

CHAPTER 3

METHODOLOGY

This chapter describes the methodology used for the development of nursing care quality indicators for hospitalized non-surgical stroke elders.

Research design

The research design of this study was a combination of qualitative and quantitative approaches. The three phases of this study were: 1) identification of important aspects and generation of quality indicators of nursing care provided hospitalized non-surgical stroke elders; 2) empirical testing of nursing quality indicators by using the Delphi technique; and 3) pilot testing for applicability of nursing quality indicators

Phase 1: Identification of important aspects and generation of quality indicators of nursing care provided hospitalized non-surgical stroke elders

The purpose of this phase was to elicit the participants' perceptions regarding the quality of nursing care received by hospitalized non-surgical stroke elders. The methodological approaches used in this phase were qualitative and consisted of focus group interviews and semi-structured interviews.

Before collecting data, a literature review was conducted to seek existing quality care indicators, relevant standards used, and types of measurement used to

monitor and evaluate the quality of nursing care provided non-surgical stroke elders, both in Thailand and other countries.

Participants, instruments, and data collection

In this phase the interviews were conducted, and data was collected from, the following four groups of participants:

1) Six hospitalized non-surgical stroke elders, 4 males and 2 females, who agreed to participate in this phase of the study. All of them were over sixty years of age. They were firstly admitted to the medical unit with a diagnosis of stroke/cerebral infarction. All were conscious, were able to communicate verbally and were available for interview. After they gave their informed consent, individual semi-structured interviews, using an interview guide, were carried out to obtain the opinions of the participants. The three main questions asked were: 1) what do you think and feel about the nursing care you received during hospitalization? 2) What should be the most significant activity and best things that nurses do for you? 3) What should be the characteristics of a good nurse and the good care that you expect?

2) Six family members of the six hospitalized non-surgical stroke elders were identified and selected; all were family members who cared closely for the non-surgical stroke elders. Four were spouses of the patients, three were wives, and one was a husband. The other two were daughters of the patients. After informed consent was given by each family member, individual semi-structured interviews, using interview guidelines, were conducted to determine the opinions of the participants. The three main questions asked were: 1) what do you think and feel about the nursing

care your spouse/father received during hospitalization? 2) What should be the most significant activity and the best things that nurses do for your spouse/father? 3) What should be the characteristics of a good nurse and the good care that you expect?

3) Four experts in elderly stroke care were identified. They included: a medical advanced practitioner nurse at a University hospital; a medical nurse instructor at a Nursing Faculty; a neurological physician at a University hospital; and, a neurological physician at a regional hospital. After informed consent was given, individual semi-structured interviews, using interview guides, were carried out to find out the opinions of each participant. The three main questions asked were: 1) what do you think about current nursing care for hospitalized non-surgical stroke elders? 2) What should be the most significant activity and the best things that nurses do for hospitalized non-surgical stroke elders? 3) What should be the characteristics of a good nurse and good care for hospitalized non-surgical stroke elders?

Each individual semi-structured interview took more than one hour per case. In order to obtain data from the non-surgical stroke elders and their families, the researcher visited them more than once. All data were recorded and noted by the researcher.

4) Twenty-two nurses, from three settings, participated in four focus interview groups. The focus groups were comprised of eight nurses from regional hospitals, four nurses from general hospitals, and ten nurses from the Prasat Neurological Institution. All of the nurses had more than five years experience in providing care for hospitalized non-surgical stroke elders. After informed consent had been given, focus group interview guidelines were used to collect the opinions of the participants. The three main questions asked were: 1) what do you think about nursing care for

hospitalized non-surgical stroke elders at present? 2) What should be the most significant activity and the best care that nurses give to hospitalized non-surgical stroke elders? 3) What should be the characteristics of a good nurse and good care in providing care for hospitalized non-surgical stroke elders?

Each focus group interview took more than two hours. All data were recorded and noted by the researcher and research assistant.

