Influence of Selected Socio-demographic Variables on the Level of Occupational Burnout in Neurological and Neurosurgical Nurses

Wpływ wybranych zmiennych socjodemograficznych na poziom wypalenia zawodowego pielęgniarek neurologicznych i neurochirurgicznych

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Abstract

Introduction. Burnout is recognized as an important individual and social problem. Occupations at increased risk of burnout include: doctors, nurses, social workers, teachers, policemen and emergency service workers.
Aim. The aim of the research was to determine the influence of selected socio-demographic variables on the level of occupational burnout in neurological and neurosurgical nurses.
Material and Methods. The research was carried out on a group of 206 nurses employed in thirteen neurological and neurosurgical centres in the Kuyavian-Pomeranian Voivodeship. By means of a diagnostic survey, the level of occupational burnout was assessed using a questionnaire survey.
Results. When analysing the impact of socio-demographic variables on occupational burnout, the following results were obtained for: gender (0.939), age (0.071), workplace (0.239), marital status (0.657), education (0.330), distance to the workplace (0.773), years of experience (0.013) and position held (0.552). Only work experience in the profession had a statistically significant, low correlation with the results of the level of occupational burnout ($p < 0.05$).
Conclusions. The examined group of nurses showed a low level of occupational burnout. The vast majority of nurses felt satisfied with their work. There was no significant influence of socio-demographic variables on the level of occupational burnout. **(JNNN 2021;10(4):162–167)**
Key Words: burnout, neurology, neurosurgery, socio-demographic variables

Streszczenie

Wstęp. Wypalenie zawodowe jest uznane za ważny problem zarówno indywidualny, jak i społeczny. Do zawodów z grupy podwyższonego ryzyka wypalenia zawodowego należą m.in.: lekarze, pielęgniarki, pracownicy społeczni, nauczyciele, policjanci i pracownicy służb ratunkowych.
Cel. Celem badań było określenie wpływu wybranych zmiennych socjodemograficznych na poziom wypalenia zawodowego pielęgniarek neurologicznych i neurochirurgicznych.
Materiał i metody. Badania przeprowadzono na grupie 206 pielęgniarek zatrudnionych w trzynastu ośrodkach neurologicznych i neurochirurgicznych na terenie woj. kujawsko-pomorskiego. Za pomocą sondażu diagnostycznego, techniką ankietową z wykorzystaniem kwestionariusza ankiety dokonano oceny poziomu wypalenia zawodowego.
Wyniki. Przeprowadzając analizę wpływu zmiennych socjodemograficznych na wypalenie zawodowe uzyskano następujące wyniki dla: płci (0,939), wieku (0,071), miejsca pracy (0,239), stanu cywilnego (0,657), wykształcenia (0,330), odległości do miejsca pracy (0,773), stażu pracy (0,013) i zajmowanego stanowiska (0,552). Tylko staż pracy w zawodzie pozostawał w istotnej statystycznie, niskiej korelacji z wynikami poziomu wypalenia zawodowego ($p < 0,05$).

Wnioski. Badana grupa pielęgniarek wykazywała niski poziom wypalenia zawodowego. Zdecydowana większość pielęgniarek odczuwała zadowolenie z wykonywanej pracy. Nie wykazano istotnego wpływu zmiennych socjodemograficznych na poziom wypalenia zawodowego. **(PNN 2021;10(4):162–167)**
Słowa kluczowe: wypalenie zawodowe, neurologia, neurochirurgia, zmienne socjodemograficzne

Introduction

Burnout is considered to be a significant social and individual problem. The issues related to this phenomenon are of interest not only to psychologists and sociologists, but also to researchers of other fields. More and more often, this topic is present in medical literature, management textbooks, in environmental and professional journals, as well as in the mass media [1,2].

The concept of burnout is defined as the psychological aspect of emotional stress, depersonalization, and a lowered sense of personal achievement that can arise in people who work with other people in certain ways. Therefore, the occupations at increased risk of burnout include: doctors, nurses, social workers, teachers, policemen an emergency services workers. Nurses as a professional group are particularly at risk of professional burnout. They deal with the broadly understood help to other people. Although their work involves constant changes, saving lives, gratitude of patients and their families, it is also tension, stress, the need for speed in making decisions, responsibility for others and constant contact with people. The ongoing COVID-19 pandemic has also contributed to an increase in occupational burnout among medical personnel [3–5].

