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The relationship between burnout syndrome and empathy among nurses in emergency medical services

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ABSTRACT

The aim of the research was to determine the prevalence of burnout syndrome and empathy among general nurses working in standard hospital settings (University Hospital Olomouc), and among general nurses working in emergency medical services, as well as to identify the differences in the degree of burnout syndrome and empathy between the two groups. Another objective was to establish whether there is a relationship between burnout syndrome and empathy in the groups of general nurses specified above. Questionnaires MBI-GS (Maslach Burnout Inventory) and IVE (Eysenck Impulsivity Inventory) were used to obtain the data. The research involved 175 respondents. A significantly higher rate of emotional exhaustion was found in hospital nurses ($p = 0.001$), while the degree of depersonalization was significantly higher in emergency medical services nurses ($p = 0.001$). The difference in the degree of personal accomplishment was not statistically significant. The relationship between burnout syndrome and empathy was confirmed. A significant weak positive correlation ($r = 0.361$; $p = 0.001$) between empathy and emotional exhaustion was found among general nurses working in emergency medical services.

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Introduction

In healthcare professionals with developing burnout syndrome (BS) we observe the gradual loss of an active attitude to the outside world, less communication, and mechanical performance of their duties. Slowly, an empathic concern for recipients of health care (i.e. patients/clients) disappears. The welfare of patients and altruism

are abandoned which results in irreversible damage to the patient, as well as to the healthcare professional. This leads to staff turnover and the loss of the best workers [1].

The incidence of burnout syndrome varies according to the type of workplace. Taking care of the elderly and the terminally ill in wards lacks the healing process that is considered as evidence of “good care” [2, 3, 4]. This can be demotivating for general nurses and it is one of the causes of burnout syndrome. Nurses working in

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critical care workplaces are confronted with traumatic experiences every day and show signs of an increasing level of depersonalization. For these nurses a defensive strategy is an adaptive mechanism where the empathy level is inhibited [5, 6]. Nurses in emergency medical services provide intensive short-term health care out of hospital [7]. Emergency medicine, part of which is emergency medical service, demands the ability to decide quickly, work independently and, last but not least, to quell emotions in order to manage job responsibilities during an intervention. Minimum autonomy in the working process, unpredictable working conditions, and a lack of positive feedback are typical factors that may lead to the development of burnout syndrome [8, 9].

Protective factors related to burnout include: “Type B behavior”, the ability to experience meaningfulness in work, effective relaxation, effective time-management, steadfastness (resilience), hardiness (resistance), optimism, “flow”, “well-being”, “sense of coherence”, skills (e.g. social, cognitive, in the satisfaction of needs, in coping with stressful situations, in self-control), along with social support [10, 11, 12]. An important protective external factor is professional support in the work environment (peer-support) [10, 11, 13]. Given the nature of BS development, intelligence and demographic data such as age, condition and education are considered neutral factors [14]. Those factors are mediators or inhibitors, not BS triggers [7]. An ambiguous factor in relation to the development of BS is the length of experience in the field of work. Studies show that the length of practice is not significant in relation to BS [13, 15]. In contrast, Šeblová [8] considers it essential in connection with the stagnation of doing the same job in the same workplace. In the 1980s, gender was also considered a risk (up to 2× more burnt out women than men). However, the outcome at that time was influenced by female-dominated professions (health care, education) [10]. Statistical figures from 2010 say that 98% of nurses in the Czech Republic are women [16]. In these studies, there is a lack of a comparable male data file in what are predominantly female occupations [17].

Empathy, like the length of practice, is a factor whose relationship to BS has not yet been satisfactorily explained by primary research. Empathetic care by general nurses is crucial to nursing care quality and patient satisfaction [18, 19]. So far there are three theories about the relationship between empathy and BS [20]: (1) burnout causes the reduction of empathy; (2) empathy increases the level of burnout and is a risk factor; (3) empathy works as a protective factor against burnout syndrome.

