Teka Komisji Prawniczej PAN Oddział w Lublinie, vol. XVI, 2023, no. 2, pp. 491-506
https://doi.org/10.32084/tkp.6285

THE LEVEL OF PSYCHOLOGICAL TENSION AND PROFESSIONAL BURNOUT IN NURSES EMPLOYED IN HOSPITAL EMERGENCY DEPARTMENTS

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Abstract. Burnout syndrome is a collection of adverse symptoms that affect nursing staff employed in medical facilities. This syndrome is marked by a low mood, mental fatigue, and physical discomfort. Its emergence is impacted by strenuous work, organizational problems, and interpersonal conflicts. The aim of this study was to analyze the degree of mental burden and occupational burnout of nurses employed in Hospital Emergency Departments (ER). The data collection was based on the author's questionnaire, as well as the MBI Maslach occupational burnout questionnaire and the Meister's mental burden assessment questionnaire. The sample comprised 113 professionally active nurses employed in the HED. Conclusions: (1) the respondents exhibit a low and medium level of occupational burnout and mental workload, (2) socio-demographic factors, work experience and prevention methods do not affect the level of mental workload and occupational burnout, (3) employment in several workplaces causes a higher level of workload and professional burnout, (4) satisfaction with remuneration and support from colleagues is a key factor in reducing the risks of professional burnout.

Keywords: mental burden; occupational burnout; health care system

ISSN 1899-7694
e-ISSN 2719-7379

INTRODUCTION

Professional burnout is the subject of numerous theoretical works. Maslach defines burnout as "a psychological syndrome of emotional exhaustion, depersonalization, and a reduced sense of personal achievement that can occur in people working with other people in a certain way" [Bartkowiak 2009]. The WHO European Forum of Medical Associations defines occupational burnout as "a syndrome of emotional, physical and cognitive energy exhaustion manifested by emotional and physical exhaustion, lack of efficiency and competence" [Wang, et al. 2020].

A similar description is defined by Pines and Aroson, who consider burnout "as a state of physical, emotional and mental exhaustion caused by prolonged involvement in situations that are emotionally taxing" [Sęk 2005].

In discussing this terminology, one can't help but refer to the definition of Sęk, a key researcher on this issue. According to her, "occupational burnout is one of many possible reactions of the body to chronic stress associated with work in professions whose common feature is constant contact with people and emotional involvement in their problems. Burnout is the result of prolonged and severe stress and the inability to cope with it. Burnout is not a psychopathological phenomenon, but rather a multifaceted syndrome of symptoms, the causes of which are both interpersonal, individual, and organizational-contextual factors, and thus involve professions that share a common social context, which involves interacting with patients, clients, and even fellow workers" [Mańkowska 2016].

Referring to the above definitions, it should be assumed that occupational burnout is multifaceted and is associated with emotional exhaustion, depersonalization, reduced sense of one's own successes and achievements [Świętochowski 2011].

The basic symptoms of professional burnout include frequent fatigue, lack of energy, low level of activity. People affected by emotional exhaustion are characterized by the conviction that they are constantly overloaded with professional duties, and their performance consumes much more time than before. They do not have the possibility of effective rest, relaxation, mental relaxation, as well as regeneration of their energy resources. Emotional exhaustion is the basic consequence of often experienced stress in the professional sphere [Gembalska-Kwiecień and Żurakowski 2015; Tucholska 2001].

On the one hand, fatigue is a symptom of occupational burnout, but on the other hand, the described phenomenon does not show the characteristic forms of this fatigue, because a person affected by burnout can simultaneously experience full satisfaction and contentment from his

professional life, and on the other hand, he may experience exhaustion in connection with it. In most cases, professional burnout affects those people who started their professional career with excessive commitment, showing lofty assumptions, ideals, goals, and too high expectations Kraczla's [Kraczla 2013; Wilczek-Rużyczka, et al. 2019]. Considers that the main difference between burnout and work-related stress is that stress and fatigue are inherent in every professionally active person, and that burnout only affects those who were previously convinced that work would be the main purpose of their lives.

