

# Analysis of Patient Safety Implementation by Nurses in Queen Latifa Hospital of Yogyakarta, Indonesia

Tria Harsiwi Nurul Insani\*, Sri Sundari\*\*

\*Master Student of Hospital Management, Universitas Muhammadiyah Yogyakarta, Indonesia

\*\*Medical Faculty, Universitas Muhammadiyah Yogyakarta, Indonesia

**Abstract-** Patient safety is an essential component of quality nursing care and a serious global public health issue. Every point in the process of care giving contains a certain degree of inherent unsafety. Queen Latifa Hospital is a type D hospital, the data of patient safety incident in 2016 showed 5 cases of adverse events and 2 cases of near misses. The aim of this study was to analyze the implementation of patient safety by nurses in this hospital. This type of research used in this study was mixed methods with descriptive approach in quantitative data and content analysis approach in qualitative data. The sampel of this study consists of 32 nurses for quantitative data with observation and 4 informants for qualitative data with indepth interviews. The observation results of patient safety implementation showed that 2 out of 6 patient safety goals have been optimally achieved. Identify patients correctly 84%, improve effective communication 91%, improve the safety of high-alert medications 100%, ensure safe surgery 100%, reduce the risk of health care associated infections 94%, reduce the risk of patient harm resulting from falls 81%. The result of indepth interviews supporting the quantitative data that patient safety has been implemented well in this hospital but not all the goals have been successfully achieved the optimal result. The obstacle of patient safety implementation is nurses habit factor. Documents and facilities related to patient safety goals are completely available in all units. The conclusion of this study is patient safety has well implemented by nurses in Queen Latifa Hospital but not all of the patient safety goals achieved optimal result.

**Index Terms-** patient safety, implementation, nurses, hospital

## I. INTRODUCTION

Patient safety is a fundamental principle of health care. Every point in the process of care giving contains a certain degree of inherent unsafety. A number of countries have published studies showing that significant numbers of patients are harmed during health care, either resulting in increased length of stay in health care facilities, permanent injury or even death [1]. Developing a positive patient safety culture has been suggested as the important strategy to improve the quality of health care services and patient safety.

A total of 11379 inpatients were surveyed by IBEAS (Iberoamerican Study of Adverse Event), 1191 had at least one adverse event related to the care received rather than to the underlying conditions. The estimated point prevalence rate was 10.5%, with more than 28% of adverse event causing disability, 6% associated to the death of the patient and almost

60% were considered preventable [2]. Investigation of patient safety in developing and emerging countries has been infrequent and limited in scope. Establishing fundamental patient safety practices, integrating those process into routine health care are necessary prerequisites to measuring and monitoring progress towards safe patient care in developing and emerging countries [3].

Patient safety by Joint Commission International are defined by six major goals to identify patient correctly, improve effective communication, improve the safety of high-alert medications, ensure safe surgery, reduce the risk of health care associated infections, and reduce the risk of patient harm resulting from falls [4]. More positive patient safety is associated to fewer adverse events in hospitals [5]. The adverse event cases in Indonesia spread in various provinces in 2007, Jakarta had the highest number of adverse event cases than other provinces with 37.8%, Central Java 15.9%, Yogyakarta 13.9%, East Java 11.7%, Aceh 10.7%, West Java 2.8%, Bali 1.4% and South Sulawesi 0.7% [6].

Health care systems are complex organizations with inherent unpredictable risks that impact on safe delivery of patient care. These system must be managed by health care providers [7]. Nurses are the main group of health care providers in the hospital, they are generally closer to patients than other clinicians and spend most of their times in the patient care department. They have an important role in providing nursing health care to patients. Given the integral role which nurses play in promoting patient safety, further examination of the link between nursing work and patient safety is warranted [8]. They are the most likely to recognize workflow, physician plan or communication related to patient safety problems and identify possible solutions to the health problems [9].

Preliminary study, Queen Latifa Hospital is a type D Hospital, the data of patient safety incident in 2016 showed the 5 cases of adverse events and 2 cases of near misses. Therefore, the aim of this study was to analyze the implementation of patient safety goals by nurses in Queen Latifa hospital. The study sought to answer the following research questions: how the implementation of six patient safety goals are implemented, what are the obstacles of the implementation of patient safety in hospital, and how are the patient safety training and monitoring carried out.

In the context of this study, patient safety implementation were defined as the following goals: identify patient correctly, improve effective communication, improve the safety of high-alert medications, ensure safe surgery, reduce the risk of health care associated infections, and reduce the risk of patient harm resulting from falls.

