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Direct psychosocial health risk factors in hospital employees: A descriptive study

Direktni psihosocialni dejavniki tveganja za zdravje zaposlenih v bolnišnici: opisna raziskava

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ABSTRACT

Introduction: In the work environment, employee health is influenced by indirect and direct psychosocial risk factors which determine employee productivity and efficiency. The aim of the study was to determine the strength of the association and the influence of direct risk factors in the workplace on the psychophysical health of hospital employees.

Method: A survey was conducted among a group of 112 out of 994 randomly selected general hospital employees. A standardised questionnaire on managing psychosocial risks and absenteeism (Cronbach $\alpha = 0.915$) was used as the measurement instrument. We used quantitative data analysis to determine the correlations between the variables and regression analysis to determine the strength of the influence of the independent variables on the psychophysical health of hospital employees.

Results: Respondents most frequently reported pain in the muscles of the shoulders, neck and/or upper limbs ($n = 44$, 39.3%), and feeling overburdened and fatigued ($n = 52$, 46.6%). Four of the six direct psychosocial risk factors were significantly correlated with hospital employees' psychophysical health: work environment, work equipment and physical exertion ($r_s = 0.385$, $p < 0.01$); stress resulting from socio-demographic circumstances ($r_s = 0.401$, $p < 0.01$); pace of work ($r_s = 0.319$, $p < 0.01$); and work relationship with superiors ($r_s = 0.261$, $p < 0.01$). Psychophysical health was found to be significantly associated with ($R^2 = 0.18$, $p < 0.01$) work environment, work equipment and physical exertion ($R^2 = 0.15$, $p < 0.05$), as well as stress resulting from socio-demographic circumstances ($R^2 = 0.08$, $p < 0.05$).

Discussion and conclusion: Respondents need more direct supervision, consideration of their opinion in decision-making at the organisational level and more flexibility in terms of time constraints at work. It was found that the feelings of being overburdened and fatigued were mainly due to working night shifts, and that the most common health problem – neck, shoulder and arm pain – was due to heavy lifting and insufficient breaks from work.

IZVLEČEK

Uvod: V delovnem okolju na zdravje zaposlenih vplivajo indirektni in direktni psihosocialni dejavniki tveganja, ki določajo storilnost in učinkovitost zaposlenega. Namen raziskave je bil ugotoviti moč povezanosti direktnih dejavnikov tveganja pri delu na psihofizično zdravje zaposlenih v bolnišnici.

Metode: Izvedena je bila presečna raziskava na 112 izmed 994 naključno izbranih zaposlenih v splošni bolnišnici. Kot merski instrument je bil uporabljen vprašalnik *Obvladovanje psihosocialnih tveganj in absentizma* (Cronbach $\alpha = 0,915$). S kvantitativno analizo podatkov je bila raziskana povezanost med spremenljivkami in z regresijsko analizo moč neodvisnih spremenljivk na psihofizično zdravje zaposlenih.

Rezultati: Anketiranci so izmed težav z zdravjem najpogosteje navedli bolečine v mišicah ramen, vratu in/ali zgornjih udih ($n = 44$, 39,3 %), počutijo se preobremenjeni in utrujeni ($n = 52$, 46,6 %). S psihofizičnim zdravjem zaposlenih se značilno povezujejo štirje od šestih direktnih psihosocialnih dejavnikov tveganja, in sicer so ti delovno okolje, delovna oprema in fizične obremenitve ($r_s = 0,385$, $p < 0,01$); obremenitve kot posledica sociodemografskih okoliščin ($r_s = 0,401$, $p < 0,01$); delovna obremenitev in hitrost poteka dela ($r_s = 0,319$, $p < 0,01$); in; odnos zaposlenega z nadrejenimi ($r_s = 0,261$, $p < 0,01$). Psihofizično zdravje pojasnjujejo ($R^2 = 0,18$, $p < 0,01$) delovno okolje, delovna oprema in fizične obremenitve ($R^2 = 0,15$, $p < 0,05$) ter obremenitve kot posledica sociodemografskih okoliščin ($R^2 = 0,08$, $p < 0,05$).

Diskusija in zaključek: Anektirani potrebujejo več neposrednega nadzora, boljše upoštevanje njihovega mnenja pri odločanju na nivoju organizacije in večjo prilagoditev časovnih rokov pri delu. Preobremenjenost in utrujenost izhajata predvsem iz nočnega dela, najpogostejša težava z zdravjem – bolečine v vratu, ramenih in rokah – pa je povezana z dvigovanjem bremen in prekratki odmori med delom.

Introduction

Psychosocial risk factors in the workplace affect all employees regardless of their position, staffing levels or the activity of their work establishment (Kralj et al., 2011). Direct psychosocial risks in the workplace include physical, chemical and biological risks arising from the work environment, work equipment and level of physical exertion, content of work, workload, pace of work, work schedule, employees' work relationship with their superiors, and stress arising from employees' socio-demographic circumstances. The work environment in health care is one of the most hazardous work environments, as workers are exposed to excessive workloads and physical exertion, a fast pace of work, an unstable schedule and lack of appropriate equipment (Šprah & Dolenc, 2014). In health care, work often takes place in an unhealthy work environment characterised by disordered employee relations, poor communication, conflict, violence, disrespect, resistance to change, lack of understanding, and harassment. Health professionals are frequently affected by lack of breaks during work, inappropriately scheduled work days, insufficient help from their superiors, and high work intensity. Such unhealthy work environments increase the risk of illness and injury (Ritter, 2011; Andersen, Lønning, Bjørnevl, & Fagerstör, 2016).

The work of nurses carries even more risk due to physical exertion, heavy lifting, poor workplace ergonomics and inadequate work equipment. Psychosocial risks for nurses also arise from unpredictable work schedules, shift and night work, and the lengthening of working days, which can lead to sleep deprivation and fatigue and can result in profound health changes, higher incidence of errors and absenteeism (De Oliveira et al., 2014; Peršolja, Mišmaš, & Jurdana, 2018).