Burnout can have health consequences, including: headache and muscle pain, problems with falling asleep, cardiac and digestive diseases. Employees may also experience a change in appetite, malaise, as well as weight problems. Unfortunately, the health consequences may also apply to the mental sphere. In professionally burned out people the following can be observed: a tendency to depression, low self-esteem and lack of acceptance of self-image [6,7].

The aim of the research was to determine the influence of selected socio-demographic variables on the level of occupational burnout in neurological and neurosurgical nurses.

Material and Methods

The research was carried out on a group of 206 nurses employed in thirteen neurological and neurosurgical centres in the Kuyavian-Pomeranian Voivodeship. The criterion for including people in the study was the current employment of a nurse in the department of neurology or neurosurgery. The characteristics of the study group are presented in Table 1.

Table 1. Characteristics of the study group

Variable	N	%
Gender		
Women	196	95.15
Men	10	4.85
Age		
25–34 years	29	14.08
35–44 years	93	45.14
45–54 years	70	33.98
55 years and more	14	6.80
Workplace		
Neurology	103	50.00
Neurosurgery	103	50.00
Marital status		
Single	35	16.99
Married	145	70.39
Divorced	20	9.71
Widow/Widower	6	2.91
Education		
Secondary	101	49.03
Bachelor	53	25.73
Master	52	25.24
Distance to the workplace		
Up to 9 km	93	45.15
10–29 km	59	28.64
30–59 km	37	17.96
60 km and more	17	8.25
Work experience		
Up to 9 years	28	13.59
10–19 years	61	29.61
20–29 years	93	45.15
30 years and more	24	11.65
Position/working time		
Partial (12 hours)	158	76.70
Partial (8 hours)	36	17.48
Managerial-coordinating, departmental (8 hours)	12	5.82

By means of a diagnostic survey, the level of occupational burnout was assessed using a questionnaire survey. The survey questionnaire consisted of two parts and contained 8 questions on socio-demographic data and 24 questions on professional burnout and job satisfaction. Socio-demographic data concerned gender and age of nurses, current workplace (department of neurology, neurosurgery), marital status, education (nurse diploma, bachelor's degree in nursing, master's degree in nursing), distance to work, internship and type of position/working time (section nurse, managerial position, 8 and 12 hour shifts). The next part of the questionnaire contained 24 closed questions concerning the issues of occupational burnout. The test person's task was to use a four-point scale to determine to what extent a given statement applies to him/her. The following grading scale was adopted: 1 — yes; 2 — probably yes; 3 — probably no; 4 — no. In total, it was possible to get from 22 to 92 points. The result of 22 points indicated no burnout, the maximum score meant complete burnout. Obtaining the appropriate number of points qualified for the appropriate level of occupational burnout:
— low level — from 24 to 53 points,
— average level — from 54 to 68 points,
— high level of burnout — 69 to 96 points.

Statistical Analysis

The obtained test results were statistically analysed with the use of Microsoft Excel and STATISTICA version 10.0 software (CM UMK licence). The values of the analysed measurable parameters were presented by means of the mean (M), median (Me) and standard deviation (SD) values, and for non-measurable ones by the number (N) and percentage (%). Non-parametric U Mann–Whitney (Z) and Kruskal–Wallis (H) rank tests were used in the study. The correlation between the variables was calculated using the Spearman correlation r coefficient (r). The level of significance was $p < 0.05$ indicating the existence of statistically significant differences or relationships.

Ethics Committee

The research was conducted after obtaining the consent of the Bioethics Committee operating at the Nicolaus Copernicus University in Toruń, Collegium Medicum in Bydgoszcz. The research was voluntary, free and anonymous. Before proceeding to them, the participants read the prepared instructions and information for the participant of the scientific research. Respondents were informed that their results would be used for research purposes only.

Results

An attempt was made to determine whether the level of occupational burnout is differentiated by the following variables: gender, age groups, workplace, marital status, education, distance to the workplace, years of experience and the position held at work (Table 2; Figures 1–8).

