

Burnout, stress and styles of coping among hospital nurses

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Abstract

Purpose: The evaluation of professional burnout among hospital nurses and the analysis of correlations between burnout and a subjectively perceived stress and coping styles.

Material and methods: A study sample consisted of 227 nurses from general medical, neurological and psychiatric hospital wards. A set of 3 questionnaires was used, including Maslach Burnout Inventory (MBI), Coping Inventory for Stressful Situations (CISS) and Subjectively Perceived Stress (SPS).

Results: Average and high level of burnout in the emotional exhaustion (EE), depersonalisation (D) and personal accomplishment (PA) was present at 71%, 39.8% and 77% of nurses respectively. A significantly higher level of burnout was noted in the subgroup of general medical nurses. The differences involved the total MBI score and the results of the subscales EE and D ($p < 0.01$). A significant correlation has been found between the subjectively perceived stress and the level of burnout ($r = 0.51$, $p < 0.01$). Significant correlations has been found between MBI scores and CISS scores. Correlation between burnout and a task oriented coping was negative and correlation between burnout and emotion oriented coping was positive.

Conclusions: The level of stress influences the professional burnout among nurses. There is a diversity in the level of burnout depending on the specialization at work, which is not accompanied by a similar diversity in the subjectively perceived stress. The correlation between burnout

and a coping style is rather weak, but statistically significant.

Key words: burnout syndrom, stress, nursing profession.

Introduction

According to the researchers involved in the work on professional burnout, the syndrom appears mainly among the representatives of the professions whose essence is emotional involvement, close contact, interaction with other people and exposure to stress [1-3]. Undoubtedly, to such professions belongs the nursing profession [4,5]. Sęk et al. [6] developed a multifactorial model of stress and professional burnout, according to which the processes of burnout is determined both by situational and individual, subjective factors. Among the individual factors, the authors distinguished the type of control understood as obtaining, avoiding, savouring and coping, and professional convictions. This model did not include individual, dispositional coping styles which seem to be an important factor determining the intensification of the burnout symptoms. The aim of our research was the evaluation of burnout among hospital nurses and the analysis of correlations between burnout, the subjectively perceived level of stress and coping styles.

Material and methods

Initially in the research participated 250 nurses employed in the chosen general medical, neurological and psychiatric hospital wards in Poznań and outside Poznań. Finally, the study included 227 nurses, as some of them did not consent to participate, or did not fully complete the questionnaire. The research was conducted in two stages. The first stage took place in 2002 and included 101 general medical nurses. It consisted of investigating the professional burnout and the level of the subjectively

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Table 1. Characteristics of the study groups

Subgroups	n (%)	Age (yrs) mean (SD) (min-max)	Total job seniority mean (SD) (min-max)	Job seniority in the ward mean (SD) (min-max)
Psychiatric	54 (23.79)	39.07 (8.5) (21-57)	17.57 (9.0) (0.5-37)	12.95 (9.3) (0.5-34)
Neurological	72 (31.72)	36.36 (6.9) (25-50)	14.60 (7.4) (2-30)	10.30 (7.1) (1-29)
General medical	101 (44.49)	33.59 (7.7) (20-52)	11.65 (7.0) (1-30)	7.51 (7.0) (0.2-30)
Total	227 (100)	35.59 (7.7) (20-57)	14.0 (8.0) (0.5-37)	9.72 (7.9) (0.2-34)

Table 2. Mean and standard deviations for the Maslach Burnout Inventory (MBI) and Subjectively Perceived Stress (SPS)

Subgroups	EE	D	PA*	Total MBI	SPS
Psychiatric	19.33 (10.7) ^a	4.30 (4.0) ^a	16.59 (7.8)	40.42 (15.8) ^a	43.85(21.1)
Neurological	21.11 (9.1) ^a	6.24 (6.2) ^a	17.63 (8.1)	44.49 (17.9) ^a	40.76 (22.6)
General medical	28.81 (12.1) ^b	8.87 (7.1) ^b	15.10 (8.6)	52.96 (24.1) ^b	48.59 (21.6)
Total group	24.11 (11.7)	7.0 (6.5)	16.24 (8.3)	47.25 (21.1)	44.9 (22.0)

* – reversed scores. Row scores in the subgroups and in the total group respectively: 31.6, 30.4, 32.8, 31.7

