Stress Factors among Nurses at the Primary and Secondary Level of Public Sector Health Care: The Case of Slovenia

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Abstract

BACKGROUND: Working in nursing is mentally and physically demanding and is one of the most stressful professions.

AIM: To determine the basic causes of stress and examine the symptoms of stress among healthcare professionals at the primary and secondary level of health care.

MATERIAL AND METHODS: The research was based on the descriptive and causal non-experimental method of empirical research. The independent samples t-test was used.

RESULTS: The survey results have shown that those employed in nursing are exposed to stressful situations on a daily basis, most often involving psychological or physical violence in the workplace (M = 4.2), dealing with death (M = 3.9), lack of personnel (M = 3.9) and a high frequency of patients (M = 3.8). The following stress factors cause women greater stress than they do men: relationships among co-workers (t = 2.745; p = 0.006), psychological or physical violence in the workplace (t = 3.492; p = 0.001), and working with difficult patients (t = 2.427; p = 0.017).

CONCLUSION: To manage risks, employees and employers must work together and establish a suitable safety and organisational culture, which would enable them to manage and reduce stress.

Introduction

Stress affects all of us and is very common in organisations within the health care system, particularly in those that experience rapid changes and have a poor communication network [1]. Besides work processes, another important element is the organisation of work, and of resources, which can have a significant impact on the quality of work, on productivity, creativity, competitiveness, nursing care outcomes, and on ensuring patients’ safety [2]. Other important elements are a professional liability, unfavourable working conditions, workload, working in shifts (this is unique to nurses working in secondary health care in Slovenia), working at night, poor interrelationships, a lack of information, accidental cuts and stabs, etc. [3][4][5].

Stress affects a person’s psychophysical balance and their personality as a whole, which is reflected in their personal lives on the physical, emotional, psychological and social level, and, in the case of those employed in healthcare, also in their attitude towards patients [6]. In their line of work, nurses establish a wide range of relationships with patients and their relatives, which generate different types of tension that may lead to various stressful situations [7].

Despite the fact that nurses often notice a lack of respect from doctors, and that their knowledge and skills are underestimated [11], they are nevertheless expected to provide humane, compassionate, culturally sensitive, competent and ethical nursing care [12]. Hence, nurses have found themselves in an increasingly difficult, demanding and delicate situation, which is evident from the growing complexity of nursing interventions and the growing needs of patients on the one hand, and the demand for quality health care services on the other [13]. They begin to show emotional signs of stress (despair, concern, irritability, angry outbursts, dissatisfaction, oversensitivity, lack of self-respect and energy, fear, depression, etc.), as well as intellectual and mental signs of stress (feeling of incompetence, incompleti
of tasks, trouble concentrating, inability to think clearly, irrationality, unreasonable decisions, etc.) [14][15].

Due to their professional empathy towards those in need of help, nurses are exposed to stress factors on a daily basis. Events in their relative form trigger impulsive reactions, and after prolonged exposure, these often lead to the phenomenon known as burnout [18]. Situations which may lead to burnout in the workplace are: an excessive workload, which is increasing with the faster work tempo; intense and complex work; insufficient or strict supervision of work; an inadequate remuneration system; a lack of honesty; value conflicts; hindering professional development, etc. [13][19][20][21]. The burnout of nurses is also the result of particularly demanding, conflictive, harder-to-manage patients, as well as of the terminally ill, with whom the staff has frequent contacts and through whom they confront suffering and dying [22][24].

There are many stress and burnout prevention measures, strategies and techniques, which enable individuals to alter their perception, attitudes and behaviours to preserve their health and well-being. The main ones are [25]: cognitive restructuring, constructive monologue, time management, social support, assertiveness training, coaching, supervision, etc. Some authors [26][28][29][30] also highlight the role of organizations and the measures they take, such as: stress and burnout analysis and evaluation for the purpose of determining the factors of stress and burnout within the organization; programmes for improving the physical and mental fitness of employees; reallocation of employees to more suitable posts; an appropriate strategy of introducing occupational safety and health; social responsibility; establishing a suitable organizational culture; risk management; seminars and workshops on the topic of stress and burnout in the workplace, etc.

The main objective of this research study was to establish the basic causes of stress and examine the symptoms of stress and burnout among nurses in primary and secondary healthcare. The following research questions were asked:

1. Which factors most often cause nurses workplace stress?
2. How does stress affect the quality of nursing performance?
3. Which methods and techniques for reducing or eliminating stress do nurses use?
4. Are there any statistically significant differences between the two groups of respondents (primary and secondary health care) in the factors that most often cause workplace stress?