For employees to feel well, both physically and mentally, their work environment should be well organised (Galletta, Portoghese, Ciuffi, Sancassiani, D' Aloja, & Campagna, 2016). A safe work environment is one which provides training and knowledge enhancement and ensures adequate and appropriate work equipment (Er & Sokmen, 2018). Managers play an important role in this regard, as they can motivate employees to undergo medical check-ups and support them in protecting their health and well-being during the workday (Čehovin Zajc & Kohont, 2017). Moreover, a healthy work environment increases nurses' productivity, enhances their well-being and reduces stress and burnout rates (Er & Sokmen, 2018). One of the challenges for work establishments is therefore to create an appropriate and healthy work environment which will result in the required level of work performance, efficiency and productivity (Raziq & Maulabakhsh, 2015).

Aims and objectives

The aim of the study was to identify the direct psychosocial risk factors for employee health so as to determine the strength of their correlation with general hospital employees' psychophysical health. We focused on direct risk factors such as workload and pace of work, work schedule, content of work, work environment, work equipment and physical exertion, stress resulting from employees' socio-demographic circumstances and employees' work relationship with superiors. Our main research question was as follows: To what extent are direct psychosocial risk factors associated with the psychophysical health status of hospital employees?

Our additional research questions were as follows:

- How are workload and pace of work related to the employees' psychophysical health status?
- How is the work schedule related to the employees' psychophysical health status?
- How is the content of work related to the employees' psychophysical health status?
- How are the work environment, work equipment and physical exertion related to the employees' psychophysical health status?
- How is the stress resulting from socio-demographic circumstances related to the employees' psychophysical health status?
- How is employees' work relationship with superiors related to their psychophysical health status?

Methods

We used a descriptive quantitative method, in which data were collected by means of a cross-sectional questionnaire.

Description of the research instrument

The measurement instrument used was the freely available standardised survey questionnaire *Orodje za obvladovanje psihosocialnih tveganj in absenzizma/ Tool for the management of psychosocial risks and health-related absenteeism* (OPSA) (Šprah & Dolenc, 2014), a closed-type questionnaire containing 141 questions. The OPSA instrument was shown to be reliable (Cronbach $\alpha = 0.915$).

The questionnaire consists of two parts. The first part contains socio-demographic and medical data (Table 1). The questions in the first part of the questionnaire are of the closed type. The second part of the questionnaire consists of 130 statements measuring psychosocial stress in the respondents' work establishment. Respondents indicate their answers on a five-point Likert scale (1—Strongly Disagree or Does not Apply to Me ; 2—Slightly Agree or Seldom Applies to Me ; 3—Somewhat Agree or Sometimes Applies to Me. ; 4—Quite Agree or Often

Table 1: *Indices and variables included*

<i>Index</i>	<i>Variables</i>
Socio-demographic data	Gender; age; level of educational attainment; region of residence and whether place of employment is in the respondent's region of residence
Health data	Hearing problems; vision problems; skin conditions; spinal problems; lower limb muscle pain; digestive disorders; respiratory problems; cardiovascular disorders; hormonal disorders; metabolic disorders; injuries; mood disorders; neurological disorders and other problems; reason for and duration of sick leave, long-term health problems (overwork, fatigue, lack of energy, exhaustion, communication problems, insomnia); the impact of these problems on the performance of daily activities; work-life balance; satisfaction with current health status; desire to change jobs or employers.
Psychophysical health	I feel anxious, worried or irritable; I have frequent or persistent physical pain or suffer from a chronic physical illness; due to my feelings of persistent sadness, excessive anxiety and distress, I have already considered or sought professional help; I have poor immunity to illness.
Workload and pace of work	The scope of my work tasks is limited; I perform several different work tasks at the same time; my work is very demanding; the scope of my work tasks is extensive; my work involves working under tight time constraints; my pace of work depends on how quickly or qualitatively the work is done by my colleagues; my work establishment has unrealistic expectations of me in terms of the amount of work I have to do; my employer assigns me additional work on top of my regular work.
Work schedule	I work shifts; my working hours are longer than eight hours; I work night shifts; my working hours are unpredictable; I have too few breaks during work; I have few opportunities to leave the workplace during working hours.
Content of work	My work is not demanding; my work routines change constantly; my work is monotonous or involves little work task variety; I face unforeseen difficulties at work; my work tasks change frequently; I have to participate in raising financial resources to receive a full salary or to keep my job.
Work environment, work equipment and physical exertion	I am exposed to harmful environmental factors (noise; heat; cold; gases; fumes; dust; vibrations; glare); at work, my posture is restricted for long periods of time (sitting; standing); I have already witnessed a serious work accident or injury to a colleague at my workplace; I have difficulty accessing my work or protective equipment or it is poorly maintained; there are many people in my work area; there is a high likelihood of work-related accidents occurring at my workplace (working at heights; working on construction sites; working in transport); I lift heavy loads at work; my work involves repetitive movements; I have already had an accident or sustained an injury at my workplace; my work also takes place outdoors; my work procedures are dangerous (e.g. the use of force).
Stress resulting from socio-demographic circumstances	My salary is not enough to meet my personal needs; my financial situation is poor; my living conditions are poor (small apartment; no sanitary facilities; no central heating; it takes me a long time to reach the workplace from my home due to poor transport links; the nearest health facility is very far from my place of residence; I am heavily in debt; it seems to me that there is a general insecurity in society which affects my work and well-being; the kindergarten is far from my home and that of my child).
Work relationship with superiors	I feel that my work is overly controlled by my superior or employer; I have little influence on decision-making in my work establishment (in terms of work schedule, colleagues, work tasks, business policies); if a problem arises at work, I have few options to solve the problem and even these are predetermined; I have little control over the content, schedule and pace of work.

