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Nurses' experience in carrying out muscle strength exercises among patients with strokes: A qualitative study

Kartika Sari[1]*, Jenny Marlindawani Purba[1], Kiking Ritarwan[2]

[1]Program Studi Magister Ilmu Keperawatan, Fakultas Keperawatan, Universitas Sumatera Utara
[2]Fakultas Kedokteran, Universitas Sumatera Utara, Medan
Corresponding author: *E-mail: ksari0801@gmail.com

Abstract

Background: Patients with stroke suffer various nerve and muscle issues. The weakness and paralysis of patients with stroke affect their ability to carry out their daily activities.
Purpose: To explore nurses' experiences in performing strength of muscle exercise on patients with stroke at Haji Adam Malik Central General Hospital, Medan
Method: This qualitative study with a phenomenological descriptive approach employs a purposive sampling technique to choose 10 nurses who have prior experience performing the strength of muscle exercise on stroke patients. Data are collected through in-depth interviews and then evaluated using Collaizzi method.
Results: The five issues identified by the thematic analysis are the nurses' understand about the strength of muscle exercise, challenges and solutions encountered while performing the strength of muscle exercise, how strength of muscle exercise is implemented, the need to enhance the skill in performing strength of muscle, and the nurses' emotional reaction while performing the strength of muscle exercise on the stroke patients.
Conclusion: Nurses' knowledge of muscle strength enables them to demonstrate it to stroke patients and help them find the best solution to various challenges they may encounter.
Suggestion: The need to improve nurses' skills in muscle strength exercise is related to efforts to improve the quality of nursing care for stroke patients.

Keywords: Nurses' Experience; Patient with Stroke; Strength of Muscle.

INTRODUCTION

Stroke is a condition where there are clinical signs of brain function disorders that develop rapidly, can be vocal or global, last more than 24 hours, or cause death, with abnormalities originating from the blood vessels (Coupland, Thapar, Qureshi, Jenkins, & Davies, 2017; Caplan, 2014; Kurnilawati, 2022). One in 20 deaths in America is caused by stroke and within 40 seconds a stroke occurs and every 4 minutes a death occurs due to stroke (American Stroke Association, 2020). Based on data from Indonesian Basic Health Research, it was found that the prevalence of stroke increased from 7 per 1,000 population to 10.9 per 1,000 population in 2013. The prevalence of stroke is based on diagnosis in residents aged more than or equal to 15 years in North Sumatra Province according to the age of the majority in the group: 55-64 years old (41.76%), majority gender female (42.19%), education: high school (42.01%), occupation: student (59.25%), and place of residence: urban (36.9%). The prevalence of stroke in Medan City is around 50.12% (Ministry of Health of the Republic of Indonesia, 2018).

Stroke patients have various problems with the nerves and muscles in their bodies. This is

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characterized by weakness up to paralysis in one body organ (monoparese), one side of the body (hemiparesis/hemiplegia) or both lower limbs (paraparesis/paraplegia) which can have an impact on the ability to complete daily activities. The strength of assurance is very significantly related to independence in toileting (Kisara, Fujita, Ohashi, Yamane, & Sato, 2018). The importance of increasing hand movement and hand muscle strength as an exercise to improve the ability of daily activities in post-stroke patients. Activities that can strengthen muscles (muscle-strengthening activity) will increase functional capacity, ability to carry out daily activities and improve the quality of life of post-stroke patients (Kim, 2016; Pontes, de Carvalho, Almeida, Neves, Ribeiro Schindler, Alves, & Gomes-Neto, 2019).

Strength of muscle exercise begins with assessing muscle strength in parts of the body that experience weakness/paralysis, and efforts to reduce disability such as active exercise, passive exercise, range of motion exercise, and efforts to improve the patient's functional status such as the ability to dress, moving, changing position from lying to sitting, bathing, etc., so that post-stroke sufferers are expected to be able to adapt to the current state of their body in order to achieve the patient's independence in terms of Activity Daily Living (ADL).

