

A Model of Stroke Competency Development for Nurses at Sub - District Health Promoting Hospital

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Abstract

The objectives of this research with mixed methods were 1) to study Needed stroke competency of nurses and methods of developing their competency at sub-District health promoting hospital; 2) to create and check a model and manual of Stroke competency development for nurses at the sub - district health promoting hospital; and 3) to evaluate the developed model. Three phases of conducting this research were carried out: Phase 1, the literature about the needed stroke competency of nurses was reviewed from three sources i.e., 1) research documents, 2) five experts, and 3) 150 samples who were randomly selected from the nurses working at the sub-district health promoting hospital by a questionnaire with the reliability of 0.992. The statistics used to analyze the obtained data were frequency, percentage, mean and standard deviation. Phase 2, a model of stroke competency development for nurses was drafted and developed by the researcher and was examined and approved by five experts. Phase 3, the model was evaluated by five experts in order to find its appropriateness, concurrence, possibility and correctness. The research results revealed that:

1. The samples' stroke competency development at the research area consisted of 18 aspects: 1) stroke, 2) acute stroke, 3) respiratory care, 4) cardiovascular care, 5) diabetes hypertension dyslipidemia, 6) rehabilitation after stroke, 7) fatigue after stroke, 8) positioning and pressure area care, 9) pain control, 10) vision and perception, 11) communication, 12) psychological care, 13) nutrition, 14) excretory, 15) sex after stroke, 16) transfer of care, 17) long term care and 18) end of life care. The most required methods for developing their stroke competency were training, internship, working with experts and workshop.

2. The model stroke competency development for nurses consisted of the following components: rationale, purposes, contents, manual structure, periods of development, development process, and measurement and evaluation.

3. Having evaluated by the experts, the developed model's appropriateness, concurrence, possibility and correctness was overall found at a high level ($\bar{X} = 4.265$).

Keywords : Competency Development, Stroke, Nurse

Introduction

This research aimed to study stroke competency and a model of stroke competency development of nurses at sub-district health promoting hospital in order to be applied to lessons and practice. The model focused on the needed competency of care for stroke patients at home, which was obtained by questionnaires from nurses working at the sub-district health promoting hospital and experts' opinions to serve as a guideline to promote needed competency of care for stroke patients. (Wannacum Wimarn, 2010 : 6) The model includes a description of the surveyed content. The experts' opinions revealed that this is the needed competency for the nurses and those who look after stroke patients at home to realize and earn knowledge in order to develop the competency of care for the patients at home. (Krutaka Sudarat, 2007 : 2) The researcher hope that this research is an efficient development model and can be used as a guideline for teaching and training to develop the competency of nurses at sub-district health promoting hospital for effective care.

Research objectives

1. To study needed stroke competency of the nurses and methods of developing their competency.
2. To create and check the model of stroke competency development of the nurses and manual.
3. To evaluate the developed model.

Methods

This research was conducted with mixed methods that were used to collect and analyze quantitative and qualitative data to obtain consistent data. The methods were carried out into 3 phases; **Phase 1:** Documentary study to search for information concerning a model of competency development, nurses' competency, patient care and methods of competency development, including relevant ideas and theories and analyze data through Content Analysis, and to study the nurses' opinions by questionnaires to know the needed stroke competency and the methods to develop their competency through basic statistics which were mean and standard deviation in each aspect and all aspects; **Phase 2:** In-depth Interview to compile opinions from experts who specialize in treatment and care for stroke patients to assure the drafted model of stroke competency development of the nurses. The data were analyzed through

Content Analysis; **Phase 3:** The study of opinions of experts specializing in treatment and care for stroke patients to evaluate the drafted model of stroke competency development of the nurses after revised by 5 experts (Connoisseurship) for its appropriateness, concurrence, possibility and correctness by using a 5-rating scale questionnaire to find basic statistics.

