

# Effective Decision Making Influence on Nurse Performance in Al Islam Hospital Bandung

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**Abstract**—This study aimed to review the influence of effective decision making on nurse performance in Al Islam Hospital Bandung in 2017. This was a cross sectional quantitative verification analytical case study on a population of 212 nurses working at the Inpatient Unit. Sampling was performed using the proportional stratified random sampling method based on inpatient room and nurse's period of work with a sample size of 147 nurses. Data were collected by distributing questionnaires to the nurses and head nurses and then analyzed using simple linear regression. Correlation between variables was analyzed using Pearsons Correlation Coefficient, followed by the determination coefficient analysis to explain the size of change in Y variable predicted by a change in X variable. Effective decision making influenced nurse performance quantity, nurse performance quality, and nurse performance quantity and quality by 30.02 %, 45.6 %, and 49.8 %, respectively. Effective decision making gives a positive influence on nurse performance quantitatively and qualitatively. The higher the effective decision making is, the higher the performance of the nurses.

**Keywords**—*performance; nurse; effective decision; teamwork*

## I. INTRODUCTION

One of the elements that play an important role in providing health care to patients admitted in a hospital is nurses who work 24 hours a day in the inpatient unit. These nurses have to work together in a team to achieve a high performance in order to reduce errors, provide quality services, and increase productivity for patients' satisfaction [1, 2]. Effective decision making is the basis to build teamwork. Without it, the team will be hindered from knowing how well and how fast the team is able to achieve its goals. A team can make decisions using various methods [3]. Effective decision making directly influences performance positively, meaning that when more authority is given to nurses for decision making, the nurse performance will improve [4].

Schwirian defined nurse performance as the effectiveness and productivity of nurses in implementing their role and responsibility related to direct patient care. Performance as defined by Schwirian is considered as the classic definition in nursing and that definition is the first one mentioning performance in nursing. Hence, this study used the definition from Schwirian for defining nurse performance [5].

Schwirian's nurse performance model is considered as the basis of nurse performance. This model involves five domains as illustrated below. The first domain is leadership that relates to actions that can be performed by nurses in applying leadership functions. Leadership is defined as activities to praise, mobilize, and inspire other people enthusiastically towards predetermined achievement through providing advice, guidance, and education regardless the specific area of an individual staff. Leadership involves items like ability to guide other health team members and delegate tasks effectively. The second domain is providing education or collaboration. This relates to behaviors of nurses when they give instructions to patients and family members as well as to other health professionals who contribute to patient's welfare by using methodologies, knowledge, and other ways to create solutions. Providing education or collaboration involve items such as providing education on preventive health actions and encouraging families to participate in patient care. The third domain is planning and evaluation. Planning and evaluation are behaviors that involve the ability to identify and evaluate care for patients in a dynamic and holistic manner. The fourth domain is the interpersonal relationship or communication that involves the behavior of the nurse and scope of interpersonal communication with patients and other health workers. The interpersonal relationship and communication involve items such as helping patients to communicate with others and contributing to productive work relationship with other health team members. The fifth domain is professional development. Professional development refers to high performance and behaviors that are responsible for professional growth as well as updating knowledge and skill in professional nursing activities and education. Professional growth is one of the characteristics of professionalism which includes using opportunities to learn for personal and professional development [5]. The five performance domains in Schwirian's nurse performance model are the key factors when nurses have to work well to achieve the organization's and work objectives. It is clear that performance has been defined based on the behavior and motivation of individuals to work. Schwirian indicates that the model can be used in various performance assessment series, specifically in evaluating nurse performance [6 - 13].

This study aimed to review the influence of effective decision making on nurse performance in Al Islam Hospital Bandung in 2017.

II. METHODS

This was a cross-sectional quantitative verification analytical case study aimed to understand the influence of effective decision making on nurse performance in the Inpatient Unit of Al Islam Hospital Bandung in 2017.

The population of this study consisted of 212 nurses working at the Inpatient Unit of Al Islam Hospital Bandung. Of that number, 147 nurses were sampled using proportional stratified random sampling based on inpatient care room and nurse's length of work to participate in this study.

Inclusion criteria used in this study were at least one year of work with at least D III degree in nursing and assigned at the Inpatient Unit of Al Islam Hospital Bandung. Subjects were excluded if they were on leave, sent for further education, and if they worked at the intensive care unit or ICU.

