

## THE EFFECTIVENESS OF CHECKLIST MODEL TO IMPROVE NURSING DOCUMENTATION IN SURGICAL WARD

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### ABSTRACT

**Background:** This study is based on the fact that many nursing cares are not recorded completely. Consequently, services to the patients are not matched with their hope and lead to potential risk of critical incidents. Meanwhile, demands for good quality of professional care have become a trend in the community. The narrative form of nursing documentation is the main problem for not completing the nursing documentation. This study, therefore, aims to prove that a checklist model of nursing documentation will improve the completeness of recorded nursing care and the identification of potential risk of critical incidents regarding nursing intervention.

**Method:** Subjects were 30 nurses who worked in surgical nursing wards of Dr. Moh. Hoesin General Hospital Palembang in January to February 2001. Unit analysis was nursing care record. The records were selected randomly. Fifteen nursing documentations were taken as samples for each room. The instruments used were checklist to measure completeness of nursing documentation and potential risk of critical incidents and questionnaire on nurses' perception of nursing documentation. Direct observation was also conducted to observe the nurse's services delivered to the patients. The statistical analyses used were student t-test and analysis of variance.

**Results:** The implementation of nursing documentation checklist model had a better effect on the completeness of nursing documentation rather than the narrative model ( $t = 9.289$ ;  $p < 0.001$ ). There was a significant interaction between aspects of nursing documentation and the implementation of checklist model ( $F = 10.000$ ;  $p < 0.001$ ). From 7 aspects of nursing documentation there was a significant difference in the increasing number of completeness of nursing documentation ( $F = 25.081$ ;  $p < 0.001$ ). There were 4 aspects of nursing documentation that improved significantly. They were nursing assessment, nursing diagnoses, nursing intervention, and outcome criteria. However, there was no improvement on the number of completeness of the flow sheet, the nursing progress notes, and the evaluation.

**Conclusion:** The form of nursing documentation checklist model and standardization of nursing care plans is more effective, efficient and shorten time in recording the nursing care rather than the narrative model. Implementing checklist model has a better effect on the completeness of nurse's information system in the medical record and on identifying potential risk of critical incidents regarding nursing intervention. It is recommended to add some aspects in the flow sheet to be used as guidance for the nurses in recording data after implementing nursing procedures.

**Keywords:** nursing documentation, nursing intervention, nursing perception

## INTRODUCTION

Dr. Moh. Hoesin General Hospital Palembang is a B class teaching hospital. Since 1 November 1993, the hospital is managed by self-funded (*swadana*) hospital system with Government Regulation No.1134/Menkes/SK/1993. According to government policy that is UU no.22 and 25 in 1999 also PP 25 in 2000 about decentralization, which will be applied in January 1, 2001, Rumah Sakit Dr. Mohammad Hoesin (RSMH) has made a plan to change the hospital management concept from a social institution to become a social business institution. Therefore, RSMH needs to improve its quality of medical care, nursing care, medical support care, and non-medical care to face its competitors and free market competition,

Quality of nursing care has an important role to determine quality of the whole health care in hospitals. A professional nurse must deliver an excellent nursing care. Demands for a high quality nursing care is a requirement in the future. This is a challenge for the hospital. Therefore, nurses have to improve their performance based on standard of care and standard of professional performance. The standards of care, as defined by the American Nurses Association (ANA), may reflect in the nursing process. These standards include assessment, diagnosis, outcome identification, planning, implementation, and evaluation. Criteria of the standards also require each component to be documented in a retrievable record.<sup>1</sup>

Furthermore, ANA has defined clinical quality indicators to assess the impact of nursing actions, structures, and processes on patient outcomes. The seven nursing quality indicators consist of: (1) Nosocomial infection rate; (2) Patient injury rate; (3) Patient satisfaction related to nursing care, pain management, and patient education; (4) maintenance of skin integrity; (5) nursing staff satisfaction; (6) staff mix; and (7) nursing care hours per patient day.<sup>2</sup>

Nursing documentation has a central role in the quality of care. It is also important and is not just for a legal purpose. Its result and benefits are greater than the sum of the tasks themselves. It is not an easy task, but it is necessary and it is a way of giving high quality of patient care. The aim of nursing documentation is to identify patient's health problem. The lack of proper documentation can negatively impact patient care and ultimately cause other problem, like the critical incidents of nursing intervention. Therefore, documentation must be accurate, clear, concise, complete, and timely. Moreover, documentation must have meaning today, tomorrow, and in the unforeseen future.

