



## Nursing Supervision Model toward Patient Safety Goals On The Ward

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### Abstract

Clinical supervision of interactive reflective model is a guideline for the implementation of patient safety goals at the hospital. This supervision supports the one who is supervised to improve self-awareness and professional development in the implementation of patient safety goals. The purpose of this research was to find out the influence of reflective interactive supervision model toward the implementation of patient safety goals. The method used is quasi-experimental with pretest-posttest with control group design. There were 24 subjects in interventions and 24 subjects in control group. Data were taken using a proportional stratified random sample. The data were analyzed by using chi-square, independent sample t-test, paired sample t-test, Pearson correlation, and general linear model repeated measure was used for multivariate analysis. The result shows that there are significant differences after the implementation of interactive reflective supervision ( $p < 0.000$ ). The average achievement score of the implementation of patient safety goals between groups shows a significant difference. In the intervention group, the achievement score began to show an improvement starting from the second measurement and the maximum score was seen in the fifth measurement. Clinical supervision interactive reflective model is potentially required by the head nurse as a guideline for supervising the implementation of the patient's safety goals in the hospital.

**Keywords:** Supervision, Interactive reflective, Patient safety goal, Hospital.

### Introduction

According to the World Health Organization, patient safety is prevention of errors and side effects in patients regarding health services [1]. In accordance with law no. 44, year of 2009 concerning hospitals, Article 43 stated that, "the hospital is obliged to implement patient safety through reporting the incident, analysing and assigning the problem to decrease the number of unexpected events" [2]. Patient safety is a system in which the hospital services patients more safely. The system includes "risk assessment, identification, management related to patients risk, reporting, and incidents analysis."

Allied health workers must be able to analyze and follow up the incidents, and also implement a solution to reduce and minimize

the risks [3]. Based on that, the hospital has to fulfil the patient safety goals, which include: accuracy of patient identity, an increase of effective communication, controlling the increase of drugs safety, certainty of right location, right procedure, right patients operated, an infection risk reduction related to health service and risk reduction of accidents to patients. Patient safety goals are one of the standards included in the major criteria assessment for hospital accreditation, and, thus, one of the significant standards in determining hospital accreditation.

Declaration of patient safety implementation in Tarakan District Hospital started in 2008 to coincide with the starting of ISO 9001/2008 external audit.

It reported 22 patient safety incidents in 2016. Unexpected incident (KTD) is one case, no injuries incident (KTC) are three cases, and almost injuries incidents are 18 cases.

Moreover, 11 cases occurred in the intensive care room and others occurred in the ward. Besides recording incidents reported, monitoring six patient safety goals was also done based on PERMENKES 1691 year of 2011 in RSUD Tarakan [3]. According to PKMP (Panitia Mutu dan Keselamatan Pasien) / (Patient safety and quality committee) in 2016 it reported that the accession of first indicator about accuracy of patient identity was 99.00 % (goal 100 %), second indicator about effective communication (TBAK or Tulis Bacakan dan Konfirmasi) achieved 65.92 % (goal 100 %), third indicator about compliance of high alert label by pharmacy was 79.83 % (goal 100 %), fourth indicator about compliance of surgical safety to surgery patient was 100 % (goal 100%), the fifth indicator about allied health compliance, which is washing hands five moments, was 66.77 % (goal 80 %) and the sixth indicator about accident to patient incidents that cause disability was 0.01% (goal 0%).

The result of monitoring shows that patient safety goals are not yet maximal. Also, the result of observation done by the researcher over two days continually showed that implementation of the six patient safety goals are not complete yet; some nurses still do not identify the patient when doing treatment, of six samples 50% were not identified. Also, some TBAK stamps are not signed by nurse as reporter or doctor as receiver, which of 50% of six samples were not signed; in labelling of high alert drugs, 50% of six high alert categories were not labelled; implementation of washing hand which requires five minutes was not done before and after treating the patients. Prevention of accident risks to patient are still under assessment but reassessment of patients with a high fall accidents is still not done yet.

