

FACTORS AFFECTING OCCUPATIONAL BURNOUT AMONG SCHOOL NURSES IN POLAND

Czynniki wpływające na wypalenie zawodowe wśród pielęgniarek szkolnych w Polsce

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Summary

Background. Occupational burnout is a widespread phenomenon in nurses which manifests in emotional exhaustion, lack of motivation, and feelings of frustration.

Objectives. This cross-sectional study aimed to assess factors affecting occupational burnout among 125 school nurses in Poland.

Material and methods. Sociodemographic data were collected and the level of burnout was assessed with Maslach Burnout Inventory (MBI).

Results. Nurses presented a low level of emotional exhaustion (2.5 pts) and depersonalization (1.5 pts) and a low level of personal achievements (3.8 points). Selected factors influencing the MBI domains were: need for systematic cooperation with a school pedagogue or psychologist ($p = 0.001$), perception of the nurse as an expert by the school community ($p < 0.001$), feeling of dissatisfaction with one's work ($p = 0.01$), holding the title of a specialist ($p = 0.016$) and subjective assessment of one's salary as "high" ($p = 0.002$).

Conclusions. School nurses are at risk of occupational burnout syndrome due to their dissatisfaction with personal achievements at work.

Key words: school nurses, Polish nurses, occupational burnout, burnout syndrome, Maslach Burnout Inventory, evidence-based nursing practice.

Streszczenie

Wstęp. Wypalenie zawodowe jest powszechnym zjawiskiem wśród pielęgniarek, które objawia się wyczerpaniem emocjonalnym, brakiem motywacji i uczuciem frustracji.

Cel pracy. Ocena czynników wpływających na wypalenie zawodowe wśród 125 pielęgniarek szkolnych w Polsce.

Materiał i metody. Badanie składało się z oceny parametrów socjodemograficznych, a poziom wypalenia oceniono za pomocą Kwestionariusza Maslacha (MBI).

Wyniki. Pielęgniarki szkolne wykazały niski poziom wyczerpania emocjonalnego (2,5 pkt.) i depersonalizacji (1,5 pkt.) oraz niski poziom zadowolenia z osiągnięć osobistych (3,8 pkt.). Wybrane czynniki wpływające na poziom wypalenia zawodowego według kwestionariusza MBI to: potrzeba systematycznej współpracy z pedagogiem szkolnym lub psychologiem ($p = 0,001$), postrzeganie pielęgniarki jako eksperta przez środowisko szkolne ($p < 0,001$), poczucie niezadowolenia z pracy ($p = 0,01$), posiadanie tytułu specjalisty ($p = 0,016$) oraz subiektywna ocena własnego wynagrodzenia jako „wysokie” ($p = 0,002$).

Wnioski. Pielęgniarki szkolne są narażone na syndrom wypalenia zawodowego między innymi z powodu niezadowolenia z osobistych osiągnięć w pracy.

Słowa kluczowe: pielęgniarki szkolne, pielęgniarki polskie, wypalenie zawodowe, syndrom wypalenia, kwestionariusz wypalenia zawodowego Maslacha, praktyka pielęgniarska oparta na dowodach naukowych.

BACKGROUND

Nurses are exposed to stress factors related to protecting human health and saving human lives. Exhausting and stressful situations may lead to a lack of motivation, indifference, or even disease. Chronic stress is a predictor of the so-called burnout syndrome [1]. The notion of occupational burnout is used to describe a process or a belief. The phrase burning out is used to signal a mental process and significant transformation of behaviors [2].

Occupational burnout is a widespread phenomenon in nurses characterized by a reduction of energy that manifests in emotional exhaustion, lack of motivation, and feelings of frustration that may lead to reductions in work efficacy [3]. Recent studies have indicated that burnout has many adverse effects on the physical and emotional condition of healthcare providers such as physical fatigue, cardiovascular disorders, and other organic diseases like anxiety, depression, and loss of motivation [4].

The most popular concept of burnout is the multidimensional theory of burnout developed by Maslach. The author defines occupational burnout as a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal achievements, which may develop in people who work with other people in a specific way [5].

The burnout process does not pertain to all occupational groups. This notion mainly describes symptoms occurring in people whose profession involves close interpersonal contact that requires absolute commitment. Considerable mental strain and persistent frustration, resulting from fatigue at work, are predictors of occupational burnout risk in nurses [6].

