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Knowledge of nurses about rehabilitation treatment to patients with ischemic stroke

Wiedza pielęgniarek na temat postępowania rehabilitacyjnego wobec pacjentów z udarem niedokrwiennym mózgu

Summary

Stroke is the leading cause of disability in the adult population. Among patients who have suffered a stroke, rehabilitation is an important part of the healing process in which a nurse plays an important role. Rehabilitation is an active and ongoing process that begins during hospitalization and continues even after the patient's return home.

The aim of this study was to evaluate nurses' knowledge about rehabilitation treatment to patients with ischemic stroke.

A total of 30 nurses working in departments of neurology in the region of Podlasie in 2011. The research material was collected by diagnostic survey, by means of a questionnaire of our own design.

The age of the respondents ranged from 25 to 54 years old (average 36,3). 21 respondents (70%) had medical education. One in ten has been working 21 - 30 years in the department of neurology. Most respondents (70%) said that passive exercises should be started within 24 - 48 hours after stroke occurred. The most common methods of rehabilitation were the change of body position (80%), back percussion (60%), and every third person performed passive exercises. Half of the respondents did not know any of the methods applied to the rehabilitation of stroke patients.

1 Nurses, despite having a basic knowledge of rehabilitation methods applied to patients after ischemic stroke, take action to support the rehabilitation process and to improve the health of the patient.

2 In order to improve the rehabilitation process and improve the quality of life of patients after the stroke, it is necessary to extend the scope of nursing education and also extend medical equipment of the hospital ward.

Key words: ischemic stroke, knowledge, rehabilitation

Streszczenie

Udar mózgu stanowi główną przyczynę niepełności w populacji osób dorosłych. Wśród pacjentów, którzy doznali udaru mózgu, rehabilitacja stanowi ważny element w procesie leczenia, w którym dużą rolę odgrywa pielęgniarka. Rehabilitacja jest czynnym i ciągłym procesem, który rozpoczyna się w czasie hospitalizacji i trwa również po powrocie pacjenta do domu.

Celem pracy była ocena wiedzy pielęgniarek na temat postępowania rehabilitacyjnego wobec pacjentów z udarem niedokrwiennym mózgu.

Badanie przeprowadzono wśród 30 pielęgniarek pracujących w oddziałach neurologii województwa podlaskiego w 2011 roku. Materiał badawczy zebrano drogą sondażu diagnostycznego, za pomocą kwestionariusza własnej konstrukcji.

Wiek respondentów wahał się w granicach od 25 do 54 roku życia (śr. 36,3). Wykształcenie medyczne zawodowe posiadało 21 osób (70%). Co dziesiąta badana pracuje 21 – 30 lat na oddziale neurologii. Najwięcej osób (70%) stwierdziło, że ćwiczenia bierne należy rozpocząć w ciągu 24 – 48 godzinach od wystąpienia udaru. Najczęściej stosowanymi metodami rehabilitacji były: zmiana pozycji ułożeniowej (80%), oklepywanie (60%), a co trzecia osoba wykonywała ćwiczenia bierne. Połowa ankietowanych nie zna żadnej metody rehabilitacji stosowanej wobec pacjentów z udarem mózgu.

Implikacje praktyczne:

1. Pielęgniarki pomimo posiadania podstawowej wiedzy w zakresie metod rehabilitacyjnych stosowanych wobec osób po udarze niedokrwiennym mózgu, stosują działania wspierające proces rehabilitacji i poprawiające stan zdrowia pacjenta.

2. Celem usprawnienia procesu rehabilitacji i poprawy jakości życia chorych po udarze mózgu, niezbędne jest rozszerzenie zakresu edukacji pielęgniarek jak i wyposażenia sprzętowego oddziału.

Słowa kluczowe: udar niedokrwienny mózgu, wiedza, rehabilitacja

Introduction

Stroke is the third leading cause of death and the leading cause of disability in people over 40 years old. In the world each year about 4.5 million people in developed countries die from stroke, it is the third most common cause of death in the adult population. The incidence of stroke in Poland is the European average (around 170/100.000 people / year), while the death rate is one of the highest (80/100.000 people / year) (Członkowska, 1999). Stroke is also one of the most common causes of disability (Guidelines of Expert Group of the National Program for Prevention and Treatment of Cardiovascular Disease POLKARD, 2008; Adamczyk, 2003). Approximately 50% of patients suffering from stroke remain disabled and until the end of their lives are dependent on their caregivers. The second half of stroke patients recover almost fully and can function independently in their community of residence (Nowacki, 2003; Malczewski, 2005). Among patients who had a stroke, about 22% of people do not move on their own, 24 - 53% require assistance with activities of daily living, 12 - 18% are patients with impairment of speech (aphasia), while 32% of patients experience depression. Disability resulting from stroke leads to serious social, economic and psychological problems (Pałka et al. 2007). Therefore, it is important to carry out rehabilitation, which efficiently restores physical and mental patients after stroke. It is an active and ongoing process that begins during hospitalization and continues even after the patient's return home. In the process of rehabilitation one should consider:

- prevention of complications of immobility of a patient - treatment of comorbidities,
- improvement of patient's self-assessment,
- strengthen the motivation to participate actively in rehabilitation,
- education of family members and their active involvement in the rehabilitation process (Klimaszewska 2006).

