

PSYCHOSOCIAL WORKING CONDITIONS AND THE LEVEL OF OCCUPATIONAL BURNOUT AMONG NURSES WORKING IN HOSPITALS

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ABSTRACT

Introduction: The main causes of occupational burnout syndrome are the physical conditions and psychosocial features of the work environment.

Aim of the study: To describe the psychosocial working conditions of nurses, to determine the level of occupational burnout, and to assess the relationship between the examined dimensions of occupational burnout and psychosocial features of the work environment.

Material and methods: This cross-sectional study was carried out in a group of 189 nurses working in hospitals in the Małopolska region. We employed a standard questionnaire, Maslach Burnout Inventory Human Services Survey (MBI-HSS) and psychosocial working conditions, by means of a *Psychospołeczne warunki pracy* (PWP) (Psychosocial Working Conditions Questionnaire).

Results: The results show that the average period of employment in nursing profession reached 22.2 years (SD = 10.5). A high or average level of emotional exhaustion was observed in over 70% of respondents ($x = 21.8$, SD = 9.4), and a high or average level of depersonalization in 90.5% ($x = 5.1$, SD = 4.6). More than a half of the respondents had a low or average level of the sense of personal accomplishment ($x = 30.9$, SD = 8.9). A correlation was observed between the sense of control, social support, and well-being and the 3 subscales of occupational burnout.

Conclusions: There is an association between occupational burnout and the sense of control, perceived social support, and desired changes in the work environment.

Key words: nurse, occupational burnout, psychosocial working conditions.

INTRODUCTION

Nursing belongs to a group of so-called helping professions or, in other words, people-oriented professions. The basic distinguishing feature of this category of professions is a particular contact with another person, which is an essential element of the work [1]. It involves a specifically dynamic relationship between the person who helps and the one who receives help. In this relationship a significant role is played by “close interpersonal contact involving also the process of commitment and emotional exchange” [2]. This means that symbolic gratification resulting from performing one’s professional roles often cannot balance the costs incurred by an employee [1, 3]. At the same time, clients (patients), their families, and other people have high expectations of nurses. These expectations are often unrealistic. From

such a public standpoint, nurses have no right to feel tired, nervous, or less involved in their work.

Psychosocial risks can be defined as these aspects of designing and managing the process of work along with their socio-organizational context, which have the potential to cause mental or physical harm [4-7]. Cooper and Marshall specify 5 categories of work-related stressors: the work itself, the role of an individual in the organization, professional career development, interpersonal relationships, and the organizational structure and organizational climate. There are also other classifications of work-related stressors, e.g. Quick and Quick enumerated 4 categories whereas Burke as many as 8 [8, 9].

Psychosocial stress in nursing work may be divided into several groups, the details of which are presented in Table 1.

The study is based on a popular model of stress: the two-factor demand-control model developed by Karasek (DC) [10-14]. It focuses on 2 psychosocial features of work: demands and the scope of control, which is understood as the freedom to make decisions [15].

The phenomenon of occupational burnout is usually conceptualized because of the impact of particularly strong or long-lasting occupational stressors, which an employee of a helping profession cannot deal with [1]. Research into this phenomenon resulted in defining 3 dimensions of occupational burnout, which vary as regards their intensity. They are as follows: 1. Emotional exhaustion, which involves a significant work-related emotional overload and a feeling of being depleted of one's own emotional resources [16]. 2. Depersonalization or cynicism, which is connected with the attitude towards the patients/clients of the institution in which one is employed (e.g. patients, family) and manifests itself in cynicism towards people who receive help and towards co-workers [16, 20, 21]. 3. Personal accomplishment, which is understood as a sense of competences and professional success [22]. People experiencing a lower sense of PA feel that their work for other people is ineffective and that they do not have an adequate predisposition to perform their occupational roles [23, 24].

AIM OF THE STUDY

The objective of the study is to describe the psychosocial working conditions of nurses, to determine the level of occupational burnout, and to assess the relationship between the examined dimensions of occupational burnout and psychosocial features of the work environment.