The phenomenon in Tarakan District Hospital is that supervision is already implemented, but not optimally done by the manager of nurse, so it is influenced by the health service by nurses. Because clinical supervision is not yet optimal in both method and goal, it does not yet provide benefit for the health service.

The application report of a UMJ nursing master student found that supervision is not implemented optimally and it was not a priority in her intervention. The implementation of clinical supervision with the interactive reflective model is expected to explore deeply and give knowledge by transferring it from the supervisor, implement management function in nursing based on rule and policy occurred as well as providing that a supervisor can support the nurses in carrying out their obligations.

One of the functions of a nursing manager is as a role model to influence nurse behavior in implementing patient safety goals in hospitals based on policy and standards decided by the hospital accreditation commission. According to the introduction, the researcher is interested to examine "Nursing Supervision Model toward Implementation of Patient Safety Goals at the District Hospital Jakarta".

## Materials and Methods

The design of study is quasi-experiment with "Pretest-Posttest With Control Group Design", which is a design before examining it; both groups will be given pretest and posttest to quantify early condition (01). Then, the experiment group will be given (X) predicament while the control group will not. After that, both groups will be given posttest [4].

Whereas the dependent variable in this research is the implementation of patient safety goals to intervention and control group, the independent variable is nursing supervision. A reference variable is individual characteristics (Age, Gender, Education and Working Time). Population for this research is the all working nurses in the ward of one hospital in Jakarta, especially in the third ward with 136 nurses. The samples will be calculated by using proportion estimation formula in which the researcher is required to find out group proportion given supervision in the previous experiment [5].

According to that formula, 48 nurses as sample were divided into 24 persons as intervention group and 24 persons as a control group. The sample taken are nurses who have worked in nursing service for one year, minimal education is nursing diploma, not studying or working abroad.

## Results

The result of analysis shows that, in the intervention group, there are more early adults than others, which are 45.8%, while in the control group the number is 66.7%. In the case of gender variable, the intervention group has more women, which are 95.8%, while in the control group it is 91.7%. In the

education variable, as many as 79.2% are diploma in the intervention group while 54.2% are also diploma in the control group. In the intervention group for working time variable, as many as 45.8% have worked for 5-10 years while in the control group 75% have worked for less than 5 years. The distribution result can be seen in the Table 1 below.

**Table 1: Distribution of respondents based on the characteristic (n=24)**

| Variable        | Intervention Group |                | Control Group |                |
|-----------------|--------------------|----------------|---------------|----------------|
|                 | N                  | Percentage (%) | n             | Percentage (%) |
| 1. Age          |                    |                |               |                |
| Early elder     | 1                  | 4.2            | -             | -              |
| Late adult      | 8                  | 33.3           | -             | -              |
| Early adult     | 11                 | 45.8           | 16            | 66.7           |
| Late teenager   | 4                  | 16.7           | 8             | 33.3           |
| 2. Gender       |                    |                |               |                |
| Woman           | 23                 | 95.8           | 21            | 91.7           |
| Man             | 1                  | 4.2            | 2             | 8.3            |
| 3. Education    |                    |                |               |                |
| Diploma         | 19                 | 79.2           | 13            | 54.2           |
| Bachelor        | 5                  | 20.8           | 2             | 8.3            |
| Ners            | -                  | -              | 9             | 37.5           |
| 4. Working Time |                    |                |               |                |
| < 5 years       | 3                  | 12.5           | 18            | 75             |
| 5 – 10 years    | 11                 | 45.8           | 5             | 20.8           |
| > 10 years      | 10                 | 41.7           | 1             | 4.2            |

As shown in the result, analysis of the statistical test acquired Sig 0.000 < 0.05 so H<sub>0</sub> is rejected, which means that there are significant differences in

implementation of patient safety goals after implementing interactive reflective supervision to intervention and control group. Results analysis can be seen in Table 2.