Table 2. Socio-demographic variables and occupational burnout

Variable	N	Test value	Level P
Gender*	206	0.076	0.939
Age†	206	0.126	0.071
Workplace*	206	1.177	0.239
Marital status**	206	1.607	0.657
Education†	206	–0.068	0.330
Distance to workplace†	206	0.020	0.773
Years of experience†	206	0.173	0.013
Position/working time**	206	1.189	0.552

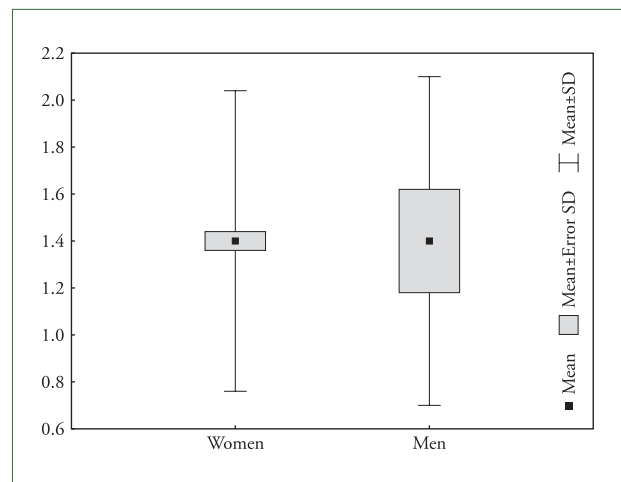*U Mann–Whitney, **Kruskal–Wallis rank, †r-Spearman

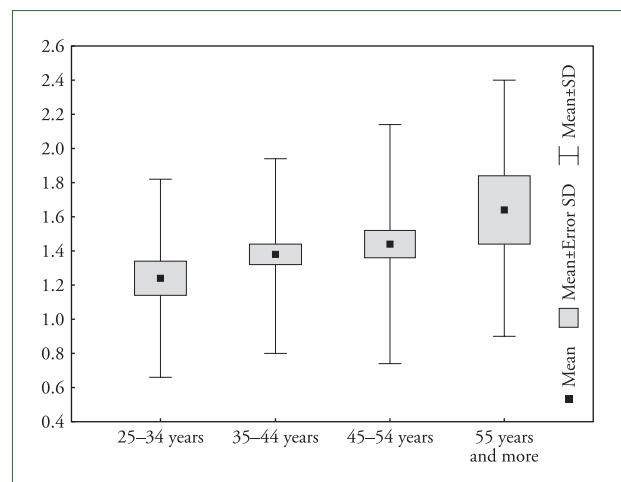**Figure 1.** Gender and occupational burnout

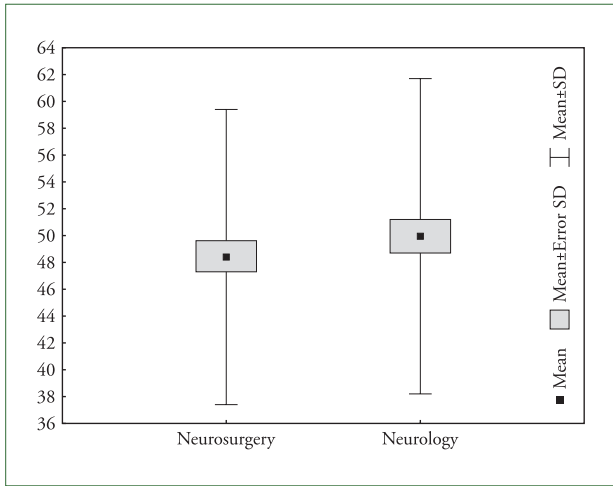**Figure 2.** Age and occupational burnout

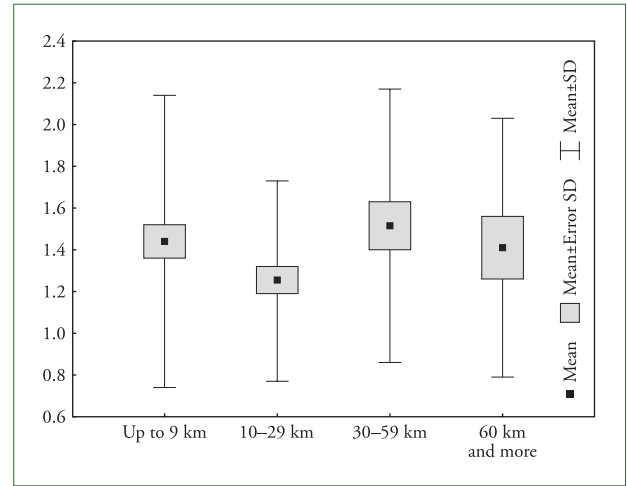**Figure 3.** Workplace and occupational burnout