Applies to Me; 5—Strongly Agree or Always Applies to Me). The second part of the questionnaire covers psychosocial stress, which is divided into seventeen areas. These areas are further divided into direct and indirect health risks. For the purpose of this study, statements referring to direct risk factors for employee health were used (Table 1).

Description of the sample

The target population was the employees of a general hospital ($n = 994$) who were at work at the time of the

survey. The sample size was calculated to at least 112 subjects with a risk of 5 per cent. The sample was based on random selection and included 130 respondents, i.e. 13.1% of all employees. A total of 113 questionnaires were returned, i.e. 86.9% of the total distributed questionnaires, of which 112 (86.1%) were correctly and fully completed, and were therefore included in the analysis.

In total, 88 women (78.6%) and 24 men (21.4%) participated in the study. Most respondents had secondary school ($n = 37$, 33%) or higher vocational school ($n = 37$, 33%) qualifications. The majority of respondents ($n = 98$, 87.5%) were between 18 and 50

years old and lived ($n = 99$, 88.4%) in the same region where they were employed.

Description of the research procedure and data analysis

Respondents were informed about the procedure of the study, the possibility of refusing to participate, and anonymity. The study was conducted at the selected institution through personally delivered paper questionnaires in October and November 2018. Questionnaires were distributed to randomly selected employees who were at work on the day of the survey. The completed questionnaires were collected in closed envelopes in a postbox at an internally agreed location.

Statistical data analysis was conducted using SPSS 23.0 for Windows. The characteristics of the sample are represented by frequency (n) and proportion (%), as well as the mean (m) and standard deviation (s). The assessment of the normality of data distribution, which was calculated using the Kolmogorov-Smirnov and Shapiro-Wilk tests, showed an uneven distribution for most variables. We therefore performed a Spearman correlation analysis to determine correlations, as well as a regression analysis. The level of statistical significance was set at $p < 0.05$. We used Microsoft Excel 2010 to design the charts and tables.

We determined the independent and dependent variables by compiling new variables (indices) from a large number of variables measuring the same concept. The newly obtained variables are of the interval type. The psychophysical health of the respondents was considered as a dependent variable.

Results

Almost one third of the respondents ($n = 31$, 27.7%) had been on sick leave in the past 12 months, of whom there were 26 women (83.9%) and five men (16.1%). For 40.6% ($n=13$) of the respondents, the sick leave had lasted between fifteen and 30 days, 25% ($n=8$) of the respondents had been on sick leave for up to six days, and two (1.8%) had been on sick leave for more than one month.

In the last 12 months, respondents had most frequently experienced pain in the muscles of the shoulders, neck and/or upper limbs ($n = 44$, 39.3%), as well as spinal problems ($n = 39$, 34.8%) (Figure 1). Pain in the muscles of the shoulders, neck and/or upper limbs is associated with lifting loads ($r_s = 0.247$, $p = 0.009$).

Respondents reported a variety of long-term health conditions. Feeling overburdened and fatigued was reported most frequently ($n = 52$, 46.6%), followed by lack of energy and exhaustion ($n = 43$, 38.4%). Feeling overburdened and fatigued was found to be significantly associated with working night shifts ($r_s = 0.266$, $p = 0.005$) and with insufficient number of breaks from work ($r_s = 0.199$, $p = 0.036$). Similarly, exhaustion and lack of energy are associated with insufficient breaks from work ($r_s = 0.229$, $p = 0.015$) and insufficient number of permitted departures from the workplace ($r_s = 0.236$, $p = 0.012$). Despite these issues, respondents were satisfied with their health, for as many as 62.5% ($n = 70$) answered this question with 4 — I am satisfied with my health or 5 — I am very satisfied with my health (on a scale of 1 to 5) ($m = 3.62$, $s = 0.903$).

