



## **Assessment of Factors Conditioning Stress and Burnout in a Group of Nurses Employed at the University Clinical Hospital of the Medical University of Lodz**

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## **Abstract**

**Introduction:** *The World Health Organization declared stress a disease of the 21st century. Its health consequences can be painful and long lasting. Stress is one of the common threats in the modern work environment. Nurse care in medical units is one of the most difficult organisational forms. The work of a nurse is associated with constant exposure to stress factors that may cause burnout.*

**Material and methods:** *The study was conducted among 120 nurses employed at the University Clinical Hospital of the Military Medical Academy – Central Veterans Hospital in Q3 2017.*

**Objective:** *The aim of the article was an attempt to diagnose stress factors and determine their degree of impact, while assessing the risk of burnout among nursing staff.*

**Results:** *The major stress factors are discussed in this paper. Aspects affecting the emergence of the concept of occupational burnout among nursing staff were characterised. This study has proven that stress is an inherent process in the work of a nurse. Based on the respondents' answers, the inadequate remuneration, high responsibility, lack of equipment, lack of promotion opportunities should be considered the most important stress factors. Interpersonal relationships with the patient and their family can affect the feeling of stress.*

**Conclusions:** *The vital element is that the choice of this profession was motivated by the will to help others and the recognition of this profession as prestigious. A positive message is that despite the difficulties of the profession, most of the respondents go to work with satisfaction or sense of duty.*

**Key words:** *stress, burnout, nurse, stress, stress factors.*

## The concept of stress

The concept of stress was introduced to the dictionary by Hans Hugo Selye, who devoted 50 years of research to studying this phenomenon. For this reason, he was nicknamed Dr. Stress. Selye was the first to hypothesise that a number of somatic diseases is the result of man's inability to cope with stress. He called this phenomenon the so-called "general adaptation syndrome deficiency" and described it in his first book on stress in 1956 entitled "The Stress of Life".

Stress is a concept that most people perceive negatively, and the very feeling of stress is perceived by them as a weakness, hindering effective action.

The World Health Organization has defined stress as "the disease of the century, because the cause of the colourful and dangerous picture of adaptation disorders can be physical, as well as chemical, toxic, infectious, psychological and sociopathic factors" [1].

"Stress" in encyclopaedic terms is "a state of load on the psychological regulation system, arising in a situation of danger, obstruction or impossibility of achieving goals, tasks, values important for the individual" [2].

There are several definitions of stress that should be presented in three categories:

- Stress – stimulus – severe, bothersome and distracting from activity: this type describes various, troublesome situations that cause stress, e.g. noise in the workplace, illness, death.
- Stress as a reaction to an onerous stimulus from the outside: determination of reactions that appear both physically and mentally in a person in response to unpleasant situations, e.g. worse performance of a task.
- Stress as an effective adaptive relationship occurring among the adaptation capabilities of an individual and stress factors. Taking preventive behaviour is an experiment to restore balance [3].

A certain level of motivating stress is necessary for the productive functioning of a person. Too low level can cause a decrease in motivation, pas-

sivity and boredom. Too high can contribute to excessive experience through tension, difficulty concentrating, incapacity or slowing of reflexes.

Work-related stress is the most important health and safety challenge. It is present in our lives and despite many fears of its effects, we often cannot prevent it. It is a motivating factor in all disciplines of life. Every fourth employee is an addressee of stress, and research shows that stress is experienced on 50-60% of all critical working days. This can mean a tremendous cost in both the constellation of health disorders and the mediocre economic balance. Stress in the workplace does not distinguish between functions or positions. It can affect anybody. It occurs in both public and private sectors, in a small and large enterprise. It carries a huge burden on the health and safety of individuals, but also affects the activity of national organisations and economies. "Stress triggers a certain alarm situation, thanks to which the body prepares for increased defensive activity. The nervous system is stimulated, hormones conducive to sharpening of the senses are released, the pulse accelerates, breathing becomes more intense, muscles tighten. Despite some individual differences, our physiological responses are similar. Short-term stress is not very burdensome for our bodies, long-term experience of stress can be extremely harmful to our health and senses" [4].