As a consequence, occupational burnout may potentially affect an organizational structure, leading to decreased productivity in the workplace and the deterioration of the quality of health-care provided, which can have a negative impact on the health system in general [7]. For organizations, burnout can be costly, leading to increased employee tardiness, absenteeism, turnover, decreased performance, and difficulty in recruiting and retaining staff [8].

The work of a school nurse, as integral healthcare and educational professionals, involves numerous duties such as conducting and interpreting screening tests, offering ongoing counseling to students with health problems, providing care to students with chronic diseases and disabilities, providing first aid in case of sudden illness, injury, or poisoning, etc. [9].

School nurses, play a key role in delivering health promotion to children and teenagers. They are responsible for delivering health advice and education, providing treatment and family

support, safeguarding students, and coordinating service and multi-agency work, including the voluntary and social care sector [10].

School nurses may play a key role in managing the daily needs of students with chronic health conditions such as asthma, seizure disorders, diabetes, food allergies or anaphylaxis, and poor oral health. They are often responsible for coordinating and conducting health assessments, as well as planning and implementing individualized healthcare plans for safe and effective management for these young people [11]. They should also be extremely interested in enhancing the mental health of children and teenagers in school settings [12].

Lower levels of job satisfaction and higher occupational burnout are considered the main contributing factors of the worldwide shortage of nurse practitioners and have been the main objective of studies in recent years [13].

It is well known that factors contributing to burnout in medical professions can be divided into two groups—individual and situational. The first group includes gender, age, level of endurance and engagement in one's work, level of self-esteem, type of work, and professional beliefs. The second group includes working under time constraints, poor social support, lack of autonomy, interpersonal conflicts, the intensity of work with other people, and lack of reciprocity or hierarchy [14]. Other factors are also considered, such as the lack of opportunity to gain new skills and knowledge, a lack of time and assistance to accomplish job requirements, and inadequate professional support [15].

To the best of our knowledge, there are only a few comprehensive studies on burnout among school nurses in English literature; therefore, the subject remains neglected. It should be noted that there are no Polish studies assessing the level of burnout among school nurses.

Therefore, the purpose of this study was to assess factors affecting occupational burnout among school nurses in Poland.

MATERIAL AND METHODS

Design and settings

A cross-sectional descriptive design with a questionnaire-based survey was used. The study was conducted between November 2017 and April 2018 in the Polish hospitals from the Lower Silesia, Opole, Pomerania, and Subcarpathia provinces. This research was performed in accordance with the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines [16].

Participants

A group of 125 school nurses with a mean age of 52.7 ± 7.2 years aged (range between 27–69 years) participated in this study. The inclusion criteria were: nursing license, professional activity (employment as a school nurse), and written informed consent to participate in the study. The exclusion criteria were: professional inactivity and lack of consent to participate in the study.

Measurements

The study used an original questionnaire developed by the authors, which allowed for obtaining basic sociodemographic data from the respondents such as age, work experience, and educational level.

The Maslach Burnout Inventory (MBI) was used – a standardized tool for burnout assessment developed by Maslach and Jackson in 1981 [17], translated and adapted the Polish by Pasikowski in 2006 [18]. The questionnaire comprises 22 items assessing three aspects of occupational burnout: emotional exhaustion (EE), depersonalization (DEP), and personal achievements (PA). The score range for each subscale is 0–100 pts, with higher scores denoting higher levels of occupational burnout. Moreover, it is possible to calculate a total burnout score, which

is a mean of the three subscale scores. High scores in the EE and DEP scales and a low score in the PA scale indicate that a given respondent has experienced occupational burnout. The purpose of this study did not necessitate the calculation of the total burnout score [19].

Data analysis

The calculations were performed using the Statistica 10 software (StatSoft, USA). Normality of distribution of the measurable variables was verified with the Shapiro–Wilk test. Statistical characteristics of the continuous variables were presented as mean (X), standard deviation (SD) and range values (Min and Max). Statistical analyzes of the discrete variables were presented as number and percentage distribution. Student's t -test and ANOVA in conjunction with the post-hoc Tukey's test were used for intergroup comparison of characteristics of the measurable variables with normal distribution. In turn, the Mann–Whitney U test or the Kruskal–Wallis test with post-hoc Dunn's test were used for variables with distribution other than normal. The significance level for all the tests was $p \leq 0.05$ [20].