It is important to do muscle strength exercise as early as possible in post-stroke patients in order to recover and reduce disability or disability (Hosseini, Peyrovi, & Gohari, 2019; Han, Zhang, Kang, Ma, Fu, Jia, & Guo, 2017). Nurses are people who accompany patients for 24 hours so it is important for nurses to have skills related to strength of muscle exercise. muscle where he can provide earlier exercise to stroke patients. Therefore, researchers are interested in exploring the experience of nurses in carrying out muscle strength exercise for stroke patients so that the quality of nursing services for stroke patients can be improved.

RESEARCH METHOD

The design of this study is a qualitative study with phenomenal descriptive study approach, to explore nurses' experiences in performing strength of muscle exercise on patients with stroke. This study was conducted at Adam Malik Hospital in North Sumatra, Indonesia. The number of participants to achieve data saturation in this study was 10 participants. Participant was the nurses who were working at Adam Malik Hospital.

Purposive sampling was used to select participants based on inclusion criteria; nurses who work full time in the neurology room, nurses who have completed a minimum of a nursing diploma, nurses who have at least 2 years of experience in caring for stroke patients and have carried out muscle strength exercise, and nurses who are willing to become participants. Seven specific characteristics of participants were analyzed consisting of: age, gender, ethnicity, marital status, education level, years of service, and muscle strength exercise. Characteristics of participants based on age, youngest 29 years and oldest 52 years, gender; 8 female participants and 2 male participants, ethnicity; 5 participants from the Karo tribe, 2 participants from the Toba Batak tribe, 1 participant from the Pakpak tribe, 1 participant from the Mandailing tribe, and 1 participant from the Javanese tribe; marital status; 8 participants were married and 2 participants were not married, education level; 6 participants had completed a Bachelor of Nursing and 4 participants had completed a Diploma in Nursing; work period in the neurology ward; 7 participants who have worked ≥ 5 years and 3 participants who have worked < 5 years, and muscle strength exercise; All participants had experience participating in muscle strength exercise.

Data collection was carried out on nurses working in the neurology ward from April to May 2022, using in-depth interview techniques and observations for approximately 60 to 90 minutes. This is in line with previous research that categories of qualitative data can be: observations, interviews and questionnaires, documents and audiovisual objects (Creswell, 2012). After mutual trust emerged, the researcher provided a brief explanation of the research objectives. Written consent was obtained from each -each participant after they agreed to participate in this research. Interviews were conducted by considering time, environment, and maintaining participant privacy. The researcher asked for permission to record conversations during the interview and questions at the beginning of the interview in accordance with the interview guide.

Kartika Sari[1]*, Jenny Marlindawani Purba[1], Kiking Ritarwan[2]

[1]Program Studi Magister Ilmu Keperawatan, Fakultas Keperawatan, Universitas Sumatera Utara
[2]Fakultas Kedokteran, Universitas Sumatera Utara, Medan
Corresponding author: *E-mail: ksari0801@gmail.com

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During the interview process, the researcher provided the opportunity to participants to express their experiences freely so that natural data is obtained according to their experiences. The results of interviews, observations and field notes are summarized in the form of interview transcripts.