Many authors agree with the opinion that due to burnout, the level of empathy is reduced, and low empathy level is one of the signs of burnout [3, 20, 21, 22, 23, 24]. Those who support the second opinion see empathy as a risk factor for burnout [25, 26, 27, 28]. Thus, empathy is a fundamental value of the nursing profession, but may also increase the risk of BS development [26].

The third view considers empathy as the factor protecting against burnout syndrome. Empathy can be associated with job satisfaction and can help to better perceive the meaning of professional activities. Physicians who are more emotionally oriented, have a higher thera-

peutic effect, and thus a higher probability of positive feedback from patients [29].

The aim of the research was to determine the incidence of BS and empathy among nurses working in standard hospital wards, and to compare the results with those obtained from nurses working in pre-hospital emergency care (emergency medical services). Another objective was to determine whether there is a relationship between BS and empathy among nurses, and whether there is a difference in empathy levels for nurses working in standard hospital wards and emergency medical services.

Materials and methods

The research was conducted among general nurses of the Olomouc region in 2014, and approved by the Ethics Committee of the University Hospital Olomouc (UHOL). Two major health organizations of the Olomouc Region were contacted by phone: the University Hospital, and the Emergency Medical Service of the Olomouc region (EMS OR). The respondents included in the research met the following criteria: a nurse working either in a standard hospital ward or in EMS; minimum of one year practice. According to the UHOL 2012 report, the total number of nurses is 1357 [30]. 144 general nurses working in UHOL standard wards agreed to participate in anonymous research. In 2012, 95 nurses were employed in EMS, of whom 48 were women and 37 men. In EMS, 85 respondents agreed to participate in the research.

The survey was carried out by a quantitative method of research; Ex Post Facto Design. For the research purposes the following standardized questionnaires were used: “Maslach Burnout Inventory GS” (“the MBI-GS”) and the “Eysenck Impulsivity Inventory” (“IVE”). MBI-GS detects three components of BS: emotional exhaustion (“EE”), depersonalization (“DP”) and reduced personal performance (“PA”). The IVE questionnaire determines the level of empathy, adventurousness and impulsiveness. The statistical software used for the data analysis was the SPSS Version 22. Statistical Mann-Whitney tests and the Spearman correlation coefficient were performed at the level of significance $p = 0.05$.

Results

The reliability of the measurements was determined using Cronbach’s alpha for the total MBI-GS 0.82; MBI-GS EE 0.904; MBI-GS DP 0.643; MBI-GS PA 0.792.

The evaluation of burnout syndrome with the MBI-GS among general nurses revealed 57 respondents with high EE and, therefore, with proven BS, (32.7%). 56 respondents had high DP (32%) and 46 respondents had low PA (26.3%). The results are given in Table 1.

There were significantly more UHOL nurses with proven BS in EE compared to EMS nurses ($p = 0.013$). For DP and PA no significant difference was found (Table 1).

Table 1 – Burnout level categorization of nurses

	GN UHOL		GN EMS OR		<i>p</i>	Total	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency		Absolute frequency	Relative frequency
<i>Level of emotional exhaustion (EE)</i>							
Low	29	32.2%	45	52.9%	0.013*	74	42.2%
Moderate	24	26.7%	20	23.5%		44	25.1%
High-burnout	37	41.1%	20	23.6%		57	32.7%
<i>Level of depersonalization (DP)</i>							
Low	37	41.1%	22	25.9%	0.087	59	33.7%
Moderate	29	32.2%	31	36.5%		60	34.3%
High-burnout	24	26.7%	32	37.6%		56	32.0%
<i>Level of personal performance PA</i>							
Low	21	23.3%	23	27.1%	0.423	44	25.1%
Moderate	48	53.3%	37	43.5%		85	48.6%
High-burnout	21	23.3%	25	29.4%		46	26.3%