**Table 2: Average Difference Test of implementation of patient safety goals, after intervention in intervention and control groups**

| Group      | N  | Average | p-value |
|------------|----|---------|---------|
| Experiment | 24 | 32.33   | 0.000   |
| Control    | 24 | 25.04   |         |

The result of the multivariate analysis shows different scores in implementation of patient safety goals among the measurement, and the

differences in interaction between measurement scores and group, in which  $p = 0.000$  ( $p < 0.05$ ). The measurement differences can be seen in Table 3 for more details

**Table 3: Test of Within-Subject Contrast**

| Source                | Patient safety      | Type III Sum of Squares | df | Mean Square | F      | Sig.  | Partial Eta Squared |
|-----------------------|---------------------|-------------------------|----|-------------|--------|-------|---------------------|
| Patient Safety        | Level 2 vs. Level 1 | 238,521                 | 1  | 238,521     | 22,100 | 0.000 | 0.325               |
|                       | Level 3 vs. Level 1 | 481,333                 | 1  | 481,333     | 25,548 | 0.000 | 0.357               |
|                       | Level 4 vs. Level 1 | 1150,521                | 1  | 1150,521    | 65,911 | 0.000 | 0.589               |
|                       | Level 5 vs. Level 1 | 816,750                 | 1  | 816,750     | 40,697 | 0.000 | 0.469               |
| Patient Safety *Group | Level 2 vs. Level 1 | 6,021                   | 1  | 6,021       | 0,558  | 0.459 | 0.012               |
|                       | Level 3 vs. Level 1 | 192,000                 | 1  | 192,000     | 10,191 | 0.003 | 0.181               |
|                       | Level 4 vs. Level 1 | 143,521                 | 1  | 143,521     | 8,222  | 0.006 | 0.152               |
|                       | Level 5 vs. Level 1 | 444,083                 | 1  | 444,083     | 22,128 | 0.000 | 0.325               |
| Error (Patient)       | Level 2 vs. Level 1 | 496,458                 | 46 | 10,793      |        |       |                     |
|                       | Level 3 vs. Level 1 | 866,667                 | 46 | 18,841      |        |       |                     |

|         |                     |         |    |        |  |  |  |
|---------|---------------------|---------|----|--------|--|--|--|
| safety) | Level 4 vs. Level 1 | 802,958 | 46 | 17,456 |  |  |  |
|         | Level 5 vs. Level 1 | 923,167 | 46 | 20,069 |  |  |  |

The test result of Within-Subject Contrast shows average differences of scores achievement in implementation of patient safety goals by nurse among measurements 2, 3, 4 and 5 toward measurement 1. In the measurement, \*Group shows average differences of achievement scores in

implementation of patient safety goals among measurements 3, 4, and 5 in both different classes. The differences can be seen in the third measurement with the biggest value of Partial Eta Squared seen in fifth measurement (0.325) so the fifth measurement is the optimal time to implement patient safety goals.