Colaizzi's data analysis technique (Sanders, 2014) has been used in this research which consists of 7 stages, namely: (1) Obtaining an understanding of each transcript of the nurse's experience in carrying out muscle strength exercise on stroke patients, (2) Exploring significant statements, the researcher extracted phrases and significant statements from the transcript which together form the overall meaning of the nurse's experience in carrying out muscle strength exercises for stroke patients. From ten transcripts, 149 significant statements were screened and quotes were presented in a theme matrix table format. (3) Formulation of meaning which is formulated into meaning, in this analysis stage, the researcher formulates a statement or more general meaning for each significant statement filtered from the text. (4) Organize the same meaning, then formulate it into a group of themes (formulated meaning) and group the same meanings to form sub-themes and finally combine the sub-themes into a theme. To describe the experiences of nurses in carrying out strength of muscle exercises on stroke patients, they were arranged into 16 sub-themes and then formed into 5 themes that emerged from the phenomenon of nurses' experiences in carrying out strength of muscle exercises on stroke patients (table 1). (5) Describe the phenomenon being studied in depth in matrix form. (6) Explain the fundamental structure of the phenomenon. (7) Validate the end or ask the participant again about the correctness of the information that the participant has provided regarding their experience in carrying out muscle strength exercise for stroke patients. Researchers used credibility, dependability, confirmability and transferability techniques and this is in accordance with previous research (Guba & Lincoln, 1994; Speziale, Streubert, & Carpenter, 2011).

RESEARCH RESULTS

Table 1. Nurses' Experience in Carrying out Muscle Strength Exercise

Sub Themes	Themes
Definition of strength of muscle exercise Purpose of strength of muscle exercise Collaborate Requirements for doing strength of muscle exercise Frequency and time of doing strength of muscle exercise Types of strength of muscle exercise Benefits of strength of muscle exercise Procedure of strength of muscle exercise Outcome of strength of muscle exercise	Nurses' understanding about strength of muscle
Problems related to strength of muscle exercise Solutions to problems related to muscle strength exercise	Problems and Solutions related to strength of muscle exercise
Strength of muscle exercise during the pandemic Covid-19 Covid-19 prevention	Implementation of muscle strength exercise and prevention of Covid-19
Need to update strength of muscle skills	The necessity to improve skills in performing strength of muscle exercise
Rejoice Satisfied	Nurses' emotional response in perforing strength of muscle exercise

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Theme 1. Nurses' Understanding about Strength of Muscle Exercise

Subthemes- a) definition of strength of muscle exercise

Participants said that the strength of muscle exercise was an exercise given to patients with stroke This following are the results of interview excerpts expressed by participants;

"exercises... that i give to stroke patients." (Q6)
"strength exercise of the patient's muscles." (Q7)
"…exercise for muscle strength." (Q9)

Subthemes-b) purpose of strength of muscle exercise

Based on interviews with participants, data was obtained that participants formulated the aim of strength of muscle exercise in patients with stroke as to increase muscle strength, prevent contractures, prevent muscle atrophy, prevent decubitus, prevent disability, and make patients independent in their daily activities such as eating, wearing clothes, defecating, and urination. This can be seen in interviews with participants as follows;

"...to enable the patient...to be independent...to eat...to wear clothes...to defecate...to urinate..."(Q1)
"To help patients carry out activities while in hospital and at home..." (Q2)
"The aim is.... to provide nursing care, especially helping with mobilization and assisting to Activity Daily Living..." (Q3)
"The aim is to increase the patient's muscle strength... prevent muscle contractures... provide relaxation to the patient..... prevent complications from stroke... for example... decubitus..." (Q4)
"So... strength of muscle will be increases..." (Q5)
"…the patient's muscle strength will be increases..." (Q8)

Subthemes- c) collaborate

Strength of muscle exercise for patients with stroke is carried out according to the doctor's instructions. This can be seen from the following participant statements:

"Yes...after receiving instructions from the doctor to do strength of muscle exercise, the nurse did it..." (Q1*)*
"Yes... neurologists and medical rehabilitation doctors performance a very important role in allowing strength of muscle exercise to be carried out..." (Q3)

Subthemes- d) requirements for doing strength of muscle exercise

According to participants' experiences, patients who do strength of muscle exercise must meet the following requirements: stable hemodynamics, not restless, and temperature within normal. This is in accordance with the statement participants below:

