

## Level of Professional Burnout and Sense of Coherence among Nurses Working in the Department of Anesthesiology and Intensive Care

### Poziom wypalenia zawodowego a poczucie koherencji wśród pielęgniarek pracujących na Oddziale Anestezjologii i Intensywnej Terapii

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#### Abstract

**Introduction.** Burnout syndrome, associated with loss of energy and enthusiasm, is an extremely important issue, especially for nurses working in the Department of Anesthesiology and Intensive Care, who constantly observe human suffering and high patient mortality in their work.

**Aim.** The main aim of this study was to evaluate the influence of a sense of coherence on the level of professional burnout of nurses working in the department of anesthesiology and intensive care.

**Material and Methods.** The study involved 89 subjects (71 women and 18 men) working in the Department of Anesthesiology and Intensive Care at the University Clinical Hospital in Wrocław. Questionnaires were used: The Sense of Coherence Questionnaire: SOC — 29, Maslach Burnout Inventory MBI, Job Satisfaction Scale SSP, Perceived Stress Scale PSS — 10 and a questionnaire of own authorship.

**Results.** The mean score on the sense of coherence scale was 120.64, so the respondents presented an average level of sense of coherence. 43.82% of the respondents had a high level of emotional exhaustion. 48.31% had high levels of depersonalization. 69.66% of respondents showed low level of job satisfaction and 58.43% presented high levels of stress. The average level of job satisfaction was indicated by the mean score obtained by the respondents in SSP scale (19.6 points). Sense of coherence correlates positively ( $r > 0$ ) with job satisfaction and negatively ( $r < 0$ ) with emotional exhaustion and depersonalization. Relationship analysis revealed correlations between: gender, marital status and job burnout, marital status and perceived stress, job tenure and job satisfaction, and perceived stress and job satisfaction.

**Conclusions.** A correlation was observed between a sense of coherence and occupational burnout and stress level and job satisfaction. The probability of professional burnout is higher in men and those who are not in a relationship. The results indicate that people who are in a relationship were found to cope better with stress. Job satisfaction is lowest in employees with job tenure, ranging from 6 to 10 years. (JNNN 2022;11(1):8–13)

**Key Words:** job satisfaction, professional burnout, sense of coherence, stress

#### Streszczenie

**Wstęp.** Zespół wypalenia zawodowego, który wiąże się z utratą energii i entuzjazmu, jest niezwykle ważnym zagadnieniem, szczególnie w odniesieniu do pielęgniarek/pielęgniarzy pracujących na Oddziale Anestezjologii i Intensywnej Terapii, którzy w swojej pracy nieustannie obserwują ludzkie cierpienie i wysoką śmiertelność pacjentów.

**Cel.** Głównym celem pracy była ocena wpływu poczucia koherencji na stopień wypalenia zawodowego pielęgniarek/pielęgniarzy pracujących na oddziale anestezjologii i intensywnej terapii.

**Materiał i metody.** W badaniu wzięło udział 89 osób (71 kobiet i 18 mężczyzn) pracujących w Klinice Anestezjologii i Intensywnej Terapii Uniwersyteckiego Szpitala Klinicznego we Wrocławiu. Zastosowano kwestionariusze: Orientacji Życiowej SOC — 29, Wypalenia Zawodowego MBI, Skalę Satysfakcji z Pracy SSP, Skalę odczuwanego stresu PSS — 10 oraz kwestionariusz ankiety własnego autorstwa.

**Wyniki.** Średni wynik poczucia koherencji wyniósł 120,64 punktów, a zatem respondenci prezentowali przeciętny poziom poczucia koherencji. Wyniki 43,82% badanych wskazywały wysoki poziom wyczerpania emocjonalnego. U 48,31% osób poziom depersonalizacji był wysoki. 69,66% badanych wykazało niski poziom satysfakcji zawodowej a 58,43% prezentowało wysoki poziom stresu. Na przeciętny poziom zadowolenia z pracy wskazuje średni wynik uzyskany przez badanych w skali SSP (19,6 punktu). Wyniki w skali poczucia koherencji korelują dodatnio ( $r>0$ ) z satysfakcją zawodową oraz ujemnie ( $r<0$ ) z wyczerpaniem emocjonalnym i depersonalizacją. Wykazano korelacje pomiędzy: płcią i stanem cywilnym a poziomem wypalenia zawodowego, stanem cywilnym i poziomem odczuwanego stresu, stażem pracy a satysfakcją z wykonywanego zawodu oraz poziomem odczuwanego stresu i zadowoleniem z wykonywanej pracy.