* $p < 0.05$ Legend: *p* – value significance of Mann-Whitney U test; UHOL – University Hospital of Olomouc; EMS OR – Emergency Medical Service of the Olomouc Region; GN – general nurse.**Table 2 – The difference in burnout level among general nurses**

	UHOL	EMS OR	<i>p</i>
<i>Emotional exhaustion (EE)</i>			
Median	20.5	16	0.001*
1. quartile	15	7	
3. quartile	33	25	
<i>Depersonalization (DP)</i>			
Median	8	10	0.010*
1. quartile	4	6	
3. quartile	13	16	
<i>Personal performance (PA)</i>			
Median	35	35	0.949
1. quartile	32	30	
3. quartile	38	38	

* $p < 0.05$ Legend: *p* – value significance of Mann-Whitney U test; UHOL – University Hospital of Olomouc; EMS OR – Emergency Medical Service of Olomouc Region; GN – general nurse.

The group of nurses working in hospital standard wards and the group of general nurses working in emergency medical services were also compared in terms of EE, DP and PA. The Mann-Whitney U test showed a significantly higher EE rate ($p < 0.001$) and a significantly lower DP rate ($p = 0.010$) among nurses working in hospital than among those working in EMS. In terms of PA, a significant difference between the two groups of general nurses was not found. The results are presented in Table 2.

Another objective was to determine whether there is a difference between the level of empathy in nurses working in standard hospital wards and those working in ambulance crews of EMS. The reliability of the measurements was determined with Cronbach's alpha for empathy, which is 0.72. General Nurses working in standard hospital wards show a significantly higher degree of empathy ($p < 0.001$) than nurses working in the ambulance of EMS (Table 3).

The Spearman correlation coefficient showed that in the group of nurses working in EMS there was a statistically significant positive correlation between the level of empathy and EE ($r = 0.361^*$). There was no evidence of a significant relationship between the level of empathy and any of the burnout components in the group of nurses working in the hospital (Table 4).

Table 3 – Empathy level of general nurses

	GN UHOL	GN EMS OR	<i>p</i>
Median	14	12	<0.001*
1. quartile	13	9	
3. quartile	16	14	

* $p < 0.05$ Legend: *p* – value significance of Mann-Whitney U test; UHOL – University Hospital of Olomouc; EMS OR – Emergency Medical Service of the Olomouc Region; GN – general nurse.**Table 4 – Correlation analysis of empathy level and individual MBI dimensions of general nurses**

	Empathy vs. EE	Empathy vs. DP	Empathy vs. PA
GN	$r = 0.071$	$r = -0.167$	$r = 0.166$
UHOL	($p = 0.505$)	($p = 0.116$)	($p = 0.118$)
GN EMS	$r = 0.361^*$	$r = -0.017$	$r = 0.039$
OR	($p = 0.001$)	($p = 0.881$)	($p = 0.725$)

* $p < 0.05$. Legend: *p* – signification of Spearman correlation analysis; *r* – value of the Spearman correlation analysis; UHOL – University Hospital of Olomouc; EMS OR – Emergency Medical Service of Olomouc Region; GN – general nurse.

Discussion

The research goal was to determine the incidence of BS and empathy, and their mutual relationship among nurses who work in hospital wards and in pre-hospital emergency care in the EMS crews.

A high EE level was detected in 41.1% of respondents from standard wards, and only in 23.5% of nurses from ambulance crews. A high DP level was detected in 26.7% of respondents from standard wards and in 37.6% of nurses of ambulance crews. Similarly, a high percentage of burnout in P was found in both groups: 23.3% for standard wards and 29.4% for ambulance crews. A nationwide estimate shows 19% of the Czech population suffering from burnout syndrome, i.e. 20,530 Czech general nurses are at high risk of BS or already manifesting BS [31].