Stress caused by work, says M. Gólczyńska, has a huge impact on the organisation of the entire workplace. Employees and managers experiencing excessive stress are most often on the verge of physical and mental exhaustion. It should be borne in mind that people working under severe and chronic stress are more likely to get sick. It also affects their performance and making more mistakes, and thus, reduces the efficiency of their work. They are usually more assertive in carrying out tasks, they use sick leave or holiday more often. There is probability of circumventing legal provisions and basic safety principles. It happens extremely often that this is a cause of accidents at work. Lack of commitment and loss of willingness to work is another dominant aspect of employees exposed to excessive stress. In extreme situations, they often give notice and leave work [5].

## The concept of occupational burnout, its causes and symptoms

The problem of occupational stress is strongly associated to occupational burnout. The metaphorical term “burn out” clearly indicates the composition of one’s exhaustion due to stressful job predilections. What should be taken into account when wanting to recognise a burnout syndrome? Emotional exhaustion, i.e. excessive fatigue, lack of dynamics and expression is routinely given.

In this case, it can be described as a much more significant amount of work that a person must do to achieve guaranteed results. Workers exposed to burnout syndrome often see excessive indifference towards them in relation to other people. Confidences are deprived of their current character and become outdated. This condition is also associated with the minimisation of satisfaction with one’s own professional activities – a decrease in the sense of one’s own skills and work dynamics comes into play [6]. Occupational burnout, occupational burnout syndrome, and burnout syndrome – a condition when work is no longer satisfying, an employee ceases to evolve professionally, they feel uncomfortable due to overwork and are dissatisfied with their duties, which they enjoyed the day before.

This is a result of stress associated with the overwork condition, most often determined in professions requiring many contacts with people, i.e. among psychologists, educators, doctors, nurses teachers and paramedics and others. People who experience burnout syndrome are those who were workaholics before.

According to Christina Maslach, there are three components of occupational burnout. They are referred to as:

1. Emotional exhaustion – a feeling of inertia and a large outflow of strength caused by excessive psychological and emotional requirements that were set for the employee (or they set such unrealistic requirements to their own abilities);
2. Depersonalisation – defines a feeling of far-reaching barbarism, impersonality, cynical looking at other people, a decrease in sensitivity towards others;

3. Lowering the perception of one's own achievements – the feeling of wasting time and effort on one's work result [7].

### **The nature of the work of nursing staff**

Working as a nurse is extremely difficult and multi-tasking. First of all, it is focused on meeting the needs of the patient, but they also largely work with medical documentation. Performing nursing and treatment work, operating medical equipment and devices as well as cooperation with the staff and the patient's family often requires predispositions and skills [8].

The profession of a nurse should be exercised by a person with specific professional qualifications, the right to practice a profession, as well as having the skills to cooperate in an interdisciplinary team [9].

The manner in which a nurse and midwife perform work is regulated by the Act of 15 July 2011 on the professions of nurse and midwife.

The provisions of the Act define the profession of midwife and nurse as a free and independent profession, consisting in providing health services, in particular:

1. recognising the patient's health conditions and needs;
2. recognising patient care problems;
3. planning and providing patient care;
4. independent provision, within a specified scope, of preventive, diagnostic, therapeutic and rehabilitation services as well as medical rescue operations;
5. the implementation of medical orders in the process of diagnosis, treatment and rehabilitation;
6. deciding on the type and scope of care and nursing benefits;
7. health education and health promotion [10].

Nurse care in medical units is one of the most difficult organisational forms. Its aim is to provide the patient with round-the-clock care in a continuous, uninterrupted work system, i.e. both on working days and on Sundays and holidays. The work system in hospitals is usually of one shift – 7 hours 35 minutes or two 12-hour shifts [11,12].

In their work nurses encounter stress from various sources on a daily basis. First of all connected with the patient, their medical problems, often with a threat to life and health, and the necessity of making sudden decisions. The patient's family, therapeutic team, mutual interactions, work environment and conditions as well as high responsibility are also a source of stress [13].

## Material and methods

As part of the work, the thesis was put forward that the work of a nurse due to its specificity is associated with increased stress than other professions.