Ethical considerations

The study was approved by the Bioethics Committee at the Wrocław Medical University in Poland. All participant nurses gave their written informed consent after a thorough explanation of the procedures involved. This study was conducted in accordance with the principles outlined in the Declaration of Helsinki [21].

RESULTS

Demographics

The study included 125 nurses working in different schools in the following provinces: Lower Silesia, Opole, Pomerania, and Subcarpathia. The general professional experience of the respondents fell within the range of 1–5 years ($n = 5$; 4%), 11–15 years ($n = 3$; 2.4%) or exceeded 15 years ($n = 117$; 93.6%); 13 (10.4%) of the nurses worked in their profession from 1–5 years, 12 (9.6%) from 6–10 years, 15 (12%) from 11–15 years, and 85 (68%) for more than 15 years.

The study group included 40 (32.5%) secondary medical school graduates, 52 (42.3%) medical vocational college graduates, and 15 (12.2%) and 16 (13%) nurses with a bachelor's and master's degree, respectively.

Occupational burnout

The analysis of burnout domains indicated that the study group presented a low level of EE (mean 2.5 pts) and DEP (mean 1.5 pts) and a high level of dissatisfaction of PA (mean 3.8 pts). Detailed data are presented in Table 1.

Table 1. Characteristics of occupational burnout domains in a group of 125 nurses

MBI domain	X	SD	Min	Max
Emotional exhaustion (pts)	2.5	1.7	0.0	8.0
Depersonalization (pts)	1.5	0.8	0.0	3.0
Personal accomplishment (pts)	3.8	1.3	0.0	6.0

Pts – points, X – mean, SD – standard deviation, Min – minimum value, Max – maximum value, MBI – Maslach Burnout Inventory.

Factors affecting occupational burnout domains

Emotional exhaustion (EE)

It was observed that factors affecting higher scores in the EE domain of the MBI questionnaire were: finding information provided by the primary care physician not very useful ($p = 0.037$), the need for providing teachers with advice on medical aspects of health education ($p = 0.039$), and the need for systematic cooperation with a school pedagogue or psychologist ($p = 0.001$). Factors affecting lower scores in the EE domain were: the need to cooperate with a relevant sanitary and epidemiological sta-

tion in providing health education ($p = 0.002$) and the perception of the nurse as an expert by the school community ($p < 0.001$). Detailed data are presented in Table 2.

Table 2. Factors affecting occupational burnout domains in MBI – emotional exhaustion (EE)

The influence of subjectively assessed usefulness of information provided by the primary care physician on the level of emotional exhaustion.		
Answer	X	SD
Very useful ($n = 57$)	2.47	1.90
Useful ($n = 52$)	2.31	1.25
Not very useful ($n = 15$)	3.60	2.29
The influence of providing teachers with advice on medical aspects of health education on the level of emotional exhaustion.		
Answer	X	SD
Yes ($n = 110$)	2.65	1.79
No ($n = 15$)	1.67	0.90
The influence of the cooperation with a school pedagogue or psychologist on the level of emotional exhaustion.		
Answer	X	SD
Yes ($n = 35$)	3.37	2.02
No ($n = 90$)	2.21	1.51
The influence of the cooperation with a relevant sanitary and epidemiological station in providing health education on the level of emotional exhaustion.		
Answer	X	SD
Yes ($n = 101$)	2.31	1.54
No ($n = 24$)	3.50	2.19
The influence of the nurse's opinion about the following statement „The school nurse in my community is perceived as an expert in health care and prevention in children and youth” on the level of emotional exhaustion.		
Answer	X	SD
Yes ($n = 107$)	2.21	1.37
No ($n = 18$)	4.44	2.41

X – mean, SD – standard deviation, p – statistical significance, n – number of participants, MBI – Maslach Burnout Inventory.

Depersonalization (DEP)

The factor affecting higher scores in the DEP domain of the MBI questionnaire was the feeling of dissatisfaction with one's work ($p = 0.010$). The statistical analysis showed that factors affecting lower scores in this domain were: perception of the nurse as an expert in healthcare and prevention for children and teenagers by the school community ($p = 0.006$), and the sense of high impact on health and health knowledge of students ($p = 0.026$). Detailed data are presented in Table 3.