According to Helsingborg Declaration of 2006, the purpose of rehabilitation of patients after stroke, which should be achieved by 2015, is obtaining by more than 70% of patients independence in daily life activities three months after the stroke . Rehabilitation should be carried out by an interdisciplinary rehabilitation team, which also includes a nurse (Guidelines for National Experts Group on the Prevention and Treatment of Cardiovascular Disease POLKARD, 2008). Negligent care during hospital treatment and early rehabilitation impede and move away in time special improvement treatments and have a negative effect on the final result of any treatments and rehabilitation (Kozera, 2007).

Aim: The aim of this study was to evaluate nurses' knowledge about rehabilitation treatment to patients with ischemic stroke.

Material and Methods: The study was conducted during three months in 2009, among 30 nurses working in the department of neurology. The research material was collected by means of a diagnostic survey in a form of an anonymous questionnaire designed especially for this purpose.

The test results

The study was conducted among 30 nurses working in the neurology ward. Respondents' age ranged from 25 to 54 years old (average 36, 3) The largest group of respondents (70%) had professional medical training. Table 1

Tab. 1. Education of respondents

Education	N	%
Medical professional	21	70
Diploma with specialization	6	20
Higher vocational (BA)	2	6,7
Higher (MA)	1	3,3
Total	30	100,0

In a nursing profession 40% of nurses have worked for 11 - 20 years, the remaining have worked 21 -30 years (20%) and (30%) less than 11 years. Only three people (10%) worked in the profession for 31 - 40 years. Among the respondents, only 6.7% of people over 31 - 40 years. One in ten has worked in the neurology ward for 21 - 30 years, others have work experience of 11-20 years (16.7%) in the neurology ward, while 66.7% of respondents have worked in the department of neurology from 1 day to 10 years. In the majority the surveyed nurses (46.6%) have completed various courses and specializations (6.7%), and trainings. Figure 1