Data were collected in this study using a questionnaire on effective decision making and nurse performance that was already tested for its validity and reliability.

Hence, a continuum as shown in Figure 1 Continuum Line was produced to be used to categorized the results of the analysis.

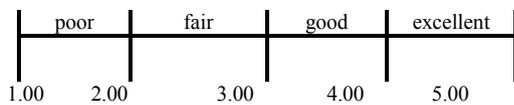


Fig. 1. Continuum line.

Data analysis in this study was conducted using the simple linear regression method to discover the presence of influence of effective decision making variable (X) on nurse performance (Y) and Pearson's Correlation Coefficient to understand the correlation between the two variables. Intervals produced were then categorized using the following categories: 0.00–0.199 = very low association level, 0.20–0.399 = low association level, 0.40–0.599 = moderate association level, 0.60–0.799 = strong association level, and 0.80–1.000 = strong association level [14].

Determination coefficient analysis was used to explain the size of change in Y variable value that can be predicted by a change in variable X. The results were interpreted using the following interpretations: R2 value of 0.00–19.99 = very low influence, R2 value of 40.00–59.99 = moderate influence, R2 value of 60.00 – 79.99 = high influence, and R2 value of 80.00 – 100 = very high influence [15].

III. RESULTS

Table 1 Characteristics of Respondents shows that most nurses at the Inpatient Unit of Al Islam Hospital Bandung are females in productive age, graduated from DIII in nursing, and had been working there for more than 3 years.

TABLE I. CHARACTERISTICS OF RESPONDENTS

Variable	n=147	%
<b>Gender</b>		
Male	25	17.0
Female	122	83.0
<b>Age (year)</b>		
<20	4	2.7
20- 25	42	28.6
26-30	58	39.5
31- 35	16	10.9
36-40	22	15.0
41-45	1	0.7
> 45	4	2.7
<b>Highest Educational Level</b>		
D III in Nursing	100	68.0
<b>Length of Work (year)</b>		
< 1	23	15.6
1 - 3	34	23.2
3 - 10	59	40.1
10 - 15	13	8.8
15 - 20	14	9.5
> 20	4	2.8

The effective decision making assessment (X) is an assessment of effective decision making by nurses and head nurses as described in the following table.

TABLE II. ASSESSMENT ON EFFECTIVE DECISION MAKING

No	Item	Head Nurses Mean	Nurses Mean
1	Ability of nurse to make decisions based on discussion	3.03	3.16
2	Ability of nurse to make established and clear decision	2.97	3.08
3	Nurse's knowledge on Standard Operational Procedure (SOP)	3.04	3.12
Mean		3.01	3.12

As depicted in Table 2 Assessment of Effective Decision Making, the average value assigned by head nurses for effective decision making (X) is 3.01 while the same value assigned by the nurses is 3.12. When those average scores are assigned into a continuum line as seen in figure 2, it is revealed that the scores for effective decision making is between 3.01-4.00. Hence, the category assigned for this dimension is "good".

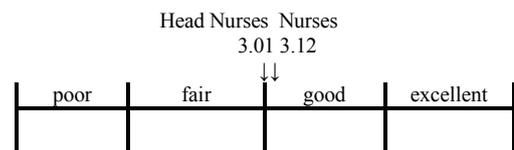


Fig. 2. Continuum line for effective decision making.

Respondents' assessment on nurse performance (Y) is divided into the assessment of head nurses and nurses on nurse performance based on performance quantity, performance

quality, and combination of performance quantity and quality (Y).