Population and sample group of this research were as follows; the population was the nurses taking care of stroke patients and working at the sub-district health promoting hospital in Buriram province, 150 samples were obtained by sample size determination using Krejcie and Morgan Table (Krejcie, R. V. & Morgan, D. W, 1970 : 33-34) and were selected by using the means of Stratified Random Sampling with the Proportional Allocation to get a sample from each district and followed by the means of Simple Random Sampling with the draw (Surachai Pisan, 2011- 77-78)

Results

The results revealed that the needed stroke competency of nurses working at sub-district health promoting hospital consisted of 18 following aspects:

- 1) Stroke. identify and describe causes and risk factors, types and pathophysiology of stroke, a clogged artery and methods of treatment; the symptoms in each area from losing nervous system.
- 2) Thrombosis. The nurses were able to: identify indications and exceptions for the treatment of Thrombosis; use equipment such as evaluation form of neurological conditions (National institutes of health stroke score : NIHSS), evaluation form of consciousness (Glasgow coma scale: GCS), and so on to evaluate severity of neurological conditions; surveillance guidelines of the care for stroke patients at the provincial and national level; educate the patients and their relatives; explain policy guidelines or protocol or Stroke Fast Track; apply researches concerning how to cope with the care for stroke patients to the patients and their relatives.
- 3) Respiratory care. This competency is a respiratory patient care to prevent threats that may result in patients' death. Evaluate and consult with a health care team about the factors and influence respiratory tract that and manage the role concerning immediate rescue of the respiratory failure.
- 4) Cardiovascular care. The nurses were able to: accurately manage preparation for the patients and electrocardiography; identify electrocardiogram abnormalities; Atrial Fibrillation and an association with stroke.

5) Diabetes, hypertension, dyslipidemia. This competency is a care given to stroke patients with joint diseases mentioned above. Explain effects and how to deal of high or blood sugar, high blood pressure or dyslipidemia in the patients with acute stroke as a protocol.

6) Nutrition. Nutrition and bodywater balance with eating disorders. The nurses should understand about anatomy and physiology of swallowing process. Explain risks that may arise from dysphagia; practice about swallowing to patients' relatives; evaluate patients' hydration status or nutritional status, describe signs and symptoms of dehydration or nutritional status; know correct ways of making body fluid balance and use techniques that allow patients to drink water. Tube feeding is needed in patients who cannot eat, so the nurses must be knowledgeable about tube feeding/nutrition, and be able to: put the tube in the nose (NG-tube) give advice to caregivers on how to apply feeding tube, replacement and the balance of fluids.

7) Excretion. This competency is a care concerning excretion of both urine and feces. The nurses were able to: explain anatomy and physiology in waste removal of bladder and colon, explain the reasons why the patients should be transferred to other services and transferring process dealing with the bladder, and have the ability to deal with and support continence of urine and feces.

8) Rehabilitation after stroke. This competency helps rehabilitate patients with physical and movement disabilities. The nurses were able to: explain guidelines on existing rehabilitation; describe the roles of a multidisciplinary team; options of rehabilitation; explain and provide information concerning procedures to be used for making decision to receive a treatment to patients or caregivers; provide physical therapy, understand key steps to practice.

9) Fatigue after stroke. This competency is the care for patients with symptoms of fatigue from low body functions which affect all aspects of quality of life. The nurses were able to: explain physiological and psychological changes associated with fatigue after stroke; understand the patients and their families as well as opinions of caregivers about a patient's fatigue after stroke.

10) Positioning and pressure area care. The nurses have knowledge and skills in using proper equipment for positioning the patients. They also were able to: evaluate, plan, record data of patients' gesture, deal with, and move the patients, communicate with the multidisciplinary team about the positioning, handle and move the patients, explain the importance of maintaining movement gesture, take care of pressured areas. Evaluate the risk of the occurrence of the pressured sores and provide a treatment of pressure sores.

11) Pain control. Care for patients with pain in a common stroke, especially shoulder pain and shoulder movement. Therefore, the nurses explain the pathophysiology of pain that occurred with stroke; practice and record data to evaluate the pain the treatment with and without medicine in dealing with the pain and effective surveillance of side effects; educate patients/caregivers about how to deal with the pain.