The above-mentioned emotional exhaustion is associated with experiencing excessive mental strain, insufficient physical and mental energy, and emotional emptiness. In addition, it is associated with the feeling of reduced energy resources because of the need to establish interpersonal contacts with others on a professional basis [Erenkfeit, et al. 2012; Jankowiak 2010].

Depersonalization correlates directly with the occurrence of inappropriate attitudes, and adopting a defensive stance, which results in maintaining an excessive distance from people with whom one comes into contact in the professional sphere. A manifestation of depersonalization is adopting an attitude of indifference, lack of empathy, contempt, treating patients as objects. On the other hand, a reduced assessment of one's own achievements is associated with a tendency to negatively assess oneself, one's achievements, practical skills and qualifications, and a lack of faith in one's own abilities. Therefore, this leads to a low degree of professional commitment and a feeling of satisfaction with the goals resulting from the performance of professional duties. The factors mentioned above make it possible to distinguish between professional burnout and other effects of experienced stress in the professional sphere [Erenkfeit, et al. 2012; Jankowiak 2010; Kurowska and Zuza-Witkowska 2011; Wieder-Huszla, et al. 2016].

Occupational workload is very common in representatives of professions based on helping others, in medical professionals, including nurses. As the reasons for experiencing a high level of occupational stress, which is a risk factor for burnout in nurses, Sek's lists: requirements resulting from the characteristics of the profession, whose removal or limitation exceeds the capabilities, powers and competences of nurses, high level of mental burden resulting from the need to bear responsibility for the health and life of patients , technical and organizational deficiencies appearing during the performance of care and therapeutic activities, systemic irregularities, pay inadequate to the requirements, lack of professional prestige, inappropriate atmosphere in the workplace, experiencing a demanding attitude on the part of patients and their relatives [Sęk 2009].

Nurses also experience many other determinants during their work and stress factors. These include, above all, aggressive behavior of patients, great involvement in helping others, excessive exploitation of the body, sacrificing private life for professional. Nurses also experience negative emotions not only from patients, but also from their relatives, who in this way relieve themselves of difficult moments, death of loved ones, pain, suffering [Marcysiak, et al. 2016; Wilczek-Rużyczka 2014].

Describing the phenomenon of occupational burnout occurring in nurses, it should also be noted that through contacts with patients who are aware of the approaching end of life, nurses fully unconsciously take over the negative feelings of patients, which burdens them in the emotional and mental spheres [Klajda and Szewczyk 2016; Zbyrad 2017].

Another factor intensifying the occurrence of professional burnout syndrome among nurses is the performance of professional duties in a shift system. This is related to the treatment of nursing staff as only executors of medical orders, at the same time deprived of an autonomous role, having professional qualifications and competences [Kociuba-Adamczuk 2017; Majchrowska and Tomkiewicz 2015].

Kowalska highlights other determinants that have a negative impact on nurses' well-being, and includes high noise levels, high temperatures, artificial lighting of inadequate intensity, high levels of radiation, contact with chemicals, pharmaceuticals, biological material, secretions, and excretions of patients [Jończyk and Sawicka 2019; Kowalska 2007; Rezmerska, et al. 2016; Wojciechowska and Krzyżanowski 2011].

In conclusion, it should be recognized that occupational burnout is the result of many negative factors of a psychological, organizational, and environmental nature [Kociuba-Adamczuk 2017; Hoffmann-Aulich, et al. 2017; Lochmajer 2015; Nowakowska and Rasińska 2014; Sowińska et al. 2012; Wilczek-Rużyczka and Zaczyk 2015].

1. MATERIAL AND METHODS

1.1. Participants and characteristics of the study

The research was carried out in 2023 among 113 HED employees. The research material was collected using two methods. The first method involved paper questionnaires that were completed by respondents. The second method was based on publishing the questionnaire in an electronic version in social media on groups dedicated to medical professionals. Before completing the questionnaire, the respondents were informed about the purpose of the study, voluntary participation in it, and they were also assured of anonymity.