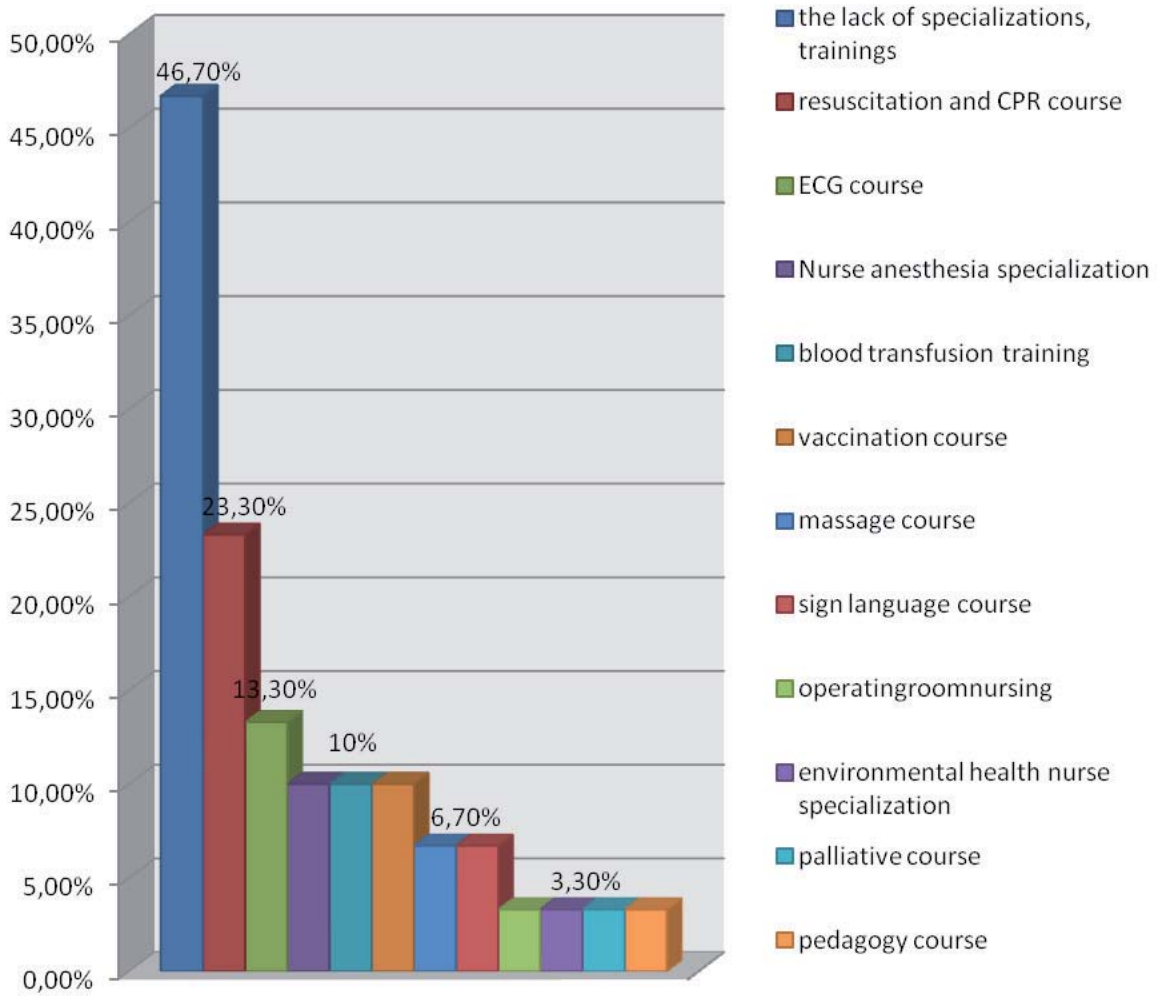


Fig. 1. Finished specialization courses for nurses.

The vast majority of respondents (80%) defined that this is a nurse who performs passive exercises. According to 70% of the respondents, passive exercises should begin after 24 - 48 hours after the occurrence of a stroke. Another period for starting passive exercises in the opinion of 23.3% of the respondents were three days after a stroke, or a week (6.7%). More than half of the respondents said that they should be performed two times a day, for 5 - 10 minutes. However, according to 40% of respondents 2 - 3 times a day for 10 - 15 minutes of passive exercises, and 6.7% stated that the frequency should be 7 - 8 times for 15 - 20 minutes. Figure 2

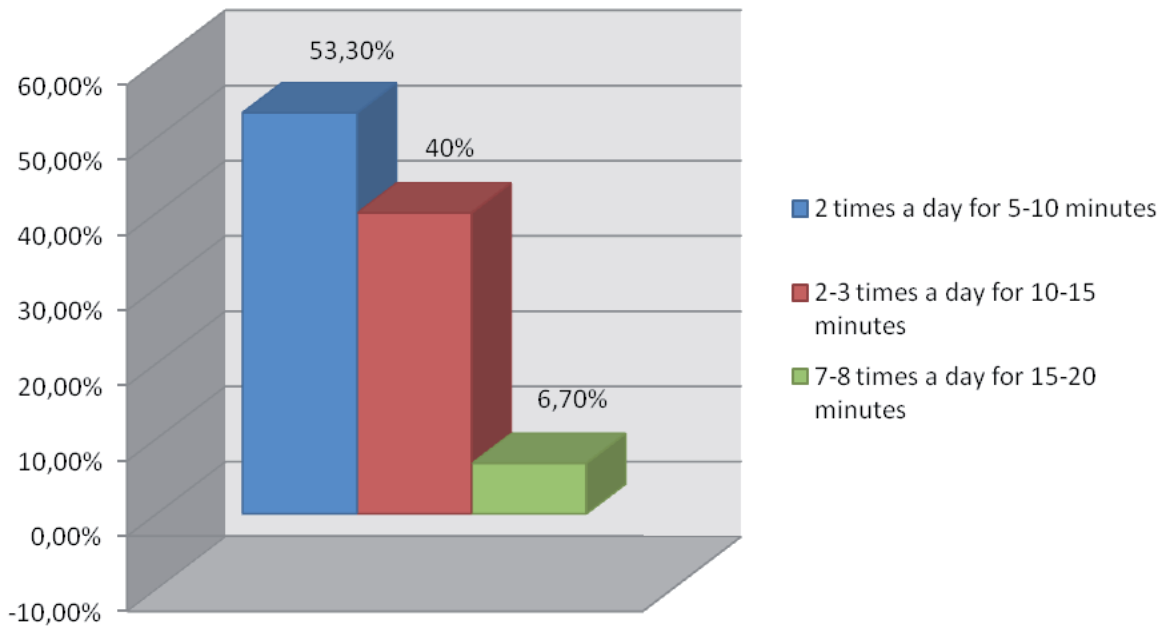


Fig. 2. Exercise training in patients with ischemic stroke.

As a contraindication to passive exercises, respondents listed mainly acute inflammation of periosteum and muscles (80%). Other reasons for discontinuation or not taking exercise was thrombosis, fixed restriction of movement in the joints and the patient's unconscious state. Figure 3

