Factors Associated with the Implementation of Patient Safety at X Hospital, Karawang, Indonesia

Lilis Suryani¹, and Ricky Kurniawan¹, and Agni Laili Perdani²

¹Department of Nursing Management, STIKes Kharisma Karawang-Indonesia 41315
²Department of Pediatric Nursing, STIKep PPNI Jawa Barat, Bandung. West Java, Indonesia

Abstract

Patient safety is a significant global health problem and a top priority for incidents prevention. Data revealed that the patient safety goals’ average implementation was only 33.5%, far away from the 100% target. The compliance of hand hygiene among nurses, meanwhile, was only 28.6%. This study aims to analyze factors associated with the implementation of patient safety goals among nurses at X Hospital Karawang. A cross-sectional approach with a simple random sampling technique was implemented in this study. A total of 117 nurses in the inpatient room were recruited in this study. A significant relationship showed knowledge, supervision, motivation, and the implementation of patient safety goals (p-value < 0.05). Supervision from the head nurse is the most associated factor. By improving the quality of Supervision, will influence the application of patient safety goals; therefore, that a patient safety culture is created and achieved well. recommend to define clearly the significant of patient safety and what kind of indicators we can use to measure this? and evaluate qualitatively (not using percetange) to indicate the extent to which patient safety is applied.

Keywords: patient safety goals, Supervision, knowledge, motivation

1. Introduction

In this global era, the hospital is health care facilities that are no longer focused only on patient management but specifically on patient safety [1]. Patient safety had become the most critical issue when patients asked about medical errors in various countries [2]. Patient safety is incident prevention of adverse effects on patients, causing injury or complications [3]. World Health Organization (WHO) stated that patient safety is a serious global public health problem which estimated that 10-25% of hospitalized patients experienced incidents that should be avoidable [3].
According to previous research [4], from October 2011 - October 2012, there were 12.1 adverse events per 100,000 total hospitalization days in Minnesota, US. In 2012, the most damaging events were decubitus (130 cases), leaving medical objects in the patient's body (31 cases), site marking errors in surgical procedures (27 cases), and the fewest errors in medication (2 cases). Report of patient safety incidents in Indonesia shows that there were 145 incidents and 55 of them occurred in DKI Jakarta, but the reporting of patient safety incidents in hospitals has not been developed thoroughly by all hospitals so that the actual number of incidents related to patient safety is still limited [5].

The Report on Quality Improvement and Patient Safety at X Hospital in Karawang in 2018 show the average implementation of patient safety goals was only 33.5%, and hygiene compliance among nurses was 28.6%. Based on the explanation above, the researcher is interested in examining the factor associated with implementing patient safety goals at X Hospital in Karawang.

2. Methods

A cross-sectional approach with a simple random sampling technique was implemented in this study. A total of 117 nurses in the inpatient medical surgical ward were recruited in this study in July 2020 at X Hospital Karawang Indonesia. The statistical tests used included univariate, bivariate, and multivariate tests with the SPSS version 18. The inclusion criteria in this study were all nurse practitioners. The instrument used a questionnaire related to the variables, including knowledge, motivation, Supervision, work duration, and instrument observation, to apply six goals of patient safety. Validity and reliability testing were implemented with accepted results.

3. Results

Based on table 1 most nurses 75 (64.1%) showed good knowledge, Supervision from head nurses was good 97 (82.9%), work motivation was good 99 (84.6%) and work more than ≥ 5 years 89 (76.1%). The implementation of patient safety goals was good with 110 (94%). Based on table 2 the results of statistical tests with the Spearman rank showed is a significant relationship between the knowledge, Supervision and motivation of nurses toward the application of patient safety goals (p value = 0.05). There is no relationship between work duration and the application of patient safety goals (Table2).
### TABLE 1: Nurses Knowledge, Supervision, Work Duration, Motivation Toward the Implementation of Patient Safety Goals (n=117)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>75</td>
<td>64.1</td>
</tr>
<tr>
<td>Moderate</td>
<td>28</td>
<td>23.9</td>
</tr>
<tr>
<td>Poor</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td><strong>Supervision</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>97</td>
<td>82.9</td>
</tr>
<tr>
<td>Poor</td>
<td>20</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Work Duration (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 5</td>
<td>89</td>
<td>76.1</td>
</tr>
<tr>
<td>&lt; 5</td>
<td>28</td>
<td>23.9</td>
</tr>
<tr>
<td><strong>Motivation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>99</td>
<td>84.6</td>
</tr>
<tr>
<td>Poor</td>
<td>18</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>Implementation of Patient Safety Goals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>110</td>
<td>94</td>
</tr>
<tr>
<td>Poor</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

### TABLE 2: The Relationship Between Nurses Knowledge, Supervision, Work Duration, Motivation Toward the Implementation of Patient Safety Goals (n=117)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Patient Safety Goals</th>
<th>Odds Ratio (OR) 95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>73 (97.3)</td>
<td>2 (2.7)</td>
<td>0.038*</td>
</tr>
<tr>
<td>Moderate</td>
<td>25 (89.3)</td>
<td>3 (10.7)</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>12 (85.7)</td>
<td>2 (14.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Supervision</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>95 (97.9)</td>
<td>2 (2.1)</td>
<td>15.833 (2.813 - 89.121)</td>
</tr>
<tr>
<td>Poor</td>
<td>15 (75)</td>
<td>5 (25)</td>
<td></td>
</tr>
<tr>
<td><strong>Work Duration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 5</td>
<td>84 (94.4)</td>
<td>5 (5.6)</td>
<td>1.292 (0.237 - 7.058)</td>
</tr>
<tr>
<td>&lt; 5</td>
<td>26 (92.9)</td>
<td>2 (7.1)</td>
<td></td>
</tr>
<tr>
<td><strong>Motivation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>96 (97)</td>
<td>3 (3)</td>
<td>9.413 (1.849 -45.218)</td>
</tr>
<tr>
<td>Poor</td>
<td>14 (77.8)</td>
<td>4 (22.2)</td>
<td></td>
</tr>
</tbody>
</table>