### I. METHODS

This type of research used in this study was mixed methods. Mixed methods research is the use of quantitative and qualitative methods in a single study or series which is increasingly used by health researchers, especially within health service. Descriptive approach used in quantitative data and content analysis approach used in qualitative data. The sampel of this study consists of 32 nurses for quantitative data with observation and 4 informants for qualitative data with indepth interviews.

Patient safety implementation was observed by using the patient safety observation sheets by Joint Commission International (JCI). The research instruments are patient safety observation sheets from JCI, observation checklists for availability documents and facilities, indepth interviews guide lists, stationary and voice recorder.

### II. RESULTS

Table 1. Distribution of Gender, education level, and length of work Nurses at Queen Latifa Hospital of Yogyakarta (n:32)

| Variable                 | Frequency | (%) |
|--------------------------|-----------|-----|
| <b>a Gender</b>          |           |     |
| Male                     | 11        | 35  |
| Female                   | 21        | 65  |
| Total                    | 32        | 100 |
| <b>b Education Level</b> |           |     |
| Diploma III of Nursing   | 29        | 91  |
| Bachelor of Nursing      | 3         | 9   |
| Total                    | 32        | 100 |
| <b>c Length of work</b>  |           |     |
| ≥five years              | 12        | 38  |
| <five years              | 20        | 62  |
| Total                    | 32        | 100 |

Based on Table 1, it can be seen that out of 32 nurses who were respondents in this study had respondents with male sex 11 nurses (35%) and female 21 nurses (65%). The education level of respondents shows 29 nurses (91%) are educated as diploma III of nursing, and 3 nurses (9%) are educated as bachelor of nursing. Most of respondents are work for less than five years 20 nurses (62%), and 12 nurses (38%) work more than five years.

#### Quantitative Data Result

This research conducted at Queen Latifa Hospital from February to April 2017. A total of 32 respondents were observed in this research. The observation consists of the implementation of patient safety goals, availability documents and facilities supporting to the implementation of patient safety.

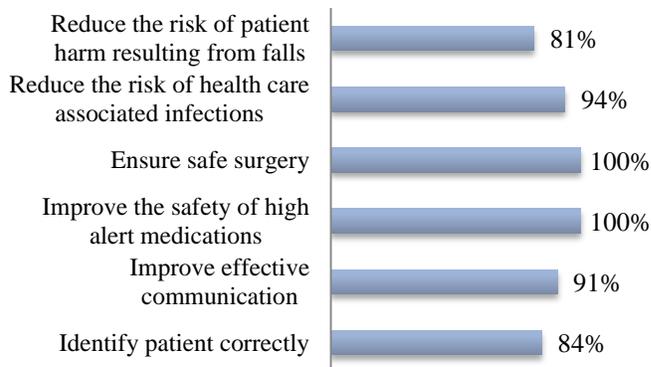


Figure 1. Observation results of Patient Safety Implementation in Queen Latifa Hospital

Based on Figure 1, it can be seen the percentage of nurses observation results. The observation consists of six patient safety goals implementation by nurses in Queen Latifa Hospital. There are two out of six patient safety goals are achive maximum result or 100%, those are the third and fourth goal, improve the safety of high-alert medications and ensure safe surgery. Meanwhile, identify patient correctly 84%, improve effective communication 91%, reduce the risk of health care associated infections 94% and reduce the risk of patient harm resulting from falls 81%. All of patient safety goals implemented over 80%.

Table 2. Availability of documents associated to patient safety goals in Queen Latifa Hospital of Yogyakarta

| Document  | Availability |
|---|--------------|
| Goal 1<br>Documents related to patient identification                               | Available    |
| Goal 2<br>Documents related to improve effective communication                      | Available    |
| Goal 3<br>Documents related to improve the safety of high-alert medications         | Available    |
| Goal 4<br>Documents related to ensure safe surgery                                  | Available    |
| Goal 5<br>Documents related to reduce the risk of health care associated infections | Available    |
| Goal 6<br>Documents related reduce the risk of patient harm resulting from falls    | Available    |

Based on table 3, it can be seen that all documents associated to the patient safety goals are available in all wards and units in this hospital. The documents are contains the procedures and standards of patient safety implementation to identify patient clearly, improve effective communication, improve the safety of high-alert medications, ensure safe surgery, reduce the risk of health care associated infections and reduce the risk of patient harm resulting from falls.

