

Faculty of Nursing and Health Sciences, Medical University of Lublin

KAZIMIERA ADAMCZYK, REGINA LORENCOWICZ,  
ANNA ZAJKO, ELŻBIETA REJSZEL

*Effect of nursing care on self-care efficiency of patients with hemiparesis*

Health care concerns all activities biased towards the provision of health protection for the population. Nursing care is an essential component of health care and is defined by Henderson after Wrońska (7) as follows: the unique task of a nurse is to assist an individual who is sick or well in the performance of those activities contributing to health that the individual would perform unaided if he or she had the necessary strength, will, or knowledge. Nursing care must be designed for the regaining by patients psychophysical independence within the shortest time possible. The scope of nursing care covers rehabilitation and educational tasks which determine the independence of a neurological patient (1, 2, 3, 4).

Hemiparesis is slight or incomplete motor weakness affecting one side of the body due to lesion of the upper motor neuron, i.e. the motor centre in the cerebral cortex, or corticospinal (pyramidal) tract (5, 6).

The present paper presents the evaluation of the process of developing the efficiency of patients with hemiparesis in the area of self-care, training for this care being an integral component of nursing care aimed at the regaining by neurological patients of independence in the locomotor aspect, which determines the quality of nursing.

The objective of the study was the determination of the role of a nurse in locomotor rehabilitation of patients with hemiparesis.

MATERIAL AND METHODS

The study covered 60 patients – 21 males and 39 females, aged 39-65, with hemiparesis, and was conducted by means of an index of activities and observations – the results were recorded in observation charts.

The process of training patients for self-care consisted in the provision of incentives for them to participate in various instrumental-manual tasks resulting from everyday activities. The effects of this cooperation were analysed.

The greatest number of patients were the elderly, females, and the married, with lower level of education and not occupationally active.

## RESULTS

During Stage 1 of the study the greatest number of patients were ascribed a lower category of mobility (considerable limitations, lack of independence), whereas during Stage 2 of the study the majority of patients attained a higher category (independence, slight limitations). In the first study 55.0% of respondents moved independently or with the use of sticks or crutches, while during the second study this percentage was 73.4%. At Stage 1 of the study, 28.3% of the people examined used orthopaedic wheelchairs, and 16.7% of them were bed-ridden due to considerable limitations in mobility, whereas at Stage 2 there was observed a decrease in the number of these patients: 18.3% of those who used orthopaedic wheelchairs and 8.3% of bed-ridden patients.

The remaining aspects of patients' mobility were similar – during the Stage 1 of the study 33.4% of patients obtained a higher category in going upstairs and downstairs, while during Stage 2 this percentage was twice as high – 61.7%. With respect to standing, 55.0% attained a higher category at Stage 1 and 78.4% – during Stage 2; and with respect to sitting: Stage 1 – 50% and Stage 2 – 75.0%. Thus, a considerable increase in mobility was noted, which was manifested by a greater number of independent patients and a smaller number of those who were immobilised. This increase was due to the patients attaining a higher category of mobility. At Stage 1 of the study, 55.0% of patients showed independence, whereas at Stage 2 – 73.4%, i.e. an increase by 18.4% was observed.

An increase was also noted with respect to self-care activities. The patients attained a higher category due to their training in hygienic procedures, which was confirmed by the results obtained during Stage 2 of the study.

The following percentage of patients obtained a higher category with respect to hygienic procedures: a) body hygiene – 81.7%, increase by 30.1% as compared to Stage 1 of the study; b) oral cavity hygiene – 93.3%, increase by 39.9%; c) washing hair – 65.0%, increase by 23.3%; d) combing hair – 75.0%, increase by 16.7%; e) putting clothes on – 78.4%, increase by 25.0%; f) putting shoes on – 68.4%, increase by 15.1 %.

The percentage of patients who represented a higher category with respect to hygienic procedures was 77.0% on average (SD – 10.1), an increase by 25.0% as compared to Stage I of the study.

People who were ascribed a higher category independently coped with the consumption of meals. At Stage 1 of the study they constituted a considerably large population, while at Stage 2 they made up 81.7% of patients (an increase by 15.0%).

Cardiovascular parameters were controlled mainly by changes in position in bed-ridden patients, respiratory exercise, massage and tapping on the back, the provision of a suitable microclimate in the hospital ward, as well as proper clothes. During Stage 1 of the study 41.7% of the respondents were ascribed a higher category with respect to this problem, while during Stage 2 this percentage was considerably higher – 71.7% (an increase by 30.0%), which was due to the rehabilitation procedures, especially respiratory exercise.

Control of excretion consisted in the rehabilitation of the inhibited bladder and counteracting constipation. Immobilized patients and those with considerable limitations participated in these procedures. At Stage 1 of the study 38.3% of patients attained a higher category, whereas at Stage 2 a twofold increase was observed of up to 70.0% (an increase by 31.7%).

The prevention of muscle contracture and atrophy covered passive and active-passive exercises of the extremities and a proper body position which would prevent increasing spasticity. Due to the preventive actions the percentage of patients with a higher category increased from 40.0% to 66.6%, i.e. by 26.6%.

