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ABSTRACT

Objectives: To develop and evaluate nursing quality indicators for infusion therapy in Thailand

Materials and Methods: There were 2 phases in this study: (1) to discover nursing quality indicators for infusion therapy, and (2) to evaluate nursing quality indicators for infusion therapy in Thailand. The participants in the first phase were 19 nurses who were specialists in nursing administration for intravenous therapy, nursing instructors who experienced infusion therapy instruction, and nurses who experienced infusion therapy. In the second phase, 77 participants were selected from nurses involved in infusion therapy in Bangkok Metropolitan Administration General Hospital and Phramongkutklao Hospital.

Results: The study show that (1) Nursing quality indicators for infusion therapy composed of 4 structure indicators, 4 process indicators, and 15 outcome indicators (2) the appropriateness of nursing quality indicators for infusion therapy was rated as high or highest practical in the evaluation

Conclusions: Nursing quality indicators for infusion therapy is a tool which nursing organizations be able to use for assessment and increase nursing quality for infusion therapy. To apply nursing quality indicators, nursing organizations should consider 1) appropriateness for the organization 2) understanding of the indicators' definition and how to use them. Keywords: quality indicators, nursing care quality, nursing care for infusion therapy

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INTRODUCTION

Infusion therapy is the procedure which can be found in 70 % of inpatients. Many patients suffered from the complications of infusion therapy such as phlebitis, infiltration, or extravasation, in addition, they have a longer length of hospital stay, increase hospitalization cost, at risk for septicemia and death. Moreover, it might cause a lawsuit. Prevention of complications from infusion therapy according to patient and personnel safety policy need to improve personnel, equipment, process of practice and healthcare system. The tool for monitoring and specifying quality improvement is the quality indicators. Nursing quality assessment for infusion therapy require nursing quality indicators, however, they are not available in Thailand. The infusion nurse network of Thailand realizes the significance of nursing quality assessment for infusion therapy. Therefore, attention is given to developing nursing quality indicators of infusion therapy which nursing organization can use as a tool for monitoring, evaluation, analysis of obstacles, and improvement of nursing quality for infusion therapy.

METHODS AND MATERIALS

The study was conducted based on research and development in 2 phases (1) to discover nursing quality indicators for infusion therapy, and (2) to evaluate nursing quality indicators for infusion therapy in Thailand. The participants in the first phase were 19 nurses who were specialists in nursing administration for intravenous therapy, nursing instructors who experienced in infusion therapy instruction, and nurses who experienced in infusion therapy selected by purposive sampling and voluntary response sampling methods to participate in a study by responding to the questionnaires 3 times. In the second phase, 77 participants were selected from nurses involved in infusion therapy in Bangkok Metropolitan Administration General Hospital and Phramongkutklao Hospital, selected by simple random sampling method.

Result analysis was divided into 2 phases as follows

Phase 1 - discover nursing quality indicator by questionnaires, Round 1 – content analysis and categorize nursing quality indicators for infusion therapy into 3 aspects comprising the nursing quality indicators for infusion therapy in terms of structure, process, and outcome indicators.

Round 2 and round 3 – nursing quality indicators for infusion therapy with the highest-ranked necessity (the median of 4.50 or greater) which all experts agreed with (the interquartile range is not more than 1.50) were brought to make a conclusion as the nursing quality indicators for infusion therapy.

Phase 2 – assessment of appropriateness of the nursing quality indicators for infusion therapy by using mean and standard deviation. The mean of 3.50 or greater is considered appropriate for use.

RESULTS

Nursing quality indicators for infusion therapy are divided into 3 key areas:

1. The structure indicator consists of 4 main points
2. The process indicator consists of 4 main points
3. The outcome indicator consists of 15 main points

Table 1 The outcome indicators of infusion therapy.