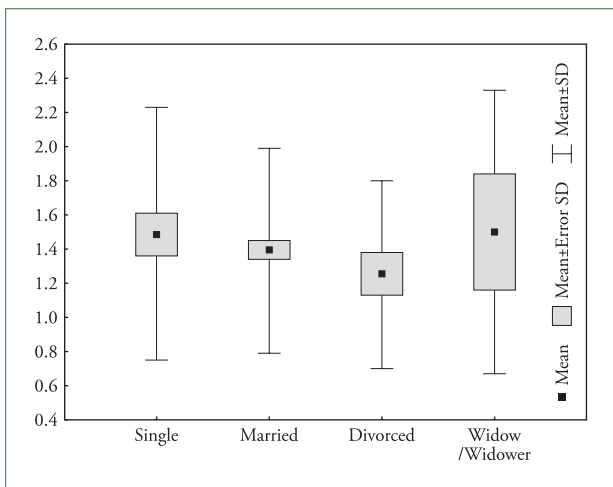**Figure 6.** Distance to the workplace and occupational burnout

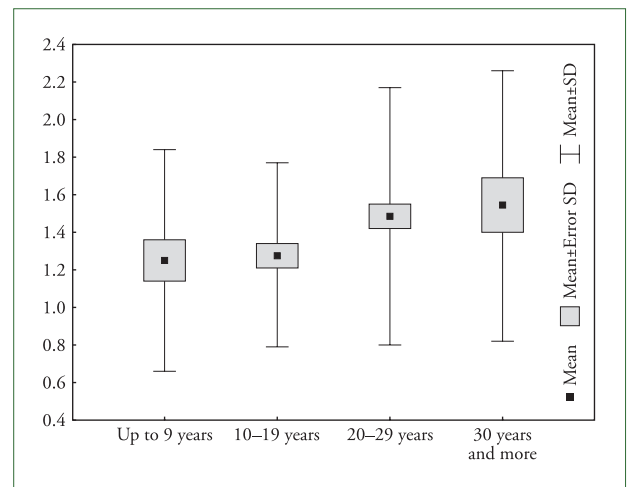**Figure 4.** Marital status and occupational burnout

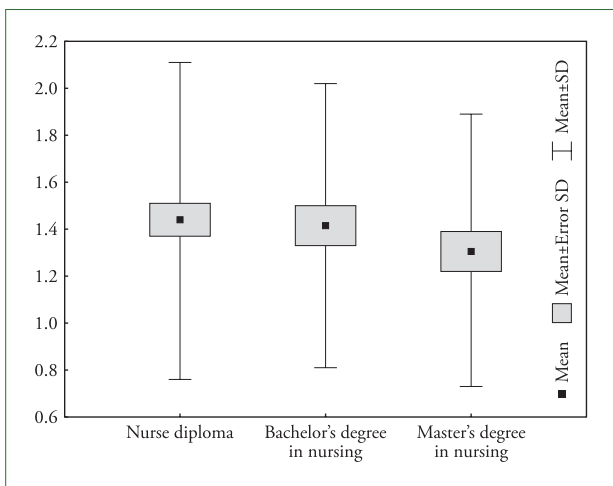**Figure 7.** Years of experience and occupational burnout

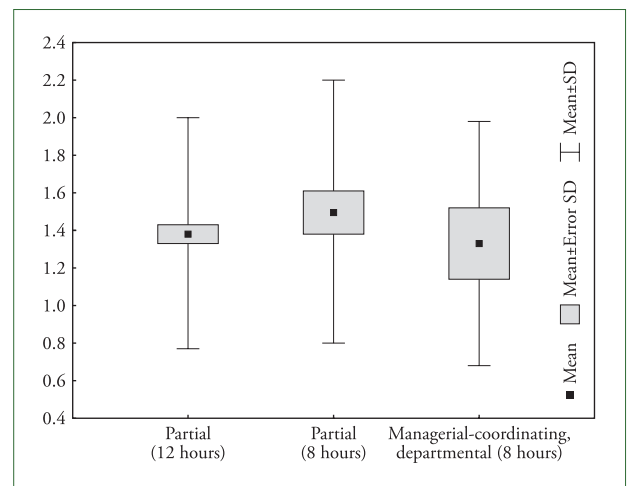**Figure 5.** Education and occupational burnout

Figure 8. Position/working time and occupational burnout

A higher index of low occupational burnout scores was recorded in the group of men — 7 people (70.0%). There was no statistically significant difference between the studied gender groups in terms of the level of occupational burnout (p>0.05).

The highest rate of low burnout results was recorded in the 25–34 age group — 24 people (82.8%). Further in the 45–54 age group — 47 people (67.1%). The lowest rate in the age group of 55 and older — 7 people (50.0%). Age groups did not have a statistically significant correlation with the results of the level of occupational burnout (p>0.05). The result is at the borderline of significance.

