

## Determining Factors and the Degree of Burden of Nursing Teams in the Care of an Elderly Person with a Neurological Disease

### Czynniki warunkujące oraz stopień obciążenia zespołów pielęgniarskich w opiece nad osobą starszą z chorobą neurologiczną

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#### Abstract

**Introduction.** According to the conducted research, the workload results from the general involvement in the undertaken activities. It can therefore be seen that the greater the involvement, the greater the burden, and thus the greater impact on the health of both the physical and mental nurse/caregiver. It should be noted that many factors affect the degree of the load.

**Aim.** The main aim of the conducted research was to assess the degree of workload of nursing teams while caring for elderly people diagnosed with a neurological disease.

**Material and Methods.** The study was conducted in the Provincial Specialist Hospital in Wrocławek on a group of 120 randomly selected people (nurses) caring for an elderly person with a neurological disease. The study used the method of diagnostic survey, using the survey technique. In order to obtain an answer to the main objective of the research, a questionnaire was constructed and standardized research tools were used — ADL, IADL and the Negative Care Impact Scale included in the COPE-index questionnaire.

**Results.** The study showed that with the increase in seniority in the role of a nurse/carer in the care of the elderly, there is an increase in physical strain, weakening of relations with friends, a significant impact on family relationships and a decrease in satisfaction with the role. The data obtained indicate that a small percentage of nursing teams use equipment such as a lift or rollers for transfer. The study clearly shows that the degree of independence of an elderly person with a neurological disease has a significant impact on both the mental and physical health of the nursing teams taking care of them.

**Conclusions.** There is a relationship between seniority and job satisfaction. People with the longest work experience do not feel satisfied. Nursing teams do not fully use material and human resources while performing their role of caring for elderly people, which may result from various reasons (lack of knowledge, lack of skills, limited access to equipment, lack of willingness for cooperation and helping others). This has an impact on the level of physical and mental burden of nurses. The degree of independence of the ward has a significant impact on the level of physical and mental burden of the nurse. With the increase in dependence of the ward, the degree of burden on nursing teams increases. (JNNN 2022;11(4):167–173)

**Key Words:** burden of nursing teams, elderly person, neurological disease

## Streszczenie

**Wstęp.** Według przeprowadzonych badań, obciążenie wykonywaną pracą wynika z ogólnego zaangażowania się w podjęte działania. Można zatem zauważyć, że im większe zaangażowanie tym dochodzi do większego obciążenia, a tym samym do większego wpływu na stan zdrowia zarówno ze strony fizycznej jak i psychicznej pielęgniarzki/opiekuna. Należy zauważyć, iż wiele czynników ma wpływ na stopień obciążenia.

**Cel.** Głównym celem przeprowadzonych badań była ocena stopnia obciążenia zespołów pielęgniarzskich podczas sprawowania opieki nad osobami w wieku starszym z rozpoznaną chorobą neurologiczną.

**Materiał i metody.** Badania przeprowadzono w Wojewódzkim Szpitalu Specjalistycznym we Włocławku na grupie 120 losowo wybranych osobach (pielęgniarkach/pielęgniarskich), sprawujących opiekę nad osobą starszą z chorobą neurologiczną. W badaniach zastosowano metodę sondażu diagnostycznego, wykorzystując technikę ankietową. W celu uzyskania odpowiedzi na cel główny badań, skonstruowano kwestionariusz ankiety oraz wykorzystano standaryzowane narzędzia badawcze — ADL, IADL oraz Skalę Negatywnego Wpływu Opieki wchodzącą w skład kwestionariusza COPE-index.

**Wyniki.** Przeprowadzone badania wykazały, że wraz ze wzrostem stażu pracy w pełnieniu roli pielęgniarzki/opiekuna w opiece nad osobami w wieku starszym dochodzi do zwiększenia się obciążenia fizycznego, osłabienia stosunków z przyjaciółmi, znacznego wpływu na relacje rodzinne oraz zmniejszenia satysfakcji z pełnionej roli. Otrzymane dane wskazują, że w małym procencie zespoły pielęgniarzskie wykorzystują sprzęt taki jak podnośnik, czy rolki do przenoszenia. Z przeprowadzonego badania wynika jasno, że stopień samodzielności osoby starszej z chorobą neurologiczną, ma istotny wpływ zarówno na zdrowie psychiczne, jak i fizyczne zespołów pielęgniarzskich sprawujących opiekę nad nimi.