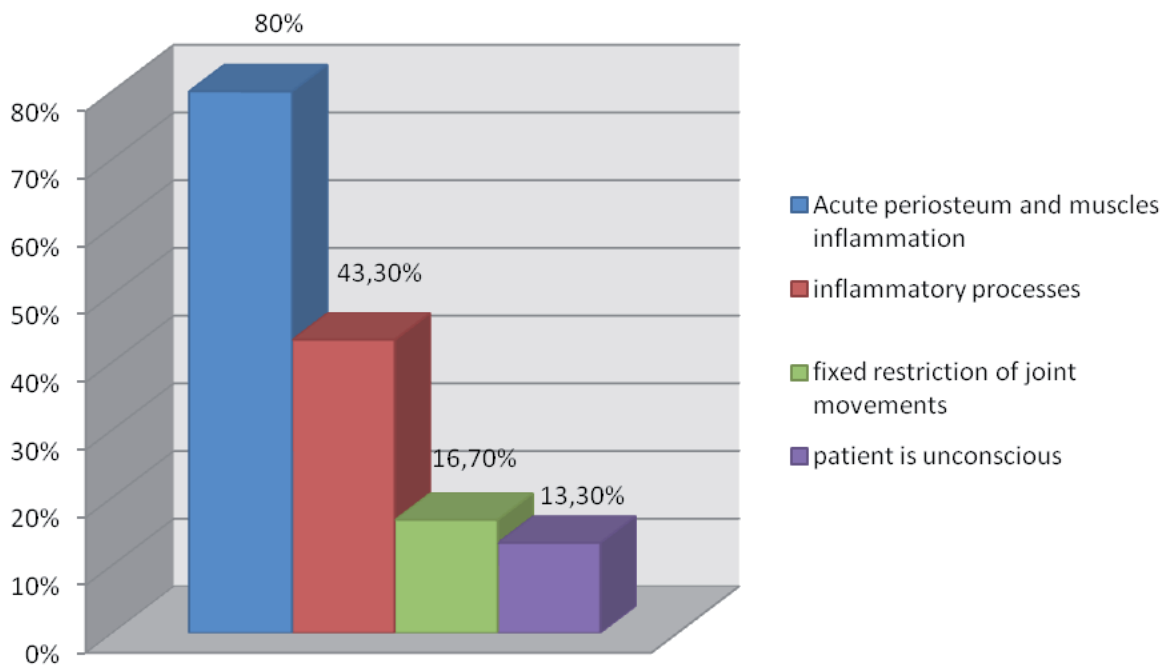


Fig. 3. Contraindications to passive exercise in ischemic stroke.

The vast majority of patients (90%) responded that active exercise are exercises performed by the patient under the supervision of a nurse, and 60% of them identified active exercises as exercise done by the patient using different equipment. Active exercise were also identified by 13.3% of respondents as exercise increasing muscle strength or as a range of exercises carried out by the nurse resulting from the function of rehabilitation (6.6%).

Contraindication, in the opinion of the respondents, to active exercises in patients with stroke most often (83.3%) were unstable fractures, acute inflammatory arthritis (73.3%), bed rest treatment (33.3%), and no doctor's consent (3.3%).

Half of the respondents did not know of any method used in the rehabilitation of stroke patients. Every fourth respondent knows the Bobath method, 13.3% knows constraint-induced movement therapy, 6.7% of respondents knows Edmund Jacobson's method and 3.3% the Kabat method PNF. Figure 4

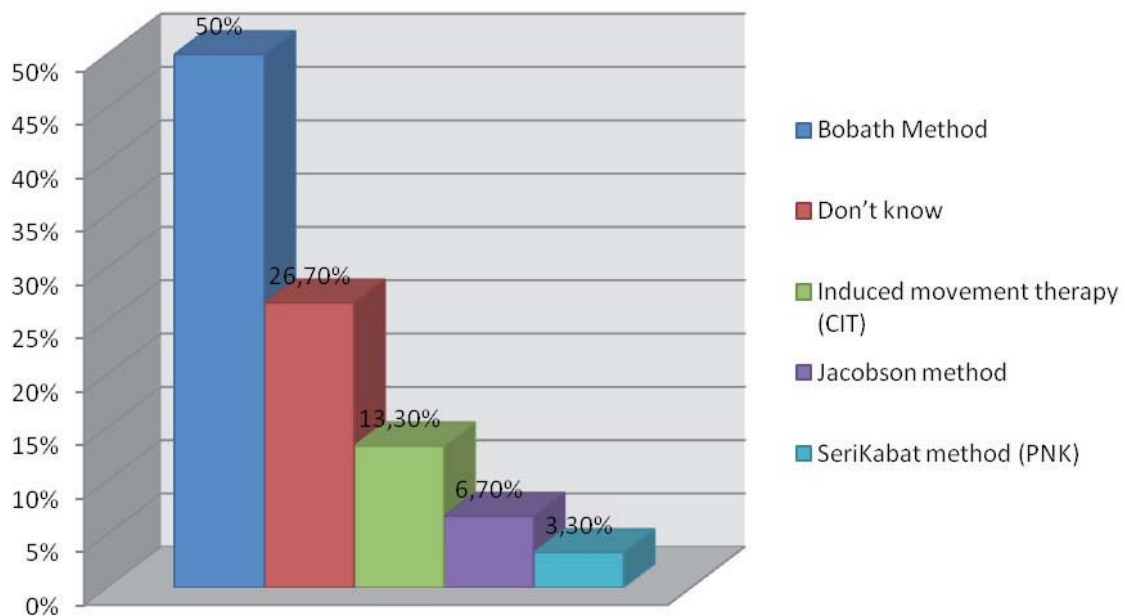


Fig. 4. Knowledge of methods of rehabilitation.