Based on table 3, there are three variables (knowledge, Supervision, and motivation) that can be entered for multivariate analysis. The results of the research show that nurses with good knowledge will implemented 1.3 times the implementation of patient safety goals compared to nurses with moderate or poor knowledge after being controlled by the supervision variable leadership / head of room and work motivation. Nurses with good motivation will 3.6 times will implemented 1.3 times the implementation of...
### TABLE 3: Analysis of Logistic Regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>Wald</th>
<th>Sig</th>
<th>Exp (B)</th>
<th>95% CI for Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>0.251</td>
<td>0.147</td>
<td>0.042*</td>
<td>1.285</td>
<td>0.357 - 4.619</td>
</tr>
<tr>
<td>Supervision</td>
<td>2.653</td>
<td>4.525</td>
<td>0.000*</td>
<td>14.192</td>
<td>1.232 - 163,506</td>
</tr>
<tr>
<td>Work Duration</td>
<td>-0.996</td>
<td>0.806</td>
<td>0.767</td>
<td>0.369</td>
<td>0.042 - 3,250</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.947</td>
<td>0.811</td>
<td>0.002*</td>
<td>2.577</td>
<td>0.328 - 20,220</td>
</tr>
</tbody>
</table>

### TABLE 4: Analysis of Multivariate Logistic Regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>Wald</th>
<th>Sig</th>
<th>Exp (B)</th>
<th>95% CI for Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>0.267</td>
<td>0.188</td>
<td>0.042*</td>
<td>1.305</td>
<td>0.392 - 4.351</td>
</tr>
<tr>
<td>Supervision</td>
<td>2.137</td>
<td>4.629</td>
<td>0.000*</td>
<td>8.475</td>
<td>1.210 - 59,390</td>
</tr>
<tr>
<td>Motivation</td>
<td>1.280</td>
<td>1.953</td>
<td>0.002*</td>
<td>3.597</td>
<td>0.597 - 21,652</td>
</tr>
</tbody>
</table>

Patient safety goals and the Supervision from head nurses will influence 8.5 times. This shows that the Supervision from head nurse is a dominant factor associated with the implementation of the six patient safety goals.

### 4. Discussion

According to previous researcher the results of this study are in line with the results of research conducted by [4] which states that there is an influence between nurses’ knowledge and the behavior of implementing six goals for patient safety goals. This shows that the better the nurse’s knowledge of the 6 patient safety goals, the better the nurse applies six goals for patient safety as a work culture [6].

This study is in line with research conducted by [7] for implementing nurses to implement patient safety culture properly and effectively. Supervision is carried out by the leader / head of the room or in this case the leader. Supervision is a professional interaction and communication between nursing supervisors and implementing nurses, namely. In this communication, the nurse in charge receives guidance, support, assistance, and is trusted so that the nurse can provide safe care to patients [7]. The patient safety culture survey has become an approach to monitoring patient safety, and various instruments for measuring patient safety culture have also been developed, one of which is through the role of supervision. By implementing good patient safety targets, a good safety culture will also be created. Nursing service supervision activities can improve the application of patient safety culture carried out by nursing supervisors. Patient safety culture or patient safety culture is the main foundation towards patient safety goals.
The effective supervision / leadership from head nurses is one of the factors that plays a role in the successful implementation of patient safety. The head nurse is the first line manager has a critical role in supporting a patient safety culture with effective leadership in creating a positive environment for patient safety.

This study is in line with research conducted by [8] workers who have a longer working period tend to have their actions and mindsets imitated or noticed by new nurses, this will make nurses whose work period is still new will be more adaptable to the actions that will be done and can choose whether the action is in accordance with the standard procedure set by the hospital or not. Nurses can carry out their responsibilities in maintaining patient safety in accordance with existing procedures and make nurses obedient regardless of the working period [9].

Patient safety culture or patient safety culture is the main foundation towards patient safety. This application is in line with the National Patient Safety Agency's seven steps towards patient safety. The effective leadership of the head of the room is one of the factors that plays a role in the successful application of a patient safety culture. The head of the room as the first line manager has a critical role in supporting a patient safety culture with effective leadership in creating a positive environment for patient safety.

Managers / leaders play an important role in developing a patient safety program. Managers lead change and are responsible for setting the direction for a unit they lead. Middle and upper level managers must demonstrate a commitment to patient safety by visiting the ward periodically, thus influencing the safety culture of the nursing staff. The lower level manager (head of the room) as the manager of the ward has a very important role, one of which is making room planning [10].

5. Conclusion

There is a significant relationship between nurses knowledge, Supervision, and motivation with the application of six goals for patient safety. Supervision is a very important factor in the successful implementation of patient safety goals so that a patient safety culture can be created and ultimately patient safety can be achieved. For the hospital to always improve the quality of Supervision carried out by head nurses in implementing six patient safety goals, and this Supervision is carried out periodically or routinely in order to monitor how the six goals of patient safety are implemented and strengthen the relationship between the head / head of the room and the executive nurse.
References