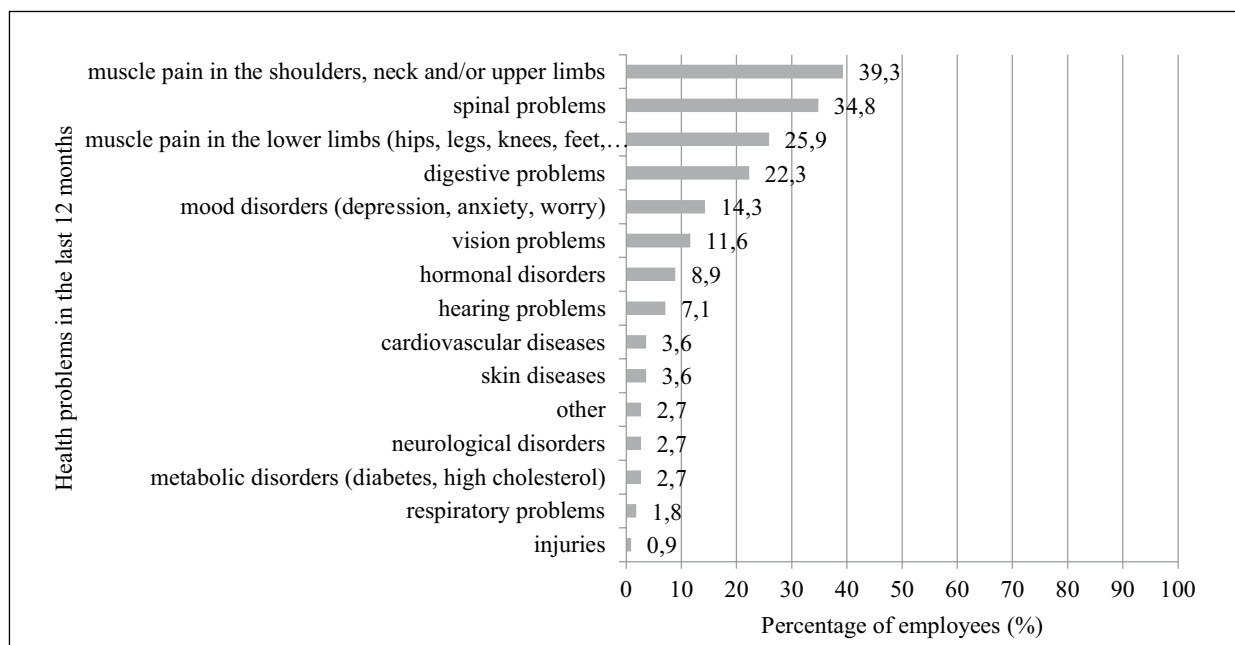


Figure 1: Employees' health problems in the last year

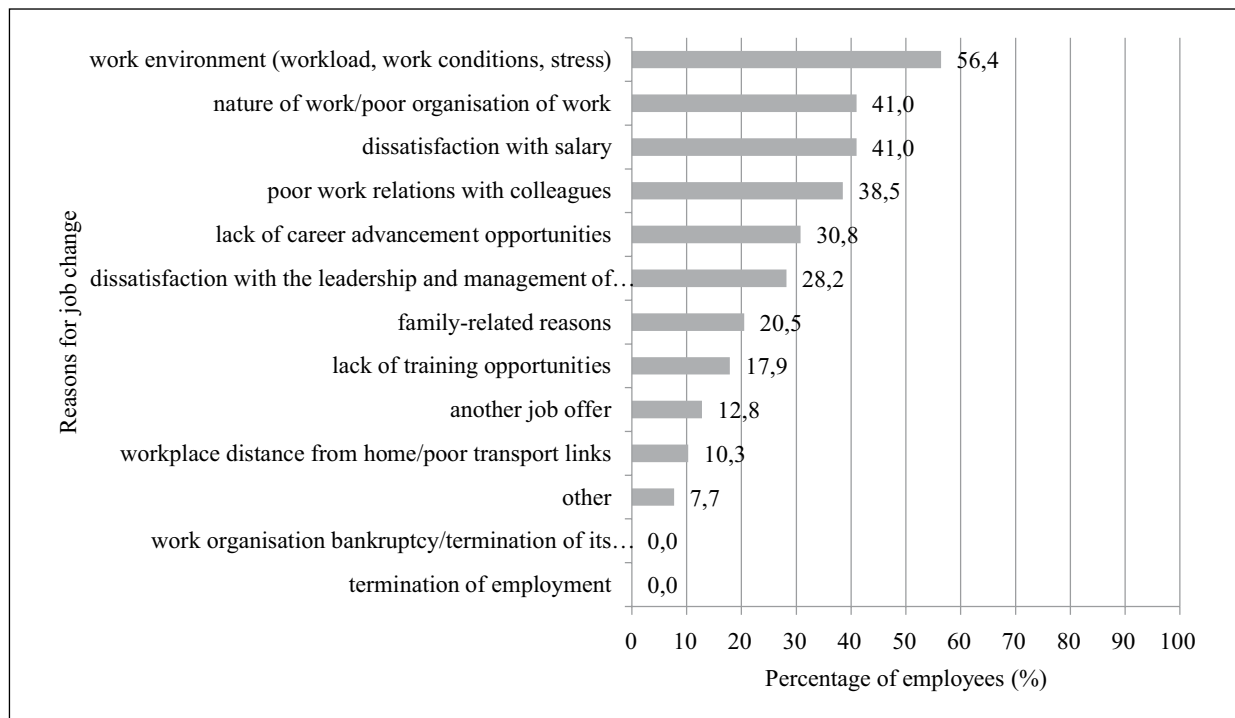


Figure 2: Reasons for considering a change of employment

Respondents assessed their work-life balance positively and most of them ($n = 73$, 65.2%) were not considering changing their job or employer. Those who would consider changing jobs would do so mainly because of the work environment, the nature of work and dissatisfaction with the salary (Figure 2).

All the observed indices or independent indicators explain 23.3% ($p < 0.001$) of the variability of the psychophysical health variable. Psychophysical health is determined by the following two indices: (1) Work environment, work equipment and physical exertion, and (2) Stress resulting from socio-demographic circumstances (Table 2).

The Work Environment, Work Equipment and Physical Exertion index consists of eleven variables, six of which are significantly associated with the

Psychophysical Health index (Table 3). Most respondents ($n = 79$, 69.9%) had not witnessed a serious work accident or injury to a colleague. In general, most respondents rated the likelihood of workplace accidents as low ($n = 67$, 60.1%) and had not yet experienced a workplace accident or injury ($n = 88$, 77.9%). However, many respondents ($n = 79$, 77.7%) work in an environment where many people lift heavy loads ($n = 68$, 60.2%) and also perform repetitive movements ($n = 73$, 46.6%). The characteristics of the work environment determine 19.2% of the employees' psychophysical health.

Five of the eight factors indicating socio-demographic characteristics of employees are related to employees' psychophysical health (Table 4). A total of 36.6% of respondents ($n = 41$) rated their personal income

Table 2: Correlation and strength of direct risk factors on the psychophysical health of employees

Psychophysical health	Coefficients			
	r_s	Beta	p	R^2
Work environment, work equipment and physical exertion	0.385	0.273	0.019**	0.156
Stress resulting from socio-demographic circumstances	0.401	0.206	0.038*	0.084
Content of work	0.122	0.180	0.100	0.006
Work relationship with superiors	0.261	0.145	0.132	0.093
Workload and pace of work	0.319	0.127	0.315	0.08
Work schedule	0.026	0.073	0.432	0.00

Legend: r_s – Spearman correlation coefficient; R^2 – R Square; *** – statistical significance under 0.001; ** – statistical significance under 0.05

Table 3: Correlation between the Psychophysical Health index with the index and variables of Work Environment, Work Equipment and Physical Exertion

<i>Index and subordinate variables</i>	<i>Psychophysical Health Index</i> r_s
Work environment, work equipment and physical exertion	0.385***
At this workplace, I have already witnessed a serious work accident or injury sustained by a colleague.	0.351***
My work involves lifting heavy loads.	0.344***
There are many people in my work area.	0.229**
My work involves repetitive movements.	0.233**
There is a high likelihood of work-related accidents occurring at my workplace (working at heights, on construction sites, in transport).	0.218**
At work, my posture is restricted for longer periods of time (sitting, standing).	0.211**