One of the problems that may occur to the patients related to lack of proper nursing documentation is critical incidents. Critical incidents defined as any event that is a deviation from the expected course or normal practice that has realistic potential for negative outcome or result. Many critical incidents possibly can happen during patient care like in RSMH such as phlebitis 28.3%, decubitus 5.6%, urinary tract infection 16%, and surgical wound infection 3.7%.<sup>3</sup>

Nursing documentation is varied, complex and time consuming. Studies reflect that nurses spend from 35 to 140 minutes on charting per shift.<sup>4</sup> Many complaints from nurses in hospitals are about the difficulty to make nursing assessment. The form of nursing assessment that has already been there is open-ended, in which a nurse writes original narration to describe patient condition. Another is that there has no standardized care plan.

Interviews done by the first author with some head nurses in RSMH and direct observation to nursing wards on 30 November 2000 found that there was no continuity and complete nursing documentation among shift and during hospitalisation of the patients. Some of the main problems revealed as to why the nurses did not record nursing care are because of:

1. The nursing assessment to be used is a narrative form. They had spent more time to fill the form. It is not systematic to cover the development of patient's condition. Therefore, the data that should be collected is not complete and cause difficulties for nurses to determine a nursing diagnosis and to identify potential risks.
2. The nurses are lack of knowledge to analyze assessment data, to determine nursing diagnoses, and to make nursing care plan.

RSMH has received full accreditation in 1998. However, its nursing care, especially for the second standard about nursing process, received recommendation from *Direktorat Jenderal Pelayanan Medis Departemen Kesehatan Republik Indonesia*<sup>5</sup> to encourage the application and training of nursing process. In addition, RSMH has been projected as a social-business institution (*Perjan*) to develop the quality of medical record included nurses to participate in filling patient's document.

To sum up, to solve these problems it is needed to implement a new form of nursing documentation which would be easier and time saving for the nurses to fill the form. It is expected that the new form will make it easier to cover the development of patient's condition and identify potential risks. Early identification or near misses, incidents and other mistakes will lead to an effective risk management.

The form of narrative model that has been applied in RSMH is not enough to give information about patient's condition, because it is not completely and continuously recorded. Besides, it is difficult to identify potential risks of critical incidents. The purpose of this study is to test whether the new form as a checklist model of nursing documentation is effective to improve nursing documentation and as a result reduce the critical incidents in nursing intervention.

## METHOD

### Study Design

The research design used was quasi-experimental design. The intervention in this study was implementing the new checklist model of nursing documentation. The new checklist model of nursing documentation was implemented to all patients who were hospitalized in January and February 2001 and conducted by 30 nurses in surgical wards of RSMH.

### Unit Analysis and Subjects

Unit analysis of the research was nursing care records that were selected randomly. Fifteen medical records for each room from patients who were hospitalized in January and February 2001 in surgical nursing wards of RSMH were used as the unit of analysis.

Subjects were 30 nurses who worked at surgical nursing wards in January to February 2001. The criteria of the sample: were functional nurses. They were no nurses on leave, or sick.

### Instruments

1. The instrument used to collect data, to measure the completeness of nursing documentation was checklist. The checklist of nursing documentation were developed based on variables in nursing process. They were nursing assessment, nursing diagnoses, nursing care planning, nursing care implementation, and evaluation. The completeness recorded nursing documentation was measured based on a complete record of nursing care. The measurement was based on standard of nursing care from Department of Health Republic of Indonesia.<sup>6</sup> Each category was scored, as follows: score 3 when it was completely recorded; score 2 when it was not completely recorded, and score 1 when it was not recorded.