More than half (60%) of respondents did not answer the question about the assumptions of methods of rehabilitation, and 26.7% did not know the rules. Only 13.3% of respondents indicated activation in order to prevent complications arising from the disease entity, as a basic premise of the methods of rehabilitation of patients after stroke.

The majority (90%) of nurses responded that they do rehabilitation exercises as a physician's recommendation. Only 10% said that it is an independent decision of a nurse.

The vast majority (80%) of respondents in the course of rehabilitation reposition patients in bed or do back percussion (60%). Every third person performs passive exercises, and 16.7% of the respondents perform massages. (Figure 5). 60% respondents does breathing exercises in patients with stroke.

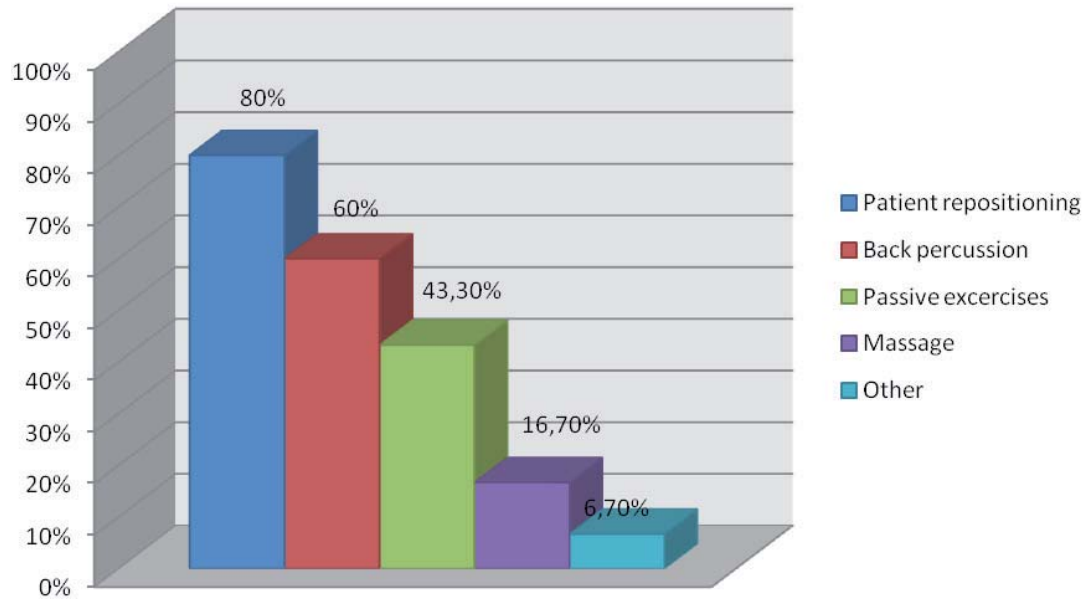


Fig. 5. Activities performed in the rehabilitation of patients with ischemic stroke.

Among the equipment used in the rehabilitation of patients after stroke, 80% of respondents listed anti-bedsore mattresses, rolled up blanket and support (73.3%). However, 6.7% of nurses do not use any equipment. Figure 6

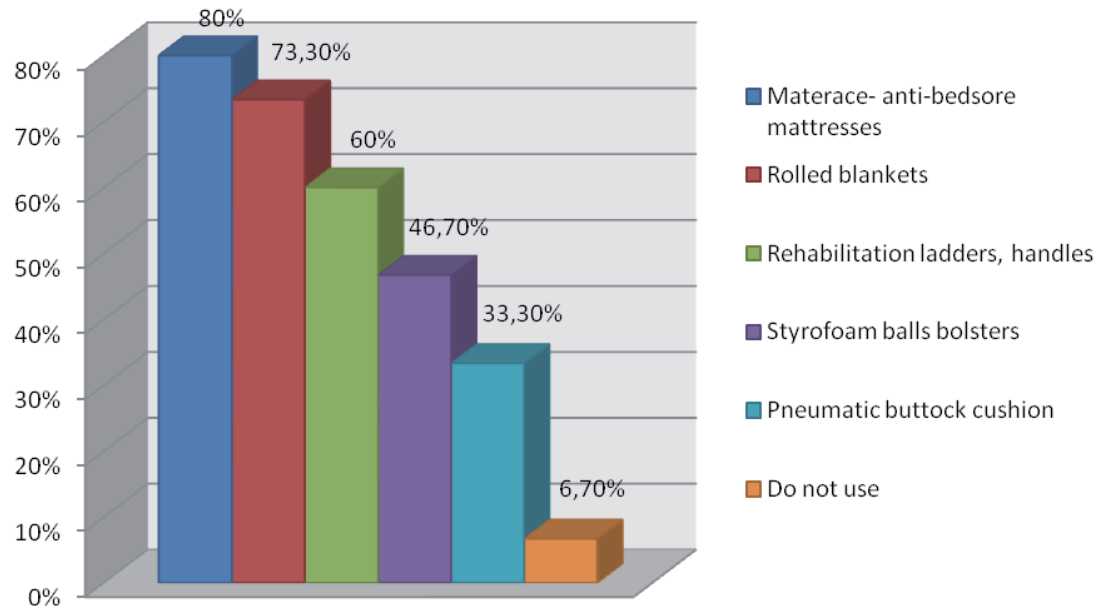


Fig. 6. Facilities appropriate for rehabilitation of patients after a stroke used by respondents.