In conclusion, qualitative data was collected over four months (March 2006 to July 2006) in a hospital setting. All data were collected by the researcher. Audio-tape recordings and field notes also were made and used.

Data analysis

Data from both the semi-structured interviews and the focus group interviews were transcribed verbatim. Data were analyzed via content analysis. The main ideas were identified and categorized into themes. Then each theme was synthesized into a quality aspect. The quality indicators were generated from each quality aspect, and re-written in the form of nursing care indicator statements. They were checked for redundancy. In order to ensure the credibility and accuracy of the results, three colleagues of the researcher independently reviewed the main ideas, themes, quality aspects, and quality indicators.

Phase 2: Empirical testing of nursing quality indicators using the Delphi technique

The purpose of this phase was to identify the quality indicators which met the approval of the experts. Three rounds of Delphi technique were employed to establish consensus among the expert panelists in respect to the importance, feasibility and face validity of the quality indicators.

The ‘importance’ means that the nursing quality indicator is a significant component in measuring the quality of nursing care provided hospitalized non-surgical stroke elders. Additionally, the ‘feasibility’ refers to the possibility of using the indicators in a real situation, while ‘face validity’ indicates the indicators accurately reflect the quality of nursing care aspects of hospitalized non-surgical stroke elder.

Participants, instruments, and data collection

Thirty-six experts were selected through a purposive sampling technique combined with a snowball technique. The expert panelists included: three physicians, one pharmacist, seventeen nurse instructors, eleven head nurses, and four medical nurses from the hospitals (See Appendix D2). The panelists were classified as being from one of three areas, in accord with their expertise. Twelve had expertise in stroke care, twelve had expertise in elderly care, and the remaining twelve were experts in quality care management. All of the experts met the inclusion criteria of having at least five years of experience in an area of elderly care, stroke care, or quality management.

The three-round Delphi technique was employed to collect data via three Delphi questionnaires. The questionnaire used and data collected for each round was as follows:

Round 1

The questionnaire used in round one consisted of six nursing quality care aspects: 1) management of the patient units with 12 indicators: 2) nursing staff qualification with 11 indicators: 3) nursing care activity with 14 indicators: 4) encouraging families to participate in patient care with 6 indicators: 5) planning for discharge and continuing care with 12 indicators: and 6) nursing care outcome with 20 indicators. Therefore, the round one Delphi questionnaire was made up of seventy-five pre-determined quality care indicators.

In the first round, the thirty-six experts were asked to indicate their responses on the seven point rating scale that rated the importance and feasibility of each indicator. Scores ranged from a score of 1 = strongly disagree to 7 = strongly agree.

Round 2

The respondents in round one became the experts in round two. However, data from only 35 expert panelists were collected in round two because one panelist formats did not complete the questionnaire in round one.

During this round, the expert panelists were asked to re-rate each indicator. The round two questionnaire was almost the same as the questionnaire used in round one.

Round 3

The respondents in round two became the experts in round three. Data was collected only from 33 subjects during this round due to the fact that two of the

participants failed to return the round two questionnaire. The questionnaire for round three was made up of twenty-seven quality indicators that were grouped into six quality aspects.

In this round, three types of feedback, each expert's previous scores, the panel of experts' median scores and the inter-quartile range scores, were identified regarding the expert's responses to each indicator. The experts were asked to confirm their opinion of each indicator with respect to its importance and feasibility. If they persisted in providing responses that differed from those of the other experts, they were asked to explain the reason for their responses. On the other hand, they also could change their responses. In addition, the experts were asked to determine the face validity of each indicator.

In each round, the Delphi questionnaire was posted to each expert. In addition, the experts were given an opportunity to add new quality indicators, and encouraged to include comments at the end of the respective questionnaires. The criterion for adding more indicators after each round was based on the number of suggestions made by three or more experts.