1.2. Method

The method used to collect the research material was the diagnostic survey method. The technique used was a questionnaire. In addition, three research tools were used in the work. The first was an original questionnaire composed of a total of 24 questions. Questions 1-9 constituted the characteristics of the surveyed group, considering gender, age, place of residence, education, specialization, work experience, marital status, and financial status. The purpose of questions 10-12 was to learn about the circumstances of employment, i.e., the type of employment contract, the number of places of employment and the system of work at the HED. On the other hand, questions 13-25 referred to the mental and physical consequences of work, experiencing the support of relatives and colleagues, and taking actions aimed at reducing stress. The second research tool was the MBI burnout questionnaire according to Maslach. This tool consists of 22 statements related to the respondents' attitudes and feelings towards their professional work. The purpose of the questionnaire was to determine the severity and frequency of experiencing burnout symptoms by a given person. Each of the included statements was described by the respondents using a 1-4 scale, thanks to which it was possible to obtain a maximum of 88 points. The higher the score, the higher the level of occupational burnout in the surveyed person [Hong, et al. 2007].

The third research tool used was the Meister questionnaire evaluating the mental burden associated with professional work. Its structure is complex out of 10 statements evaluated with 5 statements scored: 1-definitely not; 5-definitely yes. Respondents could score from 10 to 50 points. The higher the number of points obtained by the tested person, the greater was the level of mental burden: a) 10-17 points low level of mental load, b) 18-34 points average level of mental load, c) 35-50 points high level of mental burden [Świętochowski 2011].

1.3. Statistical analysis

The analysis of the research material was carried out using a statistical test, i.e., the Chi2 independence test with the assumed level of significance at $p \leq 0.05$. It was used due to the study of independence among immeasurable features presented in the form of number and percentage. The database, tables, and calculations necessary to provide answers in connection with the accepted research problems and research hypotheses were made using the Microsoft Professional Excel 2019 computer program.

1.4. Ethical statement

The research was carried out based on the requirements of the Declaration of Helsinki. All participants were informed about the purpose of the study and took part in it voluntarily and consciously.

2. RESEARCH RESULTS

2.1. Characteristics of the study group

Significantly more women (n=88, 77.9%) than men (n=25, 22.1%) participated in the study. The largest number of respondents was in the age group of 31-40 (n=36, 31.9%) and 41-50 (n=35, 30.9%), and the fewest in the age group of 21-30 (n=16, 14, 2%) and 50 years and over (n=26, 23.0%). 64 people were urban residents (n=64, 56.6%) and 49 were rural residents (n=49, 43.4%). Most of the respondents had a bachelor's degree (n=59, 52.2%). The remaining persons completed vocational studies (n=19, 16.8%) or had higher education with a master's degree (n=35, 31.0%). Only 31 respondents (n=31, 27.4%) had a specialization, 82 other people did not have a specialization (n=82, 72.6%). Most people worked in the ward for 6-10 years (n=38, 33.6%) and 11-20 years (n=29, 25.7%). The others defined their work experience in the HED as less than a year (n=17, 15.1%), 1-5 years (n=19, 16.8%) or over 20 years (n=10, 8.8%). Most of the respondents worked in the profession for 20 years (n=41, 36.3%) or 11-20 years (n=35, 31.0%), and the fewest for less than a year (n=8, 7.1%), 1-5 years (n=10, 8.8%) or 6-10 years (n=19, 16.8%). Most of the respondents were in a relationship (n=78, 69.1%). The remaining group were unmarried (n=21, 18.6%), divorced (n=10, 8.8%) or widowed (n=4, 3.5%). 46 people described their financial status as good (n=46, 40.7%), 50 as average (n=50, 44.2%), and only 17 as bad (n=17, 15.1%). Many respondents were employed full-time based on an employment contract (n=105, 92.9%), only 8 people were employed based on a civil law contract (n=8, 7.1%). 106 respondents worked in shifts (n=106, 93.8%), and 7 respondents in the day system (n=7, 6.2%). 71 respondents declared receiving support from other employees (n=71, 62.8%), 42 respondents did not receive support (n=42, 37.2%). 28 people believed that they experienced occupational burnout (n=28, 24.8%), and 44 people that they did not (n=44, 38.9%). 41 respondents had no opinion on this issue (n=41, 36.3%). 68 respondents stated that they apply the principles of preventing burnout (n=68, 60.2%), 45 did not confirm the implementation of any form of prevention (n=45, 39.8%). 106 respondents confirmed experiencing professional stress while performing their professional duties (n=106, 93.8%), 7 people declared that they did not experience such stress (n=7, 6.2%). Many respondents believed they experienced aggression