**Wnioski.** Zaobserwowano korelację między poczuciem koherencji i wypaleniem zawodowym oraz pomiędzy poziomem stresu i zadowoleniem z wykonywanej pracy. Prawdopodobieństwo wystąpienia wypalenia zawodowego jest większe u mężczyzn oraz osób niebędących w związku. Wyniki badań wskazują, iż osoby będące w związku lepiej radzą sobie ze stresem. Satysfakcja z wykonywanej pracy jest najmniejsza u pracowników ze stażem pracy od 6 do 10 lat. (PNN 2022;11(1):8–13)

**Słowa kluczowe:** satysfakcja z pracy, wypalenie zawodowe, poczucie koherencji, stres

## Introduction

Occupational Burnout Syndrome (OBS) often appears unnoticed. Its visible consequences are symptoms such as frustration, irritability or lack of job satisfaction, and at a later stage even depression [1,2].

Nursing staff is the most numerous professional group providing care to patients in all medical institutions. With the development of medicine, the nursing profession began to play an important role in the health care system and become its integral part. Continuous increase of knowledge, skills and qualifications by nurses allows to provide the highest level of patient care and meet their expectations [3]. Despite this, the nursing profession is one of the most vulnerable to the emergence of burnout syndrome. The essence of a nurse's work is helping, which requires both physical and psychological involvement [4]. In addition, inadequate pay, frequent disagreements with co-workers, and lack of respect from employers, without a doubt, are not factors that encourage work [5].

The implementation of the care plan by the nurse is often accompanied by time pressure, which is associated with incomplete performance of duties or meeting the needs of patients. In addition, shift work, sense of responsibility, constant contact with human suffering or death, and inadequate remuneration intensify the feeling of stress, which over a long period of time results in the emergence of burnout syndrome [6,7].

The Anesthesiology and Intensive Care Unit (ICU) is considered one of the most stressful workplaces. Nurses must be on call at all times. Constant observation of patients, quick reactions, continuous contact with suffering or impossibility to save lives are associated with high stress levels among the staff [1,2].

ICU nurses care for patients with critical conditions. These are often patients with hemodynamic or respiratory failure or multiple organ injuries. The work of individual systems is supported pharmacologically or through

specialized equipment. The specificity of the intensive care nurse's work is based on careful observation, constant attention, assessment of emergencies and quick decision making [1,8]. Nurses must think in a cause-and-effect manner, combine theoretical and practical knowledge, interpersonal skills and operate specialized equipment. All activities performed around the patient should be performed efficiently and safely. The time pressure, speed of action, complexity of procedures, atmosphere and working conditions contribute to the development of long-term stress among the staff, consequently manifesting as OBS [1,8].

The sense of coherence (SOC) or life orientation of a person is created by a triad of factors that interact with each other and form a coherent whole [9]. These are: the sense of intelligibility, the sense of resourcefulness, the sense of meaningfulness.

The main objective of this study was to evaluate the impact of sense of coherence on the level of professional burnout of nurses working in the department of anesthesiology and intensive care.

## Material and Methods

The study was conducted among nurses working in the Department of Anesthesiology and Intensive Care at the Jan Mikulicz-Radecki University Clinical Hospital in Wrocław. The study involved 89 subjects (71 women, 18 men) over 18 years of age, licensed to practice as nurses and working in the Department of Anesthesiology and Intensive Care (USK Wrocław). The exclusion criteria were: age below 18 years, no right to practice the profession of a nurse or having the right to practice the profession other than a nurse and working in a place other than USK Wrocław. Tools used in the study were: The Sense of Coherence Questionnaire: SOC — 29, Maslach Burnout Inventory MBI, Job Satisfaction Scale

SSP, Perceived Stress Scale PSS — 10 and a questionnaire of own authorship (sociodemographic questionnaire: gender, age, education, marital status, place of residence, work experience and work system).

Analysis of quantitative variables (i.e., expressed by number) was conducted by calculating the mean, standard deviation, median, and quartiles. The analysis of qualitative variables (i.e., not expressed by number) was performed by calculating the number and percentage of occurrences of each value. Comparison of the values of quantitative variables in the two groups was performed using the Mann–Whitney test. Comparison of the values of quantitative variables in three and more groups was performed using the Kruskal–Wallis test. When statistically significant differences were detected, post-hoc analysis with Dunn’s test was performed to identify statistically significantly different groups. Correlations between quantitative variables were analyzed using Spearman correlation coefficient. The analysis assumed a significance level of 0.05.