The purpose of the article was to attempt to diagnose stress factors and determine the degree of impact of these factors, while assessing the risk of burnout among nurses employed at the University Clinical Hospital of the Medical University of Lodz, Military Medical Academy – Central Veterans Hospital.

The following research questions were asked in the paper:

1. Is burnout related to the nurse's seniority?
2. Is burnout syndrome related to the nurse's age?
3. What are the most stressful factors?
4. Does the nurse's profession affect their personal life?
5. Do professional relationships influence the feeling of burnout?

## Methodology

The study was conducted among 120 nurses employed at the University Clinical Hospital of the Military Medical Academy – Central Veterans Hospital in Q3 2017.

After obtaining informed consent, staff were asked to fill out the questionnaire voluntarily and independently.

The tool used for the study was the author's questionnaire, containing closed questions and using a four-level and five-grade assessment scale.

The form in MS Excel was used for statistical processing. Table 1 shows the age of the studied group and the gender of respondents.

Table 1. Research group characteristics

Category	(%)
<b>AGE</b>	
20-30	27%
31-40	28%
41-50	39%
51-60	4%
over 61	2%
<b>GENDER</b>	
Female	93%
Male	7%
<b>EDUCATION</b>	
vocational	1%
secondary	7%
bachelor's degree	24%
master's degree	68%

Among 120 respondents, the largest group were middle aged (41-50) women (93%). Only 1% of respondents had vocational education. 92% of respondents had bachelor's and master's degrees.

Most nurses pointed to the average material situation. 30% considered their financial situation as good. In a group of 9% of respondents, extreme feelings of their situation were noticed. And so 2% described it as very good, while 7% described it as bad or very bad. This is illustrated in Figure 1.

The largest seniority group (30%) are nurses with 16 to 20 years of experience. 25% of respondents reported seniority from 11 to 15 years. The seniority of 23% of nurses ranged from one to 5 years, and from 6 to 10 years – 16% of respondents. 5% have worked in the profession for over 20 years, and only 1% for less than 1 year. The seniority is shown in Figure 2.