Dressing-up the patient after a stroke, starting with the paralyzed limb will start 90% of the nurses. However, putting patients with hemiparesis on the healthy side and the change of position is used by 86.7% of respondents. Other responses were: laying the sick according to their preferences or mostly on the back. Only 3.3% of nurses will place a patient with a stroke on a side of paresis. (Figure 7).

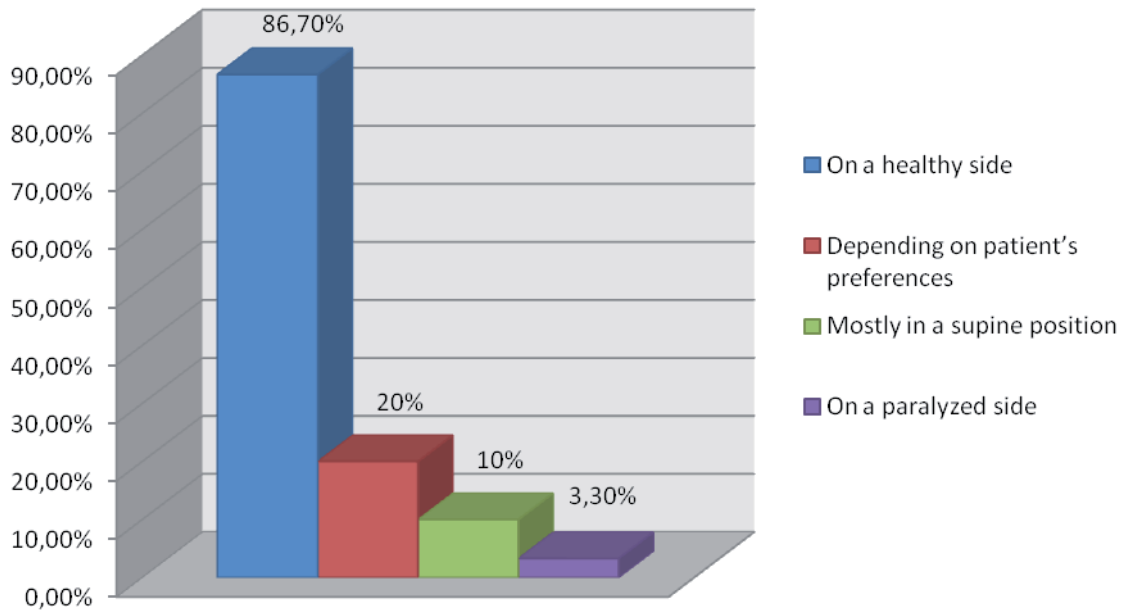


Fig. 7. The rules of positioning patients with hemiparesis.

The majority (76.7%) of respondents reposition a patient with stroke with different frequency, every 2-3 hours . While, 20% of respondents change the position 3 - 4 times a day, 3.3% change position less frequently.

During the speech rehabilitation of patients after stroke, 60% of nurses prompts the initial letters or syllables. 46.7% use repetition and writing of words acquired by the patient. Figure 8