Legend: r_s – Spearman correlation coefficient; *** – statistical significance under 0.001; ** – statistical significance under 0.05

Table 4. Correlation between the Psychophysical Health index and the index and variables of Stress Resulting from Socio-demographic Circumstances

<i>Index and subordinate variables</i>	<i>Psychophysical Health Index</i> r_s
Stress resulting from socio-demographic circumstances	0.401***
The nearest health facility is far from my place of residence.	0.349***
There seems to be a general insecurity in society which affects my work and well-being.	0.264**
My personal income is too low to meet my personal needs.	0.235**
My financial situation is poor.	0.234**
Due to poor transport links, it takes me a lot of time to reach the workplace from my home	0.187**

Legend: r_s – Spearman correlation coefficient; *** – statistical significance under 0.001; ** – statistical significance under 0.05

as too low to meet their needs, while one fifth of all respondents rated their financial situation as poor ($n = 23$, 20.3%). Most respondents indicated that transport links from their home to their workplace were good ($n = 82$, 72.6%) and that the nearest health facility was close to their home ($n = 91$, 80.5%). One third ($n = 35$, 30.9%) of all respondents reported that they did not feel general insecurity in society. Stress resulting from socio-demographic circumstances was reported to affect the psychophysical health of 13% of employees and was weakly associated with the occurrence of neurological disorders ($r_s = 0.287$, $p = 0.002$), increased sweating ($r_s = 0.215$, $p = 0.023$), muscle tension ($r_s = 0.224$, $p = 0.018$) and general weakness ($r_s = 0.235$, $p = 0.013$). Socio-demographic circumstances were found to affect the occurrence of cardiovascular diseases ($\beta = 0.304$, $p = 0.001$) and communication problems ($\beta = 0.186$, $p = 0.034$).

The Content of Work ($r_s = 0.077$, $p = 0.42$) and Work Schedule ($r_s = 0.035$, $p = 0.712$) indices are not significantly associated with the psychophysical health of employees. Of the subordinate variables included in the Content of Work index, the only significant association was formed with the variable of monotonous work ($r_s = 0.265$, $p = 0.005$), with the majority of respondents ($n = 86$, 76.1%) denying that

their work was monotonous. Within the Work Schedule index, a significant correlation was found between employees' psychophysical health and the variable of night shift work ($r_s = -0.229$, $p = 0.002$) and the statement that there were not enough breaks during work ($r_s = -0.253$, $p = 0.007$). While 59.3% ($n = 67$) of all respondents confirmed working night shifts and 80.6% ($n = 91$) confirmed working shifts, 63% ($n = 70$) reported working for more than eight hours. Working night shifts was associated with muscle tension ($r_s = 0.322$, $p = 0.001$), feeling overburdened and fatigued ($r_s = 0.227$, $p = 0.017$), sick leave duration ($r_s = 0.215$, $p = 0.022$) and frequency ($r_s = 0.198$, $p = 0.036$). Shift work, long working hours (over 8 hours), unpredictable working hours and limited departures from the workplace are not associated with employees' psychophysical health.

Employees' work relationship with superiors was found to be weakly correlated with their psychophysical health ($r_s = 0.269$, $p = 0.004$). Among the subordinate indicators of the Work Relationship with Superiors index, the dependent variable is significantly correlated with the statements *I feel that my work is overly controlled by my superior or employer* ($r_s = -0.245$, $p = 0.009$) and *I have little influence on decision-making in my work establishment (in terms of*

work schedule, colleagues, work tasks, business policies) ($r_s = 0.258, p = 0.006$). The majority of respondents ($n = 80, 70.8\%$) reported not being overly supervised (or at all), and more than half of all respondents ($n = 59, 53.2\%$) reported having little influence on decision-making in their work establishment. Employees' work relationship with superiors has an impact on their job dissatisfaction ($\beta = 0.193, p = 0.047$).

The independent variable *Workload and Pace of Work* is weakly correlated ($r_s = 0.280, p = 0.03$) with the dependent variable of Psychophysical Health. It consists of eight variables, three of which are significantly correlated with the variable *Psychophysical Health: My work involves working under tight time constraints* ($r_s = -0.437, p < 0.001$), *My work establishment has unrealistic expectations of me in terms of the amount of work I have to do* ($r_s = -0.540, p < 0.001$), *My employer assigns me additional work on top of my regular work* ($r_s = -0.698, p < 0.001$). A total of 45.1% ($n = 51$) of all respondents indicated that they often worked under tight time constraints. It is neither true nor completely untrue that superiors have unrealistic expectations about work ($n = 51.45\%$) or that they assign additional work to employees ($n = 53, 46.9\%$). Workload and pace of work are correlated with the incidence of chronic pain and illness ($r_s = 0.346, p < 0.001$) and may lead to heart palpitations ($\beta = 0.264, p = 0.006$), general dissatisfaction ($\beta = 0.281, p = 0.005$), digestive disorders ($\beta = 0.213, p = 0.020$) and respiratory problems ($\beta = 0.181, p = 0.046$).

Discussion

In this study, we used the OPSA instrument to identify the psychosocial risk factors associated with employees' psychophysical health. Respondents reported a range of health problems they had experienced in the last year. They indicated muscle pain in the shoulders, neck and upper limbs, which may be related to heavy lifting heavy loads at work. They also frequently experienced spinal problems, followed by lower limb muscle pain. Similar findings have been reported in the literature (Ellapen & Narsigan, 2014; Yan et al., 2018), stating that musculoskeletal disorders are the main cause of absenteeism in half of health professionals. In a survey by Yan et al. (2018), eight out of ten nurses reported back pain. Ellapen & Narsigan (2014) state that health professionals report pain in lower abdomen as the most common health problem, followed by neck pain, upper back pain and pelvic pain.