The research demonstrated that nurses working in UHOL standard wards have a significantly higher EE rate ($p < 0.001$) and a significantly lower DP rate ($p = 0.010$) than nurses working in ambulance crews of the EMS OR. No significant difference in PA was found between the two groups of nurses. A high value of emotional exhaustion is characteristic of people who have lost their motivation and energy for activities [32]. The higher EE rate of nurses working in UHOL standard wards may be due to the higher proportion of women working there. Women, unlike men, are predisposed to emotional exhaustion [33, 34]. For women, increased emotionality, along with a caring attitude towards patients and an emotional bond to them, is assumed [17]. In workplaces where nurses encounter a high number of elderly people and patients in danger of life for long periods, emotional exhaustion is high due to frequent encounters with death and the suffering of patients in the final stages of life [35]. In comparison with nurses working in standard wards, the group of nurses working in EMS OR ambulance crews showed a significantly higher DP ($p = 0.010$). Workers in emergency medical services show higher levels of depersonalization, which allows them to distance themselves from tragic situations, and to intervene as professionals [2, 36]. The results of the research are thus consistent with previous findings.

The empathy level of nurses working in standard wards is significantly higher ($p < 0.001$) than among nurses working in EMS crews. This may be explained by an empathic relationship between a general nurse and patients in standard wards who often spend a long time in hospital and establish personal ties [15]. The absence of an empathetic approach in the EMS is the most common source of patients' complaints about the conduction of EMS crews (e.g. arguments, looking for a hospital bed in front of the patient, insufficiently covered patient, etc.). Williams [5] highlights the particularities of an empathetic approach and the types of empathy demonstrated by EMS personnel. Crews are repeatedly exposed to highly stressful situations. If the EMS worker shows emotion, they will not comply with the professional distance and will be unable to provide adequate care [5]. The apparent detachment from a patient, as well as a mechanical performance of duties,

work as a protective mechanism in urgent situations. It is a defense mechanism that prevents traumatic situations and is described mainly by EMS professionals with many years of experience [37].

In this regard, interesting results were provided by a longitudinal study carried out among students of paramedical courses taught within general nurse, paramedic and midwife study programmes. The highest empathy level was found in midwives, followed by nurses; and reduced empathy was found in paramedics after their practical placement. In students who have completed an EMS internship, lower levels of empathy work as defense strategies for coping with stress [38].

A positive correlation between empathy level and EE ($r = 0.361$; $p = 0.001$) was demonstrated in nurses working in EMS OR. There was no evidence of a significant relationship between levels of empathy, DP and PA. Zenasni [20] put forward three hypotheses on how empathy can influence the BS level: (1) empathy is reduced by burnout; (2) empathy leads to burnout; (3) empathy protects against burnout. In our research we can consider empathy as the increasing risk of burnout within the nurses working in ambulance crews of EMS OR. Reducing the empathy level can be seen as a defense strategy to cope with stressful situations in the EMS.

The limitation of the presented research is apparent by its inability to generalize the results for the entire population of nurses in the Czech Republic. The conclusions are valid only for the Olomouc Region. The longitudinal study would be more useful for healthcare organizations, demonstrating BS and the evolution of empathy over time, and at the same time it would be able to assess the effects of preventive intervention programs [39].

Conclusion

The results show that in the group of nurses working in EMS there was a significantly lower level of empathy and emotional exhaustion, and a higher level of depersonalization than in nurses working in standard wards. Reduced empathy and increased depersonalization could be seen as a defense – an adaptation mechanism – against burnout among EMS workers [5, 37].

Conflict of interest

The authors have no conflict of interest to disclose.