Data analysis

For all step of Delphi responses, each nursing quality indicator were examined in terms of the importance, feasibility and face validity based on the mean, median, interquartile range and standard deviation. The respective indicators of each round would be kept based on the two following criteria (Holden & Wedman, 1993; Loughlin & Moore, 1979 cited in McKenna, 1994; Murphy, 1983):

1. Over 51% of the experts scored both importance and feasibility of the same indicator more than 5.

2. The interquartile range of both importance and feasibility of the indicator was equal or less than 1.5.

In addition, the analysis of each quality indicator of the three rounds was based on the median score (MD) of the levels of importance, feasibility, and face validity using the following criteria:

- a. MD score of 6.00 - 7.00: greatest importance/feasibility/validity
- b. MD score of 5.00 - 5.99: great importance/feasibility/validity
- c. MD score of 4.00 - 4.99: moderate importance/feasibility/validity
- d. MD score of 3.00 - 3.99: somewhat less importance/feasibility/validity
- e. MD score of 2.00 - 2.99: less importance/feasibility/validity
- f. MD score of 1.00 - 1.99: importance/feasibility/validity

Phase 3: Pilot testing for the applicability of nursing quality indicators

The purpose of this phase was to evaluate the applicability of the quality indicators. Applicability refers to the practicability of the use of the quality indicator in regional and provincial hospitals.

The procedure of this phase was divided into two steps. They were: the step of development of the indicator applicable questionnaire and the step of applicability testing.

Step one: development of the indicator applicable questionnaire

The twenty-five nursing quality indicators for hospitalized non-surgical stroke elders were modified and developed into a questionnaire, so as to be able to audit their applicability.

Content validity testing

The content validity of this questionnaire was tested by the five experts. Two of them were experts in stroke care, two were experts in nursing administration and one was an expert in instrument development (See Appendix F8). They were asked to determine the relevance of each item in the indicator applicability questionnaire, as well as to assess the conciseness of the items in the questionnaires.

They indicated the content validity through use of a 4-point Likert scale, wherein 1 = not relevant; 2 = somewhat relevant; 3 = quite relevant; and 4 = perfectly relevant. In addition, they indicated the conciseness of the items of the questionnaire as either yes (concise) or no (not concise).

Data were analyzed using a Content Validity Index (CVI). The CVI was determined by the proportion of experts, who rated it with a score of 3 (quite relevant) or 4 (perfectly relevant), over the total number of experts. A CVI of 0.80 and over was considered acceptable (Waltz, Strickland, & Lenz, 1991).

Step two: applicability testing

The nursing quality indicator applicable questionnaire was issued to the head nurse/representative of four medical units, in a regional hospital, and four medical units, in a general hospital, where non-surgical stroke elders have been admitted. The responders were asked whether there has been an evidence/occurrence relating to each indicator. The response to a question was yes/no answer, whereby no given a number

of 0, meant there were no evidence or occurrence, and yes given 1, meant there was evidence or occurrence (see Appendix F9).

Data analysis

The criteria that was used to identified the applicability of each quality indicator was determined followed by the work of Irawaty (2006). They were:

- a. The indicator that could be observed/ audited in 7-8 units was classified as highly applicable.
- b. The indicator that could be observed/ audited in 5-6 units as most applicable.
- c. The indicator that could be observed/ audited in 3-4 units as less applicable.
- d. The indicator that could be observed/ audited in 1-2 units as not applicable.

Protection of Human Subjects' right

In compliance with ethical standards, this study was approved by the Institutional Review Board of the Faculty of Nursing of the Prince of Songkla University, the Director of Hat-Yai Hospital, the Director of Songkhla Hospital and the Institutional Review Board of the Prasat Neurological Institute. Ethical issues also were taken into consideration throughout the study. Subject confidentiality was guaranteed through the use of numerical coding for the data collected.

Summary

In summary, the research methodology of this study consisted of three phases. They were: 1) the phase of identifying nursing quality aspects and indicators for care provided hospitalized non-surgical stroke elders; 2) the phase of empirical testing of nursing quality indicators by using the Delphi technique; and 3) the phase of pilot testing for the applicability of the quality indicators (See Figure 2).