**TABLE III. ASSESSMENT OF PERFORMANCE BY QUANTITY**

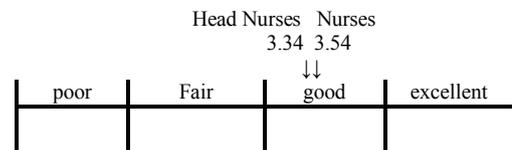
No	Item	Head Nurse Mean	Nurse Mean
<b>Leadership</b>			
1	Give praise for achievement under his/her guidance .....	2.93	3.27
2	Give acknowledgement for achievement under his/her guidance .....	3.13	3.32
3	Delegate responsibilities for care based on care need priority assessment .....	3.10	3.54
4	Delegate responsibilities for care according to ability .....	3.18	3.60
5	Delegate responsibilities for care based on the limitation of the available health care personnel.....	3.14	3.32
6	Guide other health care members in planning for care .....	3.17	3.46
7	Accept responsibilities for care level under his/her guidance .....	3.37	3.55
8	Stay open to suggestions from people under his/her guidance .....	3.37	3.61
9	Use suggestions from people under his/her guidance when necessary.....	3.27	3.42
<b>Providing Education or Collaboration</b>			
10	Educate patient's family members on patient's needs .....	3.54	3.66
11	Provide education on prevention actions to patients and their family.....	3.59	3.66
12	Identify and use community's resources to develop care plan for a patient and his/her family .....	2.84	3.23
13	Use community's resources to develop care plan for a patient and his/her family .....	2.84	3.19
14	Encourage family to participate in patient care .....	3.65	3.82
15	Identify resources in health care agencies .	2.92	3.19
16	Use resources in health care agencies .....	2.93	3.20
17	Develop care plan for a patient and his/her family .....	3.48	3.67
18	Communicate facts to patients and their family	3.60	3.57
19	Communicate ideas to patients and their family .....	3.31	3.51
20	Plan to integrate patient's needs and his/her family's needs.....	3.39	3.50
<b>Planning and Evaluation</b>			
21	Coordinate nurse's care plan with medical treatment plan .....	3.50	3.71
22	Identify and include care plans that anticipate changes in patient's condition ....	3.46	3.61
23	Evaluate care results .....	3.82	3.78
<b>Interpersonal Relationship or Communication</b>			
24	Communicate acceptance on each patient and attention to patient's welfare .....	3.11	3.54
25	Look for help when needed .....	3.69	3.69

**Table 3. Cont.**

26	Help patients communicate with others.....	3.37	3.58
27	Verbally communicate facts, ideas, and feelings to other health care team members	3.40	3.52
28	Uphold patient's right for privacy .....	3.63	3.70
29	Contribute to mutual trust, acceptance, and respect atmosphere between other health care team members .....	3.37	3.67
30	Explain care procedures to a patient before doing it.....	3.81	3.80
31	Use care procedures as an opportunity to interact with patients .....	3.65	3.77
32	Contribute to a productive work relationship with other health care team members .....	3.37	3.65
33	Help a patient to fulfil his/her emotional needs .....	3.18	3.50
34	Use opportunities to educate patient when the opportunity comes out .....	3.41	3.59
<b>Average</b>		<b>3.34</b>	<b>3.54</b>

Source :Schwirian, P. M. Evaluating the Performance of Nurses:A Multidimensional. Nurs Res.,1978, vol 27(27), pp.347-351.

Table 3 Assessment of Performance by Quantity lists the assessment of head nurses on nurse performance quantity variable (Y) with an average of 3.34 while the same assessment done by nurses reveals an average of 3.54. When those average scores are assigned into a continuum line as seen in figure 3 Continuum Line of Nurse Performance by Quantity, the score is between 3.01-4.00 and categorized as "good".



**Fig. 3. Continuum line of nurse performance by quantity.**

**TABLE IV. ASSESSMENT OF NURSE PERFORMANCE BY QUALITY**

No	Item	Head Nurses' Mean	Nurses' Mean
<b>Leadership</b>			
1	Give praise for achievement under his/her guidance .....	2.75	2.77
2	Give acknowledgement for achievement under his/her guidance .....	2.86	2.75
3	Delegate responsibilities for care based on care need priority assessment .....	2.86	2.78
4	Delegate responsibilities for care according to ability .....	2.93	2.89
5	Delegate responsibilities for care based on the limitation of the available health care personnel.....	2.86	2.91
6	Guide other health care members in planning for care .....	2.89	2.92
7	Accept responsibilities for care level under his/her guidance .....	2.91	2.89
8	Stay open to suggestions from people under his/her guidance .....	3.01	2.98
9	Use suggestions from people under his/her guidance when necessary.....	2.95	2.87
<b>Providing Education or Collaboration</b>			
10	Educate patient's family members on patient's needs .....	3.05	3.10

Table 4. Cont.