2. The instrument used to collect data and to identify the risk of critical incidents regarding nursing intervention was an observation guide. The observation guide was developed based on standard of 5 nursing clinical procedures. They were maintenance of intravenous therapy, maintenance of urine catheter, preoperative care, postoperative care, and surgical wound care. These procedures were the major procedures in surgical nursing ward and have high-risk of critical incident event rate in RSMH Palembang.<sup>3</sup> Potential risk of critical incidents was measured based on the congruence between nursing procedure and the recording of the procedure. Then each point of document was scored: 5 when it was recorded and scores 0 when it was not recorded. Meanwhile, when a nurse delivered the procedure appropriately according to the standard, it was given score 5 and it was given score 0 when it was not appropriate.
3. The instrument used to measure nursing perception toward nursing documentation was a questionnaire, followed by a feedback meeting. The questionnaire consisted of 6-points question. Those were aspects of documentation whether they were complete, systematic, effective, efficient, appropriate time spend, and difficulty encountered. Feedback meeting was held with the nurses to discuss and to get their suggestions. Nursing perception was measured based on the answer of the questionnaire of nurses' perception on the new model of nursing documentation. It was scored as follows: score 4 when the answer was very; score 3 when it was enough; score 2 when it was not enough, and score 1 when it was not at all.

### Research Variables

*Dependent variable:* were completeness of recorded nursing documentation and potential

risk of critical incidents regarding nursing intervention. *Independent variable* was new model of nursing documentation.

### Procedure

1. The researcher observed the completeness of nursing record using observation checklist.
2. The congruence between the implementation and the recorded nursing care procedures that were given by a nurse through an observation. Two nurses who had previously been trained observed the implementation of the nursing care procedures. The implementation of nursing care procedures was observed in the morning, evening and night shifts.
3. The nursing perception data was collected using questionnaire of nurses' perception on the model of nursing documentation that was filled in by 30 nurses, and the result of feedback meeting.

### Data Analysis

- a. Analysis of Variance (ANOVA) was used to analyze the completeness of nursing documentation and the changing of nurses' perception on the model of nursing documentation within the interval between before and after the implementation of the new model of nursing documentation form using level of significance 0.05.
- b. Paired Sample T-Test is used to test the difference between before and after implementing the new model of nursing documentation on the completeness of recording nursing procedures with level of significance 0.05.
- c. Bivariate Correlation Test is used to see the correlation between the implementation of nursing procedures and nursing record before and after applying the new model of nursing documentation form with level of significance 0.05.

Table 1. The Differences between The Old Form and The New Form of Nursing Documentation

No.	Differences of the aspects	The Old Form	The New Form
1.	Number of pages	6 pages	10 pages
2.	Type of the forms	Narrative	Check list
3.	Model of nursing documentation	Source Oriented Medical Records	POMR (Problem Oriented Medical Records) or Problem solving method
4.	The organization of assessment data	Holistic model	Gordon's Functional Health Patterns model
5.	Categories of information in assessment	<ul style="list-style-type: none"> <li>- Nursing history</li> <li>- Growth and Development</li> <li>- Respiratory</li> <li>- Nutritional-Metabolic</li> <li>- Elimination</li> <li>- Personal hygiene</li> <li>- Daily activities</li> <li>- Sexuality-Reproductive</li> <li>- Psychological</li> <li>- Social</li> <li>- Spiritual-believe</li> <li>- Supporting data</li> </ul>	<ul style="list-style-type: none"> <li>- Health perception- Health management</li> <li>- Nutritional-Metabolic</li> <li>- Elimination</li> <li>- Activity-Exercise</li> <li>- Sleep-Rest</li> <li>- Cognitive perceptual</li> <li>- Self-perception</li> <li>- Self-concept</li> <li>- Role relationship</li> <li>- Sexuality-Reproductive</li> <li>- Coping-stress tolerance</li> <li>- Value-Belief</li> </ul>
6.	Nursing Problem/Diagnoses	Analyse without guidance	Guided
7.	Nursing care plan	No standardized, the nurse fills in the blank format, allows a nurse to individualize outcome and intervention.	Standardized, the nurse fills in standard choice, not allows a nurse to individualize outcome and intervention.
8.	Categories information in the flow sheet/nursing observation	<ul style="list-style-type: none"> <li>- Vital Signs</li> <li>- Body Weight</li> <li>- Elimination</li> <li>- Fluid Balance (intake-output).</li> </ul>	<ul style="list-style-type: none"> <li>- Vital signs</li> <li>- Fluid Balance</li> <li>- Neuro-Cerebral</li> <li>- Comfort-Sleep</li> <li>- Activity-Exercise</li> <li>- Skin-Mucosa</li> <li>- Wound</li> <li>- Nutrition</li> <li>- Elimination</li> <li>- Respiratory</li> <li>- Circulation</li> <li>- Other support data</li> </ul>
9.	Progress Notes and Evaluation	<ul style="list-style-type: none"> <li>- SOAPE (Subjective data, Objective data, Assessment, Plan, and Evaluation) model.</li> <li>- The form is not separated the column for recording the nursing care among day, evening and night shifts.</li> <li>- Recording in narration</li> </ul>	<ul style="list-style-type: none"> <li>- SOAPE (Subjective data, Objective data, Assessment, Plan, and Evaluation) model.</li> <li>- The form is separated into 3 column for recording the nursing care among day, evening and night shifts.</li> <li>- Recording in narration</li> </ul>