Table 3. Availability of facilities associated to patient safety implementation in Queen Latifa Hospital of Yogyakarta

| Facilities                     | Availability  |
|--------------------------------|---|
| Patient ID bands               | Yes, including patient ID bands for allergic and patient risk of fall |
| High-alert medications storage | Yes, available in pharmacy department                                 |
| High-alert and LASA labels     | Yes, Available in all wards   |
| Sink                           | Yes, Available in all units   |
| Water                          | Yes, Available in all units   |
| Handsoap                       | Yes, Available in all wards   |
| Hand towel                     | Yes, Available in all wards   |
| Handrub                        | Yes, Available in all wards   |
| Bed Side Rail                  | Yes, Available in all wards but some of side rails are not usable     |
| Wheelchair                     | Yes, Available in all wards   |

Based on table 4, it can be seen the facilities related to the patient safety implementation are available in all wards and units in this hospital such as patient ID bands, high-alert medications storage, high alert/LASA (Look Alike Sound Alike) labels, sink, water, handsoap, hand towel, handrub and wheelchair. Bed side rails are available but some of the siderail are not usable.

**Qualitative Data Results**

The indepth interviews conducted after the observations of patient safety completed. Four informants serving on the patient safety team were involved in the indepth interviews. They answered four major questions about how the implementation of patient safety goals, what are the obstacles of patient safety implementation, and how are the training and monitoring of patient safety carried out.

The data analysis resulted in emerging four main themes: patient safety has been implemented well but not all the goals have been successfully achieved the optimal result, the obstacles of patient safety implementation are habits and consciousness of the nurses are not yet properly formed, patient safety training has conducted irregularly, hospital monitored the implementation of patient safety every months.

**III. DISCUSSION**

Nurses are ideally placed to drive the patient safety within health care process because of their unique proximity to patients. There have been some attempts to look at the links between nursing care and quality outcomes, but relatively little on the connection between nursing and patient safety [10].

Joint Commission International listed six patient safety goals to be the international standard of hospital accreditation. This research observed all the following patient safety goals: identify patient correctly, improve effective communication, improve the safety of high-alert medications, ensure safe surgery, reduce the risk of health care associated infections and reduce the risk of patient harm from falls. All of the goals of patient safety have been implemented well by nurses in Queen Latifa Hospital. Two out of six patient safety goals have 100% successfully achieved. Those are third and fourth goal, improve the safety of high-alert medications and ensure

safe surgery. Four other goals have not optimally achieved the result, however the result achieved over 80%.

**Goal 1 : Identify Patient Correctly**

Ensuring accurate patient identification is central to preventing medical errors [11]. Patient identification errors during the medication administration process can be fatal [12]. This research shows that hospital has implemented patient identification but there were five nurses did not identify the patient correctly. They did not identify the patients with two patient identities. It because of habit and the role model within environment has not formed properly. Patient identity bands for high risk of fall and allergic are available in the hospital. The yellow color band signed to high risk of fall and red color to allergic.

**Goal 2 : Improve effective communication**

The quality of communication in interactions between nurses and patients has a major influence on patient safety. To support the development of effective nursing communication in health care process, a good understanding of what constitutes effective communication is helpful [13]. In addition to the communication undertaken with other health care providers, the communication between nurses has long been seen as an important to the planning and evaluation of patientcare [14]. Communication factors appear to play not only a vital role in delegation effectiveness, but also a leading factor in the success of nursing teams.

Nurse has implemented the effective communication to patients and among clinicians. It can be seen that only three nurses have not implemented the goal correctly. Queen Latifa hospital using SBAR (situation, background, assessment, and recommendation) communication tool reporting in a paper format. SBAR communication tool describes a systematic and focused mechanism for the communication of pertinent patient information. Nurses would fill out only certain section of the SBAR form.

**Goal 3: Improve the safety of high-alert medications**

All participants in this research have implemented this goal correctly. Nurses have been stored high-alert medications at pharmacy department, and labelling all the high-alert medications to improve the safety high-alert medications. This finding consistent to the recent study that improving medication safety, particularly for high-alert medications, remains a major concern of health care professionals. Most errors do not harm patients, but incorrect administration of high-alert medications can result in serious consequences. Many recommended practices have been proposed to decrease medication errors, including avoiding mistakes by storing high-alert medications in specific ways [15].

**Goal 4: Ensure Safe Surgery**

Nurses in this hospital have implemented procedures and correct site surgery process. They using WHO surgical safety checklist as one of their surgery procedures to ensure safe surgery. It consistent to the related study that the implementation of WHO surgical safety checklist reduced in hospital 30-day mortality [16]. Effective implementation consists of three components; complementary strategies, active involvement and effective communication among all members of the perioperative team.