MATERIAL AND METHODS

To examine the relationship between psychosocial features of the work environment on occupational burnout in nurses, a cross-sectional survey was conducted. The study was conducted from October 2018 to March 2019 in a group of 189 professionally active male and female nurses working in hospitals in the Małopolska region. The study was approved by the Bioethics Committee of Jagiellonian University Medical College (approval number: 1072.6120.284.2018), and the consent of the hospital directors was obtained. It was a multi-centre study. The inclusion criteria for the study were written consent for participation, being employed as a nurse, and working in a hospital.

A standard questionnaire applied in the study consisted of questions referring to the following variables: gender, age, marital status, number of children, and education, as well as work-related variables: period of employment, workplace, and additional employment in the nursing profession. Occupational

Table 1. Detailed results according to AIS

Job specification	Current working conditions
workplace (noise, inadequate lighting, poor ventilation, toxic substances, unfriendly workplace), working time, performed tasks, responsibility, necessity to acquire and extend knowledge, exposure to unfriendly working environment in the material sense	work organization, financial circumstances and human resources, social relations between employees and managing staff, salary and opportunities for professional development, technical facilities, work overload (too many tasks, pace of work too fast, tasks too difficult), work underload (monotonous tasks), lack of control or insufficient control over the process of work, unclear or conflicting professional roles, poor management style, tense interpersonal relations, lack of prospects for professional development

burnout was determined on the basis of the Maslach Burnout Inventory Human Services Survey (MBI-HSS), which focuses on 3 aspects of occupational burnout: emotional exhaustion (EE), depersonalization (DEP), and a sense of personal accomplishment (PA). The questionnaire consisted of 22 statements. Each of the statements is connected with one of the 3 separate subscales. The emotional exhaustion subscale includes 9 statements – 1, 2, 3, 6, 8, 13, 14, 16, 20; the depersonalization subscale includes 5 statements – 5, 10, 11, 15, 22; whereas the personal accomplishment subscale includes 8 statements – 4, 7, 9, 12, 17, 18, 19, 21. The respondents were asked to mark on a 7-point scale how often they experienced the feeling or attitude described in the statement. They had to choose one of the 7 options ranging from 0 to 6. The order was as follows: 0 – never, 1 – a few times a year or less, 2 – once a month or less, 3 – a few times a month, 4 – once a week, 5 – a few times a week, 6 – every day. The scores obtained in the subscales were analysed in the following way: first the mean value for the described subscales was determined, and then categories were defined for the results obtained for levels of each subscale. The obtained results were interpreted according to reference standards. For the emotional exhaustion subscale, a score of 27 or more was assumed as a high level, average level scores ranged between 17 and 26, and low level ranged between 0 and 16. In the case of the depersonalization scale, a score of 13 or more meant a high level, 7-12 average level, and 0-6 low level. For the subscale of sense of personal accomplishment, a score of 39 or more was considered a high level, 32-38 average level, and 0-31 low level. Occupational burnout was diagnosed in the case of high scores on emotional exhaustion and depersonalization subscales and low scores on the subscale of personal accomplishment [25]. Internal consistency in Polish studies reached a Cronbach α level of over 0.7 [26]. Psychosocial working conditions were

determined on the basis of *Psychospołeczne warunki pracy* (PWP) (Psychosocial Working Conditions Questionnaire), a questionnaire developed by Widerszal-Bazyl and Cieślak [27] based on a stress model: demand – control – support [13]. The PWP questionnaire consists of 3 main scales: demand scale (W), control scale (K), and social support scale (WS). The impact of stress on employees' health can be assessed by means of a well-being scale (D), which makes it possible to assess their general well-being. On the other hand, the scale of desired changes (PZ) is a practical, work-related part of the questionnaire and may be useful while confronting the present situation at work with employees' expectations. The higher the score on each of these scales, the higher the intensity of a given feature – demand, control, social support, well-being, and desired changes. The questionnaire has specific norms for various occupational groups, including nurses. The internal consistency indexes (Cronbach α) for particular theoretical scales are high: in the case of the demand scale they range in individual professional groups from 0.74 to 0.87, for the control scale from 0.79 to 0.86, for the social support scale from 0.92 to 0.96, for the well-being scale from

0.88 to 0.91, and for the scale of desired changes from 0.88 to 0.93 [27].