11	Provide education on prevention actions to patients and their family.....	3.03	2.97
12	Identify and use community's resources to develop care plan for a patient and his/her family.....	2.47	2.80
13	Use community's resources to develop care plan for a patient and his/her family....	2.52	2.72
14	Encourage family to participate in patient care.....	3.06	3.01
15	Identify resources in health care agencies ..	2.68	2.76
16	Use resources in health care agencies .....	2.70	2.88
17	Develop care plan for a patient and his/her family.....	3.03	2.97
18	Communicate facts to patients and their family.....	3.03	2.95
19	Communicate ideas to patients and their family.....	2.93	2.87
20	Plan to integrate patient's needs and his/her family's needs.....	2.93	2.95
<b>Planning and Evaluation</b>			
21	Coordinate nurse's care plan with medical treatment plan.....	2.95	2.97
22	Identify and include care plans that anticipate changes in patient's condition ..	2.97	2.94
23	Evaluate care results.....	3.08	3.02
<b>Interpersonal Relationship or Communication</b>			
24	Communicate acceptance on each patient and attention to patient's welfare.....	2.87	2.93
25	Look for help when needed.....	3.12	3.07
26	Help patients communicate with others.....	3.01	3.02
27	Verbally communicate facts, ideas, and feelings to other health care team members	2.92	2.90
28	Uphold patient's right for privacy.....	3.09	3.05
29	Contribute to mutual trust, acceptance, and respect atmosphere between other health care team members.....	2.90	3.01
30	Explain care procedures to a patient before doing it.....	3.14	3.20
31	Use care procedures as an opportunity to interact with patients.....	3.03	3.03
32	Contribute to a productive work relationship with other health care team members.....	2.96	2.97
33	Help a patient to fulfil his/her emotional needs.....	2.94	2.89
34	Use opportunities to educate patient when the opportunity comes out.....	2.97	3.03
<b>Professional Development</b>			
35	Use opportunities to learn for continuous personal and professional growth.....	3.02	3.11
36	Show knowledge on legal limitations for nurses.....	3.05	2.96
37	Show knowledge on nursing ethics.....	3.03	3.13
38	Accept and utilize constructive critics.....	3.07	3.24
Average		2.94	2.95

Source: Schwirian, P. M. (1978). Evaluating the Performance of Nurses: A Multidimensional. Nurs Res., 27(27), 347-351.

Table 4 Assessment of Nurse Performance by Quality presents the responses on performance quality variable (Y) with an average score of 2.94 for head nurses and an average of 2.95 for nurses. When these average scores are assigned into a continuum line as seen on figure 4, the average score for the performance quality dimension is between 2.01-3.00. Hence, it is categorized as "fair".

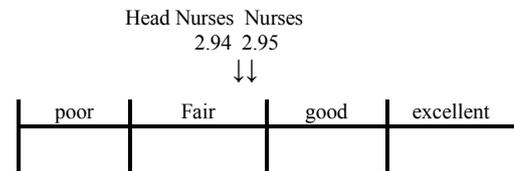


Fig. 4. Continuum line of head nurses and nurses on nurse performance based on quality.

The influence of effective decision making was assessed using a simple linear regression analysis. The results were presented in a formula of  $Y = \text{constant } a + \text{coefficient } b X$ . Constant  $a$  reflects a situation where effective decision making value ( $X$ ) is zero and nurse performance ( $Y$ ) is not influenced by effective decision making while coefficient  $b$  reflects the amount of increase that will be achieved when variable  $X$  increases one unit. The results of this analysis were  $Y = 1.672 + 0.561 X$ ,  $Y = 0.631 + 0.759 X$ , and  $Y = 1.151 + 0.660 X$  for nurse performance quantity, nurse performance quality, and nurse performance quantity and quality, respectively. This means that the average constant  $a$  values were 1.672 for nurse performance quantity, 0.631 for nurse performance quality, and 1.151 for nurse quality and quantity. The coefficient  $b$  results showed that when the effective decision making variable ( $X$ ) increases one unit, the nurse performance quantity ( $Y$ ) will increase 0.561, the nurse performance quality will increase 0.759, and the nurse performance quantity and quality will increase 0.660. All results showed a positive regression coefficient, meaning that effective decision making gives a positive influence to nurse performance quantity, nurse performance quality, and nurse performance quantity and quality. Hence, the higher/stronger effective decision making is, the higher the nurse performance quantity, the nurse performance quality, and the nurse quality and quantity are.