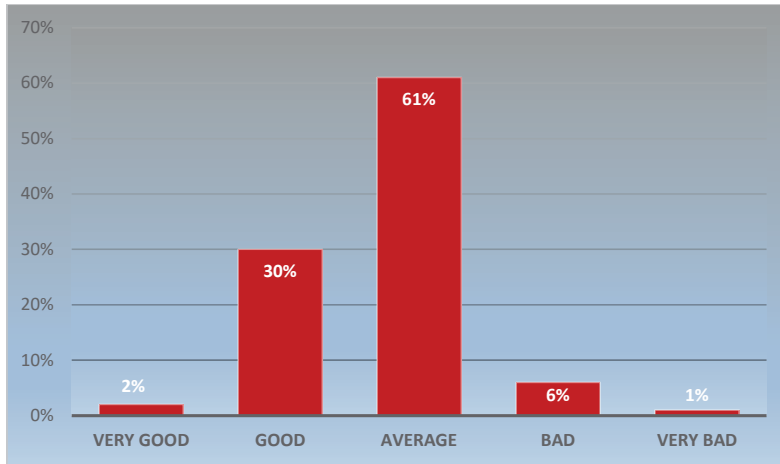


Figure 1. Material status

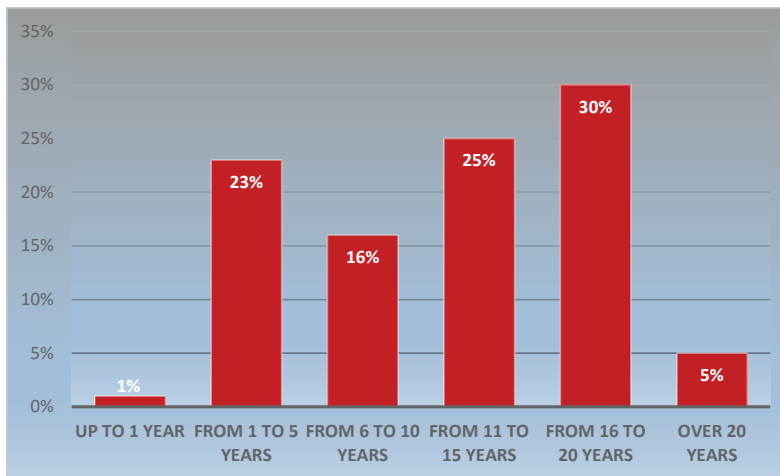


Figure 2. Seniority

Almost 90% of respondents felt stress at work very often and often. 12% admitted to feeling stress rarely. None of the respondents indicated the answer „Never”, which may suggest that they all feel stress as an inseparable element of work. Feeling stress at work is shown in Figure 3.

For most respondents, stress is an unnecessary element of work (56%), while almost a third of respondents consider it necessary, but to a limited extent. Only one percent of respondents considered stress as

a motivator for work and identified its existence as significant. 10% of respondents had no opinion on this matter. The answers to the questions are shown in Figure 4.

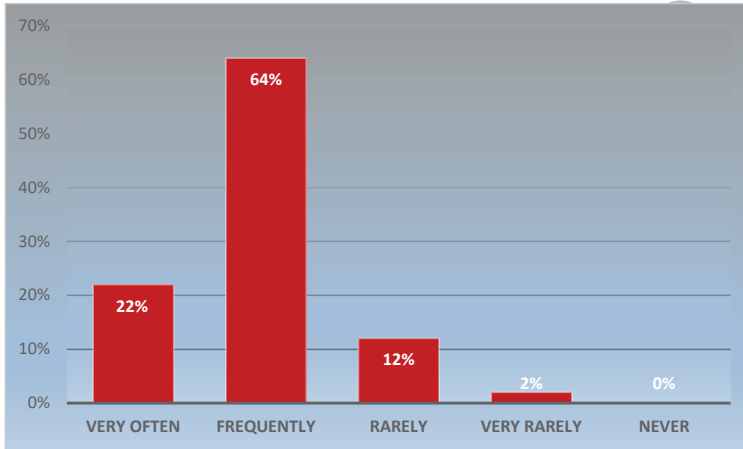


Figure 3. Feeling stress at work

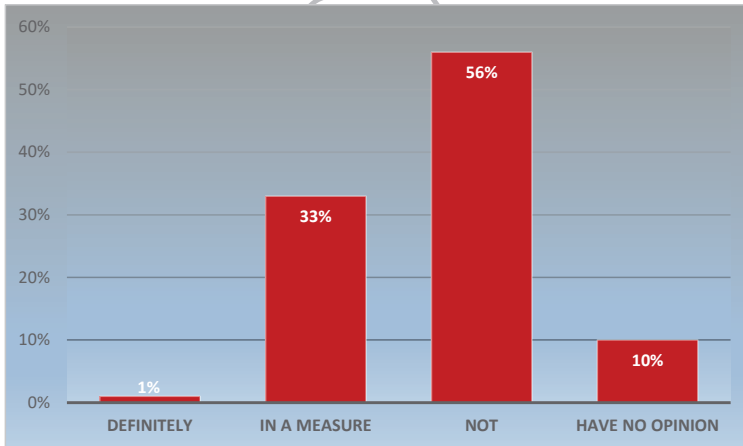


Figure 4. Stress at work

The most stressful factors for the largest group of respondents were:

1. Too low remuneration (65% of respondents gave this answer 5 points),
2. Lack of resources, equipment and materials needed for work (82% of respondents gave this answer 4 points),
3. Too high responsibility (57% of respondents gave this answer 4 points),
4. Time pressure (60% of respondents gave this answer 4 points)
5. No prospects for professional development and promotion (75% of respondents gave this answer 4 points).
6. Strained relations with patients and their families (level 4 for 68%), strained relations with other staff (level 4 for 52%).

Respondents were the least stressed by: constant contact with harmful substances (86% of respondents gave 1 point to this answer), contact with death (44% gave 2 points), shift work (64% gave 2 points), poor work organisation (1 points for 54% of respondents), employment uncertainty (1 point for 87% of respondents). In addition, the respondents did not stress the necessity of making quick decisions (2 points for 71% of people) and monotony (1 point for 90% of people). Physical and mental overload with work was considered to be a factor causing average stress (50%, 3 points). Rivalry among employees is less than 40 percent (3 points for 39% of respondents). Factors causing stress at work are specified in Table 2.