Almost half of all respondents had experienced feeling overburdened and fatigued, just over a third had experienced lack of energy and exhaustion, and a fifth of all respondents reported experiencing persistent anxiety, restlessness, tension and worry. Feeling overburdened and fatigued is associated with working night shifts. Among nurses, fatigue at work seems to

increases over the years, especially among those who work night shifts (Rollins, 2015). Exhaustion results from working with an insufficient number of breaks and departures from the workplace. Research shows that about 10% of nurses do not have enough time to take a break during their work. Breaks from work should be of great importance to workers as they can improve their short-term performance and reduce fatigue (Witkoski & Vaughan Dickson, 2010). Night work combined with high work intensity and low autonomy at work seems to be a factor which causes burnout syndrome with its characteristic chronic fatigue and feeling of being overworked (Portoghese, Galletta, Coppola, Finco, & Campagna, 2014; Martins Pereira, Teixeira, Carvalho, Hernandez-Marrero, & Null, 2016).

The Work Environment, Work Equipment and Physical Exertion index was found to be correlated with employees' psychophysical health. Most respondents indicated that their work involved lifting heavy loads and performing repetitive movements. They also indicated that their work involved activities that require working with larger teams. Such stresses resulting from the work environment manifest themselves in various problems such as neck and leg pain, insomnia, muscle tension, dissatisfaction, irritability, feelings of being overburdened and fatigued, as well as communication problems. According to research (Freimann, Coggon, Merisalu, Animagi, & Paasuke, 2013), nurses assisting with surgery and those working in administration are most at risk due to repetitive movements. Typically, nurses also have to lift heavy loads in their work (D'Agostin & Negro, 2016).

Insufficient personal income and a poor financial situation have a negative impact on employees' psychophysical health. More than one third of all respondents indicated that their personal income was insufficient to meet their personal needs, but at the same time they also reported that their living conditions and financial situation were not bad. These risks manifest themselves in cardiovascular diseases and communication problems. An employee may also be dissatisfied with their job and unmotivated to complete their work tasks (Šprah & Dolenc, 2014). In addition to non-financial motivational factors, financial incentives have been shown to be very important in motivating health professionals (Baljoon, Banjar, & Banakhar, 2018).

In terms of their workload, the respondents highlighted working under intense time pressure, which, according to Mark & Smith (2011), can manifest itself in anxiety and depression. In particular, nurses working in short-stay wards indicated higher work demands in terms of the work tasks they have to complete, as well as a faster pace of work. Moreover, in such wards, there is also a higher occurrence of work-family conflict and greater emotional demands,

which are associated with insomnia, stress, burnout and lower job satisfaction (Cho, Park, Jeon, Chang, & Hong, 2014).

Employees' work relationship with their superiors and their psychophysical health were found to be weakly correlated. Employees' lack of control over their own work and their insufficient influence on decision-making in their work establishment were found to have a negative impact on their health. When health professionals are exposed to heavier workloads, they are more exhausted if they also lack sufficient autonomy at work. Employees are also less certain that they are doing the right thing, and this uncertainty can lead to exhaustion (Portoghese et al., 2014).

We also found a correlation between employees' psychophysical health and the content of their work, as the majority of respondents indicated that their work was not monotonous and that it therefore had a positive influence on their health. Health professionals typically work in a rapidly changing work environment and have to constantly adapt to changing circumstances during their workdays, which are filled with very diverse tasks (Fiedler et al., 2012).

While we expected a significant correlation between psychophysical health and the Work Schedule index, it was found to be significant only for night shift work, which leads to feelings of fatigue and sleep deprivation (Peršolja et al., 2018), as well as to insomnia, poor sleep quality and shortened sleep duration after the night shift (Liira et al., 2014). Night work has also been shown to be a likely carcinogen (Peršolja et al., 2018). We also found a statistically significant correlation between work breaks and employees' psychophysical health. Work breaks (especially when working long hours) are important as they improve the quality of patient care and reduce the risk of errors (Min, Yoon, & Hong, 2019).

Given the structure and size of the research sample, the results of the study cannot be generalised to a larger population. However, the method of random sampling allowed us to include a sufficient number of employees to obtain a representative sample in the hospital under consideration. The results of the questionnaires could have been influenced by various random errors, respondents' motivation to participate in the study, inaccuracies in completing the questionnaires, potentially socially desirable responses, misunderstandings of the questions and unwillingness or reluctance to complete the questionnaire due to its size. For further research, we would suggest obtaining a stratified and sufficiently large sample of subjects, which would allow the results to be generalised to the population as a whole.

Conclusion

There are two direct risk factors which affect the psychophysical health of employees, namely (1) the work

environment, work equipment and physical exertion, and (2) stress resulting from socio-demographic circumstances. Employees' psychophysical health could be improved by supervisors providing more feedback, involving employees in strategic decision-making within the work establishment, giving them sufficient attention and allowing more flexibility in terms of the time needed to complete work tasks, as well as encouraging breaks from work, especially when working long hours. Lifting heavy loads, which is typical for nurses working with patients, shows that working conditions need to be improved with the use of (ergonomic) devices. Shortening the night shift and limiting the number of night shifts per month would in all likelihood succeed in alleviating feelings of overwork and fatigue, as well as insomnia.