Pearson's correlation analysis in this study presented results of  $(r)=0.549$ ,  $(r)=0.676$ , and  $(r)=0.706$ , for nurse performance quantity, nurse performance quality, and nurse performance quantity and quality, respectively. These results show that there is a quite strong relationship between effective decision making and nurse performance quantity, nurse performance quality, and nurse performance quantity and quality.

The size of influence of effective decision making on nurse performance is shown by determination coefficient (DC) calculated using the following formula:  $DC = r^2 \times 100$ . The resulted DC were 30.2%, 45.6%, and 49.8% for nurse performance quantity, nurse performance quality, and nurse performance quantity and quality, respectively, meaning that effective decision making gives 30.2% influence on nurse performance quantity, 45.6% influence on nurse performance quality, and 49.8% influence on nurse quantity and quality.

#### IV. DISCUSSION

The results of this study supports the results of a study conducted by Sri Wahyuningsih stating that decision making has a significant and positive influence on performance. Decision making is a process to choose certain actions in dealing with problems or addressing available opportunities. The quality of decisions made by the managers become the measure of their effectiveness. Sometimes, one or two good or

bad decisions may have a huge influence on the success of individual career and even the success of an organization [16].

Decision making is considered effective when the team is aware of it and uses various methods to make a decision. Consensus is often considered as the best way to make decisions. This is a good method and it is not often used. However, team should also use majority rules, expert decisions, authority regulations with discussion, and other methods [3].

Effective decision making is essential for the progress of a team. Ideally, teams asked to solve problems should have authority and power to implement the solutions, know various decision making methods especially their strengths and weaknesses, and when and how to use each method. Teams who choose appropriate decision making method on time will not only save time but also often make the best decisions [3].

Effective decision making is a basis to build teamwork. Without effective decision making, a team will not be able to identify how good and how fast it achieves its objectives. A team can make decisions using various methods [3].

Diversity in knowledge and skills of team members usually contributes vast information and produces more valid decisions. However, individual autonomy may be reduced when the decision is shared and responsibilities are distributed to all team members. In addition, there are various needs for various decision making processes, depending on the team objectives and stages of progress. Democratic voting scheme reduces the time for making decision and limits interpersonal conflict but it reduces participation and acceptance for the decision made. On the contrary, when team members have complete information and participate in making decisions, they will have stronger commitment and more productive [17].

Clinical decision making is an important component in professional nursing care. The ability of nurse to make effective clinical decisions is the most important factor that influence the quality of care. Nurse makes two types of decisions in relation with practice, i.e. decision on patient care that directly influences patient care and work decision condition that influence the environment or the patient's work team. A care environment that is dynamic and uncertain requires nurses to make competent decisions to meet the needs of the patients. Furthermore, changes in patient's need, medical technology, and financial source create uncertainty in health care organization and requires re-designing the structure and process of care. Changes in re-design have increased nurse's responsibility in serving the patient. As a result, the nurse needs to be independent and better participates in decision making. Better participation in decision making by nurses produces better results. However, nurse's participation in decision making in an organization may vary, depending on many factors including the influence of nursing manager leadership and collaboration with [18].

An organization component that can also influence the participation of nursing staff in decision making is collaboration between nurse and doctor where nurses and doctors share responsibilities for patient care and respect each other. Nurse shares knowledge, thoughts, and ability with the

doctor to create an effective patient care plan and implementation. Therefore, collaboration plays a role as the basic framework to provide more opportunities to nurses to participate in patient care decision making [18].

The belief in independent practice of nurses that can be reflected by more participation in clinical decision making is important. Universities that provide nursing education seems to also disseminate notion to appreciate independence and expect high involvement level in clinical decision making. Nurses are educated at the tertiary level to use skills like decision making, critical thinking, and reflection to develop good clinical decision making ability. However, nurses still feel that their participation in clinical decision making is somehow coerced. Many studies focus their attention to the clinical function of nurses and most of them relates the problem to the knowledge and skills of the nurses. Hence, health care experts who provide direct services should be given independence and decision making skills necessary to provide quality and cost effective services [18].

Independence is generally connected to the ability of nurses to make decisions based on their professional knowledge. An independent nurse is someone who practices their ability in a self-regulated professional environment, making decisions based on professional assessment and able to do actions based on the decision under his/her professional area [18].

## V. CONCLUSION

Effective decision making gives a positive influence on nurse performance, both quantitatively and qualitatively. The stronger the effective decision making is, the higher the nurse performance.

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