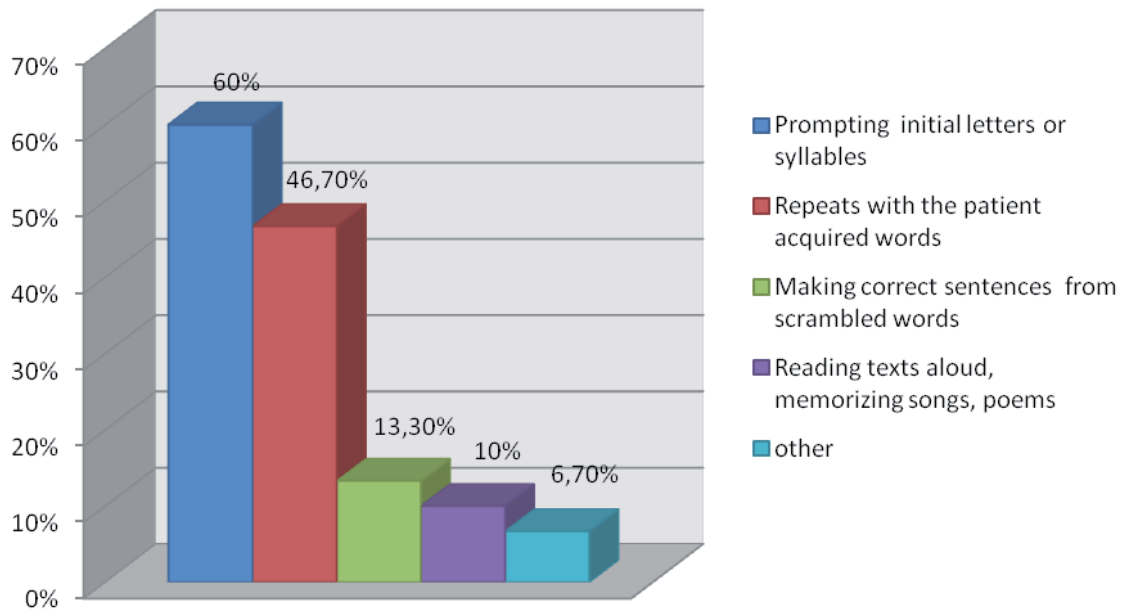


Fig. 8. Methods for speech rehabilitation.

Presentation of results and discussion

Stroke is one of the most serious problems of modern medicine, due to the high mortality in the early period and the long process of treatment and rehabilitation. Other complications after stroke such as paresis, speech disorders, cognitive disorders cause in a majority of patients permanent or partial disability, and even the inability to live independently (Domka, 2005). That is why it is so important that in the process of complex rehabilitation of patients after stroke these universal priorities are taken into consideration: striving to achieve the highest possible degree of independence in carrying out the patient's daily life and locomotion and reduce mortality in the early post-stroke period (Opara, 2002).

Helsingborg declaration assumes that all patients in the early stages of stroke should undergo rehabilitation. This means that the rehabilitation should be initiated, and the method of its implementation are set in the first 24-48 hours after the occurrence of stroke, provided that the patient's condition is stable. However, the optimal period of rehabilitation of the patient should be about 3 months (Guidelines for the National Expert Group for Prevention and Treatment of Cardiovascular Disease POLKARD, 2008). Nurses, in our study, in the vast majority (70%), also identified a period of 24 - 48 hours as the start time of the passive exercises in patients with stroke.

Rehabilitative care should be provided to such an extent that the patient requires to recover, especially since clinical trials provide more and more evidence that the intensity of exercise has a beneficial effect on the functional status of patients (Gresham, 1997). According to Malczewski, exercise and rehabilitation methods should be selected according to the patient's individual ability. They should be started from the side affected by the paralysis. In the first days or weeks after the stroke passive exercises should be carried out at least 2-3 times a day (Malczewski, 2005). Most benefits bring exercises carried out six times a day for about 10 - 15 minutes, but a set of exercises should not be less than 45 minutes (Kulczycki, 2001). Our study showed that 53.3% of the subjects will perform exercises 2 times a day for 5 - 10 minutes.

According to Ryglewicz, rehabilitation treatment of stroke patients require the use of special methods. This is due to the nature and course of movement disorders in patients with focal brain damage (Ryglewicz, 2000). According to Opara, the basis for the rehabilitation of patients with hemiparesis is physiotherapy. The most commonly used methods of improving the patient's condition are Bobath method, PNF method, the method of Jacobson and the method of Kabat (Mikołajewska, 2007; Klimaszewska, 2006). However, one of the entries of the Helsingborg Declaration says that no method (rehabilitation) cannot be recommended as the only one (Guidelines for National Experts Group on the Prevention and Treatment of Cardiovascular Disease POLKARD, 2008). In our study it was showed that 26.7% of nurses do not know any method of rehabilitation. The best-known method of rehabilitation of patients with stroke was Bobath method (50%) and the induced movement therapy (CIT).

Providing adequate care in the first hours and days will allow a faster recovery and better prognosis for the future (Adamczyk, 2003). According to Klimaszewska improving patient's condition after stroke is synonymous with extensive nursing and medical care (Klimaszewska, 2006). Rehabilitation has a major impact on the course of the disease and the patient's condition. Among the rehabilitation activities carried out by a nurse the author gives the correct positioning of the limbs, changes in body position, passive and active exercises, breathing exercises and help in self-management (Rosińczuk – Tonderys, 2005). Proper patient position is the start of

rehabilitation. Besides that, the aim of rehabilitation is to prevent complications of immobility, and development of procedural memory (Kulczycki, 2001). Our own research has shown that during patient's rehabilitation after ischemic stroke, 80% respondents uses patients repositioning, 60% back percussion, (43.3%) passive exercises and massages (16.7%).

Many authors emphasize that early introduction of rehabilitation and its good conduct gives benefits to the patient. Nurse should encourage and motivate patients to self-care (Rosińczuk – Tonderys, 2005). The tasks of nurses should also be properly set up limbs and the right rest position. In order to maintain this effect, it is preferable to place the leg rolls, wedges or sand bags (Kozera, 2007). According to Klimaszewska, it is also important that the patient's bed was easy to adjust the height. It is also important to set the bed in such a way that the medical team has always access to the patient from the paretic side (Klimaszewska, 2006). The present study shows that 80% of respondents in the rehabilitation of stroke used anti-bedsores mattresses, and 73.3% used a rolled up blanket support. Only 6.7% of respondents did not use any help.