Table 3. Factors affecting occupational burnout domains in MBI – depersonalization (DEP)

The influence of the subjectively assessed level of satisfaction with work at school on the level of depersonalization.		
Answer	X	SD
Very satisfactory ($n = 105$)	1.44	0.71
Not very satisfactory ($n = 17$)	1.94	0.90
The influence of the nurse's opinion about the following statement „The school nurse in my community is perceived as an expert in health care and prevention in children and youth” on the level of depersonalization.		
Answer	X	SD
Yes ($n = 107$)	1.42	0.75
No ($n = 18$)	1.94	0.64

The influence of the nurse's opinion about the following statement “I believe I have a great impact on the health and health knowledge of students at my school” on the level of depersonalization.		
Answer	X	SD
Yes ($n = 119$)	1.46	0.75
No ($n = 6$)	2.17	0.75

X – mean, SD – standard deviation, p – statistical significance, n – number of participants, MBI – Maslach Burnout Inventory.

Personal accomplishment (PA)

The analysis of the results revealed that factors which contributed to higher scores in the PA domain of the MBI questionnaire were: holding the title of a specialist ($p = 0.016$), active participation in the pharmacotherapy of students under nursing care ($p = 0.022$), and subjective assessment of one's salary as “high” ($p = 0.002$). Detailed data are presented in Table 4.

Table 4. Factors affecting occupational burnout domains in MBI – personal accomplishment (PA)

The influence of holding the title of a specialist on the level of personal accomplishment.		
Answer	X	SD
Yes ($n = 12$)	4.67	0.78
No ($n = 113$)	3.73	1.30
The influence of participation in the pharmacotherapy of students under nursing care on the level of personal accomplishment.		
Answer	X	SD
Yes ($n = 74$)	4.04	1.21
No ($n = 51$)	3.51	1.33
The influence of the amount of salary subjectively assessed with the MBI on the level of personal accomplishment.		
Answer	X	SD
Inadequate ($n = 79$)	4.01	0.90
Adequate ($n = 36$)	3.50	1.50
High ($n = 6$)	5.17	0.41

X – mean, SD – standard deviation, p – statistical significance, n – number of participants, MBI – Maslach Burnout Inventory.

DISCUSSION

The literature indicates that occupational burnout is most often observed in a group of healthcare providers, especially among nurses [22–24]. One of its most common definitions puts great emphasis on EE, which is believed to be one of the first symptoms of occupational burnout.

In a systematic review of medical databases, Gómez-Urquiza et al. [25] identified 27 articles using MBI for the assessment of burnout in nurses. It was observed that nurses present high levels of EE and of reduced PA, thus they are at high-risk of developing occupational burnout. Other characterized factors such as age, work experience, workload, and communication skills may influence the development of the syndrome.

Pradas-Hernández et al. [26] carried out a systematic review and meta-analysis of the literature on burnout characteristics, reported prevalence, severity, and risk factors to achieve a better understanding of the risk of MBI domains. The sample population for the meta-analysis was composed of 1,600 nurses, of which 31% (95% CI: 25–37%) experienced higher EE, 21% higher DEP (95% CI: 11–33%), and 39% (95% CI: 28–50%) lower PA.

Also, Li et al. [27] performed a meta-analysis to quantify the three dimensions of MBI in nurses and estimate the proportion of nurses who experience higher than tolerable levels of occupational burnout. It was shown that the total mean estimate was moderate for EE (25.6 pts), whereas DEP (10.4 pts) and lack of

PA (30.7 pts) showed higher burnout levels. The proportion of nurses suffering from high EE, high DEP, and low PA was 40.5%, 44.3%, and 42.7%, respectively.

In a cross-sectional descriptive study, Moghaddasi et al. [28] evaluated burnout among 340 nurses working in medical and educational centers using the MBI questionnaire. The results showed that over 34%, 28%, and 95% of the nurses had high EE, high DEP, and reduced PA, respectively. The mean scores for EE, DP, and PA were 22.8 pts, 7.0 pts, and 32.2 pts, respectively.

The results of the analysis were quite unsettling – it was observed that school nurses are mostly aged > 50 years. In Poland, nursing is an aging profession. Young men and women are increasingly less interested in working as nurses [29, 30].

Nursing is a profession that requires intense emotional engagement in one's work, which may lead to fatigue, exhaustion, frustration, and eventually the occupational burnout syndrome. The present study demonstrated that the group of school nurses analyzed presented a low level of emotional exhaustion and depersonalization and a high level of dissatisfaction with their personal achievements.