Nursing Quality indicators		
Rate of implementation of nursing practice guidelines for infusion therapy	Rate of peripheral line associated with blood stream infection	Rate of the first attempt of insertion IV catheter
Phlebitis rate	Extravasation rate	Infiltration rate
Hematoma rate	Rate of IV administration error	Rate of IV catheter dislodgement
Rate of IV catheter embolism	Rate of IV catheter occlusion / thrombosis	Rate of getting injury from infusion therapy
Rate of completion of infusion therapy record	Number of customer complaint about infusion therapy	Satisfaction scale for infusion therapy



Figure 1. Nursing Quality Indicators For Infusion Therapy, Thailand

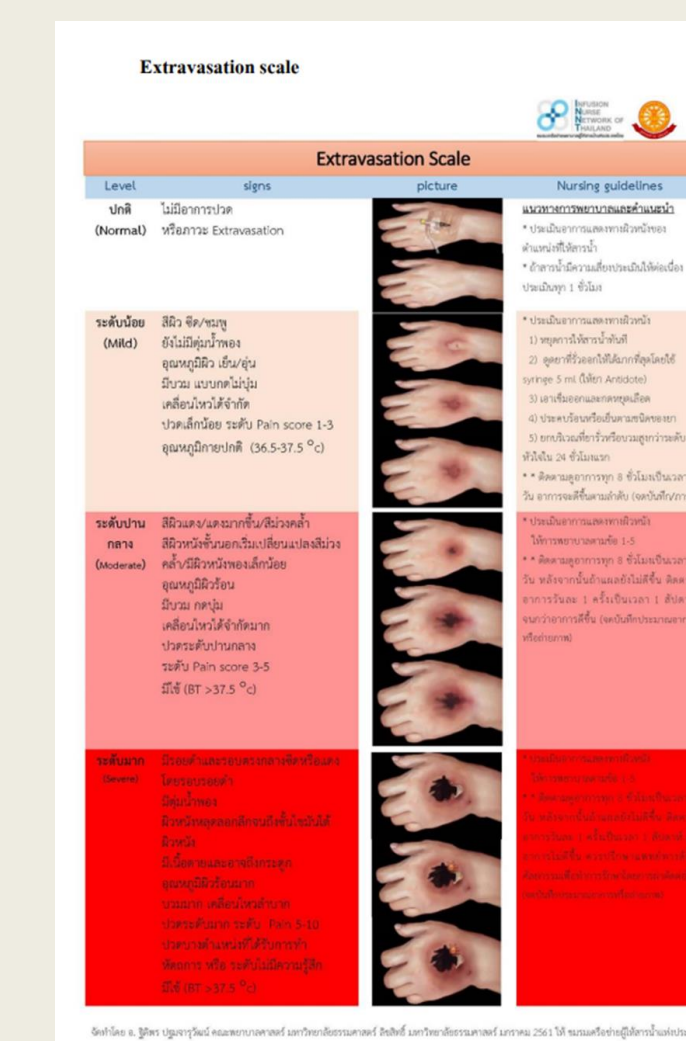


Figure 2. Extravasation Scale



Figure 3. Phlebitis Scale



Figure 4. Satisfaction Scale

DISCUSSION

This study found that nursing quality indicators of infusion therapy are composed of structural, process and outcome indicators.

The highest score of appropriate structural indicator is to indicate a certain safety nursing practice policy for infusion therapy, assign responsible person and nursing practice guideline for infusion therapy which are in accordance with a nursing practice guideline for infusion therapy of infusion nurse society (2016) that to get a high quality of infusion therapy, the hospital needs to have infusion nurse or IV team.

For the process indicator, the highest score of appropriate is to implement the policy, management, and human resource development healthcare personnel for safety nursing practice in infusion therapy. Monitoring and recording of complications from infusion therapy is a key part of quality improvement. (Akeur A., 2011)

Almost all outcome indicators are the most appropriate except for catheter embolism and complaints from the patients on infusion therapy because these two indicators need longer periods of time to show the effect which difference from other indicators. Outcome indicators help nurses to monitor and provide preventive nursing care for patient safety.

CONCLUSIONS

Nursing quality indicators for infusion therapy is a tool which nursing organizations be able to use for assessment and increase nursing quality for infusion therapy. To apply nursing quality indicators, nursing organizations should consider 1) appropriateness for the organization 2) understanding of the indicators' definition and how to use them. (Figures 1-4)

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