Statistical analysis

The distribution of qualitative variables was described by presenting absolute and relative values. The distribution of quantitative variables was described by presenting mean values and standard deviation. The compliance of a given variable with a normal distribution was examined with the application of the Shapiro-Wilk test. The relationship between individual subscales of occupational burnout and the scales of psychosocial working conditions was examined with the application of Pearson correlations. Moreover, a multiple linear regression model was used, taking into account the influence of covariates on the investigated relationships. The results of the linear regression model are presented as the beta coefficient with standard error (SE). Two models were constructed: the first with the period of employment (model A) and the second with the period of employment, education, having children, the workplace, and additional employment in a nursing profession (model B). Statistical analyses were performed using IBM Corp. Released 2019. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp. *P*-values < 0.05 were accepted as statistically significant.

RESULTS

Demographic and work condition variables

The examined group consisted of 187 women and 2 men. A uniform nomenclature was introduced to facilitate the interpretation of the study results, and the term *nurse* refers to both male and female respondents. The average age of nurses was 43.4 years (SD = 10.14); the oldest was 65 years old and the youngest was 23 years old. 82% of the respondents were in a relationship, and 70% had at least one child. The largest group consisted of the respondents with higher education (58%). Nurses worked most frequently in conservative (45%), surgical (28%), and ICU wards (27%). Additional employment in a nursing profession was declared by 29% of the respondents (Table 2).

Nurse burnout and assessment of psychosocial working conditions

The distribution of the 3 dimensions of occupational burnout is presented in Table 2. The frequencies of the incidence of individual occupational burnout categories in the examined group of respondents were as follows: 39% of nurses were characterized by an average level of emotional exhaustion, over 70% had a low level of depersonalization, and 49%

Table 2. Characteristics of the examined group of nurses

Demographic data	
Age, mean (SD)	43.4 (10.14)
Female, <i>n</i> (%)	187 (98.9)
Having children, <i>n</i> (%)	133 (70.0)
Education level, <i>n</i> (%)	
Secondary vocational education	80 (42.0)
Bachelor's degree	47 (25.0)
Master's degree	62 (33.0)
In a relationship, <i>n</i> (%)	155 (82.0)
Period of employment (years), mean (SD)	22.2 (10.5)
Workplace, <i>n</i> (%)	
Conservative treatment units	85 (45.0)
Surgical wards	53 (28.0)
Intensive care wards	51 (27.0)
Additional employment in a nursing profession, <i>n</i> (%)	54 (29.0)
Occupational burnout	
Emotional exhaustion, mean (SD)	21.80 (9.40)
Depersonalization, mean (SD)	5.10 (4.60)
Personal accomplishment, mean (SD)	30.90 (8.90)
Psychosocial working conditions	
Demand scale	3.70 (0.34)
Control scale	3.00 (0.46)
Social support scale	3.00 (0.73)
Well-being scale	3.60 (0.45)
Need for change scale	3.60 (0.59)

of respondents had a lower sense of personal accomplishment.

Table 2 shows the average values for 5 categories of the psychosocial working conditions scale. The highest average scores obtained in the study, i.e. 3.7 points on the demand scale and 3.6 points on the social needs scale, were within the high scores of the scale. On the other hand, the lowest average scores on the control scale and social support scale, i.e. 3.0 points, were within low values of the psychosocial working conditions scale.

Relationship between psychosocial working conditions and occupational burnout

Table 3 presents a correlation between psychical working conditions and occupational burnout. The social support and well-being scales were significantly and negatively related to emotional exhaustion and

depersonalization and positively related to the sense of personal accomplishment. Positive correlations between demand, the need for change, and emotional exhaustion were observed. The control scale was significantly associated with depersonalization and personal accomplishment. The need for change scale was negatively associated with personal accomplishment.