"...if the patient's blood pressure is less than 140 mmHg for systole, i do passive exercise..... and for active exercise.....hemodynamics must be stable..." (Q1)
*"...hemodynamics are stable...before doing muscle strength exercises..." (*Q2)
"...need to monitoring temperature, when the fever has disappeared, i can do exercise... and it similar with hypertension...the blood pressure... take two times measurements...if it's stable... i can do exercise" (Q4)
"....the patient's systole blood pressure must be 140 or below... hemodynamics is stable....." (Q5)
"Patients who are still anxious or patients with a fever.....exercise is not recommended yet..." (Q6)
"So if blood pressure was good or when the blood pressure go down to stable then i can do this exercise" (Q10)

Subthemes - e) frequency and time of doing strength of muscle exercise

Based on participants' experiences in carrying out strength of muscle exercise on patients with stroke, participants found that there was attention to the frequency and duration of this exercise. The average frequency of strength of muscle exercise in one day is carried out twice, in the morning and afternoon. The duration of strength of muscle exercise varies depending on the target organ being drilled, for example changing position from left tilt to right tilt or vice versa about two hours. For muscle stretching with a duration from 20 to 25 minutes. This can be seen from the participant statements below:

"The duration... is approximately half an hour..." (Q3)
"...we recommend twice a day...morning and evening,...about ten or fifteen minutes..."(Q4)
"twice a day... in the morning and evening usually after the patient has showered..." (Q5)
".....we do it twice a day, yes, we do it in the morning and evening... about 20 to 25 minutes." (Q9)

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[2]Fakultas Kedokteran, Universitas Sumatera Utara, Medan
Corresponding author: *E-mail: ksari0801@gmail.com

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"twice a day, sometimes morning shift, afternoon shift, for 15 minutes... until half an hour" (Q10)

Subthemes - f) types of strength of muscle exercise

According to the participants' experience, to carry out muscle strength exercise, nurses must know the various types of exercises, including: left side - right side on the bed, muscle stretching exercises for each body joint/range of motion, gripping/squeezing exercises, moving of mouth/tongue, speaking practice. Participant statements confirming this are as follows:

"...exercise by moving the patient's hands...legs...right left...tilt to the right, tilt to the left…" (Q3)

"....the exercises.....the first...head. .... there are several exercises that we do on the head.....flexion...extension....then hand....in each joint …… feet too (Q4)

"If...the patient is an unconscious...i will turn him left and right side in the bed, move his extremities...then...if...the patient becomes conscious...I will tell him to move his mouth and stick out his tongue. "(Q8)

Subthemes - g) benefits of strength of muscle exercise

According to the participants' experience, to carry out strength of muscle exercise, you must give attention to the usefulness or benefits of the exercise. The benefits of strength of muscle exercise consist of: (1) benefits for patients and, (2) benefits for nurses. Benefits for patients consist of: (a) patients are able to resume activities, (b) increase muscle/joint strength, more relaxed/fit, (c) prevent complications: muscle contractures and pressure sores, (d) increase self-esteem, (e) more confident, (f) able to be independent, (g) increased appetite, (h) able to walk, (i) looks enthusiastic and cheerful. The benefits for nurses consist of: (a) being able to meet the needs of themselves/family/those who require strength of muscle exercise, (b) self-actualization, and (c) increasing participant experience in carrying out strength of muscle exercise for patients with stroke. Some participant statements are shown below:

".....can...move his arms...legs...then can tilt right, tilt left...then can eat and drink..." "can do activities...although slowly. ..and benefit for me, as a nurse.. i can help who needs this exercise an outside of the hospital.....for example...my parents/family ..." (Q3)

"... there is an increase in muscle strength..... the patient will relaxes... muscle contractures and decubitus ulcers are prevented..... it's benefit for me because if my big family with stroke, i can practice my knowledge to them. .....the benefits of self-actualization.... as a nurse, i can provide that nursing care...." (Q4)

"...firstly, his self-esteem will definitely increase... self-confidence... can be independent... do at least light activities like his daily activities.... and for me..., with this exercise, i can applied it to my family or myself..." (P5)