Negative emotions (anxiety and fear) related to the attitude to going to work are observed only in 6% of the staff. A positive symptom is that a 43% group goes to work with satisfaction, while 29% comes to work with a sense of duty. Lack of attitude is manifested by the group of indifferent, constituting 22%. None of the respondents indicated other than the given attitudes in coming to work. Figure 5 illustrates the attitude towards going to work of the respondents.

Table 2. Factors causing stress at work

	Very low	Low	Average	High	Very high
Contact with death	5%	44%	23%	22%	6%
Too high responsibility	4%	7%	7%	57%	25%
Pressure of time	1%	2%	32%	60%	5%
Constant contact with harmful substances	86%	12%	1%	1%	0%
Lack of prospects for professional development and promotion	2%	9%	13%	75%	1%
Physical and mental overload with work	0%	1%	50%	33%	16%
Shift work	0%	64%	25%	7%	4%
Strained relations with patients and their parents	0%	0%	2%	68%	30%
Strained relations with other staff	2%	3%	33%	52%	5%
Rivalry among employees	7%	20%	39%	23%	11%
Poor work organisation	54%	12%	26%	8%	0%
Employment uncertainty	87%	2%	11%	0%	0%
Too low remuneration	0%	0%	3%	32%	65%
Lack of resources, equipment and materials needed for work	0%	0%	1%	82%	17%
Necessity of prompt decision making	0%	71%	0%	15%	14%
Monotony	90%	2%	2%	6%	0%

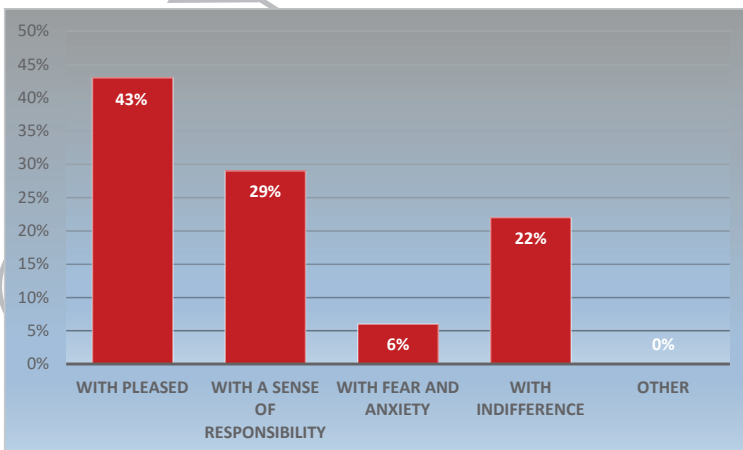


Figure 5. Attitude to going to work

A disturbing fact is that as many as 57% of respondents show dissatisfaction with the conditions in the workplace. Housing conditions, outdated equipment, often the lack of disposable equipment and difficult interpersonal contacts have an impact on the assessment. Every fourth respondent described the conditions as good. This is illustrated in Figure 6.