The point mean of the level of occupational burnout was 49.21 points and places the respondents at a low level. The higher score was obtained by the subjects from the neurological departments — the average of 49.95 points. The minimum result was identical in both groups (26 points), the maximum result was similar, higher in the neurology group (80 points). There was no statistically significant difference between the groups in terms of the level of occupational burnout (p>0.05).

He highest rate of low occupational burnout results was recorded in the group of divorced people — 16 people (80.0%). Further among married people — 97 people (66.9%). The lowest in the group of single people — 23 people (65.7%). There was no statistically significant difference in the level of occupational burnout between the groups of marital status of the respondents (p>0.05).

The highest rate of low occupational burnout results was recorded in the group with a master's degree — 39 people (75.0%). The lowest rate in the group with undergraduate education — 34 people (64.2%). Education did not have a statistically significant correlation with the results of the level of occupational burnout (p>0.05).

The highest indicator of low occupational burnout results was recorded in the group of respondents who were 10–29 km away from work — 45 people (76.3%). Further, in the group with a distance of 0–9 km — 63 people (67.7%). The lowest rate in the group with a distance of 30–59 km — 21 people (56.8%). The distance to work groups did not have a statistically significant correlation with the results of the level of occupational burnout (p>0.05).

The highest rate of low occupational burnout results was recorded in the group with 0–9 years of work experience — 23 people (82.1%). Next, among the respondents working for 10–19 years — 45 people (73.8%). The lowest rate, on the other hand, in the group of people working 30 years and more — 14 people (58.3%). The length of service in the profession was statistically significant, with low correlation with the results of the level of occupational burnout (p<0.05).

The highest rate of low occupational burnout results was recorded in the group of people working in a managerial position — 9 people (75.0%). The lowest in the position — section nurse (7.35 hours) — 22 people (61.1%). There was no statistically significant difference between the examined groups in the position held in terms of occupational burnout (p>0.05).

Discussion

Burnout is a serious individual and social problem. It is most often observed in people who, due to their profession, help others. The job of a nurse is one of the best examples of a profession that is at risk of burnout syndrome. The scale of the phenomenon is provided by the results of studies on burnout carried out among nurses in many different countries and regions of the world. Our study found that most nurses had low levels of burnout. It turned out that seniority is an important factor influencing professional burnout. In a study by Kowalczuk et al. [8], it was shown that the average levels of burnout measures ranged from 32.7 to 38.6% of the maximum value. Moreover, 25% of the most burned out people achieved a result over 50.7% of the maximum value in the case of the general measure, and even over 66.7% in the case of dissatisfaction with the job. Another study conducted among Polish nurses indicates that age and seniority do not significantly affect the occurrence of occupational burnout [9]. Interestingly, excessive workload is another important factor in the increase in occupational burnout among nurses, as it is considered that nurses in Poland are overloaded with work [8,10].

Research conducted in foreign centres also shows that occupational burnout is still a worrying and persistent problem among medical personnel. The studies conducted by Kelly et al. [11] showed that more than half of the nurses experienced moderate and 28% high occupational burnout. Zhang et al. [12] also found that half of the surveyed nurses experienced burnout. Moreover, 16.2% reported a high level of job satisfaction, while 70.7% intended to quit their job. Marital status, education, income and seniority contributed to burnout. Nurses with high levels of burnout had a higher degree of job dissatisfaction and were about to quit their jobs. On the other hand, a study by Magalhães et al. [13] showed that only 12% of nurses experienced burnout. On the other hand, Dechasa et al. [14] observed that out of 412 nurses participating in the study 183 (44.4%) nurses experienced burnout.

Apart from serious social and health consequences for nursing staff, burnout carries a number of threats to their work environment and the recipients of benefits. Therefore, it is important to detect this phenomenon early and implement effective preventive measures.

Conclusions

The examined group of nurses showed a low level of occupational burnout. The vast majority of nurses felt satisfied with their work. There was no significant influence of socio-demographic variables (apart from work experience) on the level of occupational burnout.

Implications for Nursing Practice

Burnout is largely dependent on work-related stress. A comprehensive intervention approach is essential to minimize and prevent nursing burnout. It is necessary to intervene both on an individual and organizational basis in the workplace. Individual interventions should include coping skills, self-care workshops, communication skills training and mindfulness, and coping with severe situations, including related to death of the subordinates. Organizational interventions are mainly aimed at reducing stress and alleviating the impact of stressors in the workplace. Activities in this area should address workload or work schedule, organize stress management training programs, encourage help and guidance from experienced colleagues, and encourage teamwork.

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