

Research Article

The Influences Of Patient Safety And Nurse Performances Implementation Regarding Patient Satisfaction In Surgery Inpatient Care Division Of Tangerang Authority Hospital

Suhendra^{1*}, B Hartono¹ and L Listiyoko²¹Universitas Muhammadiyah Jakarta, Indonesia²Universitas Muhammadiyah Banten, Indonesia**Abstract.**

Patient safety in Indonesian hospitals have a huge of number, since a poor nurse performance and patient safety rule implementation. Hence, non expected incident in Tangerang Authority Hospital by 2017 is 31 cases, while increasing to be 33 cases by 2018. In 2018, 4 cases are reported come from inpatient care division. This research is aimed to identify the correlation of patient safety implementation and nurse performances with patient satisfaction in surgery inpatient care division of Tangerang Authority Hospital. It is done by survey method by which quantitative research, involving 100 patients, taken by purposive sampling. Data analyzed by using structural equation modelling approach, which reported that there was a significant influence of patient safety implementation and the patient satisfaction by 3,935 (>1,96) where p-value = 0,000 (<0,05). While nurse performances significantly influence the patient satisfaction by 6,974 (>1,96) where p-value = 0,000 (<0,05). In the other hand, both of patient safety implementation and nurse performances together significantly and simultaneous influences the patient satisfaction by 73,2%. These results would be a valuable inputs for the hospital management regarding patient safety and nurse performances implementation by monitoring and evaluation activities in order to improve quality and patient satisfaction.

Keywords: Patient safety; nurse performances; patient satisfaction

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Published 03 March 2023Publishing services provided by
Knowledge E

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Selection and Peer-review under the responsibility of the PVJ-ISHESSH 2021 Conference Committee.

1. Introduction

Some technology acceleration in information, health, and also social community lead hospital management to serve better time by time as it is. Besides, it must be play a good role regarding higher health grade acceleration, thus made by focusing in patient security and safety during hospitably care, according to PERMENKES No 11/2017[1]. Many ways implemented regarding minimize patient risks at dangerous issue like tubercoloses[2], electronis devices [3], surgery which are related to global mortality number[4], [5], [6].

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Patient safety is about services in hospital environment to be safer including risk measurement, identification, management of patients, incidental analyze, either the ability to study or follow up to reduce any risks [1]. While any nurse activity which disobey the patient safety, it drives failures such as incorrect patient identity and miss communication which is the most root cause in Sweden by 67% [7]. The other research shows that infection risk in Poland is still high, which is reported by 87,2% in hospital all around the country [8]. In USA hundred thousands fallen patient reported every year, causing injured by 30-50%, where 1-6 people of them are need extended health care [9]. Medical failure related to patient safety causing minor physical disability by 70%, permanent disability by 7%, and the rest is fatal accident [10]. While another research that was held in London reported 80% patient safety related cases were found in inpatient facilities, where mostly contributed by miss communication [11].

This research aimed to minimalized failure that is related to operational cost either by patient's side or hospital in reflective [12]. Actually Tangerang hospital had 31 unexpected cases in 2017 and increased to be 33 cases in 2018, which 4 cases were found in surgery inpatient facility. As robotic technology development increasing, it will prevent any risks tightly [13][14] and finally patient satisfaction should be improved [15].

2. Sampling

2.1. Method

The research is done by survey method approach with purposive sampling. A questionnaire divided by patient safety survey, nurse performances, and customer satisfaction. It was 100 inclusive respondents involved, while exclusive respondents are patient who was not surgery inpatient care member, more than 2 weeks care, internal employees.

After passing validity and reliability test, the questionnaire distributed to collect data and analyzed by procedure: (1) theoretical model development; (2) path diagram development; (3) convert path diagram into mathematical equation; (4) model estimation; (5) Goodness of Fit evaluation; (6) hypothesis testing. Figure 1 is about model development illustration.

2.2. Characteristic

The research shows respondents characteristic as mentioned: (1) 57% are male and 43% female. Most of them are 35 to 44 years old, reported by 36%, while 10% respondents