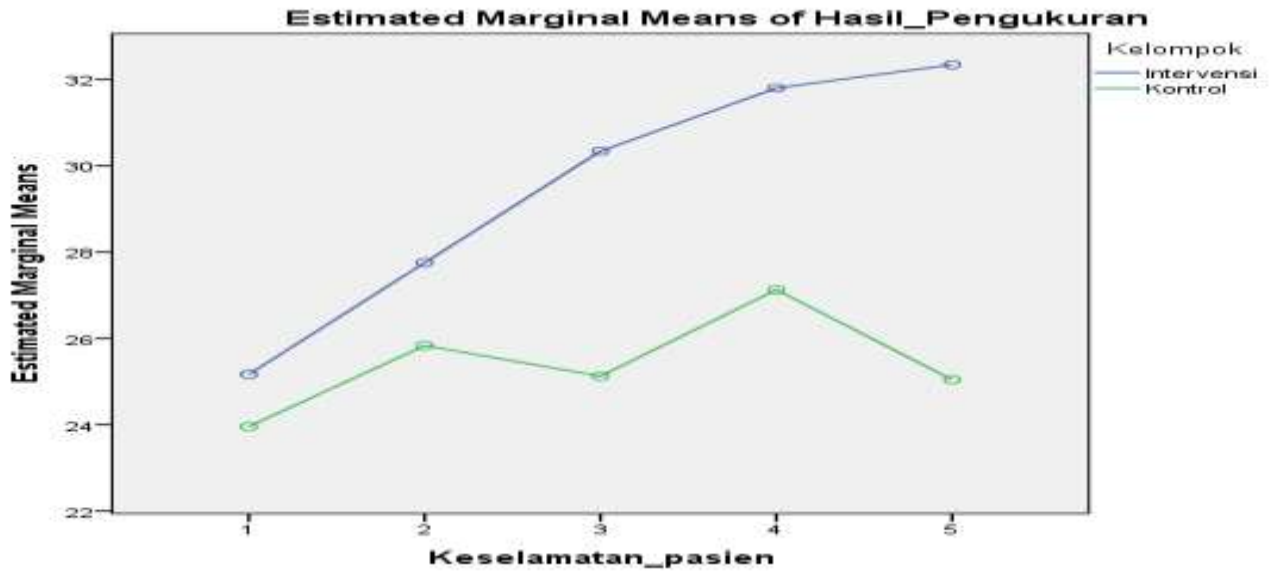


Figure 1: Description of score achievements average increase in implementation of patient safety goals for average increase of each measurement between groups

The graph of score achievement average of patient safety goal implementation between groups shows significant differences (Figure 1). Score achievement of patient safety goals implementation in the intervention group is higher than in the control group. Score achievement in the intervention group shows an increase in the second measurement and becomes maximum in the fifth measurement.

Whereas the maximum score in the control group is in the fourth measurement and having decrease in the next measurement. The result indicates that interactive reflective model supervision performed in a hospital has strong potential to achieve the implementation of patient safety goals in a short time compared to the hospital where it is not yet implemented.

**Discussion**

The comparison of the implementation of patient safety goals between intervention

group given interactive reflective supervision and control group in which it was not given shows different results. Average graph of score achievement in patient safety goals implementation between groups shows significant differences. The score achievement of patient safety goals implementation in the intervention group is higher than in the control group. The score achievement in the intervention group indicates an increase in second measurement and maximum score occurs in the fifth measurement, while maximum score occurs in the fourth measurement in the control group and drops in the next measurements.

The result indicates significant differences in the implementation of patient safety goals after doing interactive reflective supervision to the intervention group, meaning that the influence of supervision is intervention. This causes the increase of critical thinking skills in nurses. However, in correlation analysis, it

stated that there is no correlation of supervision and implementation of patient safety goals in the groups.

The progress of the implementation of patient safety goals in the intervention group may be due to the motivation of nurses themselves. As we know that one of the instructions stated in UU RS about patient safety (PerMenKes No. 1691), and Tarakan District Hospital concerns accreditation, this study is intensely appropriate to hospital goals in improving the patient safety services [3].

The improvement of bad behaviors to better behaviors can be influenced by someone's motivation. Motivation is one of the human psychological characteristics which contribute to someone's commitment [6]. This statement can be supported by a study result, which mentions that the improvement of someone's actions is caused by motivation [7]. Motivation factor in intervention and control group is influential for nurses' actions. The motivation in which a supervisor gives positive reinforcement to nurses who have done standardized patient safety in this study shows that there is an increase in nurse proportion in the implementation of patient safety in the intervention group.

Nurse compliance factor in the implementation of patient safety can also be affected by training obtained [8]. Similar is also found in other study that nurse compliance is influenced by education, experience and training about infection [8]. Research on nurses at a hospital in Brazil done by Cardoso and Figueiredo found that obedience average to standard prevention was 27.9%, washing hand before the procedure was 41.4%, and using gloves and well dumping from sharp instruments was 88.8% [9].

Applying interactive reflective supervision normally can run the activity and comply with that standard, so the intervention group which received interactive reflective supervision can be compared to control group which did not, in which there is a different proportion on behavior improvement of patient safety goals implementation. Research states that nurse compliance is also influenced by standard procedure and policy occurred [10]. Therefore the improvement of someone's behavior begins by applying a

standard procedure. A policy indicates a starting activity with which clinical supervision can be run in nursing services practice based on evidence [11]. Standard procedure and policy in the intervention and control group can be handled by a manager to perform the supervision. Reflective supervision correlated with administration can control the improvement of nurse behavior in the intervention group.