Material and Methods

Study Design

The research was based on a descriptive and causal non-experimental work method. A questionnaire was used as the data collection method. The questionnaire was prepared based on a review of the literature [4][5][6][16][21] and adapted to the needs of the present study. The questionnaire consisted of nine closed-ended questions, which were divided into the following sets:

- Question about stress factors in the workplace: The respondents were offered 20 stress factors, which they rated on an attitude scale based on the level of stress they were causing them. The nurses rated the items on an attitude scale, ranging from 1 to 5, with 1 meaning “never”, 2 “rarely”, 3 “occasionally”, 4 “often” and 5 “always”.
- Question about the impact of stress on the quality of nursing performance: The respondents were offered 10 different methods/reactions to stressful situations in the workplace, which they rated on an attitude scale based on how the method/reaction was affecting their nursing performance. The nurses rated the items on an attitude scale, ranging from 1 to 5, with 1 meaning “never”, 2 “rarely”, 3 “occasionally”, 4 “often” and 5 “always”.
- Question about the methods and techniques for reducing or eliminating stress: The respondents were offered 11 methods or techniques for reducing or eliminating stress. They could circle multiple answers.
- Questions about the sample’s demographic characteristics: gender, age, education, length of service, the area of work, job satisfaction.

Participants

The survey was conducted among 370 nurses (14% male, 86% female) – according to data from Nurses and Midwives Association of Slovenia [34]. This ratio equals the Slovenian average of gender representation in nursing. 30% of them were between the ages of 31 and 40; 25% were under 30 and between 41 and 50, respectively; and 20% were 51 and over. 64% of them were nurses with a bachelor’s degree, 19% were nurses who have completed
secondary school, 12% had a master’s degree in medicine or nursing, and 5% were nurses who have completed a short-cycle college. The majority (32%) had up to 10 years of service, 26% from 11 to 20 years of service, and 21% from 21 to 30 years of service and 31 or more years of service, respectively. 65% of them were employed in primary health care and 35% in secondary health care. 36% of them were very satisfied with the work they were doing; 56% of them were satisfied; 6% were undecided; 2% were dissatisfied, but no one was very dissatisfied.

Data Analysis

The survey was conducted online using the sampling method for social networks – snowball sampling. The method’s strength lies in the fact that it is the best and cheapest way to contact the target population.

All respondents participated voluntarily and anonymously in June and in the first half of July 2017.

The research complies with the ethical principles of researching and protecting collected data (the personal data of respondents was not connected with the answers, which prevented us from identifying them with the published results; moreover, the data was used solely for research purposes and not for subsequent non-research purposes which would violate the dimension of information privacy).

Results were described with absolute and relative frequencies. To analyse the differences in stress factors between both groups of respondents (women – men; primary health care – secondary health care), the results were verified with the independent samples t-test. These differences were confirmed with a 5% probability of error.

The data were processed using the SPSS 23.0 statistical software package. The reliability of the attitude scale regarding the frequency of stress factors was confirmed by Cronbach’s α with a value of 0.815; regarding the impact of stress on the quality of nursing performance the value was 0.780; and 0.770 regarding the methods and techniques for reducing or eliminating stress.

Results

The study began by taking a look at the factors that most often cause nurses workplace stress. The survey results show that the following factors cause them the greatest stress: psychological or physical abuse in the workplace (M = 4.2), being confronted with death (M = 3.9), a lack of material resources (M = 3.9), and a high frequency of patients (M = 3.8). They are caused moderate stress by exposure to infection (M = 3.5), working at night (M = 3.2), their working hours (M = 3.1), working conditions (M = 3.1), low pay (M = 2.9), working with difficult patients (M = 2.8), and poor work organization (M = 2.5). They are caused minor stress by relationships between the management and employees (M = 2.2), a lack of material resources (M = 2.2), administrative work (M = 2.2), relationships among co-workers (M = 2.1), and a lack of training (M = 2.1). They consider the following to be the least stressful factors: the social security of their jobs (M = 1.8), diversity of work (M = 1.7), working overtime (M = 1.7) and work suited to their abilities (M = 1.5) (Fig. 1).

Afterwards, the study tried to determine how stress affects the quality of nursing performance. The results of the analysis (Fig. 2) show that stress affects nurses in different ways. Most of them have trouble concentrating (M = 4.1), become unmotivated to work (M = 3.4), and enter into conflicts with patients (M = 3.4).

Some of them also commit malpractice (M = 3.2), get angry towards patients (M = 3.2), become unfriendly towards patients (M = 3.2), and enter into
conflicts with co-workers (M = 3.1). Despite stressful situations, only a minority of them fail to do their job (M = 2.9), rarely enter into conflicts with management (M = 2.2), and make unreasonable decisions (M = 2.1).

The study was also interested in the methods and techniques they use for reducing or eliminating stress. They could choose multiple answers (Fig. 3).