## RESULTS AND DISCUSSIONS

The research had been done in RSMH from January to February 2001. It took place in 2 rooms in surgical ward with 30 nurses. Documenting of nursing process was implemented to all patients who were hospitalized between those dates. Fifteen nursing documentations were taken as samples for each room.

### 1. The Completeness of Nursing Documentation

Evaluation on 30 nursing documentation was done to examine the completeness of nursing documents with respect to 7 aspects to be filled for each record.

Table 2. The Completeness of Nursing Documentation  
N = 30

No	Nursing Documentation	Mean Before	Mean After
1	Nursing Assessment	2.03	2.63
2	Nursing Diagnoses	2.00	2.87
3	Nursing Intervention	2.03	2.83
4	Outcome Criteria	1.50	2.50
5	Flow sheet	1.97	1.90
6	Nursing Progress Notes	1.80	1.83
7	Evaluation	1.33	1.23

Table 2 clearly presents and compares the completeness of nursing documentation before and after implementation of the checklist model in recording nursing documentation from January to February 2001. The implementation of nursing documentation checklist model has a better effect on the completeness of nursing documentation rather than the narrative model ( $t = 9.289; p < 0.001$ ).

There was a significant interaction between aspects of nursing documentation and the implementation of checklist model ( $F = 10.000; p < 0.001$ ). It means that the completeness of nursing documentation depended on the implementation of checklist model.

From 7 aspects of nursing documentation there was a significant difference in the increasing number of completeness of nursing documentation ( $F = 25.081; p < 0.001$ ). There were 4 aspects of nursing documentation improved significantly (nursing assessment, nursing diagnoses, nursing intervention, and outcome criteria). However, there was no improvement on the number of completeness of the flow sheet, the nursing progress notes and the evaluation. They were hardly any change over the period of research time.

#### a. The Completeness of Nursing Assessment, Nursing Diagnoses, Nursing Intervention and Outcome Criteria

The average completeness of nursing assessment, nursing diagnoses, nursing intervention and outcome criteria improved significantly. In this case the forms have been made in checklist model. This form sustains a standard choice that can be done appropriately by the nurse based on the patient condition. A nurse does not need to look for answer and to write using her own sentences. Backs<sup>7</sup> mentioned that the first phase of the nursing process was assessment. He also mentioned that without identifying and defining the patient's problems, the state of illness and well being, patient care could not be planned. Also before considering collection of data it appears necessary to clarify which data has to be considered.

Nursing assessment checklist model has been implemented in Dr. Sardjito General Hospital, Yogyakarta.<sup>8</sup> However; the organization of assessment data was different from the nursing assessment checklist model that was created by the first author. The organization of assessment data was still put around the medical model that focuses on body systems and parts.

Based on informal discussion with some nurses about the implementation of nursing assessment checklist model in Dr. Sardjito hospital, the following are some nurses' responses:

*" ... model checklist lebih efektif dibandingkan dengan model sebelumnya. Model yang lama perawat harus menulis sendiri, kalau yang sekarang tinggal pilih dan kasih tanda (3)".*

*" ... model checklist lebih efektif, menyingkat waktu dan menyamakan persepsi karena sudah ada pilihannya di formulir".*

The ability of the nurses to identify nursing problem can be improved by using checklist model. It can also be seen in the result study that has been done by Nurjanah et al.<sup>9</sup> They found that the use of checklist nursing assessment form and nursing problem guidance in emergency department significantly improved the nurses' ability to determine the nursing problem.