**Wnioski.** Istnieje zależność pomiędzy stażem pracy a poczuciem satysfakcji z pełnionej roli. Osoby z największym stażem pracy nie odczuwają satysfakcji. Zespoły pielęgniarzskie nie wykorzystują w pełni zasobów materialnych i ludzkich podczas wykonywania swej roli opiekuńczej nad osobami w wieku starszym, co może wynikać z różnych względów (braku wiedzy, braku umiejętności, małego dostępu do sprzętu, braku chęci współpracy i niesienia pomocy innym). Ma to wpływ na poziom obciążenia fizycznego i psychicznego pielęgniarzki. Stopień samodzielności podopiecznego ma istotny wpływ na poziom obciążenia fizycznego i psychicznego pielęgniarzki/pielęgniarskiego. Wraz ze wzrostem niesamodzielności podopiecznego wzrasta stopień obciążenia zespołów pielęgniarzskich. (PNN 2022;11(4):167–173)

**Słowa kluczowe:** obciążenie zespołów pielęgniarzskich, osoba starsza, choroba neurologiczna

## Introduction

According to the studies [1], the workload results from the general involvement in the actions taken. It can therefore be seen that the greater the involvement, the greater the workload, and thus the greater impact on the health of both the physical and mental health of the nurse/carer. It should be noted that many factors affect the degree of load. These include: the type of work performed (physical, mental, monotony, its duration or intensity), the specificity of tasks (difficulty and speed of decision-making, contact with suffering), interpersonal relationships, own resistance to stress, own health, or also the family situation.

According to reports from the USA, research shows that the profession of a nurse is a very risky profession, and research conducted in Minnesota on about 600 nurses showed that 77% assessed the level of stress as high or medium [2].

In the studies conducted by Tartas et al. [3], the work of a nurse is seen as a profession in which great manual dexterity is required from the nurse when performing individual procedures and activities, as well as operating medical equipment and devices, keeping accurate documentation, conducting education in the field of health promotion, or doing and interview and careful observation of the patient. Here, too, we are talking about

huge stress as a result of poor work organization, and at the same time a huge range of responsibility, or growing expectations on the part of the patient and his family.

Bearing in mind that women most often play the role of caretaker, Zysnarska et al. [4] considered this factor in their research as an important element of the burden. An important factor here was the constant readiness to help, despite both physical and mental fatigue, fear for others and lack of a sense of one's own needs. The research on the sense of satisfaction in the role of a caregiver should also be noticed. Grochowska et al. [5] write about a huge increase in demand for long-term care. According to the conducted studies, seniors have the most difficulties with cleaning (16.4%), shopping (14.5%), washing (12.9%) or preparing meals (10.1%). As a result, the demand for care for the elderly is growing at a very high rate. It is known that the burden, but also the sense of satisfaction, significantly affects the quality of care.

Observing the degree of disability in elderly patients suffering from dementia, Ciałkowska-Kuźmińska et al. [6] draw attention to the high degree of caregivers' burden. It should also be noted that the length of treatment and the increase in the need for care have a significant impact on such spheres of care as: caregiver fatigue, experiencing negative emotional states, a sense of self-control and social limitations. She also points out that with the deterioration of the patient's health

condition, the fear of aggravating the disease increases and the sense of stressful situations increases.

The main objective of the conducted research was to assess the degree of workload of nursing teams while caring for elderly people diagnosed with a neurological disease.

## Material and Methods

The study was conducted in the Provincial Specialist Hospital in Włocławek on a group of 120 randomly selected people (male/female nurses) caring for an elderly person with a neurological disease.

In the conducted research, 4 age groups were distinguished. The largest group with the result of 55 people are people over 50 years of age (45.8%). The second group of 38 respondents were people aged 41–50 (31.7%). The next group of people consisted of respondents aged 31–40 with 19 people in their group (15.8%). The smallest group of 8 respondents were people aged 20–30, which gave 6.7% of all respondents. Among the surveyed group of people, the larger group with the result of 82 people are city dwellers, which is defined as 68.3% of respondents, while 38 people are respondents living in rural areas, which is 31.7% of all respondents. Respondents were asked a question about the occurrence of ailments they observed while caring for people. According to the surveyed group, the most common diseases were spinal injuries and diseases in the number of  $N=96$ , which accounted for 80% of all ailments, and chronic physical fatigue  $N=90$ , i.e. 75%. The least frequent, however, were the occurrence of a hernia  $N=6$ , which accounts for 5% of all ailments. In the opinion of nursing teams, the biggest problems in caring for an elderly person are: care has a negative impact on physical health and emotional well-being, and care is too demanding for them.

The research was carried out using the diagnostic survey method, the survey technique with the use of standardized tools and a self-designed questionnaire. The research was anonymous and voluntary, and was subjected to descriptive, graphical and statistical analysis.

The questionnaire of my own authorship consisted of a metric and questions that were designed to identify factors that could directly or indirectly affect the care burden of nursing teams. Among other things, variables such as: seniority, means useful in care (e.g. anti-decubitus mattress, wheelchair), help received from others (help of non-professionals), etc. were listed here. The occurrence of physical and mental ailments observed by carers during their care was also verified. The questionnaire also included the assessment of the ward's fitness in the area of the Comprehensive Geriatric Assessment — CGA,

without the specification of which it is impossible to talk about the care burden. The intensity of the care provided by the nurse depends on the patient's fitness level, which also affects the level of their burden.