![Figure 3: Methods and techniques for reducing or eliminating stress](image)

The survey results show that nurses most often reduce or eliminate stress through talks (82%) and rest (65%). Some of them also decide to watch TV (28%), be physically active (25%), read (24%), eat healthily (18%), listen to music (15%) and relieve stress by smoking, consuming caffeine or alcohol (15%). Only 4% decide to meditate and 2% to do yoga.

An independent samples t-test was used to verify if there were any statistically significant differences between genders in the variables that measure individual dimensions of stress factors.

**Table 1: T-test for checking for differences in stress factors between genders**

| Stress factor                        | Gender     | n  | M   | t    | p     |
|--------------------------------------|------------|----|-----|------|-------|
| Relationships among co-workers       | Male       | 52 | 1.91| 2.745| 0.006 |
|                                     | Female     | 318| 2.11|      |       |
| Psychological or physical violence   | Male       | 52 | 3.90| 3.492| 0.001 |
| in the workplace                     | Female     | 318| 4.51|      |       |
| Working with difficult patients      | Male       | 52 | 2.2 | 2.427| 0.017 |
|                                     | Female     | 318| 3.25|      |       |

The results of the analysis show that there are statistically significant differences between genders in the variables that measure individual dimensions of stress factors.

**Table 2: T-test for checking for differences in stress factors between nurses working at the primary and secondary level of health care**

| Stress factor                        | Level of healthcare | n  | M   | t    | p     |
|--------------------------------------|--------------------|----|-----|------|-------|
| dealing with death                   | Primary level      | 240| 3.3 | 2.926| 0.003 |
| psychological or physical            | Secondary level    | 130| 4.5 | 2.454| 0.003 |
| violence in the workplace            | Primary level      | 240| 4.4 | 2.678| 0.014 |
| working with difficult patients      | Secondary level    | 130| 3.6 | 1.411| 0.011 |
| exposure to                         | Primary level      | 240| 3.2 | 1.702| 0.009 |
| infection                           | Secondary level    | 130| 3.8 |      |       |
| working nights                       | Primary level      | 240| 2.5 | 2.941| 0.003 |
| a high frequency of patients         | Secondary level    | 130| 4.0 |      |       |
| lack of personnel                    | Primary level      | 240| 3.6 | 3.131| 0.002 |
|                                   | Secondary level    | 130| 4.2 |      |       |
| working hours                        | Primary level      | 240| 2.4 | 3.108| 0.006 |

The results of the analysis show that there are statistically significant differences between nurses working in primary and secondary health care in the following factors: being confronted with death (t = 2.962; p = 0.003); psychological or physical abuse in the workplace (t = 2.454; p = 0.003); working with difficult patients (t = 2.678; p = 0.014); exposure to infection (t = 1.411; p = 0.011); working at night (t = 1.702; p = 0.009); a high frequency of patients (t = 2.941; p = 0.003); a lack of staff (t = 3.131; p = 0.002); working hours (t = 3.108; p = 0.006). These factors are much more stressful for nurses working in secondary health care.

**Discussion**

The first research question inquired about the factors that most often caused nurses stress in the workplace. It was discovered that nurses rated psychological or physical abuse, being confronted with death, a lack of staff, a high frequency of patients, and exposure to infection as highly stressful factors in the workplace. Other researchers [8][12][31] have reached similar conclusions, since the results of their research show that nurses experience stress due to: a lack of staff and the resulting excessive workload, highly demanding work and tasks, too high expectations from and inappropriate attitudes of superiors, poor work organization, and not getting along with co-workers. According to the latest Slovenian research study [23], conducted among nurses in secondary health care, the most stressful factors are low pay, poor interpersonal relationships in the workplace, and psychological or physical abuse in the workplace. Similar results were reached by researchers in China [17], where it was discovered that stress among head nurses and senior nurses was caused by factors such as the nursing profession and
work-related issues; time allocation and workload problems; working conditions and equipment problems; patient care issues; and management and interpersonal problems.

The management of workplace stress is one of the key elements in ensuring the health and well-being of nurses because healthy and satisfied employees are the capital of every health care institution. The signs of stress are difficult to recognise at first since they appear in different areas of their everyday lives [32]. Magnusson and Gooding [18] have established that stress has the biggest impact on those working in the helping professions because they are working in highly emotionally demanding situations, in which they are confronted with people's problems and pain on a daily basis.

All of these situations influence the quality of the work they are performing. The second research question inquired about how stress was affecting the quality of nursing performance. It was discovered that in stressful situations nurses have trouble concentrating, are unmotivated to work, and enter into conflicts with patients and co-workers. Jeričič and Kersnič [11] list the following effects of stress: an increase in workplace injuries and errors in judgement; feeling incapable of carrying out tasks correctly; diminished productivity; a decline in motivation; inability to carry out tasks correctly; poor job performance; and insensitivity to other people's needs. The present research study has reached similar conclusions, considering that the respondents have stated that the (low) quality of their nursing performance is affected by diminished concentration on work and a lack of motivation to work and that they commit malpractice, are unfriendly towards patients, and get angry.