12) Vision and perception. Care for patients who lose sensory perception and has visual field deficit. Understand the difference between the abandoned side and homonymous hemianopia.

13) Communication. Care for patients with pathology at the brain or dominant hemisphere. Provide information to the patients and caregivers, with a multidisciplinary team involving in patient care and resulting in effective care.

14) Psychological care. Care for patients with mental health problems. Explain the state of mind, emotions and perception disorder. Able to help to maintain the state of mind in the future and screening patients with perception disorder.

15) Sex after stroke. Care for patients with impaired sex the physical problems such as muscle weakness, spasticity. Explain the effect of stroke on sexual arousal and sexual activity of intercourse.

16) Transfer of care. Get proper and correct treatment with highest safety both information and transferring process. Taking care of the patients and the caregivers in the transfer for the treatment, and permission to return home is appropriate; understand multidisciplinary team and the duty of each team member to forward the previous treatment.

17) Long term care. Most stroke patients with chronic diseases, disability that limits their daily activities and medical equipment need. An assistant or a caregiver to help them with long-term care. Identify controllable and uncontrollable factors of risk of stroke and transient ischemic attack. Explain secondary prevention that may reduce the risk of stroke/transient ischemic attack; identify and utilize relevant information from various brochures/data sources and describe the reasons of the use of anti-platelet medicine/blood pressure/Statin for the treatment and provide support to the patients and advice to patients' families.

18) End of life care. This competency is the care for stroke patients with terminal illness in order to enhance quality of life, and prepare for the loss of life (Good death). So the nurses were able to: guidelines and deal with the patients with terminal

illness and gain access to the right resources such as palliative care teams, respect the goals of patient during the final stage of care.

The basic information of the sample group was female, aged 40-49, Bachelor's degree, and work at sub-district health promoting hospital at least 15 years. Most of the sample group claimed that 18 aspects of the needed competency concerning stroke of the nurses were overall at a high level. Have considered in each aspect, it revealed that the most needed competency was the care of diabetes, hypertension, dyslipidemia; and followed by positioning care and the treatment for pressured area and stroke, respectively. The first 3 methods brought into the process to develop the competency were training, working with experts and workshop, respectively.

The results of the creation and monitoring the model of stroke competency development of nurses at sub-district health promoting hospital revealed that the model of stroke competency development of the nurses was the manual of stroke competency development. The development guidelines consisted of following components: rationale, purposes, manual structure, development activities, development process, and measurement and evaluation.

The evaluation of the model revealed that the model's appropriateness, concurrence, possibility and correctness were found at a high level. Have considered in each item, the highest average was the model's concurrence; followed by possibility and correctness, respectively.

Discussion

The results revealed that the needed competency of the nurses at sub-district health promoting hospital consisted of 18 aspects. This is because the illness of stroke resulted in patients' disorders of the body, mind, intellect and emotional problems. The patients need a long period to recover. The nurses responsible for the care of stroke patients at home and able to effectively provide care for patients, give advice to patients' relatives, caregivers needs to be knowledgeable, understand quality of work, and get the work done successfully; understand the process of patient care, care plan, assistance, advice, problem solving; understand stroke, risk factors, prevention and how to deal with complications; provide advice to the patients' relatives in helping the patients do their daily activities, and so on. This is consistent with Blancero, Boroski & Dyer (Blancero, D, Boroski, L.; & Dyer, L, 1996 : 383-403) who studied the needed competency of organization of human resource management. It is the core competency for working which consists of 11 competencies and is divided into 3