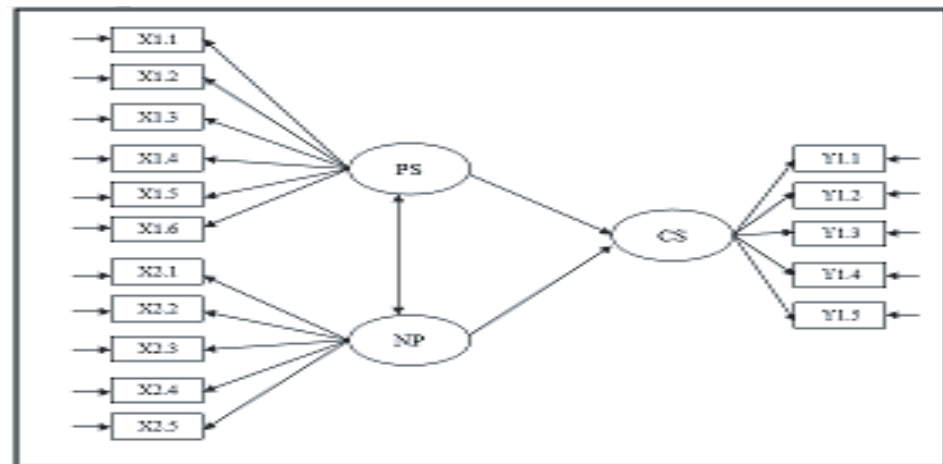


Figure 1: Model Development.

are below 25 years old. It is 89% respondents are married, while 1% rest are divorced. By educational background reported that 53% respondents are senior high school graduates, and only 2% who junior high school. 86% respondents are insurance member, while private payment is 4%. The survey was involved by patient themselves (3%) and family (60%).

3. Model Analysis

3.1. Outer Model Analysis

3.1.1. Convergence validity

The valid reflective measurement of survey indicator is ≥ 0.7 by loading factor (λ) of latent variable. The outer loading output of Smart PLS calculation in this research is 0.7 with higher number of loading factor is variable X1.2 for Patient Safety Variable (0.903). Thus, the result means that effective communication is the most concern to observe patient safety. In the other hand, patient acceptance is significant to describe Nurse Performance Variable with loading factor number is 0.889 (X2.1). Then Figure 2 shows the significant number of Customer/ Patient Satisfaction Variable is responsiveness (Y1.3) with loading factor number is 0.833.

3.1.2. AVE

According to Table 1 the average variance extracted (AVE) number of all variables are greater than 0.5 means that indicators are convergence valid.

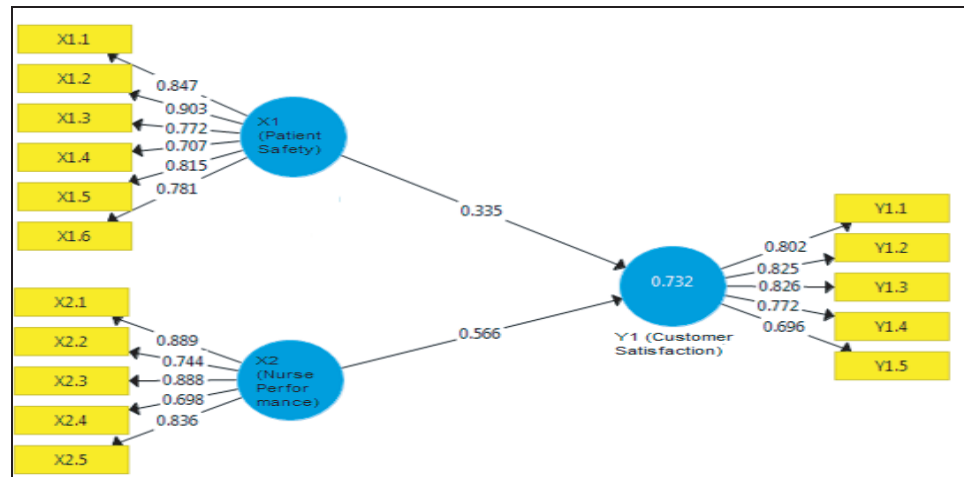


Figure 2: PLS Output.

TABLE 1: AVE Number.

Variabel	Average Variance Extracted (AVE)
Patient Safety	0.650
Nurse Performance	0.663
Customer Satisfaction	0.617

3.1.3. Discriminant Validity

We need AVE root to do discriminant validity, which is described in Table 2. Then the comparison is about AVE root versus coefficient correlation of variables each other. Patient safety has 0.806 AVE root while coefficient correlation Nurse performance-Patient safety is 0.790 (AVE root is greater), so does the coefficient correlation Customer satisfaction-Patient safety that is 0.782. Continuous evaluating the AVE root dealt that result of this research is qualified, where all the variable's AVE root is greater than all of their coefficient correlation.

TABLE 2: Root AVE build coefficient correlation.