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REFERENCES

- [1] Dynáková Š, Kožnar J, Hermanová M. Supervize jako prevence syndromu vyhoření u zdravotníků. *Praktický lékař* 2010;90(6):365–66.
- [2] Adali E, Priami M. Burnout among nurses in intensive care units, internal medicine wards, and emergency departments in Greek hospitals. *ICUs and Nursing Web Journal*. 2002;3(11):1–19.
- [3] Astrom S, Nilsson M, Norberg A, Winblad B. Empathy, experience of burnout and attitudes towards demented patients among nursing staff in geriatric care. *Journal of Advanced Nursing* 1990;15:1236–44.
- [4] Mažgútová A, Ondrejka I, Demeterová M, Fetišovová Ž, Adamicová K. Psychická zátěž zdravotníků v paliativnej starostlivosti. *Paliatívna medicína a liečba bolesti* 2012;5(3):95–8.
- [5] Williams B, Boyle M, Brighwell R, Devenich S, Hartley P, McCall M et al. An assessment of undergraduate paramedic students' empathy levels. *International Journal of Medical Education* 2012;5(3):98–102. Doi: <http://dx.doi.org/10.5116/ijme.4fba.9190>.
- [6] Regehr C, Goldberg G, Hughes J. Exposure to human tragedy, empathy, and trauma in ambulance paramedics. *The American Journal of Orthopsychiatry* 2002;72(4):505–13.
- [7] França S, Martino MMF, Santos Aniceto EV, Silva LL. Predictors of Burnout Syndrome in nurses in the prehospital emergency services *Acta Paulista de Enfermagem* 2012;25(1):68–73.
- [8] Šeblová J, Kebza V, Vignerová J, Čepická B. Preventivní a intervenční psychologické techniky pro zaměstnance záchranných služeb. *Urgentní medicína* 2009;12(1):26–31.
- [9] Panunto MR, Guirardello EB. Professional nursing practice: environment and emotional exhaustion among intensive care nurses. *Revista Latino-Americana de Enfermagem* 2013;21(3):765–72.
- [10] Kebza V, Šolcová, I. Syndrom vyhoření. Praha: Státní zdravotní ústav; 2003, 23 p.
- [11] Nešpor K. Prevence profesionálního stresu a syndromu vyhoření. *Medicina pro praxi* 2007;4(9):371–3.
- [12] Ponížilová T, Urbanovská E. Výzkum protektivních faktorů ve vztahu k syndromu vyhoření v České republice a v zahraničí. *Klinická psychologie a osobnost* 2013;2(2):5–17.
- [13] Pohlová L, Kozáková R, Jarošová D. Syndrom vyhoření u sester pracujících se seniory. *Praktický lékař* 2011;91(5):274–7.
- [14] Rybářová D, Stejskalová B. Syndróm vyhorenia u sestier intenzívnej starostlivosti. In: Šanta M, Rybářová L, Derňárová L. (eds.). *MOLISA 7: Medicínsko-ošetrovateľské listy Šariša*. Prešov: Prešovská univerzita v Prešove, Fakulta zdravotníctva; 2010, 115–23 p.
- [15] Ježorská Š, Kozyková J, Chrastina J. Syndrom vyhoření u všeobecných sester pracujících s onkologicky nemocnými. *Ošetrovateľstvo* 2012;2(2):56–62.
- [16] Ústav zdravotnických informací a statistiky. Analýza pracovníků ve zdravotnictví České republiky v roce 2010. *Zdravotnická statistika*; 2011. [online] [cit. 2014-03-10]. Available from: http://www.uzis.cz/system/files/52_11.pdf
- [17] Purvanova RK, Muros JP. Gender differences in burnout: A meta-analysis *Journal of Vocational Behavior* 2010;77(2):168–85.
- [18] Bánovčinová L, Bubeníková M. Empatia v ošetrovateľstve. *Ošetrovateľství a porodní asistence* 2011;2(1):165–70.
- [19] Zášková H, Kubicová A. Prosociální chování u pomáhajících profesí. *Kontakt* 2008;10(1):150–8.
- [20] Zenasni F, Boujut E, Woerner A, Sultan S. Burnout and empathy in primary care: three hypotheses. *The British Journal of General Practice* 2012;62(600):346–7.