These findings are consistent to the WHO correct site marking guide. The correct site surgery process is the procedure consist of Preoperative verification process to reduce the risk of patient and procedure misidentification by ensuring that all of the relevant document and diagnostic studies are available, Marking the operative site to identify unambiguously the intended site of incision for insertion, and "Time out" immediately before starting the procedure to conduct a final verification of the correct patient [17].

**Goal 5: Reduce the risk of health care associated infections**  
Hand hygiene has long been known as one of the key to reduce health care associated infections. A recent study described a multifaceted improvement initiative that achieved sustained hand hygiene improvement among health care personnel, and significant reduction in healthcare associated infections. Proper performance of hand hygiene at key moments during patient care is the most important to preventing health care associated infections (HAIs), with increasing awareness the societal impact caused by HAIs has come the realization that hand hygiene implementations are crucial to reducing the burden of HAIs [18].

Implementation of hand hygiene in Queen Latifa Hospital has been implemented well by nurses, but not all the nurses did it correctly. Availability of hand sanitizer, hand soap handrub and hand towel are important to support the implementation.

**Goal 6: Reduce the risk of patient harm from falls**

Falls are leading patient safety incident event in general hospitals[19]. Patient falls in hospitals have been a focus of outcomes research to assess the variation in patient safety across hospitals and explore whether nurse staffing maybe associated with safety[20]. Nurses has implemented the procedures to reduce the risk of patient harm from falls, patients signed by the yellow identity band, side rails are available in all beds but some of them are not usable. This last goal gets the lowest result, 6 nurses did not implemented the goal properly, some of them did not put the bed side rail correctly.

Nurses who perceived supervisor, feedback and communication about errors, teamwork across hospital units, and hospital handoffs and transitions had more overall perceptions of patient safety. Furthermore nurses who had more years experience and were working in teaching hospitals had more perception of patient safety culture [21]. Nurse managers should routinely complete baseline assessment of delegation, communication, and teamwork practices on their individual units [22].

Giving a training to nurses is an important thing to improves nurses' knowledge and self-awareness in health care process. It consistent to the recent study from Bawelle (2013) that socialization affected to increase nurse knowledge and nurses attitudes on implementing patient safety. This hospital has train the nurses but the training was not continuously conducted.

#### IV. CONCLUSION

1. The observation results of patient safety implementation by nurses in Queen Latifa Hospital showed two out of six

patient safety goals have 100% successfully achieved. Those are third and fourth goal, improve the safety of high-alert medications and ensure safe surgery. Meanwhile four other goals, Identify patient correctly 84%, Improve effective communication 91%, reduce the risk of health care associated infections 94% and reduce the risk of patient harm resulting from falls 81%. All of patient safety goals implemented over 80%.

2. Patient safety has well implemented by nurses in Queen Latifa Hospital of Yogyakarta but not optimally achieved to all patient safety goals. It because of the nurse habit factor as the main constraint of the patient safety implementation.
3. Documents and facilities associated to patient safety goals implementation are completely available in all units and wards.

#### V. RECOMMENDATION

1. The results can be used as the information to develop similar researches about patient safety implementation
2. Hospital provides regularly patient safety training for all clinicians especially nurses.
3. Nurses improves their abilities and knowledge to develop the habit and self awareness.
4. Further researchers is warranted to analyze the patient safety implementation with different method to get deep information.