"Strengthening his joints...strengthening his muscles...and.. being fitter...his self-confidence recovers quickly and...his appetite too...basically his ADL....independent too...and for me... i can do it to my family " (P6)

Subthemes - h) procedure of strength of muscle exercise

According to the participants' experience, to carry out strength of muscle exercise, the nurse must be able to know and demonstrate strength of muscle exercise procedures according to the type of exercise. The types of exercise are as described above, consist of: tilt left-tilt right on the bed, muscle stretching exercises for each body joint/range of motion, committed/squeezing exercises, moving the mouth/tongue, speaking exercises. Meanwhile, the procedures carried out by participants are in accordance with standard operational procedures set by the hospital. The participant statements confirming this are as follows:

"...we prepare the patient...measure the hemodynamics. ...if it is stable then we do it..... also prepare the patient's condition,.....maybe he tired...we should introduce ourselves...provide oil and a pillow to support him. (Q1)

"..saying greetings,... introduce my name…purpose…tell about the benefits of exercise and.. be familiar with the patient... ask him first whether he is willing or not..... give him motivation...

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we will do the series of muscle strength exercises..... when you are finished don't forget to ask how he feels... ....i close it, by saying thank you..... " (Q4)
"...permission.....what will we do.....than introduce ourselves.....explain the benefits of activity....., if the patient is an unconsciousness we also have to give permission...we have to asking permission .....we'll let you know. what should we do...because we immediately touch the patient, if we don't tell him, then he'll be confused...so....give an explanation first.....ask for permission after the permission has been given...the patient is okay...we wash our hands first. ..then we do...exercise that is suitable for the patient (Q6)
"Introduce myself...explain the purpose...then i will do it...with the patient, if he is conscious and his family will be taught...for example, if he is aware, I tell him to lift his leg by him self …, pull it like that, lift it while resting, even though it's not the time i do it. "That's okay, if the patient can do it, the patient is conscious of moving his hands, feet.....if he's not conscious, i have to respect to him ... When I am finished with the exercise, i thank you to him" (Q8)

Subthemes - i) outcome strength of muscle exercise

Based on participants' experience in doing strength of muscle exercise on patients with stroke, they found that the outcomes strength of muscle exercise consist of: an increase in the degree of muscle/joint strength, able to sleep soundly, able to excrete secretions, became stronger muscles, able to eat independently, able to daily activities after seven days of strength of muscle exercise. Some participant statements are shown below;
"..motor skills have improved...there is no tension in the muscles...reduces joint stiffness..." (Q1)
"...more relaxed...can sleep soundly....the stiffness in the muscles is reduced....."(Q4)
"...the value of muscle strength increases..." (Q5)
"... the secretions can come out... i tilted him... .i pat him chest... like that... usually... in seven days... he can sit... for example if the patient comes with grade 0 of strength of muscle ... then i do strength of muscle exercise, it could increase from scale1 to 2 or 4 ….. (Q7)
"....his muscle strength has increased compared to before exercise...for example his muscle strength has increase from scale 1 to 2 and before he couldn't spoon feed himself...he can do it now..." (Q8)

Theme 2. Problems and Solutions Related to Strength of Muscle Exercise
Subthemes - (a). Problems related to strength of muscle exercise