Slovenian translation/Prevod v slovenščino

Uvod

Glede na psihosocialno tveganje so na delovnem mestu ogroženi vsi zaposleni, ne glede na položaj, velikost, ali dejavnost delovne organizacije (Kralj et al., 2011). Med direktna psihosocialna tveganja na delovnem mestu uvrščamo fizična, kemična in biološka tveganja z vidika delovnega okolja, delovne opreme ter fizičnih obremenitev, vsebine dela, delovne obremenitve, hitrosti poteka dela, urnika, odnosov z nadrejenimi in obremenitev, ki so posledica sociodemografskih okoliščin zaposlenega. Delovno okolje v zdravstvu je eno najnevarnejših delovnih okolij, saj so zaposleni izpostavljeni prekomernim delovnim in fizičnim obremenitvam, hitremu poteku dela, nestalnemu urniku in neustrezni opremi (Šprah & Dolenc, 2014). V zdravstvu se velikokrat opravlja delo v nezdravem delovnem okolju, za katerega so značilni neurejeni odnosi med zaposlenimi, slaba komunikacija, konflikti, nasilje, nespoštovanje, odpor do sprememb, pomanjkanje razumevanja in nadlegovanje. Delavci v zdravstvu velikokrat delajo brez odmorov, v neustrezno razporejenih delavniških, s pomanjkljivo pomočjo nadrejenih in visoko intenzivnostjo dela. Tako nezdravo okolje poveča možnost nastanka bolezni in poškodb (Ritter, 2011; Andersen, Lønning, Bjørnevl, & Fagerstørm, 2016).

Medicinske sestre so še toliko bolj ogrožene, saj se pri izvajanju zdravstvene nege srečujejo s fizičnim naporom, dvigovanjem, ergonomsko nepravilno urejenimi prostori in neustrezno delovno opremo. Za psihosocialna tveganja pri medicinskih sestrah so odgovorni tudi nepredvidljivi urniki, izmensko in nočno delo ter podaljševanje delavnikov, zaradi katerega pride do neprespanosti in utrujenosti, pozneje pa tudi do izrazitih sprememb v zdravju, večje pojavnosti napak in odsotnosti z dela (De Oliveira et

al., 2014; Peršolja, Mišmaš, & Jurdana, 2018).

Delovno okolje bi moralo biti dobro organizirano, da bi se v njem zaposleni dobro počutili, in sicer tako fizično kot tudi psihično (Galletta, Portoghese, Ciuffi, Sancassiani, D' Aloja, & Campagna, 2016). V varnem delovnem okolju se izvajajo izobraževanja in nadgrajevanja znanja, zaposleni imajo na razpolago zadostno in ustrezno opremo (Er & Sokmen, 2018). Pri tem imajo veliko vlogo vodje, saj lahko zaposlene motivirajo za zahtevane zdravstvene preglede in jih podpirajo pri skrbi za zdravje med celotnim delovnim dnevom (Čehovin Zajc & Kohont, 2017). V zdravem delovnem okolju so tudi medicinske sestre bolj produktivne, izboljša se njihovo počutje in zniža stopnja stresa in izgorelosti (Er & Sokmen, 2018). Eden od izzivov za delovne organizacije je torej ustvariti ustrezno zdravo delovno okolje, saj se le tako osvoji zahtevano delovno učinkovitost, uspešnost in produktivnost (Raziq & Maulabakhsh, 2015).

Namen in cilji

Namen raziskave je bil raziskati direktne psihosocialne dejavnike tveganja za zdravje zaposlenih s ciljem opisati moč povezanosti s psihofizičnim zdravjem zaposlenih v splošni bolnišnici. Zanimali so nas direktni dejavniki tveganja, kot so delovna obremenitev in hitrost poteka dela, urnik dela, vsebina dela, delovno okolje, delovna oprema in fizične obremenitve, obremenitve kot posledica sociodemografskih okoliščin in odnos z nadrejenimi. Oblikovali smo glavno raziskovalno vprašanje: V kolikšni meri se direktni psihosocialni dejavniki tveganja za zdravje povezujejo s psihofizičnim zdravstvenim stanjem zaposlenih?

Zastavili smo tudi dodatna raziskovalna vprašanja:

- Kako se delovna obremenitev in hitrost poteka dela povezuje s psihofizičnim zdravstvenim stanjem zaposlenega?
- Kako se urnik dela povezuje s psihofizičnim zdravstvenim stanjem zaposlenega?
- Kako se vsebina dela povezuje s psihofizičnim zdravstvenim stanjem zaposlenega?
- Kako se delovno okolje, delovna oprema in fizične obremenitve povezujejo s psihofizičnim zdravstvenim stanjem zaposlenega?
- Kako se obremenitve kot posledica sociodemografskih okoliščin povezujejo s psihofizičnim zdravstvenim stanjem zaposlenega?
- Kako se odnos zaposlenega z nadrejenim povezuje s psihofizičnim zdravstvenim stanjem zaposlenega?

Metode

Izbrana je bila opisna kvantitativna metoda dela, pri kateri je bil v presečni raziskavi za pridobivanje podatkov uporabljen anketni vprašalnik.

Opis instrumenta

Kot merski instrument je bil uporabljen prostodostopen standardiziran anketni vprašalnik *Orodje za obvladovanje psihosocialnih tveganj in absentizma* (OPSA) (Šprah & Dolenc, 2014), ki je zaprtega tipa in vsebuje 141 vprašanj. Analize kažejo, da je orodje OPSA zanesljivo (Cronbach $\alpha = 0,915$).

Vprašalnik sestavlja dva dela. Prvi del vključuje sociodemografske in zdravstvene podatke (Tabela 1). Vprašanja v prvem delu vprašalnika so zaprtega tipa. Drugi sestavni del sestavlja 130 trditve, ki merijo psihosocialne obremenitve v delovni organizaciji, v kateri so anketiranci zaposleni. Anketiranci odgovarjajo s petstopenjsko Likertovo lestvico (1 – Sploh se ne strinjam oziroma nikoli ne velja zame.; 2 – Malo se strinjam oziroma redko velja zame.; 3 – Srednje se strinjam oziroma občasno velja zame.; 4 – Precej se strinjam oziroma pogosto velja zame.; 5 – Zelo se strinjam oziroma vedno velja zame.). Vprašalnik v drugem delu meri psihosocialne obremenitve, ki so razdeljene na sedemnajst področij. Ta področja so razdeljena na direktna in indirektna tveganja za zdravje. Za potrebe raziskave so bile uporabljene trditve, ki obravnavajo direktne dejavnike tveganja za zdravje zaposlenih (Tabela 1).