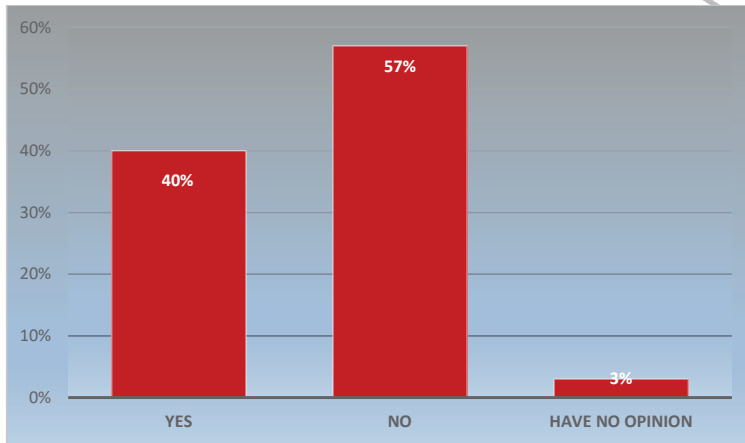


Figure 6. Conditions at work

The declared level of satisfaction with the work performed was usually average or quite high and was awarded 3 or 4 points (42% and 39%). Full satisfaction was recorded only in the case of 6% of respondents, while its complete lack in 2%. Lack of job satisfaction may be related to the lack of satisfaction with the remuneration for the work performed. As much as 88% of respondents admitted the lack of satisfaction with the received remuneration (42% declared dissatisfaction and 46% declared minimal satisfaction). The remaining 12% awarded 3 or 4 points (9% and 3%, respectively). Nobody showed one hundred percent satisfaction with their salary.

Over 86% of respondents did not see any opportunities for promotion (Figure 7).

The desire to help was in 76% of cases an argument for choosing this difficult profession. When choosing, 87% of nurses were aware of being needed. Despite the difficulties of the profession, over 60% of respon-

dents recognised the profession as prestigious. Family relations were not without significance, because about 20% of the respondents chose this profession because of the work of a loved one (Figure 8).

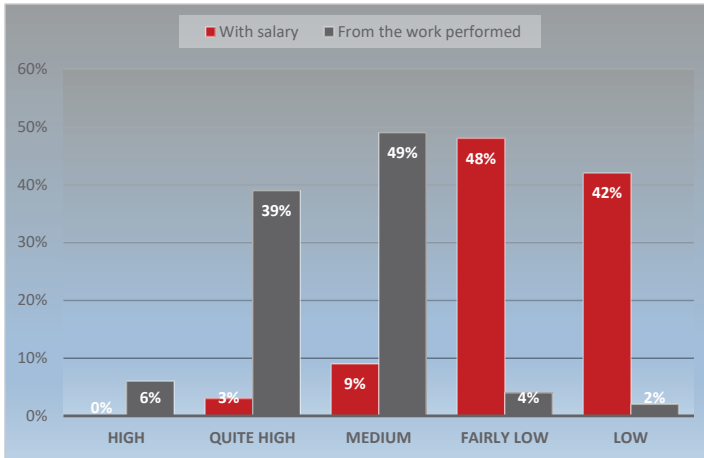


Figure 7. Satisfaction level

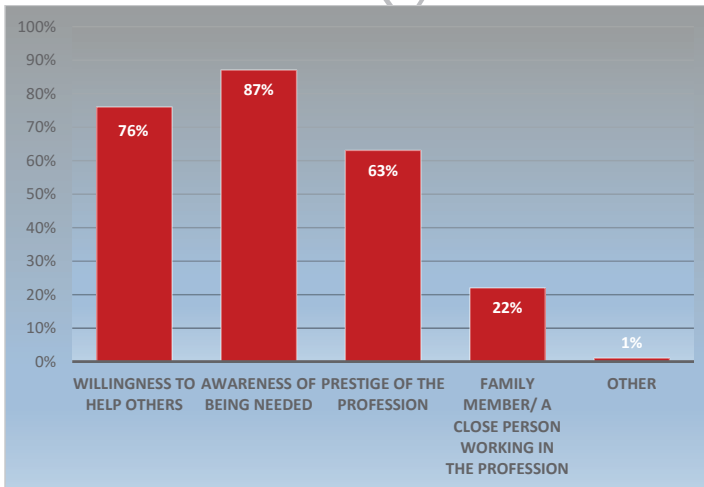


Figure 8. Reasons for choice

Over 50% of respondents said that communication between colleagues was successful. Unfortunately, almost 60% indicated that they are burdened too much. Less than 50% of nurses rated positively the relationship between subordinates and superiors. The most difficult aspect

turned out to be remuneration for work, because 89% considered it inadequate (Table 3).