The standardized Katz ADL [7] and the Lawton IADL scale [8] were used in the study. The assessment of the mental burden of nursing teams was based on data from the Negative Care Impact Scale included in the COPE — index questionnaire [9].

## Ethical Considerations

Prior to the study, written consent was obtained from the Bioethics Committee at the State Vocational University in Włocławek (Resolution no. 34/30 of November 9, 2020). Respondents were informed about the purpose of the research and voluntary participation in it. They received additional information on the rules for completing the research tools and an assurance of anonymity of the collected data and their use only for scientific purposes.

## Data Analysis

All calculations were performed using the SPSS Statistics 21.0 statistical package. The chi-square test was used to examine the statistical relationship between the analysed features. The obtained test results were statistically analysed using the  $\chi^2$  test for independent samples. A 5% risk of inference error was assumed. The probability value  $p<0.05$  was considered statistically significant.

## Results

The conducted research showed that (Table 1):

1. there are no differences in the individual internship ranges in relation to the requirements for caring for the elderly;
2. long work experience (over 21 years) in caring for the elderly adversely affects relations with friends and the social life of nursing teams;
3. with the increase in seniority in caring for the elderly, the impact of the burden on the physical health of the caregiver increases;
4. with the increase in seniority (over 11 years) in caring for the elderly, problems in family relations also increase;
5. with the increase in seniority (over 11 years) in caring for the elderly, financial difficulties may increase;

**Table 1.** Work experience in caring for an elderly person and the sense of job satisfaction

COPE — selected issues	Seniority		
	N	$\chi^2$	p
1. Do you think that caring is too demanding for you?	120	11.29	0.256
2. Does caring cause problems in your relationships with friends?	120	4.65	0.864
3. Is caring bad for your mental health?	120	9.21	0.417
4. Does caring cause problems in your relationship with your family?	120	13.06	0.16
5. Does caring cause you financial difficulties?	120	16.07	0.065
6. As a carer, do you feel like in an impossible situation?	120	7.27	0.609
7. Does caring have a negative effect on your emotional well-being?	120	13.26	0.151
8. Do you feel satisfied with caring for the elderly	120	14.67	0.023

N — number of observations;  $\chi^2$  — chi-square test; p — test probability

6. seniority (its length) does not affect the sense of the role of the carer as a dead end situation;
7. regardless of seniority in the care of the elderly, the activities performed negatively affect the emotional well-being of nursing teams;
8. with the increase in seniority, the sense of satisfaction with care for the elderly decreases.

Taking into account the above analyses, it can be seen that with the increase in seniority in performing the role of a nurse/caregiver in caring for the elderly, there is an increase in physical burden, weakening of relations with friends, a significant impact on family relationships and a decrease in satisfaction with the role.

The conducted research shows (Table 2) that among the equipment facilitating the care of the elderly, nursing teams most often use an anti-decubitus mattress 76.6%; a specialist bed for a bedridden patient 52.5% and a wheelchair 44.1%. The least used ones include, for example, transfer rollers and lifts.

Among the respondents, the largest number of nurses reported the possibility of help from other nurses/caregivers in the amount of N=63, which is 52.5%. The smallest number of respondents, N=18, i.e. 15%, stated that they could count on the help of the patient's family, however, a large number, as many as N=39, stated that they often took care on their own without receiving any help (Table 3).

According to the respondents, the greatest mental burden, such as: depressed mood (64.5%) occurs when caring for dependent patients, although a large percentage of depressive disorders can also be observed among carers of people with moderate dependence. Statistical analysis showed a significant relationship between the opinion of the respondents as to their mental burden in caring for an elderly person and the degree of independence of the patient (p=0.008). This proves that the mental burden largely depends on the degree of independence of the patient (Table 4).

**Table 2.** Availability of specialist equipment for care and nursing

What specialized equipment for care and nursing do you have at your disposal?	N	%
1. Bed for a bedridden patient	63	52.50
2. Anti-decubitus mattress	92	76.67
3. Walker	45	37.50
4. Wheelchair	53	44.17
5. Rollers for moving patients	30	25.00
6. Lifts	30	25.00

**Table 3.** Help received from others

Do you receive help from other people in your care	N	%
1. Yes — from the ward's family, other family members	18	15.00
2. Yes — from other nurses/carers	63	52.50
3. No — I perform care on my own	39	32.50
Total	120	100.00