After adjustment for potential confounders, a significant relationship was observed between the 4 subscales of psychosocial working conditions, i.e. control, social support, well-being, and the need for change and the 3 dimensions of occupational burnout. Higher scores in control, support, and well-being were accompanied by lower emotional exhaustion and depersonalization, for instance a one-point increase on the well-being scale resulted in almost 9 points lower emotional exhaustion. On the other hand, a positive relationship was observed between the 4 subscales of psychosocial working conditions mentioned above

Table 3. The matrix correlation between dimensions of burnout and demand scale, control scale, social support scale, well-being scale, and need for change scale

AIS	Emotional exhaustion (EE) <i>r (p)</i>	Depersonalization (DEP) <i>r (p)</i>	Personal accomplishment (PA) <i>r (p)</i>
Demand scale (W)	0.19 (0.02)*	-0.03 (0.69)	-0.04 (0.63)
Control scale (K)	-0.1525 (0.056)	-0.2256 (0.004)**	0.2459 (0.002)**
Social support scale (WS)	-0.3005 (0.000)***	-0.2427 (0.002)**	0.3151 (0.000)***
Well-being scale (D)	-0.3818 (0.000)***	-0.2601 (0.001)**	0.3634 (0.000)***
Need for change scale (PZ)	0.1613 (0.043)*	0.1126 (0.159)	-0.2334 (0.003)**

p* < 0.05, *p* < 0.01, ****p* < 0.001

Table 4. The matrix correlation between dimensions of burnout and demand scale, control scale, social support scale, well-being scale, and need for change scale

	Emotional exhaustion				Depersonalization				Personal accomplishment			
	<i>b</i>	SE	<i>p</i>	<i>R</i> ²	<i>b</i>	SE	<i>p</i>	<i>R</i> ²	<i>b</i>	SE	<i>p</i>	<i>R</i> ²
Demand scale												
Model A	2.62	1.99	0.189	0.02	-0.88	0.97	0.365	0.03	-0.41	1.88	0.828	0.009
Model B	2.42	2.01	0.230	0.06	-0.86	0.99	0.386	0.05	-0.8	1.91	0.676	0.03
Control scale												
Model A	-3.71	1.45	0.011	0.04	-2.99	0.68	0.001	0.15	3.72	1.37	0.007	0.04
Model B	-3.81	1.46	0.009	0.08	-3.05	0.69	0.001	0.16	3.82	1.39	0.006	0.07
Social support scale												
Model A	-4.13	0.89	0.001	0.12	-1.78	0.44	0.001	0.11	3.84	0.85	0.001	0.12
Model B	-4.17	0.9	0.001	0.15	-1.86	0.45	0.001	0.12	3.97	0.86	0.001	0.12
Well-being scale												
Model A	-8.67	1.36	0.001	0.2	-3.09	0.7	0.001	0.12	5.94	1.36	0.001	0.1
Model B	-8.56	1.37	0.001	0.22	-3.1	0.71	0.001	0.13	6.1	1.37	0.001	0.12
Need for change scale												
Model A	3.14	1.14	0.006	0.05	1.28	0.56	0.023	0.05	-2.64	1.08	0.0158	0.03
Model B	3.08	1.18	0.009	0.08	1.41	0.58	0.016	0.07	-3.01	1.13	0.008	0.06

Model A – after taking into account the period of employment, model B – after taking into account the period of employment, education, having children, workplace and additional employment in the nursing profession

b – unstandardized β, SE – standard error for the unstandardized β, *p* – probability value, *R*² – correlation coefficient

and a sense of personal accomplishment. A one-point increase in well-being was connected with a 6-point increase in the sense of personal accomplishment. Higher scores within the need for change were connected with higher emotional exhaustion and depersonalization and a lower sense of personal accomplishment. In turn, there was no significant relationship between the demand subscale and any dimension of occupational burnout (Table 4).

DISCUSSION

In recent years, the relationship between work-related stress and employees' mental health has been examined more frequently due to an increasing absenteeism rate, more cases of resignation from work, and health risks resulting from professional activities in the field of nursing subsystem [29-37].