**Results**

A total of 71 women and 18 men participated in the study. Participants aged 21–29 (39 people) were the largest group, followed by ages 30–39 (20 people). The vast majority of the subjects (70.79%) declared that they were in a relationship. In terms of education, 37 of the respondents held a Bachelor of Nursing degree, 29 people had a Master of Nursing, and 22 of them were anesthesiology and intensive care nursing specialists. About 70% of the respondents lived in a city of more than 500 thousand inhabitants. Persons with work experience up to 5 years (41.57%) predominated, followed by those with work experience of 20 years and more (31.46%). More than 90% of the respondents worked in a two-shift system.

Based on the SOC 29 Questionnaire (which assesses the respondent’s sense of coherence along with three subscales: sense of understanding, sense of resourcefulness and sense of meaning), it was determined that the average score on the scale of sense of coherence was 120.64 points, which means that the respondents have an average level of sense of coherence. Mean scores on the sense of understanding and sense resourcefulness scales also indicate an average level. The mean score on the sense of meaning scale was 36.37 points, which was a rather high level of sense of meaning.

The professional burnout questionnaire assesses the level of professional burnout in three aspects (subscales): emotional exhaustion, depersonalization, and job satisfaction. 39 of the respondents (43.82%) showed a high level of emotional exhaustion and 43 (48.31%) of them showed high level of depersonalization. Low job

satisfaction was found in 62 subjects (69.66%). The severity of subjectively perceived stress was examined using PSS Questionnaire — 10. More than half of the study participants (58.43%) reported high levels of stress. Based on the SSP questionnaire, the sense of satisfaction of the subjects was assessed. The mean score of SSP was 19.6 points, which is 3.92 points per question. The respondents showed neither satisfaction nor dissatisfaction with their job.

**Sense of Coherence and Level of Job Burnout**

Sense of coherence correlates significantly ( $p < 0.05$ ) positively ( $r > 0$ ) with job satisfaction — the stronger the sense of coherence, the greater the job satisfaction.

Sense of coherence correlates significantly negatively ( $r < 0$ ) with emotional exhaustion and depersonalization. The stronger the sense of coherence, the less emotional exhaustion and depersonalization (Table 1). Sense of

**Table 1.** Sense of coherence versus occupational burnout

MBI	Sense of coherence
	Spearman correlation coefficient
Emotional exhaustion	$r = -0.656, p < 0.001^*$
Depersonalization	$r = -0.558, p < 0.001^*$
Job satisfaction	$r = 0.585, p < 0.001^*$

\*statistically significant relationship ( $p < 0.05$ )

understanding correlates positively ( $r > 0$ ) with job satisfaction (the stronger the sense of understanding, the greater the job satisfaction), and negatively ( $r < 0$ ) with emotional exhaustion and depersonalization (the stronger the sense of understanding, the less emotional exhaustion and depersonalization) (Table 2). Sense of resourcefulness

**Table 2.** Sense of understanding versus job satisfaction

MBI	Sense of understanding
	Spearman correlation coefficient
Emotional exhaustion	$r = -0.409, p < 0.001^*$
Depersonalization	$r = -0.367, p < 0.001^*$
Job satisfaction	$r = 0.322, p = 0.002^*$

\*statistically significant relationship ( $p < 0.05$ )

correlates significantly ( $p < 0.05$ ) and positively ( $r > 0$ ) with job satisfaction — stronger the sense of resourcefulness the higher the job satisfaction. Sense of resourcefulness correlates significantly ( $p < 0.05$ ) and negatively ( $r < 0$ ) with emotional exhaustion and depersonalization — the stronger the sense of resourcefulness, the less emotional exhaustion and depersonalization (Table 3).

**Table 3.** Sense of resourcefulness versus job satisfaction

MBI	Sense of resourcefulness
	Spearman correlation coefficient
Emotional exhaustion	$r=-0.608, p<0.001^*$
Depersonalization	$r=-0.472, p<0.001^*$
Job satisfaction	$r=0.579, p<0.001^*$

\*statistically significant relationship ( $p<0.05$ )

Sense of meaning correlates significantly positively ( $r>0$ ) with job satisfaction — the stronger the sense of meaning, the greater the job satisfaction. Sense of meaning correlates negatively ( $r<0$ ) with emotional exhaustion and depersonalization — the stronger the sense of meaning, the lower the emotional exhaustion and depersonalization (Table 4).

To determine the relationship between selected variables: gender, marital status, length of service, work system and the level of professional burnout, level of perceived stress, level of job satisfaction.