#### REFERENCES

- [1] Safety, W. P., & World Health Organization. (2011). *Patient safety curriculum guide: Multiprofessional edition*.
- [2] Aranaz-Andres, J. M., Aibar-Remon, C., Restrepo, F. R., Urroz, O., ... & Gonseth-Garcia, J. (2011). Prevalence of Adverse Event in The Hospitals of Five Latin American Countries: Results of the Iberoamerican Study of Adverse Events (IBEAS). *BMJ Quality & Safety in Health Care*, Bmjqs-2011
- [3] Carpenter, K. B., et al. (2010). Measures of Patient safety in developing and emerging countries: a review of the literature. *Quality and Safety in Health Care* 19.1: 48-54
- [4] Joint Commission International and Joint Commission on Accreditation of Healthcare Organizations. (2016). Joint Commission International Accreditation Standards for Hospitals. *Joint Commission Resources*
- [5] Mardon, R. E., Khanna, K., Sorra, J., Dyer, N., & Famolaro, T. (2010). Exploring relationships between hospital patient safety culture and adverse events. *Journal of patient safety*, 6(4), 226-232.
- [6] Komite Keselamatan Pasien Rumah Sakit. (2008). Pedoman Pelaporan Insiden Keselamatan Pasien (IKP)
- [7] Leape, L., et al. 2009. Transforming Healthcare: a safety imperative. *Quality and Safety in Health Care*. 18.6: 424-428
- [8] Ramanujam, R., Abrahamson, K., & Anderson, J. G. (2008) Influence of Workplace Demands on Nurses' Perception of Patient Safety. *Nursing & Health Sciences*, 10(2), 144-150.
- [9] Thompson, P., Navara, M. B., & Antonson, N. (2005). Patient safety: the four domains of nursing leadership. *Nursing Economics*, 23(6), 331
- [10] Richardson, A., & Storr, J. (2010). Patient safety: a literature review on the impact of nursing empowerment, leadership and collaboration. *International nursing review*, 57(1), 12-21.
- [11] Morrison, A. P., Tanasijevic, M. J., Goonan, E. M., Lobo, M. M., Bates, M. M., Lipsitz, S. R., ... & Melanson, S. E. (2010). Reduction in specimen labelling errors after implementation of a positive patient identification system in phlebotomy. *American Journal of Clinical Pathology*, 133(6), 870-877.

- [12] Marquard, J. L., Henneman, P. L., He, Z., Jo, J., Fisher, D. L., & Henneman, E. A. (2011). Nurses' Behaviors And Visual Scanning Patterns May Reduce Patient Identification Errors. *Journal of Experimental Psychology: Applied*, 17(3), 247.
- [13] O'hagan, S., Manias, E., Elder, C., Pill, J., Woodward-Korn, R., McNamara, T., ... & McColl, G. (2014). What counts as effective communication in nursing? Evidence from nurse educators' and clinician' feedback on nurse interactions with simulated patients. *Journal of Advanced Nursing*, 1344-1355
- [14] Matic, J., Davidson, P. M., & Salamonson, Y. (2011). bringing patient safety to the forefront through structured computerisation during clinical handover. *Journal of clinical nursing*, 20(1-2), 184-189.
- [15] Hsiao, G. Y., Chen, I. J., Yu, S., Wei, I. L., Fang, Y. Y., & Tang, F. I. (2010). Nurses' Knowledge of High-Alert Medications: instrument development and validation. *Journal of Advanced Nursing*, 66 (1), 177-190
- [16] Van Klei, W. A., Hoff, R. G., Van Aarnhem, E. E. H. L., Simmermacher, R. K. J., Regli, L. P. E., Kappen, T. H., ... & Peelen, L. M. (2012). Effects of the introduction of the WHO "Surgical Safety Checklist" on in-hospital mortality: a cohort study. *Annals of surgery*, 255(1), 44-49.
- [17] Abdellatif, A., Bagian, J. P., Barajas, E. R., Cohen, M., Cousins, D., Denham, C. R., ... & Horvath, D. (2007). Performance of Correct Procedure at Correct Body Site. *Joint Commission Journal on Quality and Patient Safety*, 33(7), 443-446.
- [18] Pincock, T., Bernstein, P., Warthman, S., & Holst, E. (2012). Bundling hand hygiene interventions and measurement to decrease health-care associated infections. *American Journal of Infection Control*, 40 (4), S18-S27
- [19] US Department Of Veterans Affairs. National Center for Patient Safety 2004 Falls Toolkit. <http://www4.va.gov/npcs/SafetyTopics/fallstoolkit/index.html>. Accessed February 2017.
- [20] Lake, E. T., Shang, J., Klaus, S., & Dunton, N. E. (2010). Patient falls: Association with hospital Magnet status and nursing unit staffing. *Research in nursing & health*, 33(5), 413-425.
- [21] Ammouri, A. A., Tailakh, A. K., Muliira, J. K., Geethakrishnan, R., & Al Kindi, S. N. (2015). Patient safety culture among nurses. *International nursing review*, 62(1), 102-110
- [22] Gravlin, G., & Bittner, N. P. (2010). Nurses' and nursing assistants' reports of missed care and delegation. *Journal of Nursing Administration*, 40(7/8), 329-335.

#### AUTHOR

**First Author** – Tria Harsiwi Nurul Insani, Master student of Hospital Management, Muhammadiyah University of Yogyakarta, triaharsiwi92@gmail.com

**Second Author** – Sri Sundari, Medical Faculty, Muhammadiyah University of Yogyakarta

**Correspondence Author** – Tria Harsiwi Nurul Insani, triaharsiwi92@gmail.com , +623144749048.