- [21] Lee H, Song R, Cho YS, Lee GZ, Daly B. A comprehensive model for predicting burnout in Korean nurses. *Journal of Advanced Nursing* 2003;44(5):534–45.
- [22] Raiziene S, Endriulaitiene A. The relations among empathy, occupational commitment, and emotional exhaustion of nurses. *Medicina (Kaunas)* 2007;43(5):425–31.
- [23] Šeblová J. Syndrom vyhoření ve zdravotnictví. Praha: Centrum sociálních služeb; 2013, 53 p.
- [24] Kupka M. 2008. Paliativní péče a riziko syndromu vyhoření. *E-psychologie* 2008;2(1):23–35.
- [25] Dal Santo L, Pohl S, Saiani L, Battistelli A. Empathy in the emotional interactions with patients. Is it positive for nurses too? *Journal of Nursing Education and Practice* 2014;4(2):74–81.
- [26] Gandi JC, Wai PS, Karick H, Dagona ZK. The role of stress and level of burnout in job performance among nurses. *Mental Health in Family Medicine* 2011;8(3):181–94.
- [27] Lombardo B, Eyre C. Compassion fatigue: a nurse's primer. *Online Journal of Issues in Nursing*. 2011;16(1):3.
- [28] Williams CA. Empathy and burnout in male and female helping professionals. *Research in Nursing & Health* 1989;12(3):169–78.
- [29] Halpern J. What is clinical empathy? *Journal of General Internal Medicine* 2003;18(8):670–4.
- [30] Fakultní Nemocnice Olomouc. Výroční zpráva 2012. Olomouc: Fakultní nemocnice; 2013.
- [31] Špirudová L, Mastiliaková D. Syndrom vyhoření u sester v České republice ve vztahu k podmínkám jejich práce – přehledová studie. *Zdravotnické listy* 2014;2(1):9–18.
- [32] Khashaba EO, El-Sherif MA, Ibrahim AA, Neatmatallah MA. Work-Related Psychosocial Hazards Among Emergency Medical Responders (EMRs) in Mansoura City. *Indian journal of community medicine : official publication of Indian Association of Preventive & Social Medicine* 2014;39(2):103–10. Doi: <http://dx.doi.org/10.4103/0970-0218.132733>.
- [33] Křivohlavý J. Psychologie zdraví. Praha: Portál; 2009, 280 p.
- [34] Ahmadi O, Azizkhani R, Basravi M. Correlation between workplace and occupational burnout syndrome in nurses. *Advance Biomedical Research* 2014;3(44). Doi: <http://dx.doi.org/10.4103%2F2277-9175.125751>.
- [35] Teixeira C, Ribeiro O, Fonseca AM, Carvalho AS. Burnout in intensive care units – a consideration of the possible prevalence and frequency of new risk factors: a descriptive correlational multicentre study. *BMC Anesthesiology* 2013;13(1):38.
- [36] Hlaváčová, M. A Novotná, H. Syndrom vyhoření u zdravotních sester pracujících na oddělení akutní

- a chronické péče. *Revue ošetrovateľstva a laboratórnych metodík* 2006;12(1):15–18.
- [37] Williams B, Boyle M, Tozer-Jones J, Devenish S, Hartley P, McCall M et al. 2015. Undergraduate paramedic students' empathy levels: A two-year longitudinal study. *Journal of Nursing Education and Practice* 2015;5(1):58–64.
- [38] Williams B, Brown T, Boyle M, McKenna L, Palermo C, Etherington J. Levels of empathy in undergraduate emergency health, nursing, and midwifery students: a longitudinal study. *Advances in Medical Education and Practice* 2014;5:299–306.
- [39] Šeblová J, Kebza V, Vignerová J. Zátěž a stres pracovníků záchranných služeb v České republice: (expozice kritickým událostem a výskyt syndromu vyhoření v letech 2003–2005). *Československá psychologie* 2007;51(4):404–16.