Moreover, the new form provides the nurses with some choices based on a standard of nursing care plan, so that the nurses may choose appropriate nursing intervention due to the patient condition. Smith<sup>10</sup> mentioned that: "Well-written care plans and notes lay a strong foundation for continuity of client care.

In standard nursing care plan also sustains outcome criteria, so the nurses do not need to look for the criteria in the theory or textbook. It makes the nurses easy to record the nursing care plan effectively.

#### **b. The completeness of Flow sheet, Nursing Progress Notes and Evaluation**

The average complete record of flow sheet, nursing progress notes, and

evaluation were not significantly improved. The main problem in this case was the adding of some aspects that must be recorded in the flow sheet such as: comfort/sleep, activity/exercise, skin/mucous, wound, nutrition, elimination, and respiration that were not recorded completely. Moreover, not all aspects were provided with a standard choice and the nurses still have to write using their own sentences.

The nurses still had to write the progress notes and the evaluation descriptively based on the steps of nursing process: subjective data, objective data, assessment, plan, and evaluation (SOAPE). The change in the form of progress notes and evaluation was only in the shape of column to record the nursing care for day, evening and night shifts. In the previous form the column was not separated into day, evening and night shifts, while in the new model the form was separated into 3 columns for recording the nursing care during the day, evening and night shifts. However, both the new form and the previous form for recording of progress notes were still following the step of nursing process (SOAPE).

#### **2. Recording Observation on Nursing Procedures**

To analyze the congruence between the implementation of nursing procedures and recording these procedures in nursing documentation as well as potential risk of critical incidents, there was an observation and evaluation on 5 nursing procedures that had been delivered to 10 patients. The implementation of nursing procedures was recorded in flow sheet and progress notes.

Every time a nurse delivered clinical nursing procedures to the patient, the procedure must be recorded to make the follow up care easy and the evidence of the nursing

care intervention was obvious. Smith<sup>10</sup> claimed, "As legally speaking, if it wasn't written, it wasn't done." Clear documentation is the best proof that responsible, well-planned nursing care was given.

It is apparent from the result of observation on 10 medical records that using the new model, the nurses had implemented the nursing care procedures appropriately according to the clinical nursing standard. There was a tendency that the nurses did not fully comply to record what they did. Even though the procedure was implemented appropriately along the standard when it was not recorded, it could create a potential risk to the patients or to the nurses.

**Table 3. The Result of Observation on Recording Nursing Procedure before and after implementing the new model of nursing documentation forms**

No.	Procedure	Mean Before	Mean After	Paired Sample T-Test Result	
				T	Sig. (1-tailed)
1.	IV therapy	7.50	13.00	-2.400	0.020
2.	Urine catheter	6.67	13.33	-4.000	0.029
3.	Preoperative care	11.50	13.00	-1.964	0.041
4.	Postoperative care	5.00	7.50	-2.236	0.026
5.	Surgical wound care	2.86	7.14	-6.000	0.000

Notes: Significant ( $P \leq 0.05$ )

Table 3 showed that the recording for all nursing procedures after implementing the new model of nursing documentation was better than before implementing the model.

Table 4 and 5 showed the congruence between nursing documentation and observation of 5 nursing procedures before and after implementing the new model of nursing documentation form. There were 2 nursing procedures improved significantly in the congruence (maintenance of intravenous therapy and preoperative care). Although the congruence for maintenance of urine catheter procedure between before and after implementing the new form remained unchanged.