Comparing the statistical data of the Supreme Council of Nurses and Midwives (Naczelna Izba Pielęgniarek i Położnych NIPIP) with the results of our study as far as sociodemographic and occupational characteristics are concerned, the following characteristics of Polish nurses can be observed: feminization of the nursing profession (in our study in the group of 189 respondents there were 187 women) and systematically aging population – the average age was 43.4 years in this study and 52.03 years according to NIPIP statistics. Moreover, 29% of the respondents took up additional employment in the nursing profession [38, 39]. According to the authors, the aforementioned characteristics along with the organization of health services in Poland and the position of nurses in the health care system may have an influence on the persistent character of occupational burnout and psychosocial working conditions. At the same time, while analysing the results of our study, it must be taken into account that the results of the studies conducted before the COVID-19 pandemic (before 2020) may be significantly different from the results of studies carried out after 2020, due to incomparable psychosocial working conditions.

An analysis of scientific literature shows that women performing medical jobs as compared to men tend to experience a higher level of occupational burnout, especially as regards emotional exhaustion and personal accomplishment [36, 37, 40, 41].

In the examined group almost 30% of nurses were characterized by a high level of emotional exhaustion, an aspect that is treated by many authors as the key aspect of occupational burnout [16-19, 36, 37]. In the study conducted by Aiken *et al.* more than 40% of hospital nurses scored in the high range of work-related burnout, and more than one in 5 hospital nurses reported that they intended to leave within a year [17]. A meta-analysis conducted by Woo shows that a high level of occupational burnout is a problem that affects 11% of nurses around the world, and simi-

lar tendencies could be observed in Europe, Central Asia, and North America [41].

Moreover, in our study 9.5% of the examined group experienced a high level of depersonalization, which is the aspect of occupational burnout going beyond the person who is the subject of this process. It has a direct impact on the relationship with the client of a helping institution. Also, it is an interpersonal aspect of occupational burnout. Almost half of the respondents had a lower sense of their personal accomplishment. This aspect of occupational burnout has a cognitive character. On the other hand, a study conducted by Maslach implied that the main reasons of the burnout syndrome were, first of all, the physical and psychosocial characteristics of working environment, whereas individual and demographic characteristics were of secondary importance [42].

Work engagement is treated as the phenomenon opposite to occupational burnout, and it is understood as a positive work-related condition characterized by vigour and dedication to one's professional responsibilities. Dedication is understood as a sense of importance, enthusiasm, and willingness to take on challenges. Vigour can be treated as the opposite of emotional exhaustion, and dedication as the opposite of depersonalization (cynicism) [23]. Therefore, while analysing nursing work and its impact on the people who perform it, both negative consequences (occupational burnout) and positive ones (dedication) should be taken into consideration. It is worth investigating these results related to the level of occupational burnout in the examined group, which are connected with psychosocial risks that are likely to arise during the process of working as a nurse [24].

When describing psychosocial working conditions according to the PWP questionnaire, nurses taking part in the study believed that nursing work imposes high demands on them (the assessment reached an average level of 3.7 points according to the authors' scale). At the same time, the examined nurses felt well while performing their duties (the well-being level reached average values on the scale, i.e. 3.7 points) but needed some changes within working conditions (average value on the scale – 3.67 points). In comparison to the values of the PWP scale described by other authors, in our study the results for the sense of control were on an average level (2.98 points) and for the need of social support also on the average level (2.93 points). The group was characterized by high demands imposed by their work and, at the same time, by lowered sense of control. The study conducted in Białystok from 2012 to 2013 by Kowalczyk *et al.* examining a group of 789 nurses working in a hospital showed that psychosocial working conditions are related to occupational burnout. These results were similar to the results of our study. The nurses assessed the demands imposed on them by their work as rela-

tively high (average score of 3.5 points). The opportunity to have control over their work was assessed at an average level (3.01 points). The level of social support was also assessed at an average level (3.06 points). On the other hand, the need for change at work was assessed as high (3.75 points) [43].