Safety acts are caused by human factors, organizational culture and workplace, staff levels and skill mix, patient expectations, the effectiveness of clinical leadership, commitment to health and safety, skill, competencies, attitudes and behaviors of all staff [12].

Patient safety is also determined by the hospital mission to prioritize patient safety by giving some safety service training in hospitals [13]. Giving interactive reflection by a supervisor, the nurse is expected to conduct a nursing service based on the vision and mission of the hospital correlated to the purpose and strategy of nursing services. It is evaluated by the head of nursing services, so it can be proven that supervision will be able to aim the nurse to do professional nursing practices that are safe for both nurse and patient.

## Conclusion

According to the result of the study, it can be concluded that gender and education are equivalent, whereas age and working time are not equivalent. Moreover, there is a significant difference in the implementation of patient safety goals before and after having interactive reflective supervision in the intervention group, whereas there is no significant difference in the implementation of patient safety goals before and after having interactive reflective supervision in the control group.

Next, there is no significant difference in the implementation of patient safety goals before having interactive reflective supervision in the intervention and control group. On the other hand, there is a significant difference in the implementation of patient safety goals after having interactive reflective supervision in both groups. There is a significant difference of knowledge in the implementation of patient safety goals before and after having interactive reflective

supervision in the intervention and control group. Lastly, it can be summed up that the interactive reflective supervision model that is performed at the hospital has strong

potential to achieve the implementation of patient safety goals in a shorter time compared with a hospital that has not yet implemented it.

## References

1. World Health Organization (2004) World alliance for patient safety: forward programme 2005. Geneva: World Health Organization.
2. WHO (2009) "Better knowledge for safer care: human factors in patient safety," World Heal. Organ., no. April, 55.
3. Moh (2011) "Peraturan Menteri Kesehatan Republik Indonesia Nomor 1691/Menkes/Per/Viii/2011 Tentang Keselamatan Pasien Rumah Sakit [Minister of Health Decree of Republic Indonesia Number 1691 Year 2011 About Hospital Patient Safety]," MoH, 11 (2): Jakarta, 10-14.
4. S Arikunto (2010) *Prosedur penelitian : suatu pendekatan praktek*. Jakarta: Rineka Cipta,.
5. Y Yulita, H Handiyani (2013) "Pengaruh supervisi model reflektif interaktif terhadap perilaku keselamatan perawat pada bahaya agen biologik di rsud provinsi kepulauan Riau Tanjung Uban," 5.
6. S Suarli, Y Bahtiar (2012) *Manajemen keperawatan : dengan pendekatan praktis*, vol. 3, no. 1. Jakarta: Erlangga.
7. CD Jensen, CC Cushing, BS Aylward, JT Craig, DM Sorell, RG Steele (2011) "Effectiveness of motivational interviewing interventions for adolescent substance use behavior change: A meta-analytic review," J. Consult. Clin. Psychol., 79 (4): 433-440.
8. SH Lee, PH Phan, T Dorman, SJ Weaver, PJ Pronovost (2016) "Handoffs, safety culture, and practices: Evidence from the hospital survey on patient safety culture," BMC Health Serv. Res., 16 (1): 1-8.
9. ACM Cardoso, RM de Figueiredo (2010) "Biological risk in nursing care provided in family health units," Rev. Lat. Am. Enfermagem, 18 (3): 368-372.
10. MW Darawad, M Al-Hussami, II Almhairat, M Al-Sutari (2012) "Investigating Jordanian nurses' handwashing beliefs, attitudes, and compliance," Am. J. Infect. Control, 40 (7): 643-647.
11. A Hill, J Turner (2011) "Implementing clinical supervision (part 3): an evaluation of a clinical supervisor's recovery-based resource and support package," Ment. Heal. Nurs., 31 (5): 16-20.
12. L Currie (2011) "Safety: principle of nursing practice C.," Nurs. Stand., 25 (30): 35-37.
13. VE Omorogbe, VO Omuemu, AR Isara (2012) "Injection safety practices among nursing staff of mission hospitals in Benin City, Nigeria," Ann. Afr. Med., 11 (1): 36-41.