Kaučič [12] warns that stressful situations, which may lead to workplace burnout, reduce the critical-thinking, problem-solving and decision-making skills of nurses. Those affected by stress try to overcome their problems by resorting to alcohol, narcotics and smoking, which makes matters even worse. Bilban and Pšeničny [2] add that the nurses who ignore signs of fatigue and stress and increase their activity further by "running" to workaholism, intensify their exhaustion into burnout. It is, therefore, necessary to teach nurses the skills to overcome stress, which act as protection against emotional exhaustion, stress and burnout [21]. Sometimes, they also need help from a psychologist [33]. There are many stress prevention strategies and techniques which enable individuals to alter their perception, attitudes and behaviours to preserve their health and well-being [9][25]. The survey results (third research question) show that the methods and techniques nurses most often use to reduce or eliminate stress are talks and rest, while they only rarely use yoga and meditation.

The study also answered the fourth research question about whether there were any statistically significant differences between the two groups of respondents (women, men) in the factors that most often cause workplace stress. The results of the analysis show that relationships among co-workers, psychological or physical abuse in the workplace, and working with difficult patients are much more stressful factors for women than they are for men. Jennings [10] reached similar results and added that the family-work conflict about stress, burnout, and well-being indicated the importance of considering both work and family spheres. Her study may have particular relevance for nursing because the profession is predominately female.

The fifth research question inquired about whether there were any statistically significant differences between the two groups of respondents (primary and secondary health care) in the factors that most often cause workplace stress. It was concluded that for the surveyed nurses employed in secondary health care the factors of being confronted with death, psychological or physical abuse in the workplace, working with difficult patients, exposure to infection, working at night, a high frequency of patients, a lack of staff, and working hours (t = 3.108; p = 0.006) were more stressful than for the nurses employed in primary health care. So far, no in-depth research has been conducted into the differences in stress factors among nurses employed in primary and secondary healthcare in Slovenia. After reviewing the literature, Ščuka [27] discovered that absenteeism is on the rise in the public sector in Slovenia; it is three times higher than absences from work in the commercial sector, with as many as 38% of employees experiencing excessive stress at work.

**Study Limitations, Guidelines for Further Research and Suggestions**

This study has certain limitations, which is why its results cannot be generalised to the entire population of nurses in primary and secondary healthcare; the participating nurses were selected in a way that does not guarantee representativeness. However, the research findings may serve as a starting point for further research into this field.

It would be sensible to conduct a longitudinal study, which would compare the impact of stress on the quality of nursing performance about the nurses' length of service and their use of methods and techniques for reducing or eliminating stress, both in primary and secondary healthcare. Considering that no in-depth research has been conducted into the differences in stress factors among nurses employed in primary and secondary healthcare in Slovenia, it would be wise to devote more attention to this segment of research in the future.
We must provide employed nurses with a safe working environment, improve their work method, clearly define the roles of individuals in a healthcare institution, improve the organisational climate and communication among employees, and shape strategies for improving motivation in the workplace. But above all, we must teach them how to identify and eliminate or reduce stressful situations, how to cope with stress, and offer them support when they are already exposed to stress and perhaps also suffering the consequences [14]. The greater the number of individuals in a nursing team who are in control of themselves and aware of their stress factors and of their reactions to them, the more they change the culture of the entire healthcare team. Nowadays, we are striving towards an organisational culture in which mutual respect and assertive behaviour are predominant [12].

In connection with the above, we propose that nurses in primary and secondary healthcare are provided compulsory and continuous supervision, lectures and expert workshops on raising awareness about which measures to take when stressful situations arise, led by experienced experts with psychotherapeutic knowledge. It may prove effective to improve working conditions, show moderation in standardizing the work of nurses and how they maintain control over their work, reduce the number of patients in the care of a single nurse, allow a suitable amount of time to administrative work (work on a computer), clearly define a nurse’s competencies, etc.

The management of all healthcare institutions should clearly define strategies for reducing stress depending on the size of the institution and the financial resources at its disposal, e.g.: programmes for improving well-being in the workplace, introduction of relaxation techniques as part of job training (autogenic training, yoga), including a list of measures for ensuring proper safety at work and consequently protecting the health of nurses. Health care institutions, and patients, in particular, benefit the most from a healthy and rested nurse because her efficiency and productivity are increased, the number of work-related mistakes are reduced, sick leaves are rarer and shorter, and burnout does not occur. By introducing said strategies, we would not only reduce the stress-related illness rate among nurses but would also significantly raise the quality of their work.

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