Two cases of hemi-neglect syndrome were observed (3.3%). In order to eliminate this syndrome rehabilitation procedures were applied biased towards the mobilization of the affected side, patients were trained to move the weaker extremities and to initiate any movements and activities on the side affected by paresis. 45.0% of patients were at risk of bedsores because of their immobilization. Due to the systematic changes of body position, massage, relieving the sites exposed to pressure, application of anti-bed sore pads and those preventing the consequences of contamination, bedsores did not occur despite their high risk.

In general, the efficiency with respect to self-care as the result of the nursing procedures was manifested by 25.7% increase in the percentage of patients ascribed a higher category of care and an equivalent decrease in the percentage of those who attained a lower category .

A positive correlation was observed between the course of physical rehabilitation and mobility, with a proportional increase in the efficiency with respect to self-care.

## DISCUSSION

Based on the results of studies pertaining to the effect of nursing care activities on the regaining of independence by patients with hemiparesis, which were conducted twice: at the beginning and at the end of hospitalization, it should be presumed that a considerable increase was observed with respect to the above-mentioned parameters. This was

due to the convalescence process and training for self-care through rehabilitation activities, where a nurse plays a crucial role.

The effectiveness with respect to the improvement of mobility was manifested by an increase by 18.4% in the percentage of patients who moved independently or with the use of simple orthopaedic equipment (a higher category). At Stage 2 of the study this percentage was 73.4%. Considering self-care activities, an increase was noted in the percentage of patients who regained independence; during the second stage of the study: hygienic activities – 77.0%, an increase by 25.0%, consumption of meals – 81.7%, an increase by 15.0%, control of pulmonary and cardiovascular parameters – 71.7%, an increase by 30.0%, control of excretion – 70.0%, an increase by 31.7%, prevention of muscle constrictions and atrophy – 66.6%, an increase by 26.6%.

Patients were always promoted from a lower category (considerable limitations and lack of independence) to a higher category (independence and slight limitations); there were no opposite situations, therefore an increase was noted in the number of independent patients and those with slight limitations, while the number of dependent patients decreased. A similar tendency was observed with respect to efficiency in mobility and self-care activities which confirmed that patients regained mobility and were trained to self-care to a comparable degree. In the nursing care of a patient with paresis or hemiplegia the point is that in a situation where the regaining of complete functions by a patient is not possible, the disabled were capable of coping with everyday activities, were independent despite their functional deficiency. This process depends on psychophysical rehabilitation activities which are associated with providing incentives for patients and training them for everyday tasks and contributing to the improvement of the quality of life. Such actions were implemented during the work with patients, the effects of this cooperation were analysed and presented in the form of the above-results.

In summing up, a considerable increase observed in the percentage of people who were ascribed a higher category of care (by 25.7%), confirmed favourable changes with respect to the regaining of independence by patients with hemiparesis, as well as with respect to the proper nursing care.

## CONCLUSIONS

1. As a result of training for self-care through rehabilitation exercises and activities, an increase was observed in mobility of patients in the study.

2. Due to the training for self-care a high degree of patients' independence was obtained with respect to hygiene and other activities associated with the situation resulting from illness.

3. Due to rehabilitation procedures a considerable percentage of patients in the study were capable of controlling body functions.

4. A significant increase in the percentage of independent patients (by 25.7%), and an equivalent decrease in the percentage of those who required assistance confirmed the active participation of nurses in the care of patients with hemiparesis.

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#### SUMMARY

The aim of the study was to determine the role of a nurse in rehabilitation of patients with hemiparesis. The study covered 60 patients – 21 males and 39 females, aged 39–65, who underwent cerebral stroke and retained good verbal contact. While the patients were performing various instrumental-manual activities they were trained for self-care activities, and the effects were analysed. Self-care activities included hygienic activities and control of the body functions, such as: control of cardiovascular parameters, consumption of meals, control of sphincter muscles, prevention of muscular contractures and atrophy, as well as bed-sores and hemi-neglect syndrome. At Stage 1 of the study a considerable percentage of patients (approx. 50%) represented a lower category of self-care, while at Stage 2 the greatest number of patients attained a higher category (approx. 73.0%).

In general, a considerable increase was noted in the percentage of patients who were efficient with respect to self-care, i.e. by 23.0%.

#### Wpływ opieki pielęgniarskiej na wydolność w zakresie samoobsługi pacjentów z niedowładem połowicznym

Celem badań było określenie roli pielęgniarki w rehabilitacji pacjentów z niedowładem połowicznym. Badaniem objęto 60 chorych - 21 mężczyzn i 39 kobiet, w wieku od 39 do 65 lat, którzy przebyli udar mózgu i zachowany był z nimi kontakt werbalny. Pacjenci reprezentowali różne zdolności instrumentalno-manualne i byli poddawani treningowi w zakresie samoobsługi, co było przedmiotem analizy wyników. Działania w zakresie samoobsługi zawierały: czynności higieniczne, wzmacnianie parametrów sercowo-płucnych, przyjmowanie posiłków, kontrolę czynności wydalniczych, profilaktykę przykurczy mięśni, zaników mięśniowych, odleżyn oraz zespołu zaniedbywania połowiczego. W pierwszym badaniu pacjenci w znacznym odsetku reprezentowali niższą kategorię wydolności w zakresie samoobsługi (ok. 50,0%), zaś w drugim badaniu odsetek ten wzrósł do 73,0%, zatem podniósł się on o 23,0%.