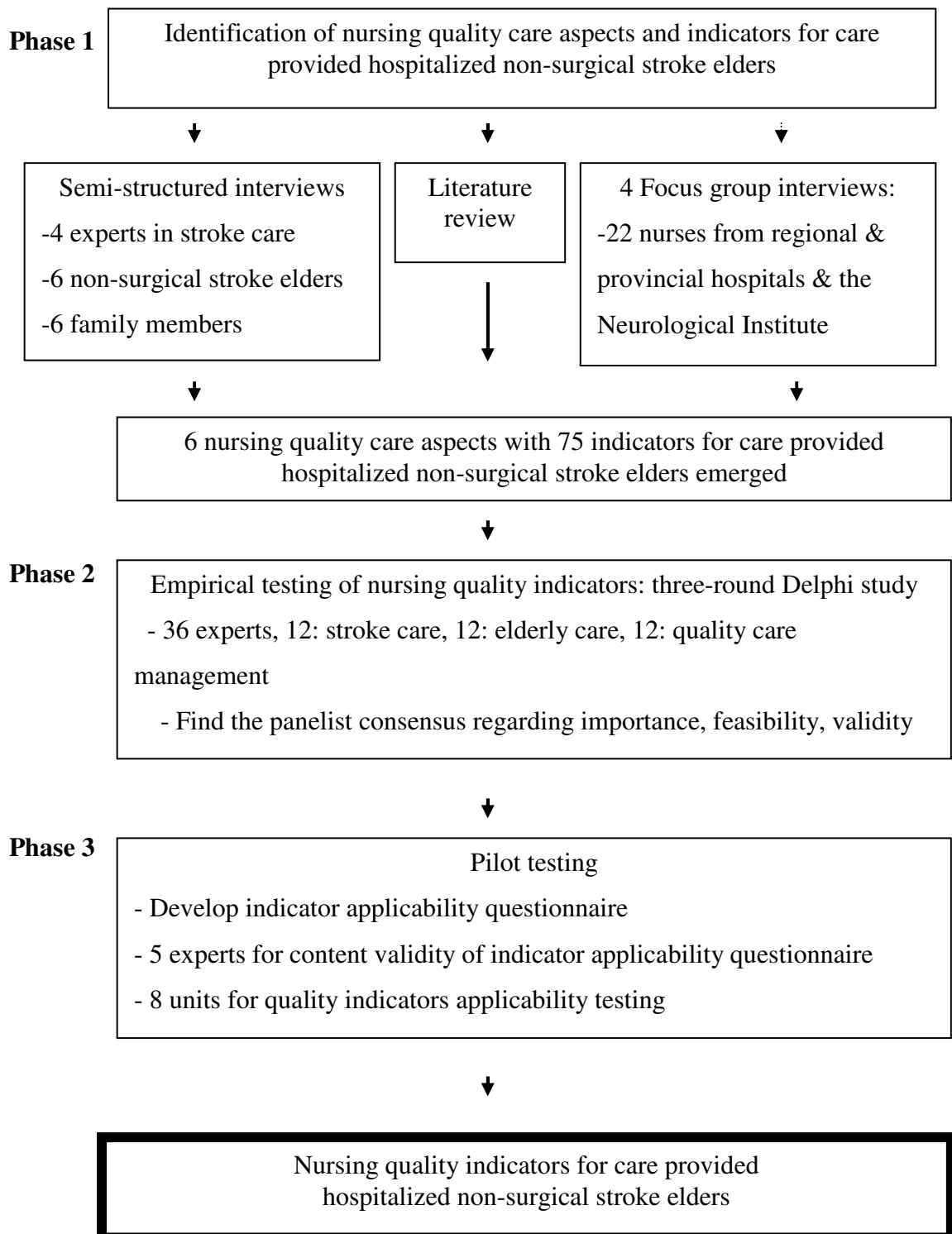


Figure 2 The research methodology used in this study