Variable	Patient Safety	Nurse Performance	Customer Satisfaction
Patient Safety	0.806		
Nurse Performance	0.790	0.815	
Customer Satisfaction	0.782	0.786	0.830

3.1.4. Reliability Test

Reliability test indicates the consistency and accuracy of internal research measurement tools. It is quite reliable if the variable have Cronbach's Alpha and Composite Reliability number greater than 0.7 that described in Table 3. The research has more than 0.7 for all result test, means that it is quite reliable.

TABLE 3: Reliability test.

Variabel	Cronbach's Alpha	Composite Reliability
Patient Safety	0.891	0.917
Nurse Performance	0.870	0.907
Customer Satisfaction	0.845	0.889

3.2. Structural Model (Inner Model)

Structural model evaluated by R^2 of dependence variable, path coefficient number, and t-number of each path. Higher R^2 number means better prediction of research model proposed. According to Table 4, R^2 number of dependence variable, that is Customer Satisfaction is 0.732 means independence variable together describe 73.2% customer satisfaction.

TABLE 4: R square number.

Variabel Dependen	R Square	Interpretation
Customer Satisfaction	0.732	Subtansial

In the other hand, bootstrapping analysis of path coefficient illustrated by Figure 2.

We need to compare t-number statistic with t-table which is alpha significant 5% used, that the score is 1.96. It is used to decide whether hipotesa is accepted when greater than 1.96 or rejected by reflective. The t-number statistic of Patient Safety 3.935 is greater than 1.96 means that Customer Satisfaction influenced by Patient Safety. While t-number statistic of Nurse Performance is greater than t-table (6.974), it is influencer as well.

According to Table 5, both of Patient Safety and Nurse Performance has P-Value 0.000 related to Customer Satisfaction. The P-Value that less than 0.05 means any correlation among two independence variables and dependence variable.

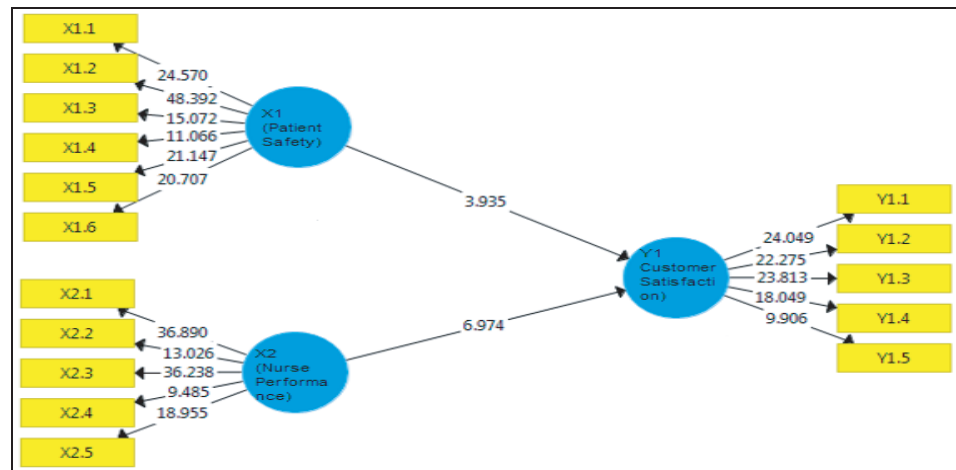


Figure 3: Bootstrapping of path coefficient.

TABLE 5: Bootstrapping Path Coefficients with P-Value.

Variabel	Original Sample (O)	Sample Mean (M)	Standard Deviasi (SD)	T Statistics (O/STDEV)	P-Value
Patient Safety -> Customer Satisfaction	0,335	0,334	0,085	3,935	0,000
Nurse Performance -> Customer Satisfaction	0,566	0,569	0,081	6,974	0,000

4. Discussion

4.1. Correlation of Patient Safety and Customer Satisfaction

By 3.935 of t-number statistic and 0.000 of P-Value means that hypothesis number one is accepted. That is any positive correlation among Patient Safety and Customer Satisfaction.

4.2. Correlation of Nurse Performance and Customer Satisfaction

By 6.974 of t-number statistic and 0.000 of P-Value means that hypothesis number two is accepted. That is any positive correlation among Nurse Performance and Customer Satisfaction.

4.3. Correlation of Patient Safety together with Nurse Performance and Customer Satisfaction

It is 0.732 of R^2 number for Customer Satisfaction means 73.2% influenced by Patient Safety together with Nurse Performance. Patient Safety is a system to avoid injuries caused by health care process.

5. Conclusion

At the end of research, can be reported that: Patient satisfaction is significant-positively influenced by patient safety implementation and nurse performance. It is good influencing of patient safety implementation and nurse performance in surgery inpatient health care facilities, where nurse performance is dominance factor.

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