**Table 4. The Correlation between Nursing Record and Observation on deliver of Nursing Procedure before implementing the new model of nursing documentation form**

No.	Procedure	Nursing Record	Observation	Bivariable Correlation Test Result	
				r	Sig. (1-tailed)
1.	IV therapy	7.50	3.50	0.225	0.239
2.	Urine catheter	6.67	3.33	0.500	0.333
3.	Preoperative care	11.00	4.00	0.327	0.178
4.	Postoperative care	5.00	4.00	0.395	0.129
5.	Surgical wound care	2.86	4.29	-0.354	0.218

Notes: Significant ( $P \leq 0.05$ )

**Table 5. The Correlation between Nursing Record and Observation on deliver of Nursing Procedure after implementing the new model of nursing documentation form**

No.	Procedure	Nursing Record	Observation	Bivariable Correlation Test result	
				r	Sig. (1-tailed)
1.	IV therapy	13.00	3.50	0.818	0.002
2.	Urine catheter	13.33	3.33	0.500	0.333
3.	Preoperative care	13.00	4.00	0.612	0.030
4.	Postoperative care	7.50	4.00	0.500	0.071
5.	Surgical wound care	7.14	3.67	0.548	0.102

Notes: Significant ( $P \leq 0.05$ )

#### a. Nursing Procedure 1: Maintenance of Intravenous Therapy

There was a significant improvement in the record of nursing procedure maintenance of intravenous therapy ( $t = -2.400$ ;  $p = 0.020$ ). The congruence between the implementation and record of the procedure improved significantly ( $r = 0.818$ ;  $p = 0.002$ ). In this case the change was probably caused by the adding of point potential/infuse on the column intake – output observation, column skin/mucous to observe whether there was any complications on the infusion insertion site, column comfort to observe patient response to the procedure. The adding



column of observation would give direction to the nurse to write which data had to be recorded. The nurse usually communicates information in a logical format.<sup>11</sup>

#### **b. Nursing Procedure 2: Patient with Urine Catheter**

In the observation on nursing care procedure for patient with urine catheter, on average the nurses did not record amount, color, consistency of urine, and patient response. This study found that there was a significant improvement in the number of complete record for the procedure ( $t = -4.000$ ;  $sig. = 0.029$ ), even though there was no change in the correlation between the implementation and recording the procedure ( $r = 0.500$ ;  $p = 0.333$ ). The cause might be the addition of observation column for elimination to observe whether there was any bleeding, infection, clotting or sediment in urine. The observation was not using checklist but it had to be written descriptively. The column did not provide standard choices.

#### **c. Nursing Procedure 3: Preoperative Care**

Patients who were waiting for surgery usually felt anxious because they were lack of information about what would happen after surgery. The nurses could reduce and release the anxiety through preoperative teaching. There was a significant rise in the number of complete recorded for preoperative care procedure ( $t = -1.964$ ;  $p = 0.041$ ), and the congruence between the implementation and the record of the procedure improved significantly ( $r = 0.612$ ;  $p = 0.030$ ). The improvement in recording the procedure and the congruence was probably caused by the additional column of comfort to record preoperative teaching related to surgical procedure.

#### **d. Nursing procedure 4: Postoperative Care**

The number of recorded postoperative care in the nursing procedure improved significantly ( $t = -2.236$ ;  $p = 0.026$ ), even though the congruence between the implementation and the recording of the procedure was not significantly improved ( $r = 0.500$ ;  $p = 0.071$ ). In this case the cause was not all post operation procedures were implemented and recorded, for example bleeding observation almost never been done and recorded in column circulation. The nurses almost never did record auscultation the bowel sound to observe paralytic ileuses but recorded the result in the observation form.

#### **e. Nursing Procedure 5: Surgical Wound Care**

The purpose of surgical wound care is to decrease microorganism growth in wound or incision and promote wound healing. Therefore, it is important to observe the wound condition and document the dressing care. This study found that number of recorded surgical wound care improved very significantly ( $t = -6.000$ ;  $p < 0.001$ ). The increasing number of completed records was not followed by the congruence between the implementation and the completion of recording the procedure ( $r = 0.548$ ;  $p = 0.102$ ).

Before implementing the new model of nursing documentation the nurses recorded infrequently the wound care that they had done, even though they delivered the procedure appropriately along the standard. There was no significant correlation between the implementation and the completion of records and after implementing the new model of nursing documentation. This might be caused by the lack of column of wound aspect with

the standard choice. The nurses still had to write descriptively to describe the wound condition although this column guides the nurses to write the wound care that they had done.