Problems related to strength of muscle exercise such as problems with their colleagues, patients and the environment. Problems with their colleagues include: limited number of nurses and a large number of patients, workload and not all of nurses are able to give strength of muscle exercise to patients with stroke. The patient's problems consist of; patients who are obese making it difficult to mobilize, patients who are anxious, patients who have fever, and patients who have high blood pressure. Environmental problems include; wearing masks during muscle strength exercise makes patients and nurses experience shortness of breath, and there is a lack of equipment for strength of muscle exercises such as balls and pillows. Some participant statements are shown below;
" there were limited pillows in the hospital…" (Q1)
".. from the nurse's ... there aren't many colleagues, who are properly trained to do strength of muscle exercise.....and problem from the patient's .....they are overweight.....i have difficult...moving they leg to flexi...or the patients are...restless....." (Q4)
" …from nurse's.....there is workload.....then sometimes during morning duty there are supporting examinations to take patients out of ward...so my time is tight (Q5)
"the problem from patients.....the patient was short breath...because he was wearing a mask while exercise...if we wore a mask...our exercise would be limited.....we would also be short breath, right... (Q6)
" the problem from environment ...We need something like a hand-held ball to train arm muscle contractions, right?... (Q7)
".the problem from environment ..the hospital has a lot of patients...the pillows are limited...." (Q8)
"problem from patient ….they have fever…or high blood pressure…or fat (Q9)
"the problem from patient , ..he's fat, he doesn't shift... or he has a fever.....for problem from nurse's,... there are a lot of patients,... it doesn't

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Corresponding author: *E-mail: ksari0801@gmail.com

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match with the number of the nurses... for problem from environment... it's a problem with pillows... left and right tilts need pillows,... it's limited" (Q10)

Subthemes - (b) solutions related to problem of strength of muscle exercises

Solutions related to problem of strength of muscle exercise, include (1) for collages problems, nurses can provide education to families about strength of muscle exercises that can be carried out by families for patients, or delegate it to fellow nurses on the next shift. (2) for patient problems, the nurse can collaborate with the doctor if the patient has a fever, high blood pressure and is anxious so that they get the right treatment and for patients who are obese, the nurse can involve the family to help change their position, (3) for problems originating from the environment during the Covid 19 pandemic, nurses do not force patients to wear masks, nurses give patients the option to remove the mask during strength of muscle exercise, but nurses and the patient's family continue to wear masks. For equipment problems, it is necessary to involve the head of the nurse regarding controlling and procuring the required equipment. The participant statements that confirm this are as follows:

".....report to the doctor...prescribe medicine….i will monitor the temperature of patient....i also monitor the blood pressure of patient...and if the blood pressure is normal in two measurements...i can do strength of muscle exercise to patients.....if the patient is overweight...i need help.....from the family or another nurse.....and for masks...i can't force the patient to wear one....but for me and the patient's family, we must wear the masks." (Q4)

"…delegate to the next shift…if I'm busy (Q5)

"... for example there are no pillows... I will ask the family to bring pillows from their home (Q8)

".....if the patient has a fever...compress with water and report to the doctor...give medicine for fever, if...hypertension...report to the doctor. ...to get medicine... if the patient is anxious...consult a psychiatrist...and if there is a lack of small balls.....I said to the patient's family.. to buy some a cheap ball " (Q9)

"I looking for the cause of fever... then collaborate to doctor for medicine. …..I will compressed him with water... if the problem of shifting the fat patient...I called his family to help.....if it was a problem with equipment...there was also a patient who brought his pillow...that's what I used for the patient (Q10)

Theme 3. Implementation of Muscle Strength Exercise and Prevention of Covid-19

Subthemes - (a) Implementation of strength of muscle exercise for patients with stroke

There is an issue regarding the use of personal protective equipment, especially masks. The use of masks during strength of muscle exercise causes shortness of breath. The participant statements that confirm this are as follows:

"protect ourselves by using personal protective equipment that meets standards" (Q1)

"..... during the pandemic... i wear personal protective equipment... i wear a mask... the patient also wears a mask..." (Q3)

"...during this pandemic i have to encourage patients to wear masks.....the distance between me and the patient...are closer...." (Q4)

"...while wearing a mask...moving the patient's hands.....lifting the patient's legs...sweating more than usual.....i breathe heavily, plus while doing the activity of lifting hands or patient's legs...i must be have short of breath...." (Q5)

".....during this pandemic, i have to wear masks, wash the hands before touching patients...i give them masks...if there is a patient's family accompanying them...i also have to require them to wear masks (Q8)