and demanding behavior from their patients (n=109, 96.5%), only 4 respondents did not experience such attitudes and behavior from their patients (n=4, 3.5%). When asked about feeling overloaded with professional duties in the HED, 110 respondents chose an affirmative answer (n=110, 97.3%), and only 3 negative ones (n=3, 2.7%). 25 people were satisfied with the atmosphere at work (n=25, 22.1%), 61 were partially satisfied (n=61, 54.0%), and 27 were not at all satisfied (n=27, 23.9%). 79 respondents undertook activities related to the reduction of tension and stress in their free time (n=79, 69.9%), and 34 did not undertake such prevention (n=34, 30.1%).

2.2. MBI Burnout Questionnaire

Using the MBI Burnout Questionnaire, the level of burnout among the respondents was examined. It was shown that 53 respondents were characterized by low (n=53, 46.9%), 46 medium (n=46, 40.7%), and 14 high level of occupational burnout (n=14, 12.4%) (Table 1).

Table 1. Characteristics of respondents according to the level of occupational burnout.

Professional burnout level	N	%
low (22-44 points)	53	46,9
medium (45-66 points)	46	40,7
high (67-88 points)	14	12,4
Total	113	100,0

Source: own research, n – number of responses

2.3. Meister's Mental Burden Questionnaire

Based on the answers given by the respondents in the Meister Mental Burden Questionnaire, it was shown that 39 respondents were characterized by low (n=39, 34.5%), 55 medium (n=55, 48.7%) and 19 high levels of mental burden (n=19, 16.8%) (Table 2).

Table 2. Characteristics of the respondents according to the level of mental burden.

Mental load level	N	%
low (10-17 points)	39	34,5
medium (18-34 points)	55	48,7
high (35-50 points)	19	16,8
Total	113	100,0

Source: own research, n – number of responses

2.4. Research analysis

The conducted research shows that occupational burnout and mental burden were not determined by place of residence (p=0.91 vs. p=0.23), gender (p=0.42 vs. p=0.10), seniority (p=0.59 vs. p=0.06), preventive measures (p=0.10 vs. p=0.44) or age (p=0.21 vs. p=0.81). Statistically significant differences were observed in determinants such as: number of jobs (p<0.001) (Table 3 and 4), satisfaction with remuneration (P=0.001) (Table 5 and 6) and support from colleagues (p=0.01) (Table 7 and 8).

Table 3. The impact of the number of jobs on the level of professional burnout among respondents.

Number of jobs	Professional burnout level			Total n, %
	Low n, %	Medium n, %	High n, %	
1	48	37	4	89
	42,5	32,7	3,5	78,8
more than 1	5	9	10	24
	4,4	8,0	8,8	21,2
Total	53	46	14	113
n, %	46,9	40,7	12,4	100,0
Statistical analysis: $Chi^2$25,574, p<0,001				

Source: own study, n – number of responses, p – level of significance

Table 4. The impact of the number of jobs on the level of psychological burden among the respondents.

Number of jobs	Professional burnout level			Total n, %
	Low n, %	Medium n, %	High n, %	
1	35	47	7	89
	31,0	41,6	6,2	78,8
more than 1	4	8	12	24
	3,5	7,1	10,6	21,2
Total	39	55	19	113
n, %	34,5	48,7	16,8	100,0
Statistical analysis: Chi^2=24,244, p<0,001				

Source: own study, n – number of responses, p – level of significance

Table 5. Impact of satisfaction with remuneration on the level of professional burnout among respondents.

Feeling satisfied with the salary	Professional burnout level			Total n, %
	Low n, %	Medium n, %	High n, %	
Yes	34	11	4	49
	30,0	9,7	3,5	43,4
No	19	35	10	64
	16,8	31,0	8,8	56,6
Total	53	46	14	113
n, %	46,9	40,7	12,4	100,0
Statistical analysis: Chi^2=17,658, p=0,001				

Source: own study, n – number of responses, p – level of significance

Table 6. Impact of satisfaction with remuneration on the level of psychological burden among respondents.