According to Adamczyk, the process of improvement should be implemented simultaneously by a nurse and physiotherapist. The main goal of rehabilitation of patients who have suffered from stroke, is to restore function in the most complete way, in accordance with capacity, skills and abilities of the patient or the compensation of functions irretrievably lost. To achieve this goal it is advisable to lay a patient with frequent changes in body position. However, it is not recommended to lay the patient on his/her back, because this position increases spasticity and intensifies reflex position of a paretic limb (Palka, 2007). Changing the position of the patient should be performed every 2 - 3 hours including position on a healthy and paralyzed side, prone and supine position (Kulczycki, 2001). The majority of nurses (86.7%) in our study positions the patient on a healthy side with the change of position. More than half (76.7%) respondents used patient repositioning every 2 - 3 hours. Only 3.3% change position according to a physician's recommendations.

A stroke can cause dysfunction called higher nervous functions or behavioral functions. This type of dysfunction impairs the patient more than sensorimotor deficits because they impair mental, emotional and communicational interaction with the environment (Rosińczuk – Tonderys, 2005). A nurse, for nursing purposes, must communicate with the patient, use psychotherapy interaction and apply appropriate selection of techniques, which can also support neuropsychological treatment (Członkowska, 1999). Our study showed that 60% of nurses prompt initial letters or syllables in the rehabilitation of speech.

To prevent the occurrence of stroke education plays an important role in education of both patients and their families. A nurse, because of the very broad function in a contact with the patient, is one of the main determinants of the educational process. In accordance with the designated professional function a nurse activates all educational and therapeutic activities in secondary prevention of stroke. Therefore, recommendations for appropriate changes in this area should be included in the after-stroke education of the patients and their families, especially during hospitalization.

Conclusions

1. Nurses, despite having a basic knowledge of rehabilitation methods applied to patients after ischemic stroke, take action to support the rehabilitation process.
2. In order to improve the rehabilitation process and improve the quality of life of patients after stroke, it is necessary to extend the process of education of nurses.

Bibliography

1. Członkowska A. (1999) Udar mózgu - czynniki ryzyka i profilaktyka. Czynniki ryzyka, 6, 114 – 116.
2. Postępowanie w udarze mózgu. (2008) Wytyczne Grupy Ekspertów Narodowego Programu Profilaktyki i Leczenia Chorób Układu Sercowo-Naczyniowego POLKARD. Neurologia i Neurochirurgia Polska, vol.42;4 (supl.3).
3. Adamczyk K. (2003) Pielęgowanie chorych po udarach mózgowych. Wyd. Czelej, Lublin,.
4. Nowacki P., Żyłuk B., Bajer – Czajkowska A. (2003) Profilaktyka pierwotna i wtórna niedokrwienego udaru mózgu. Polska Medycyna Rodzinna, 5, 449.
5. Malczewski D. (2005) Wczesna rehabilitacja i profilaktyka powikłań po udarze mózgu. Terapia, 10, 22 – 25.
6. Pałka T., Puchowska – Florek M. (2007) Chory po udarze – rehabilitacja ruchowa i zaburzeń mowy. Choroby serca i naczyń, 2, 89 – 92.
7. Klimaszewska K., Krajewska – Kułak E., Jankowiak B. (2006) Charakterystyka usprawniania chorych po udarze mózgu w poszczególnych okresach rehabilitacji. Ann. Acad. Med., 1, 41 – 46.
8. Kozera G. (2007) Edukacja chorego po udarze mózgu. Choroby Serca i naczyń, T, 123-126.
9. Domka E., Majkowska E., Kwolek A. (2005) Ocena częstości występowania powikłań u pacjentów rehabilitacyjnych z powodu udaru mózgu. Neurologia i Neurochirurgia Polska, 4, 300 – 309.
10. Opara J. (2002) Aktualne metody usprawniania ruchowego chorych po udarze mózgu. Udar Mózgu, 1, 33 - 36.
11. Gresham G.E., Duncan P.W., Stason W.B. (1997) Rehabilitacja po udarze mózgu: ocena stanu pacjenta, wskazania do rehabilitacji i sposób postępowania. Rehabilitacja Medyczna, 2, 13 – 24.
12. Kulczycki J. (2001) Postępowanie rehabilitacyjne po udarze mózgu. Instytut Psychiatrii i Neurologii, Warszawa, 12 – 20.
13. Ryglewicz D., Wieczorkiewicz M. (2000) Nowe poglądy na rehabilitację chorych z udarem mózgu. Klinika Neurologia, 4, 624 – 626.
14. Mikołajewska E. (2007) Metoda NDT – Bobath w rehabilitacji pacjenta. Valetudinaria - Postępy Medycyny Klinicznej i Wojskowej, 12, 55 – 57.
15. Rosińczuk-Tonderys J., Mierzwa J., Kosmała M., Czapiga B. (2005) Rola pielęgniarki w procesie rehabilitacji chorych po udarze mózgu. Annales Univesitas Marie Curie- Skłodowska, vol.LX,supl..XVI,459, sectio D.

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