dan Kepuasan Kerja. *Jurnal Kesehatan Poltekkes Tanjung Karang*, VIII, 373–379, 2017.
- Shu, Q., Cai, M., Tao, H. B., Cheng, Z. H., Chen, J., Hu, Y. H., & Li, G. What does a hospital survey on patient safety reveal about patient safety culture of surgical units compared with that of other units? *Medicine (United States)*, 94(27), e1074, 2015.
- Spence Laschinger, H. K., & Leiter, M. P. The impact of nursing work environments on patient safety outcomes: the mediating role of burnout/engagement. *The Journal of Nursing Administration*, 36(5), 259–267, 2006.
- Teng, C. I., Shyu, Y. I. L., Dai, Y. T., Wong, M. K., Chu, T. L., & Chou, T. A. Nursing accreditation system and patient safety. *Journal of Nursing Management*, 20(3), 311–318, 2012.
- WHO. *WHO Guidelines for safe Surgery, First Edition*. New York: McGraw-Hill, 2008.

## Biographies

**Nian Afrian Nuari** is Lecturer in Nursing Departement in STIKES Karya Husada Kediri, Indonesia. She earned Bachelor Degree Nursing in Nursing Departement of Brawijaya University, Indonesia, and Masters in Nursing in Master of Nursing Departement Airlangga University, Indonesia. She has published journal and conference papers in National and International publisher. She has article paper published in International Journal and Proceeding indexed scopus ( 5 paper), and paper published in National Journal indexed SINTA (15 paper). She also published 6 books about nursing and health in Indonesia.

**Sony Susanto.** is Lecturer in Civil engineering Departement in Universitas Kadiri, Kediri, Indonesia. He earned Bachelor Degree Civil Engineering in Civil Engineering of ITN Malang, Indonesia, and Masters of Civil Engineering in Master of Civil Engineering Departement Institut Sepuluh Nopember Surabaya, Indonesia. He has been recognized as a professional in oil and gas with over 5 years of experience in working with closely-held businesses. He has been recognized as a professional in civil engineering constructions with over 10 years of experience in working. He has taught courses in structure, safety, environment for engineers student. He has published journal and conference papers in National and International publisher.