According to Karasek, the most stressful situation is the interaction between high demands and a low sense of control – little freedom of decision-making. Employees' motivation, learning, and personal development, which are typical of "active work", take place when work demands and freedom of decision-making remain at a high level. Employees who experience high work demands and, simultaneously, have a high level of control can be described as active ones, whereas passive employees function in the situation of low demands and low control. Johnson and Hall enriched Karasek's model with the third dimension of psychosocial working conditions, i.e. social support. These researchers decided that the least favourable situation at work is when high demands are accompanied by low levels of control and social support. Such working conditions are frequent for nurses working on various levels of the healthcare hierarchy, from ordinary nurses to managerial staff. A common stereotype of a passive nurse who only performs the orders of his/her superiors is very unfavourable for the image of the nursing profession in Poland. Such an attitude evokes in nurses a feeling of inferiority to doctors and, in consequence, leads to a popular opinion about a lower value of nursing in comparison to other medical sciences [15]. Studies show that psychosocial factors of the work environment have an influence on the level of occupational burnout in nurses. Our study showed a correlation between the sense of control, social support, and well-being and the 3 subscales of occupational burnout. Higher sense of control, social support, and well-being were connected with a lower level of emotional exhaustion and depersonalization as well as with greater work satisfaction. However, no significant correlation was found between the scale of the level of job demands and emotional exhaustion, depersonalization, and lower satisfaction with work. Escriba-Aguir *et al.* in 2006 obtained similar results: low job control and psychological demands have a negative influence on PA and DP, respectively [35]. The results of research of Lisa Sundin *et al.* showed statistically significant correlations between co-worker support and all 3 burnout dimensions. In the regression analyses, co-worker support was statistically significantly related to all 3 burnout dimensions, whereas supervisor support was only statistically significantly related to emotional exhaustion. In accordance with prior findings, high levels of psychological demands were most strongly related to high emotional exhaustion. Furthermore, high levels of emotional demands showed the strongest correlation with high personal accomplishment [44].

The aforementioned results confirm the data found in the scientific literature; however, due to the lack of comparable studies on the phenomenon of occupational burnout and psychosocial working conditions, the authors encountered great difficulties in this area.

Therefore, it seems justified to repeat such research in a group that would allow for more reliable results (random group selection).

While searching for the causes of burnout, Maslach stated that individual and demographic features are of secondary importance, and that the physical and psychosocial features of the work environment dominate [45]. This study suggests the need for organizational changes in nurses' work, e.g. reducing the number of patients per caregiver, changing the type of job in the rotation system, taking breaks, shorter hours of work (longer working hours lead to burnout and the development of negative attitudes towards patients), support from superiors and colleagues, learning assertiveness, and developing communication skills [46].

One of the initiatives in the prevention of burnout is the creation of a "friendly working environment" by the so-called "magnet hospitals". This management method is focused on organizing a work environment that is aimed at reducing stress among hospital workers, which increases professional satisfaction, and reduces the number of injuries and accidents at work and the incidence of burnout syndrome [47, 48]. The presence and knowledge of the procedure allow a reduction of the factors of occupational burnout, such as organizational and decision-making stress. The procedures organize the nurses' work in a universal manner and operate even in a dynamic epidemiological situation [49].

Study limitations

The study took into account selected sociodemographic and occupational factors that contributed to the incidence of occupational burnout syndrome. The low proportion of men can be considered a limitation of the study; therefore, the described relationship can be applied to women working in the nursing profession.

It was a cross-sectional study, and therefore it was impossible to examine the changeability of this phenomenon. The authors of this study are planning to examine more nurses and include in their analyses personality variables, attitudes to work, as well as variables related to psychosocial working conditions and workload.

CONCLUSIONS

A significant percentage of examined nurses suffer from a high or average level of occupational burnout. Nurses working in hospitals believe that their work imposes high demands on them and simultaneously their

sense of control over their work is lowered, which, according to Karasek's model, predisposes them to a very high level of stress.

The study shows that there is a correlation between occupational burnout and the level of demands imposed on employees by their work, their sense of control, perceived social support, and desired changes in the work environment.

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Disclosure

The authors declare no conflict of interest.

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