Table 3. Relations at work

	YES	NO
Is communication between colleagues successful?	52%	
At work, can you count on mutual support?	57%	
Are employees burdened with excess duties?	59%	
Are employee-subordinate relations successful?	46%	
Is the remuneration adequate to the work performed?		89%
Is the responsibility for the tasks performed too high?	38%	

The respondents pointed to the lack of power and energy to work (18%), loss of motivation (11%) as well as fatigue and emotional exhaustion. These symptoms were indicated as occurring frequently. The occurrence of these symptoms has sometimes been determined by more staff (45%, 39% 19%, respectively). 43% of respondents indicated that stress at work affects their personal lives, but more than 50% can distinguish between private and professional life. The manner of answering is given in Table 4.

Figure 9 illustrates the impact of long-term stress on the occurrence of the somatic symptoms set out in the previous question.

81% of respondents believe that long-term perception of work-related stress can affect the occurrence of the symptoms described in the previous question.

An extremely important fact is the possible help in case of failures illustrated by Figure 10. In the event of failures, most respondents can count on the help of a loved one. Only 1% can count on the help of a specialist, and 7% from a superior.

Table 4. Symptoms of burnout

	Never	Rarely	Sometimes	Frequently
Irritation with minor setbacks at work	2%	40%	53%	5%
Lack of faith in one's own abilities	1%	51%	41%	7%
Lack of empathy and indifference in relations with patients	42%	34%	23%	1%
Irritability and lack of patience with patients	2%	49%	42%	7%
Avoiding personal contacts with patients	21%	69%	9%	1%
Inability to concentrate	11%	74%	12%	3%
Mistakes and errors in the performance of tasks at work	1%	84%	13%	2%
Lack of power and energy for work	5%	32%	45%	18%
Loss of motivation	3%	39%	47%	11%
Discouragement to work	27%	41%	28%	4%
Feeling that I'm not good enough	8%	74%	9%	9%
Emotional fatigue and exhaustion	5%	63%	19%	13%
Colds, headaches, infections	1%	47%	50%	2%
Weight loss or overweight	78%	15%	5%	2%
Problems with sleeping	38%	43%	16%	3%
Problems with alcohol and tobacco abuse	94%	4%	2%	0%
Resignation and lack of prospects	20%	65%	6%	9%
Irritability, anxiety, depressive states	10%	63%	21%	6%
Anger and aggression	71%	24%	3%	2%



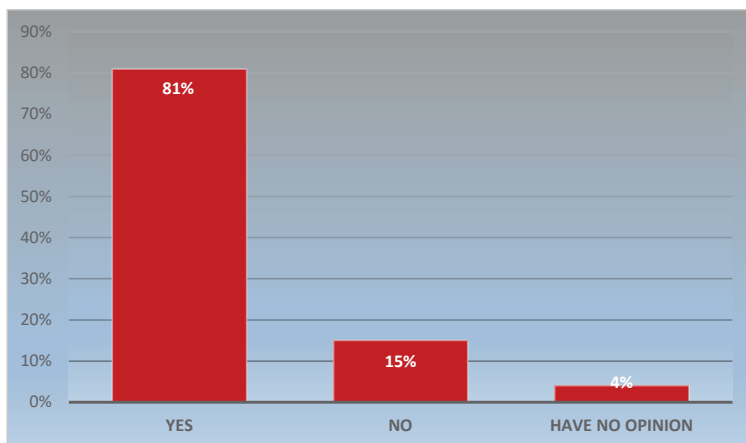


Figure 9. Feeling stress

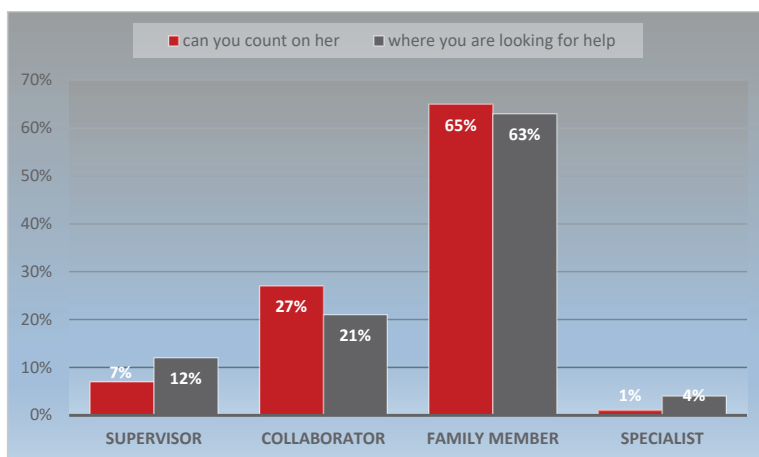


Figure 10. Persons offering assistance to respondents in case of failures

## Discussion

The article is based on an attempt to diagnose stress factors that affect burnout in a group of nurses employed at the University Clinical Hospital of the Medical University of Lodz. The group subjected to the test is homogeneous due to their occupation, but it differs in gender, seniority and age.