"...i have to wear a mask...if i wear a mask...i have shortness of breath..." (Q9)

Subthemes - (b) prevention of transmission of Covid-19

There are rules for families, patients and nurses to wear masks, wash their hands, reduce visitors, there are no visiting hours, patient companions and those visiting patients are required to carry out Covid-19 tests. This examination can take the form of antigen swabs, etc., use of hand sanitizer, and education to patients and their families about preventing transmission of Covid-19. The participant statements that confirm this are as follows:

"... use PPE according to the standards in our room... to avoid transmission... there is screening in

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the emergency room... you can be free from Covid 19..." (Q1)
"Wear a mask...wash your hands.....then reduce visits..."(Q2)
"...wear a mask...wash your hands...then it's not visiting hours...if it's to guard the patient.....you have to have an antigen swab...and... limited the presence of visitors... there's a clock..." (Q3)
"...so keep doing hand hygiene..." (Q4)
".....patients wear masks...wear PPE...put hand sanitizer close...wash hands...." (Q5)
"...wash your hands.....wear a mask and the patient must also wear a mask,.....we indeed require their families to get antigen,....those who are waiting for the patient.....who want to be swabbed..." (Q7)
".....well, he doesn't wear a mask, but my companion and I have to still wear masks. (Q4)
".....we keep our distance...keep washing our hands...keep wearing masks" (Q6)
"Actually, the patient was a bit tired... wearing a mask..." (Q10)

Theme 4: The Necessity to Improve Skills in Performing Strength of Muscle Exercise.

The essential to improve skills in the application of muscle strength is grouped into one subtheme, it's a need to update muscle strength skills. The need to update these skills can take the form of structured muscle strength exercise in various types of exercise, regular muscle strength exercise, and seminars related to this. Participant statements confirming this are as follows:
"…more exercise is needed for muscle strength…" (Q1)
"……muscle strength exercise……need frequent…knowledge updates…." (Q4)
".....a new breakthrough like that.....maybe guidance...stroke seminars...if necessary,...ask a physiotherapist to demonstrate the strength of the muscle exercise procedure. (Q5)

Themes 5; Nurses' Emotional Response in Performing Strength of Muscle Exercise
Subthemes - (a) rejoice

Rejoice is the nurse's emotional response because patients who do strength of muscle exercise have recovered or made progress, are enthusiastic, protected from disability and can return to their activities. Participant statements confirming this are as follows:
"It feels good...stroke patients definitely recover faster..." (Q1)
"The feeling...is definitely happier...because the patient can recover..." (Q3)
"In my feelings... I am happy to be able to help speed up healing" (Q6)
".....happy to see have changes in patients.....i am glad that our patients can recover well..." (Q7)

Subthemes - (b) satisfied

This situation makes nurses feel successful in caring for stroke patients and creates a sense of pride in being a nurse. Participant statements confirming this are as follows:
"…. That means our work was successful, right? (Q8)
"...I am satisfied... " (Q4)
" ...there is a certain satisfaction" (Q5)

DISCUSSION

Theme 1. Nurses' Understanding about Strength of Muscle Exercise

There are 9 subthemes in the nurses' understanding about strength of muscle exercise, consist of: a) definition of strength of muscle exercise, b) purpose of strength of muscle exercise, c) collaborate, d) requirements of patient, e) frequency and time of doing strength of muscle exercise, f) types of strength of muscle exercise, g) benefits of strength of muscle exercise, h) procedure of strength of muscle exercise, and i) outcome of strength of muscle exercise.

Based on the statement above, it can be concluded that a nurse must understand the concept of strength of muscle and be able to carry out these exercises on patients with stroke. Procedural knowledge also requires the ability to perform certain skills and techniques, and the ability to use special knowledge to make decisions to select appropriate procedures for certain conditions (Krathwohl, 2010).