Interestingly, Klajda and Szewczyk [31] showed the highest burnout level in the EE domain of the MBI questionnaire among psychiatric nurses in their study. Nurses were at risk of burnout syndrome and typical warning signs for burnout syndrome were observed. There was a relatively high level of EE (33.9 pts), a medium level of PA (18.3 pts), and a mean level of DEP (14.8 pts).

Wilczek-Rużyczka et al. [32] demonstrated that more than half of the palliative care nurses present a high level of EE, which might be affected by the emotional involvement during work with terminally ill patients. Moreover, 40% of nurses revealed a high level of DEP and the majority of nurses exhibit a very reduced level of PA.

Morawska-Jóźwiak et al. [33] studied a sample of 80 nurses working in the following wards: ophthalmology, internal medicine and cardiology, general surgery, and intensive care and anesthesiology. The MBI for the entire group reached the level of 17.7 pts. The highest levels of burnout were observed in ophthalmology (19.2 pts), and the lowest was in intensive care and anesthesiology (15.8 pts). The highest and lowest MBI domains were as follows: EE in ophthalmology (20.8 pts) and general surgery (17.6 pts), DEP in Ophthalmology (11.9 pts) and intensive care and anesthesiology (6.5 pts), PA in General Surgery (29.7 pts) and anesthesiology and intensive care (21.5) pts. They concluded that the perception of stress and susceptibility to burnout in the group of nurses is high and depends on the specifics of the hospital ward.

It should be noted that a recent cross-national investigation study conducted in the USA, Canada, UK, Germany, New Zealand, and Japan on a group of 53,846 nurses found that high nurse burnout levels were significantly associated with nurses' appraisals of quality of care independent of nurse characteristics, working conditions, and other related variables. Detailed results presented the highest burnout levels assessed with MBI for Japanese nurses (the highest EE and DEP, and the lowest PA scores). Nurses from Germany had the lowest burnout levels based on all three MBI subscales. The highest mean EE score was Japanese nurses (29.4 pts), with the next highest levels observed in American nurses (24.5 pts). Nurses from Canada, UK, and New Zealand scored similarly on the three MBI subscales; their levels were suggestive of lower burnout. It was shown that higher levels of burnout were associated with lower ratings of the quality of care independent of nurses' ratings of practice environments [34].

In the previous and most recent cross-sectional study by Uchmanowicz et al. [35], the authors assessed life satisfaction, job satisfaction, life orientation, and the level of burnout in a group of 350 professionally active Polish nurses ($n = 293$) and mid-

wives ($n = 57$). The overall MBI score for occupational burnout was 34.7 pts. The most significant domain was EE at 39.1 pts, slightly less was PA at 35.4 pts, and the least was DEP at 29.4 pts. This study reported that half of the participants experienced burnout at the lower level and half had higher scores; therefore, the level of burnout in the entire study group was average.

Another study by Uchmanowicz et al. [36] examined a group of 51 nurses working at a hematology ward. The authors indicated that the stress level in nurses was affected by a high level of professional responsibility and criticism coming from patients and their families. This factor accompanied by the feeling of insufficient authority increases the level of EE.

To sum up, this study showed that nursing burnout is a substantial problem among nurses working in a teaching and educational environment. These nurses were either experiencing occupational burnout or at high risk of experiencing it in the future. Three domains of MBI were found to be important in the study population; however, PA might be more significant than the other domains. Our study indicates the need for further studies of the risk factors for burnout in school nurses in Poland and other countries.

School nursing implications

Nurses' work perceived as a service for a human being can be a source of satisfaction, satisfaction and professional performance, but it is also sometimes a source of discouragement, lack of satisfaction, and a sense of burden. The workload of school nurses and the associated risk of burnout is connected not only with the responsibility for students but also with the requirements of moral aspects of life and the sense of control.

Stress and occupational burnout are a disturbing phenomenon, therefore educational programs should be implemented for school nurses to show them effective ways for managing any risk factors. School nurses should learn the methods and skills of coping with stress including relaxation techniques, training of interpersonal communication and tips for improving assertiveness. It would also be helpful to strengthen the weaknesses of the personality traits and to acquire the ability to cope with difficult situations during activities and responsibilities required for the job.