The increasing number of recorded nursing procedures and the congruence between the implementation and recorded of these procedures can prevent patients from potential risk of critical incidents regarding nursing intervention. Wright<sup>12</sup>, who did a study in Intensive Care Unit in Western General Hospital, proved it Edinburgh, UK, (1989-1999):

"... the majority of incidents was due to errors by staff, and not caused by equipment failure. The study found there are a number of contributing factors emerged. Such factors were inexperience, shortage of staff, nighttime, and poor communication. Communication among health team members is vital to the quality of client care. Generally, health team members communicate through discussions, reports, and records."

### 3. Nursing Perception Toward Nursing Documentation

Nursing perception toward nursing documentation checklist model was evaluated by 6-points question and filled in by 30 nurses.

**Table 6. Nursing Perception toward Nursing Documentation**  
N = 30

No	Nursing Perception	Mean Before	Mean After
1	Completeness of document aspects	2.53	3.10
2	Systematically	2.27	2.83
3	Effectiveness	2.60	2.80
4	Efficiency	2.37	2.93
5	Spend time	2.40	3.13
6	Difficulty	2.03	2.53

Table 6 described the changing of the nurses' perception before and after implementation of new model of nursing documentation.

In general the 6-points of nursing perception toward nursing documentation checklist model was better than before implementing this model ( $t = 6.624; p < 0.001$ ) and there was no significant difference between the 6 aspects of nurses' perception ( $F = 0.805; p = 0.547$ ).

There are some perceptions of nurses on the new model of nursing documentation based on the feedback meeting:

1. The completeness of document aspects of the new model of nursing documentation is more complete especially for the assessment form and the flow sheet (nursing observation) form.
2. The checklist model is more systematic especially for the assessment form and nursing care plan form. For the flow sheet and progress notes the systematization can be seen in timing shift (day, evening and night) to record nursing care.
3. The standard of nursing care plans only provides for surgical case in general. Therefore, the new form still needs to complete with nursing care plans for specific surgical cases.
4. Recording vital signs used graphs is easier to read rather than written in number.
5. The new form is more efficient because of the time they spend to record nursing care is shorter. Before implementing the new form the average time they spent to record was between 16 to 20 minutes. Meanwhile after implementing it there was about one half of the nurses spend only 5 – 10 minutes.

Efficiency means able to work well and without wasting time or resources.<sup>13</sup> Using Checklist model is easy enough because in the assessment data and nursing care plan they only put a check mark (3) in indicating the presence of a symptom and the appropriate intervention. However, they said that they want to improve their writing skill especially to write nursing progress notes.

Effective documentation skills enable nurses to organize communication and information among health team members who participate in an individual patient's care. It is through careful communication and record keeping that continuity of though related to patient care recorded and preserved.<sup>114</sup>

Based on these analysis it is summarized that the nurses' perception on the new model of nursing documentation (check list) are: aspects of document is complete, systematic enough, effective enough, efficient, shorter time, and easy enough.

## CONCLUSION AND RECOMMENDATION

### Conclusion

From this study it can be concluded that:

1. Nursing documentation checklist model especially for the nursing assessment and nursing care plan form is more effective, efficient and shorter time in recording the nursing care rather than the previous model (narrative model).
2. The clearer the aspect points of data that has to be recorded in the form of flow sheet, the easier the nurses record the nursing care.
3. The more complete the nursing care of patient records, the easier the nurses identify potential risk of critical incidents.

### Recommendation

1. The Director of RSMH has to consider in the using of nursing documentation checklist model. It will improve the intention of the nurses on taking care of patients rather than to spend their time to record the nursing care.
2. The use of nursing documentation checklist model can be effective if it is developed in some other cases of nursing care such as Medical, Pediatric and Maternity.

3. The nurses need to improve the skill of writing the nursing record. Therefore, the role of Nursing Department of RSMH as a supervisor and a facilitator in nursing documentation process must be improved and become proactive by creating a training program for nursing care documentation and visiting the wards regularly.
4. There is a need to implement nursing documentation audit at RSMH as a way to improve the quality of nursing care. Through establishment a-team of quality control and nursing care committee in RSMH, nursing documentation can be evaluated consistently.
5. The new model of nursing documentation can be implemented in nursing schools as one method for the nursing student in learning the nursing care documentation.

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