parts as follows; 1) Core Competency: a needed competency for every position in organization of human resource management which includes 11 competencies, 2) Leverage Competency: consists of 6 competencies, and 3) Role-Specific Competency: consists of 6 competencies. The model of stroke competency development of nurses at sub-district health promoting hospital is the prototype of the process which defines the needed stroke competency of the nurses by developing the model to be used in competency training of the nurses. The developed model is the manual of stroke competency development of the nurses. The guidelines for the development consisted of 7 following components: 1) rationale, 2) purposes, 3) manual content, 4) manual structure, 5) activities, 6) process, and 7) measurement and evaluation. The development process was divided into 3 processes as follows: 1) preparation, 2) process, and 3) evaluation. A good manual must consist of components that define the process “what someone must do, where, when, and why?” which will make the manual available to the users for maximum benefit. This is consistent with Wimarn Wannacum (Wimarn, 2010) who conducted a study on “Competency Development of Administrators in Small Schools under the Office of the Basic Education. The study revealed that the competency development came up with a course which consisted of rationale, purposes, structure, content, duration, activities, tools, and evaluation. And after the course, it was found that participants were more knowledgeable than before they attended the course. Moreover, after 3 months of follow up, the participants could apply the knowledge into their work at a high level.

The model of the competency development focuses on the participation of participants which aims at expressing the participants' actual behavior. This is consistent with the Modern Practice of Adult Education by Knowles (Knowles, Malcolm S., 1980 : 98-116) which consisted of flexible and independent curriculum in order to find individual motivation as the learning methods were based on Experiential Techniques concentrating on trainees' experience. Therefore, the trainer will introduce theory to each competency which is a review of the trainees' knowledge. If this is the expected behavior, the trainer may not explain that part, or explain only new knowledge to the trainees. The chance of knowledge and experience exchange to one another will gain more reliability.

The methods of competency development are various such as training, internship, working with experts, and workshop. This is because learning new knowledge or skill as well as new techniques especially the nurses' competency begins with the development leading to confidence in the

knowledge, and providing appropriate practice to get the benefit and minimize the risk of disease. The necessity of competency development of staff who take care of stroke patients is to enhance appropriate and sufficient knowledge and proficiency to provide effective service. This is consistent with Suwanna Chanprasert (Chanprasert Suwanna, 2012 : 25-38) who studied the quality of nursing practice through specialized trainingcourses. The study revealed that the nurses should apply their knowledge and skills to their service, and most customers were very satisfied.

The manual of stroke competency of nurses at sub-district health promoting hospital withpossibility and correctness can be used to develop the nurses. This is because the manual is a map telling the beginning and the end of the process and confirms in writing that can be studied over times. It identifies details of process and activities which is consistent with Kanokon Pratnakhon (Pratnakhon Kanokon, 2007 : 96) who conducted a study on “the Development of Training Manual for Promoting the Competency of Government Officers of Drugs Suppression Operation Center.”The evaluation result of the manual’s effectiveness and appropriateness was at a high level.

The manual of stroke competency of nurses is also consistent with SudaratKrutaka who conducted a research on “the Development of Training

Courses to Strengthen the Competency of Head Nurses in Future Health Care System.” The evaluation result of the manual’ appropriateness was at a high level. Therefore, nursing administrators can apply the manual of stroke competency development of nurses as a guideline on planning internal development training in their organizations, as well as on planning nursing staff to attend additional training program which concerns nursing specialty in stroke patients.

Suggestions

1. Suggestions on applying research results into practice.

1.1 The model needs to be discussed among speakers or the nurses in order to have a consistent understanding and be willing to perform their duty. The model manual should be given to the nurses to learn and practice before personal use for correct understanding and proper plan.

1.2 Public Health Offices should have a promoting policy on competency development of nurses in terms of diabetes, hypertension, and dyslipidemia as the results found that the nurses working at sub-district health promoting hospital have a demand for those competencies.

1.3 The organization should take part in planning, training, scheduling duration and place as well as applying content and activities on demand. The

evaluation should be conducted periodically with an appointment of involved officials in the organization to follow up the project.

2. Suggestions for further researches.

2.1 There should be a model of competency development of nurses who take care of patients with other health problems and complex or high-risk problems.

2.2 There should be a development of competency model of caregivers and organizations in the community to participate in the care of stroke patients in order to enhance better care.

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