**Table 4.** The ratio of mental burden and the degree of independence of the ward

Mental burdens you have that result from caring for a person in a geriatric age		Degree of independence			N	$\chi^2$	p
		Dependent	Independent	Moderately dependent			
Depressed mood	N	69	20	18	107	13.7	0.008
	%	64.5	18.7	16.8	100.0		
Depression	N	4	2	5	11		
	%	36.4	18.2	45.5	100.0		
Other	N	0	2	0	2		
	%	0.0	18.2	0.0	100.0		
Total	N	73	24	23	120		
	%	60.8	20.0	19.2	100.0		

N — number of observations;  $\chi^2$  — chi-square test; p — test probability

**Table 5.** The ratio of physical load and the degree of independence of the ward

Does caring have a bad influence on your physical health		Degree of independence			N	$\chi^2$	p
		Dependent	Independent	Moderately dependent			
Never	N	1	0	0	1	36.06	0.0001
	%	100.0	0.0	0.0	100.0		
Sometimes	N	19	9	19	47		
	%	40.4	19.1	40.4	100.0		
Often	N	48	8	2	58		
	%	82.8	13.8	3.4	100.0		
Always	N	5	7	2	14		
	%	35.7	50.0	14.3	100.0		
Total	N	73	24	23	120		
	%	60.8	20.0	19.2	100.0		

N — number of observations;  $\chi^2$  — chi-square test; p — test probability

Analysing the subsequent data (Table 5), the largest number of respondents noticed the possibility of physical strain when taking care of dependent people in the answer OFTEN N=48, i.e. 82.8%. Also, when caring for independent people, nurses in N=8 declared the possibility of physical stress. Statistical analysis showed a significant relationship between the physical load and the degree of independence of the ward ( $p=0.0001$ ).

## Discussion

The aim of the study was to assess the degree of workload of nursing teams while caring for elderly people diagnosed with a neurological disease.

Statistical analysis showed a significant relationship between the seniority of nursing teams and whether they feel satisfied with caring for the elderly. According to the survey, 64% of the respondents taking care of the geriatric-aged people for 11–20 years admit that they feel satisfied with it. On the other hand, over 48% of

respondents working with geriatric-aged wards for over 21 years and over 63% of respondents working for up to 5 years admit that they are not satisfied with caring for the elderly. According to the survey, people with the greatest and at the same time the shortest work experience do not feel satisfied with their role. This may be due to their own sense of helplessness or professional burnout. According to research by Bartoszek et al. [10], more than half of carers feel a negative burden, while 59.3% feel satisfied with the care provided. In the studies of Niedorys et al. [11], it is shown that the length of care provided has a significant impact on the increase in the level of caregiver fatigue, the increase in limitations resulting from the role performed, and thus the decrease in the quality of care provided.

The obtained data indicate that in a small percentage of nursing teams use equipment such as a lift or rollers for transfer. This may be due to the scarcity of resources in a given ward in relation to the number of patients or other situations. However, to a large extent, especially in bedridden patients, an anti-decubitus mattress is used,



and other caregivers or other people are also available to help. A very low percentage of respondents involve family members in cooperation, which may result from various aspects, such as: lack of knowledge, or to a large extent from the patient's family's low willingness to cooperate. In the studies by Bartoszek et al. [10], the impact of support was emphasized, where according to its analysis, 60% of carers evaluate the level of support as low. The author emphasizes the positive impact it has on the caregiver's health, reducing the physical burden, and thus improving the quality of care for the elderly.

The study clearly shows that the degree of independence of an elderly person with a neurological disease has a significant impact on both the mental and physical health of the nursing teams taking care of them. Also, diseases dominating among the charges are important in order to examine the factors influencing the increase in the negative impact of caring for the elderly. The authors of the studies mention mainly dementia disorders and Alzheimer's disease [11–13]. This is largely due to the additional time burden, as this care must be provided continuously and unceasingly. It is a huge physical and mental effort.

## Conclusions

1. There is a relationship between seniority and the sense of job satisfaction. People with the longest work experience do not feel satisfaction.
2. Nursing teams do not fully use material and human resources while performing their role of caring for the elderly, which may be due to various reasons (lack of knowledge, lack of skills, limited access to equipment, lack of willingness to cooperate and help others). This has an impact on the level of physical and mental workload of nurses.
3. The degree of independence of the ward has a significant impact on the level of physical and mental burden of the nurse. With the increase in dependence of the ward, the degree of burden on nursing teams increases.


## Implications for Nursing Practice

The research shows that taking care of an elderly person with a neurological disease is a burden affecting the physical and mental condition of nursing teams. The reports of other authors have been confirmed that the factors determining the degree of stress are diverse, also in the area of neurological diseases.

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A — Concept and design of research, B — Collection and/or compilation of data,  
C — Analysis and interpretation of data, D — Statistical analysis, E — Writing  
an article, F — Search of the literature, G — Critical article analysis, H — Approval  
of the final version of the article, I — Acquisition of assets [eg financial]

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