^{a,b} – significant difference according to a post hoc test

Kruskal-Wallis test for total MBI: $H=8.71$, $p=.0129$

Kruskal-Wallis test for EE: $H=25.38$, $p=.0000$

Kruskal-Wallis test for D: $H=15.9$, $p=.0004$

Kruskal-Wallis test for PA: $H=3.81$, $p=.1481$

Kruskal-Wallis test for SPS: $H=4.83$, $p=.08$

EE – Emotional Exhaustion, D – Depersonalisation, PA – Personal Accomplishment

SPS – Subjectively Perceived Stress

perceived stress. The second stage was performed from 2003 to 2004. It included 126 psychiatric and neurological nurses. To the previously applied measurement tools the questionnaire of stress coping styles was added. The detailed characteristics of the investigated group are presented in *Tab. 1*.

Burnout was tested with the Polish version of Maslach Burnout Inventory (MBI) [7,8]. The MBI is designed to assess the three components of the burnout syndrome: emotional exhaustion (EE), depersonalisation (D), and reduced personal accomplishment (PA). Distribution of scores in EE subscale ranges from 0-54, in D subscale from 0-30, and in PA subscale from 0-48. Total MBI ranges from 0-132 points. For the EE and D subscales, higher mean scores correspond to higher degrees of burnout. For PA subscale lower mean scores correspond to higher degrees of experienced burnout. In this study we inverted the scores of PA subscale in order to compare scores in all three subscales and in order to count the total MBI score. The coping style for stressful situations was measured with the Polish version of The Coping Inventory for Stressful Situations [9,10]. This inventory measures three main coping strategies: task focused, emotion focused, and avoidance coping. Avoidance coping can be divided further into two types: Distraction subscale and Social Diversion subscale. The score range is 16 to 80 points for the strategies and 5 to 40 and 5-25 for the two subscales. Subjectively perceived stress (SPS) was assessed with 100 millimetre unidimensional analogue scale.

Statistical analysis

Data were analysed using Statistica 2004 version. Descriptive statistics were presented as percents and arithmetic means with standard deviations. Since the distribution of the data was skewed, the hypothesis were tested with the non-parametric methods [11]. The Kruskal-Wallis ANOVA was used to test differences between nurses' burnout level and subjectively perceived stress in general medical ward, neurological and psychiatric wards. The Spearman's rank correlation coefficient was used to analyse the association between styles of coping (CISS) and burnout (MBI). P values below 0.05 were considered significant.

Results

The descriptive statistics of MBI are presented in *Tab. 2*. Because of the various theoretical ranges of particular MBI dimensions, a direct comparison of the median values was not possible. Therefore the saturation of particular subscales and the whole scale were calculated. The value of saturation for the whole scale was 35%, for EE – 44%, for D – 23.3%, and for PA – 33.3%. Therefore, it seems that the highest level of burnout occurred in the dimension of emotional exhaustion, whereas the lowest in the depersonalisation.

Using the categories of the level of burnout established by Maslach [12], it was found that 71%, 39.8% and 77% respon-

Table 3. Categories of the Maslach Burnout Inventory (MBI) scores according Maslach's categorisation

Subgroups	EE			D			PA		
	Low <16	Average 17-26	High >27	Low <6	Average 7-12	High >17	Low <16	Average 18-32	High >32
Psychiatric	22 (40.7%)	14 (25.9%)	18 (33.4%)	41 (75.9%)	10 (18.5%)	3 (5.6%)	8 (14.8)	22 (40.7%)	24 (44.4%)
Neurological	21 (29.2%)	35 (48.6%)	16 (22.2%)	48 (66.7%)	14 (19.4%)	10 (13.9%)	13 (18.1%)	19 (26.4%)	40 (55.6%)
General medical	23 (22.8%)	22 (21.9%)	56 (55.5%)	47 (47%)	26 (26%)	27 (27.5%)	30 (30.3%)	26 (26.3%)	43 (43.4%)
Total	66 (29.1%)	71 (31.3%)	90 (39.6%)	136 (59.9%)	50 (22.1%)	40 (17.7%)	51 (22.7%)	67 (29.8%)	107 (47.6%)

EE – Emotional Exhaustion, D – Depersonalisation, PA – Personal Accomplishment

Table 4. Mean and standard deviations for the Coping Inventory for Stressful Situations (CISS) (N = 126)