**Table 4.** Sense of meaning versus job satisfaction

MBI	Sense of purpose
	Spearman correlation coefficient
Emotional exhaustion	$r=-0.631, p<0.001^*$
Depersonalization	$r=-0.572, p<0.001^*$
Job satisfaction	$r=0.573, p<0.001^*$

\*statistically significant relationship ( $p<0.05$ )

Depersonalization was significantly stronger in men and singles than in those who were in a relationship. There was no statistically significant relationship between seniority or work system and job burnout. There was no statistically significant relationship between gender, seniority, work system and level of perceived stress. The level of stress was significantly higher in maids and bachelors than in those in a relationship. No statistically significant relationship was observed between gender, marital status, work system and level of job satisfaction. The sense of job satisfaction was significantly lower in those with seniority of 6–10 years than in other groups. The study found a negative relationship between the level of perceived stress and job satisfaction — the more severe the stress, the lower the sense of job satisfaction.

## Discussion

According to Christina Maslach, the professional burnout syndrome is based on three pillars: emotional exhaustion (reduction of the resources of possessed emotions), depersonalization — objectification (reacting

to other people in a negative, indifferent way) and reduced sense of personal achievement [4]. This phenomenon is often an unavoidable stage of professional work, caused, among others, by inadequate working conditions, staff shortage, low pay, nervous atmosphere, lack of promotion opportunities or inability to meet the expectations of the superior [10–13]. Our study confirmed the relationship between the sense of coherence and the level of professional burnout. It was shown that the level of individual components of coherence is proportional to the level of job satisfaction. It was also observed that the sense of coherence negatively correlates with emotional exhaustion and depersonalization — the stronger the sense of coherence, the lower the emotional exhaustion and depersonalization. According to Dębska et al., the sense of coherence decreases with age [14]. According to Hiebler-Ragger et al. and Masanotti et al., efforts like a partnership approach to the employee, regular conversations, joint decision making, clear definition of roles and responsibilities and providing various types of resources strengthen the sense of coherence and the health of the employee, and reduce the likelihood of burnout syndrome [15,16]. Taking into account sociodemographic factors, the studies of Cybulska et al. indicated that the level of professional burnout is determined by the level of education. Nurses with higher competence are less likely to develop the syndrome [8]. Our study shows that the system and seniority do not have a significant impact on the development of OBS. In turn, the results of a study conducted by Świątek et al. show that nurses working in the single shift system are less likely to reduce the level of depersonalization, and seniority does not significantly affect the level of professional burnout [1]. Our research found the relationship between gender, marital status and occupational burnout. Other results were obtained by Balan et al. studying medical staff working in ICUs in Romania. The level of professional burnout was defined as moderate and no significant correlation was found between age and gender and the development of the syndrome [17]. According to Chuang et al., the occurrence of OBS is contributed by the young age of the worker, male gender, short work experience, marital status: single or maiden, and a two-shift work system [18].

In our study, a correlation was observed between marital status and the level of perceived stress. It has been shown that stress levels are higher in maids and bachelors than in those who are in a relationship. Bardhan et al. also noted that people who are in a relationship choose to confront the stressor, while single people are more likely to run away [19]. Our own research among nurses showed that job satisfaction is lower in those with work experience of 6–10 years. The work of Łopatkiewicz and Sypniewska, Mousazadeh et al., Halcomb et al. and Pawlik et al. showed that nurses with longer work



experience have a higher level of job satisfaction [3,20–22]. On the other hand, a study by Cybulska et al. found that the shorter the work experience, the higher the level of job satisfaction [2].

## Conclusions

1. There is a correlation between sense of coherence and occupational burnout. It has been shown that the higher the sense of resourcefulness, meaningfulness, and understanding, the higher the job satisfaction and the lower the emotional exhaustion and sense of depersonalization.
2. Burnout is more likely to occur in men and those who are not in a relationship. People who are in a relationship also cope better with stress. Job tenure and work system were found to be statistically insignificant factors.
3. Job satisfaction is lowest for employees with 6–10 years of seniority.
4. The level of feeling stressed negatively correlates with job satisfaction.


## Implications for Nursing Practice

The problem of professional burnout especially concerns people working with other people, where the work requires commitment and is associated with great responsibility. Hence, the phenomenon is often observed among people in the nursing profession [2,23]. Stress at work affects satisfaction from the profession. Therefore, it is important to take care of the well-being of employees and a good atmosphere at work, which consists of, among others, a partnership approach to the employee, or clear definition of tasks and responsibilities. In a nurse's work, it is important to notice symptoms of burnout early and to intervene immediately. It is important to ask yourself why the work is no longer satisfying and what changes should be introduced.


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A — Concept and design of research, B — Collection and/or compilation of data,  
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