Limitations of the study

This study has some potential methodological limitations which should be mentioned. First of all, the study lacks a control group (e.g. nurses working at the hospital), which would be valuable to compare the MBI scores with controls. Secondly, study participants could be divided into comparative groups considering the place of work (e.g. primary or secondary school and/or private or public school) to determine whether the educational stage of children or teenagers affect the level of burnout among school nurses. And the last but not least, the additional value would be to compare the MBI scores in our study with school nurses from all provinces in Poland.

CONCLUSIONS

School nurses are in the group of the risk of occupational burnout syndrome due to their dissatisfaction with personal achievements at work. It should be concluded that school nurses are usually women getting close to retirement age, with over 15 years of professional experience. There is a need to conduct a routine assessment of occupational burnout and its domains in the group of school nurses. Interventions should be made to prevent burnout in this occupational group.

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REFERENCES

- Heinemann LV, Heinemann T. Burnout Research: emergence and scientific investigation of a contested diagnosis. *SAGE Open* 2017; 7(1), doi: 10.1177/2158244017697154.
- Bianchi R, Schonfeld IS, Laurent E. Is it time to consider the "Burnout Syndrome" a distinct illness? *Front Public Health* 2015; 3, doi: 10.3389/fpubh.2015.00158.
- Mudallal RH, Othman WM, Al Hassan NF. Nurses' burnout: the influence of leader empowering behaviors, work conditions, and demographic traits. *Inquiry* 2017; 54, doi: 10.1177/0046958017724944.
- Lahana E, Papadopoulou K, Roumeliotou O, et al. Burnout among nurses working in social welfare centers for the disabled. *BMC Nurs* 2017; 16, doi: 10.1186/s12912-017-0209-3.
- Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry* 2016; 15(2): 103–111, doi: 10.1002/wps.20311.
- Sun J-W, Bai H-Y, Li J-H, et al. Predictors of occupational burnout among nurses: a dominance analysis of job stressors. *J Clin Nurs* 2017; 26(23–24): 4286–4292, doi: 10.1111/jocn.13754.
- Vahey DC, Aiken LH, Sloane DM, et al. Nurse burnout and patient satisfaction. *Med Care* 2004; 42(2 Suppl.): I157–I166, doi: 10.1097/01.mlr.0000109126.50398.5a.
- Patel RS, Bachu R, Adikey A, et al. Factors related to physician burnout and its consequences: a review. *Behav Sci* 2018; 8(11), doi: 10.3390/bs8110098.
- Council on School Health. Role of the school nurse in providing school health services. *Pediatrics* 2016; 137(6), doi: 10.1542/peds.2016-0852.
- Hoekstra BA, Young VL, Eley CV, et al. School Nurses' perspectives on the role of the school nurse in health education and health promotion in England: a qualitative study. *BMC Nurs* 2016; 15, doi: 10.1186/s12912-016-0194-y.
- Leroy ZC, Wallin R, Lee S. The role of school health services in addressing the needs of students with chronic health conditions: a systematic review. *J Sch Nurs* 2017; 33(1): 64–72, doi: 10.1177/1059840516678909.
- Pryjmachuk S, Graham T, Haddad M, et al. School nurses' perspectives on managing mental health problems in children and young people. *J Clin Nurs* 2012; 21(5–6): 850–859, doi: 10.1111/j.1365-2702.2011.03838.x.
- Guo Y-F, Luo Y-H, Lam L, et al. Burnout and its association with resilience in nurses: a cross-sectional study. *J Clin Nurs* 2018; 27(1–2): 441–449, doi: 10.1111/jocn.13952.
- Ptacek R, Stefano GB, Kuzelova H, et al. Burnout syndrome in medical professionals: a manifestation of chronic stress with counterintuitive passive characteristics. *Neuro Endocrinol Lett* 2013; 34(4): 259–264.
- Galletta M, Portoghese I, Ciuffi M, et al. Working and environmental factors on job burnout: a cross-sectional study among nurses. *Clin Pract Epidemiol Ment Health* 2016; 12: 132–141, doi: 10.2174/1745017901612010132.