The largest group in terms of age are employees between 41 and 50 years of age (39%). The least numerous are people over 51 years of age. 27% of respondents are 20-30 years old. The vast majority of the staff have higher education (68% higher master's, 24% bachelor's). Only 7% are people with secondary education and 1% – vocational.

Most of the respondents have worked for over 11 years (11-15-25%, 16-20-30%), which is more than half of the respondents. Only 5% indicated seniority over 20 years, while extremely short (one year) 1%.

As Mastalerz has stated, work can be a source of satisfaction, but at the same time it can be associated with too high emotional burden, which in fact can lead to burnout.

This study shows that 86% of respondents experience stress at work often or very often. Only 1% described the very rare occurrence of stress at work. None of the respondents gave an answer that confirms that stress never occurred.

The results of Modzelewska and Kulik show that as many as 73.3% of nurses in Lublin hospitals felt stress related to their work [13,14,15].

Importantly, 56% of our respondents, although experiencing stress, do not think it is needed. The results of already published studies show that stress is not affected by the ward in which nurses work [16].

However, important factors determining the level of stress were established. And so, as much as 65% described the lack of adequate remuneration as significant (weight 5). There were as many as 88% people who did not feel satisfied with their remuneration, 42% of which declared low satisfaction, and 46% minimum. Basińska's research has shown that low remuneration is a stress factor for staff and can lead to frustration and dissatisfaction [17].

In the 21st century, the selection of equipment and resources by the workplace seems simple. However, 82% of respondents admitted that the lack of the above also causes dissatisfaction, and sometimes can cause stress. Other factors listed by the respondents were too high responsibility (57% weight 4), interpersonal relations with the patient and their family (68% – 4) and contact with death (44% – 4).

The latter is inseparable in the work of a nurse.

What may seem irrational is that 71% of respondents do not see making quick decisions as a stress factor.

Professional promotion turned out to be an important factor for the respondents, but it was poorly assessed by 86% of respondents, which may suggest the lack of possibility and transparency of a possible promotion. Nursing staff has developed a separation of the professional and personal sphere. 58% of respondents claim that they can separate these spheres.

## Conclusions

1. This study has proven that stress is an inherent process in the work of a nurse. 86% of respondents said they felt stress.
2. Based on the respondents' answers, the inadequate remuneration, high responsibility, lack of work equipment, lack of promotion opportunities should be considered the most important stress factors.
3. Interpersonal relationships with the patient and their family can affect the feeling of stress.
4. The choice of this profession was motivated by the will to help others and the recognition of this profession as prestigious.
5. The promotion system is not transparent (86% of respondents assess poorly their chances of promotion).
6. Despite the difficulties of the profession, most of the respondents go to work with satisfaction or sense of duty.
7. 43% of staff felt the negative impact of stress on private life.

Occupational burnout refers to the state of exhaustion of the body. The article discusses the definition and conceptualization of the concept. Although both occupational burnout and engagement are associated with important work-related outcomes, burnout appears to be more strongly associated with health outcomes, while engagement with work is more closely associated with motivational outcomes [18].

Burnout is considered a socio-cultural concept or set of symptoms. They were considered a professional syndrome associated with unemployment and employment. From the beginning of 2022, it will be possible to get sick leave for this condition. According to the International Statistical Classification of Diseases (ICD-11) maintained by the World Health Organization, burnout can be diagnosed [19]. We know, after all, that this phenomenon is multidimensional, because it changes the employee's behaviour, affects their attitude and interrelationships with people, and affects their health.

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