Feeling satisfied with the salary	Mental load level			Total n, %
	Low n, %	Medium n, %	High n, %	
Yes	26	16	7	49
	23,0	14,2	6,2	43,4
No	13	39	12	64
	11,5	34,5	10,6	56,6
Total	39	55	19	113
n, %	34,5	48,7	16,8	100,0
Statistical analysis: Chi^2=13,514, p=0,001				

Source: own study, n – number of responses, p – level of significance

Table 7. Impact of receiving support from other employees on the level of professional burnout among respondents.

Receiving support from other employees	Professional burnout level			Total n, %
	Low n, %	Medium n, %	High n, %	
Yes	40	26	5	71
	35,4	32,0	4,4	62,8
No	13	20	9	42
	11,5	17,7	8,0	37,2
Total	53	46	14	113
n, %	46,9	40,7	12,4	100,0
Statistical analysis: Chi^2=8,819, p=0,01				

Source: own study, n – number of responses, p – level of significance

Table 8. Impact of receiving support from other employees on the level of psychological burden among respondents.

Receiving support from other employees	Professional burnout level			Total n, %
	Low n, %	Medium n, %	High n, %	
Yes	28 24,8	37 32,7	6 5,3	71 62,8
No	11 9,7	18 15,9	13 11,5	42 37,2
Total n, %	39 34,5	55 48,7	19 16,8	113 100,0
Statistical analysis: Chi^2=9,753, p=0,007				

Source: own study, n – number of responses, p – level of significance

3. DISCUSSION

The conducted research shows that most of the respondents were characterized by low and average level of mental burden and occupational burnout. It depended on the number of jobs, satisfaction with remuneration, receiving support from loved ones. The research showed no relationship between gender, age, place of residence, work experience and the use of prophylaxis and the development of professional burnout and mental burden.

A similar topic was taken up by Rezmerska, who analyzed the nursing staff employed in various hospital wards. The group of respondents in her research consisted of 70 employees, dominated by women aged 41-50, with at least 20 years of work experience, employed in a 12-hour system, with secondary education. Most of the respondents experienced burnout at an average level. For comparison, this research was also dominated by women, aged 31-40 and 41-50, with 11-20 years of work experience, with a bachelor's degree, employed in a shift system. Both Rezmerska's research and the research presented in this paper confirmed a low and medium level of occupational burnout [Rezmerska et al. 2016].

Slightly different data were obtained by Łopatkiewicz, who studied 85 nurses from psychiatric wards [Łopatkiewicz and Sypniewska 2019]. As in the research presented in this paper, the author's questionnaire and the MBI occupational burnout questionnaire were used for the research. The author showed that the nursing staff was characterized by a high level of professional burnout, which depended on the level of education, seniority, age, and health condition. Similar results were confirmed by Stępień and Szmigiel, who conducted research among 100 nurses of the Upper

Silesian Children's Health Center in Katowice. The authors also confirmed the high level of occupational burnout in the study group, which was determined by seniority [Stępień and Szmigiel 2017].

Dębska analyzed the mental burden and professional burnout among 156 professionally active nurses employed in various departments. It proved that the surveyed nurses were characterized by a high level of mental burden, which correlated with depersonalization and emotional exhaustion. In addition, as the author showed, the psychological burden depended on education, work experience and place of employment [Dębska et al. 2013]. The results obtained by her were confirmed by Jarzynkowski et al. [Jarzynkowski et al. 2019].

According to the research conducted so far, higher education is a predictor of professional burnout syndrome. It should protect against burnout. Theoretically yes. Nurses who have the knowledge, appropriate qualifications and experience should have the skills to act to protect themselves from the development of burnout. Unfortunately, the reason is probably not in professional qualifications, but in the situation that takes place after obtaining them [Markiewicz and Markiewicz 2015a; Markiewicz and Markiewicz 2015b]. A significant number of nurses believe that higher vocational education will contribute to changes in their careers and better salaries. Very often, such expectations do not necessarily take place, although in recent years the situation related to the remuneration of nurses has improved. And although there have been legal acts imposing on medical institutions a specific system of financing employees' salaries depending on their education, unfortunately, freedom in this respect is still the reason for the lack of arbitrary decisions. The lack of an unambiguous legal interpretation means that the nursing staff is unable to enforce their rights, which results in: frustration, passive attitude, lack of commitment, reluctance towards patients, treating them as objects [Tomaszewska et al. 2008; Kadłubowska et al. 2010; Chang et al. 2009; Arnetz and Hasson 2007].