- Elm E von, Altman DG, Egger M, et al. Strengthening of Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *BMJ* 2007; 335(7624): 806–808, doi: 10.1136/bmj.39335.541782.AD.
- Maslach C, Jackson SE. The measurement of experienced burnout. *J Organ Behav* 1981; 2: 99–113.
- Pasikowski T. *Polska adaptacja kwestionariusza Maslach Burnout Inventory*. W: Sęk H, red. *Wypalenie zawodowe. Przyczyny, mechanizmy, zapobieganie*. Warszawa: Wydawnictwo Naukowe PWN; 1996: 135–148.
- Kleijweg JHM, Verbraak MJPM, Van Dijk MK. The clinical utility of the Maslach Burnout Inventory in a clinical population. *Psychol Assess* 2013; 25(2): 435–441, doi: 10.1037/a0031334.
- Campbell MJ, Machin D, Walters SJ. *Medical statistics: a textbook for the health sciences*. 4 ed. Hoboken, New Jersey: Wiley; 2007.
- World Medical Association. World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. *JAMA* 2013; 310(20): 2191–2194, doi: 10.1001/jama.2013.281053.
- Cañadas-De la Fuente GA, Gómez-Urquiza JL, Ortega-Campos EM, et al. Prevalence of burnout syndrome in oncology nursing: a meta-analytic study. *Psychooncology* 2018; 27(5): 1426–1433, doi: 10.1002/pon.4632.
- Gómez-Urquiza JL, Vargas C, De la Fuente EI, et al. Age as a risk factor for burnout syndrome in nursing professionals: a meta-analytic study. *Res Nurs Health* 2017; 40(2): 99–110, doi: 10.1002/nur.21774.
- Monsalve-Reyes CS, San Luis-Costas C, Gómez-Urquiza JL, et al. Burnout syndrome and its prevalence in primary care nursing: a systematic review and meta-analysis. *BMC Fam Pract* 2018; 19, doi: 10.1186/s12875-018-0748-z.
- Gómez-Urquiza JL, Aneas-López AB, Fuente-Solana EI, et al. Prevalence, risk factors, and levels of burnout among oncology nurses: a systematic review. *Oncol Nurs Forum* 2016; 43(3): E104–E120, doi: 10.1188/16.ONF.E104-E120.
- Pradas-Hernández L, Ariza T, Gómez-Urquiza JL, et al. Prevalence of burnout in paediatric nurses: a systematic review and meta-analysis. *PLoS ONE* 2018; 13(4), doi: 10.1371/journal.pone.0195039.
- Li H, Cheng B, Zhu XP. Quantification of burnout in emergency nurses: a systematic review and meta-analysis. *Int Emerg Nurs* 2018; 39: 46–54, doi: 10.1016/j.ienj.2017.12.005.
- Moghaddasi J, Mehralian H, Aslani Y, et al. Burnout among nurses working in medical and educational centers in Shahrekord, Iran. *Iran J Nurs Midwifery Res* 2013; 18(4): 294–297.
- Pierzak MT. Nursing as a profession practiced in the future – opinion of junior high school students. *J Educ Health Sport* 2017; 7(7): 125–140, doi: 10.5281/zenodo.824373.
- Stompór-Świdarska J. Professional satisfaction of matured workers and its impact on ageing society – empirical studies of over 50. Society and Education. *International Humanist Studies* 2015; 1: 157–168.
- Klajda A, Szewczyk L. Occupational burnout syndrome among psychiatric nurses. *Aspects of Health and Disease* 2016; 1(1): 21–29.
- Wilczek-Rużyczka E, Zaczyk I, Obrzut K. Wypalenie zawodowe u pielęgniarek pracujących w opiece paliatywnej. *Piel Zdr Publ* 2017; 26(1): 77–83.
- Morawska-Jóźwiak B, Olejniczak P, Rasmus P. Burnout of nurses working in hospital wards. *Polish Nursing* 2016; 61(3): 317–323, doi: 10.20883/pielpol.2016.26.
- Poghosyan L, Clarke SP, Finlayson M, et al. Nurse burnout and quality of care: cross-national investigation in six countries. *Res Nurs Health* 2010; 33(4): 288–298, doi: 10.1002/nur.20383.
- Uchmanowicz I, Manulik S, Lomper K, et al. Life satisfaction, job satisfaction, life orientation and occupational burnout among nurses and midwives in medical institutions in Poland: a cross-sectional study. *BMJ Open* 2019; 9(1): e024296, doi: 10.1136/bmjopen-2018-024296.
- Uchmanowicz I, Jankowska-Polańska B, Bronowicka. The phenomenon of occupational burnout among nurses working at oncological wards – initial research. *Problems of Nursing* 2013; 21(4): 476–483.

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