Themes 2. Problems and Solutions Related to Strength of Muscle Exercise

There are 2 sub-themes of problems and solutions related to muscle strength exercise, consisting of: (a) problems related to muscle strength

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Corresponding author: *E-mail: ksari0801@gmail.com

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exercise, and (b) solutions related to muscle strength exercise. The results of this study are similar to previous research which found four obstacles in implementing aerobic exercise in the rehabilitation of stroke patients, namely environmental context and resources (e.g. lack of equipment, time, staff), inadequate knowledge and skills (e.g. safe prescription and application of exercise). aerobics), beliefs about abilities (e.g., uncertainty about exercise intensity and screening tools), and professional roles and identities (Moncion, Biasin, Jagroop, Bayley, Danells, Mansfield, Salbach, Inness, & Tang, 2020).

Themes 3. Implementation of Muscle Strength Exercise and Prevention of Covid-19

In this section there are 2 sub themes, consist of (a) implementation of muscle strength exercise and (b) prevention of transmission of Covid-19. Previous researchers viewed human existence and the environment as a "field of interconnectedness", and he stated that "everything in the universe is interconnected" (Watson & Woodward, 2010; Fawcett & DeSanto-Madeya, 2012). The Covid-19 pandemic situation has an impact on the provision of muscle strength exercise services to stroke patients who must use personal protective equipment such as masks, wash hands and maintain distance. The aim of nursing is "protection, promotion and preservation of human dignity and humanity" (Watson, 2020).

Themes 4. The Necessity to Improve Skills in Performing Strength of Muscle Exercise

The importance of improving skills in the application of muscle strength is grouped into one subtheme, namely the need to update muscle strength skills. Nurses' knowledge will increase if they update their skills. Services for stroke patients will be of higher quality. There is a difference between the pre-test knowledge and practice scores and the post-test knowledge and practice scores regarding the effect of chair exercises on hemiplegic patients in second year nursing students and teaching programs (Jacob, Johnson, Koshy, Saji, Feeba, George, & Jacob, 2020).

Themes 5. Nurses' Emotional Response in Performing Strength of Muscle Exercises

There are 2 sub-themes in nurses' emotional responses when carrying out muscle strength exercise, including: (a) happy, and (b) satisfied. Nurses who feel satisfied with their work will show a happy emotional response, this can also be seen in the participant's statement above. Previous research results found that the emergence of regulation, emotional intelligence, work stress, self-efficacy, and work autonomy are important factors that can reduce nurses' emotions at work (Hwang & Park, 2022).

CONCLUSION

The nurses experience in performing strength of muscle exercise in patients with stroke is the ability of the nurse to be able to understand about strength of muscle exercise and implemented it. The nurse's abilities to provide solutions related to problem of strength of muscle exercise, as well as the need to upgrade their skills in terms of muscle strength exercise which aims to improve the quality of nursing services for stroke patients.

SUGGESTION

It is recommended that the hospital nursing management make provisions/regulations that can serve as guidelines regarding strength of muscle exercise for patients with stroke. Provide certified exercise on muscle strength exercise which is carried out regularly for implementing nurses so that there is an increase in the quality of service for stroke patients in the hospital.

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Kartika Sari[1]*, Jenny Marlindawani Purba[1], Kiking Ritarwan[2]

[1]Program Studi Magister Ilmu Keperawatan, Fakultas Keperawatan, Universitas Sumatera Utara
[2]Fakultas Kedokteran, Universitas Sumatera Utara, Medan
Corresponding author: *E-mail: ksari0801@gmail.com

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Kartika Sari[1]*, Jenny Marlindawani Purba[1], Kiking Ritarwan[2]

[1]Program Studi Magister Ilmu Keperawatan, Fakultas Keperawatan, Universitas Sumatera Utara
[2]Fakultas Kedokteran, Universitas Sumatera Utara, Medan
Corresponding author: *E-mail: ksari0801@gmail.com

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