This is confirmed by the results of the obtained research, which show how great importance in reducing the professional burnout syndrome is satisfaction with the remuneration obtained, often obtained from several places of employment. However, it should be remembered that the work of nursing staff entails huge health, financial and family costs, as well as many personal sacrifices. While for an active and healthy nurse working in several places is not a problem, it is debatable whether this situation is correct. Stress at work, the complexity of the functions performed by nursing staff and the requirements resulting from the provision of optimal care imply an urgent need to create a stable and uniform organizational structure that considers professional qualifications. Similar conclusions were obtained

in studies conducted in Sweden, Iran, Iceland, and New Zealand [Sveinsdottir et al. 2006; Zarea et al. 2012; Fourie et al. 2005].

Failure to use the professional potential of nurses supported by education, specialization and experience, lack of recognition from the employer, controversial rules regarding minimum employment standards are threats to the profession and the basis for reorganizing the working conditions of this professional group. Similar postulates are presented in studies of professional satisfaction of nurses in the United States [Rambur et al. 2005; Lapane and Hughes 2007; Jourdain and Chenevert 2010; Madathill et al. 2014; Van Bogaert et al. 2010; Wang et al. 2015; Edwards et al. 2005].

4. CONCLUSIONS

1. The respondents were mainly characterized by a low and medium level of professional burnout and mental burden.
2. Socio-demographic characteristics, work experience and burnout prevention did not affect the level of mental burden and burnout in the study group.
3. Respondents employed in more than one workplace more often experienced a higher level of mental strain and occupational burnout than those working in only one workplace.
4. Respondents who felt satisfied with their remuneration and received support from other employees were characterized by a lower level of professional burnout and mental burden.

5. IMPLICATIONS

1. There is a need to organize training for nursing staff aimed at learning how to reduce stress, how to deal with traumatic situations, and how to use crisis intervention (professional and non-professional).
2. It is advisable to take actions aimed at determining the requirements of the workplace, considering the personality predispositions of employees. It seems justified to conduct pilot psychological research verifying predispositions to a profession with a specific branch profile and leadership style as an important feature in work organization.
3. There is a need to develop standards and procedures for dealing with various patients with various clinical problems (aggressive, with suicidal intentions, with extensive oncological pain). Their use will contribute to the introduction of behavioral algorithms, cascading actions,

and quick identification of threats to solve the problem in a planned and rational manner.

4. It is justified to implement adequate behavioral strategies aimed at providing comprehensive assistance to people at risk of burnout syndrome (Balint groups, supervision, psychodrama, supervision of organizational theory, topic-focused supervision, Gestalt supervision, supervision of systems theory and behavioral therapy). This assistance should include activities carried out by the employer for both the employee and his family. The authors of the studies emphasize the special impact of organizational and institutional (holistic) support on job satisfaction and the quality of care provided.
5. There is a need to improve occupational safety by ensuring optimal staffing, equipment, and security of emergency departments. Research shows that aggressive behavior displayed by patients, suicide attempts and other emergencies are often encountered in the work of nursing staff, and their early identification and elimination are extremely important. Limiting the development of the burnout syndrome requires intervention at the organizational, i.e. basic, level.
6. It is important to conduct training in communication and mediation at work, both with patients and colleagues. Skillful dialogue, assertive behavior and appropriate interpersonal relationships are the basis for providing professional patient care. Improving self-efficacy and developing professionalism result in reducing stress factors. Achieving this goal is possible by using various forms of influence and conducting adequate training.

6. LIMITATIONS

The limitation of the work is the analysis of a selected group of nurses employed in hospital emergency departments. In the future, it would be worth conducting a comparative analysis of the level of burnout among nurses employed in other departments, e.g. oncology, psychiatry, or intensive care units. Monitoring the level of burnout would undoubtedly enable early interventions and corrective actions.

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