Subgroups	Task oriented	Emotion oriented	Avoidance oriented	Distraction subscale	Social diversion subscale
Psychiatric	55.35 (6.6)	42.17 (9.6)	44.1 (8.1)	18.22 (4.7)	16.43 (3.7)
Neurological	54.25 (8.1)	42.67 (8.1)	47.19 (7.4)	20.67 (4.7)	17.21 (3.3)
Total	54.71 (7.5)	42.45 (8.7)	45.87 (7.8)	19.62 (4.9)	16.87 (3.5)

dents experienced moderate to high levels of EE, D and PA (Tab. 3). A significantly higher (as compared to other groups) level of burnout was noted in the subgroup of medical nurses. The differences were found in the total MBI score and in the subscales of EE and D ($p < 0.01$). In a similar way, the group of medical nurses was the one with the highest level of burnout in the aspect of EE (55.5%) and D (27.5%).

Among the examined nurses the most common was the task oriented coping style (Tab. 4). In order to test the hypothesis of the correlation between the burnout and subjectively perceived stress, we performed a correlation analysis between the MBI and SPS scores. We obtained the following Spearman's correlation coefficients: 0.52 (EE), 0.36 (D), 0.27 (reversed PA) and 0.51 for total MBI scores ($p < 0.01$).

In order to test the hypothesis of correlation between burnout and coping styles, we conducted a correlation analysis between these variables. The obtained correlation coefficients varied from 0.001 (between EE and avoidance oriented coping) to 0.31 (between PA and task oriented coping). The correlation coefficients between the total MBI and the task oriented, emotion oriented and avoidance oriented coping were as following: 0.31, 0.17, 0.13. All significant coefficients between burnout and the task oriented coping and avoidance oriented coping were negative ($p < 0.05$). A reversed situation was noted in relation to the emotions oriented coping, where significant correlation coefficients were positive ($p < 0.05$).

Discussion

The present study showed that medium and high level of burnout in the emotional dimension, depersonalisation and personal involvement occurred respectively among 71%, 39.8% and 77% respondents. We compared our results with a big Canadian study conducted in 1999, in which 6500 nurses participated [13]. Mean scores for EE, D and PA were 22, 6.4 and 37.3 which means that the burnout level among Canadian nurses was similar to the burnout among Polish nurses. Only the scores

for PA subscale were noticeably higher which suggests that the Canadian nurses felt more competent and successful than the nurses in our study. We also compared our results with the data from other Polish studies, conducted in the years 1993, 1994, in which 138 hospital nurses participated [14]. The cited authors achieved the following mean MBI scores: for EE – 19.9, for D – 4.1 and for PA – 35.7. A noticeable difference can be found between all the MBI dimensions, which may suggest that the level of professional burnout among Polish nurses has increased in the last ten years. In our study we observed a significant diversity of burnout among nurses employed in various hospital wards. The diversity was present in two dimensions: emotional exhaustion and depersonalisation, but was not visible in the personal accomplishment. The most severe burnout was noted among the general medical nurses. Neurological and psychiatric nurses formed quite a homogeneous group with a significant lower level of burnout. It should be expected that the diversity of burnout corresponds to a similar diversity in the subjectively perceived stress. However, such a regularity has not been found, despite the fact that the correlation between the perceived stress and the level of burnout was quite high. Beisert [15] believes that the level of burnout depends on the influence of two independent variables: the sense of psychological stress, or, in other words, subjectively perceived stress, and on the sense of one's remedial competences. So, maybe the second factor that we did not include in the study played a key role? Another question that stems from that is whether the nurses of narrower non-invasive specializations, such as psychiatry and neurology, possess a greater sense of professional effectiveness than the nurses with broader specializations, as general medical nurses? If it is so, why did this regularity occur only in two dimensions of burnout, and wasn't present in personal accomplishment? These problems should be focused on in the future research, in both the descriptive as well as explanatory aspect.

On the basis of the initial assumptions and earlier research, we expected the persons with task oriented style of coping to achieve lower MBI scores. And, in fact, we did observe such a tendency, but the achieved correlation scores were rather low.

That means that the task oriented coping, although perceived as the most efficient in neutralization of the effects of stress, to some extent protects against burnout. According to the assumptions, the research confirmed the regularity that concentration on personal emotional experiences in the face of stressful situations may lead to intensified burnout, but only in relation to one dimension, and not to a great extent. As far as the avoidance oriented coping is concerned, this style seems to be the one least connected with the process of burnout. In general, the obtained correlations between coping styles and the level of burnout indicate that some relation between these factors exist, however, this relations seem to be fragmentary and weak.

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