Opis vzorca

Ciljno prebivalstvo so bili vsi zaposleni ene splošne bolnišnice ($n = 994$), ki so bili na delovnem mestu v času poteka raziskave. Velikost vzorca je bila pri 5 % tveganju izračunana na najmanj 112 oseb. Vzorec je bil sestavljen z naključno izbiro in je vključeval 130 anketirancev, kar znaša 13,1 % vseh zaposlenih. Vrnenih je bilo 113 vprašalnikov, kar je 86,9 % vseh razdeljenih, od tega jih je bilo 112 (86,1 %) pravilno in popolno izpolnjenih in zajetih v nadaljnjo raziskavo.

Sodelovalo je 88 žensk (78,6 %) in štiriindvajset moških (21,4 %). Največ anketirancev je končalo srednjo ($n = 37$, 33 %) oziroma visoko strokovno ($n = 37$, 33 %) šolo. Večina ($n = 98$, 87,5 %) jih je bila starih med osemnajst let in 50 let in so živeli ($n = 99$, 88,4 %) v isti regiji, v kateri so bili zaposleni.

Opis poteka raziskave in obdelave podatkov

Anketiranci so bili seznanjeni s potekom raziskave, možnostjo odklonitve sodelovanja in anonimnostjo. Raziskava je v izbranem zavodu preko osebno izročeni pisnih anket potekala v mesecih oktobru in novembru 2018. Vprašalniki so bili razdeljeni naključno izbranim zaposlenim, ki so bili na dan raziskovanja na delovnem mestu. Izpolnjeni vprašalniki so se v zaprtih kuvertah zbirali v nabiralniku na interno dogovorjenem mestu.

Statistična analiza podatkov je bila izvedena v programu SPSS 23.0 za Windows. Značilnosti vzorca so prikazane s frekvenco (n) in deleži (%) ter s povprečjem (m) in standardnim odklonom (s). Glede

Tabela 1: Sestavljene spremenljivke (indeksi) in podrejene spremenljivke

Indeksi	Spremenljivke
Sociodemografski podatki	spol; starost; dosežena stopnja izobrazbe; regija prebivanja in ali je zaposlitev v regiji, kjer anketiranci prebivajo
Zdravstveni podatki	težave s sluhom; vidom; kožna obolenja; težave s hrbtenico; bolečine v mišicah spodnjih udov; težave s prebavo; težave z dihanjem; kardiovaskularna obolenja; hormonske motnje; metabolične motnje; poškodbe; razpoloženske motnje; nevrološke motnje in druge težave; vzrok in trajanje bolniškega staleža, dlje časa prisotni zdravstveni pojavi (preobremenjenost, utrujenost, pomanjkanje energije, izčrpanost, težave v komunikaciji, nespečnost), vpliv teh pojavov na opravljanje vsakodnevnih dejavnosti, usklajenost poklicnega in zasebnega življenja; zadovoljstvo s sedanjim zdravstvenim stanjem; želja po zamenjavi delovnega mesta ali delodajalca.
Psihofizično zdravje	počutim se tesnobno, zaskrbljeno, ali razdražljivo; imam pogoste ali dolgotrajne telesne bolečine oziroma trpim za kroničnim telesnim obolenjem; zaradi svojih občutkov dolgotrajne žalosti, pretirane zaskrbljenosti in tesnobe sem že razmišljal/-a o strokovni pomoči ali jo poiskal/-a; moja telesna odpornost je slaba.
Delovna obremenitev in hitrost poteka dela	količina mojih delovnih nalog je majhna; opravljam več različnih delovnih nalog hkrati; moje delo je zelo zahtevno; obseg mojih delovnih nalog je velik; moje delo vključuje veliko časovnih rokov v kratkem času; potek mojega dela je odvisen od tega, kako hitro ali kakovostno svoje delo opravijo moji sodelavci; delovna organizacija ima nerealna pričakovanja do mene o količini dela, ki naj bi ga opravil/-a; delodajalec mi ob rednem delu nalaga še dodatno delo.
Urnik dela	delam v izmenah; moj delovni čas je daljši od osem ur; opravljam nočno delo; moj delovni čas je nepredvidljiv; med delom imam premalo odmorov; med delom imam malo dovoljenih izhodov z dela.
Vsebina dela	moje delo ni zahtevno; postopki mojega dela se nenehno spreminjajo; moje delo je monotono oziroma vključuje malo raznolikih delovnih nalog; med delom se srečujem z nepredvidenimi težavami; moje delovne naloge se hitro menjavajo; tudi sam/-a moram sodelovati pri pridobivanju finančnih sredstev, da dobim polno plačo ali obdržim zaposlitev.
Delovno okolje, delovna oprema in fizične obremenitve	izpostavljen/-a sem škodljivim okoljskim vplivom (hrup; vročina; mraz; plini; hlapi; prah; vibracije; bleščanje); pri delu je drža mojega telesa dalj časa prisiljena (sedenje; stanje); na tem delovnem mestu sem bil/-a že priča resni delovni nesreči oziroma poškodbi sodelavca; do svoje delovne oziroma zaščitne opreme težko pridem oziroma je slabo vzdrževana; v prostoru, kjer delam, je veliko ljudi; pri mojem delu je velika verjetnost za nastanek nesreče; poškodbe pri delu (delo na višini; gradbišču; v prometu); pri delu dvigujem težka bremena; moje delo vključuje ponavljajoče se gibe; na tem delovnem mestu sem že imel/-a nesrečo oziroma poškodbo; moje delo poteka tudi na terenu; postopki mojega dela so nevarni (npr. uporaba prisilnih sredstev).
Obremenitve kot posledica sociodemografskih okoliščin	moj osebni dohodek je prenizek za zadovoljevanje osebnih potreb; moje premoženjsko stanje je slabo; moje bivalne razmere so slabe (majhno stanovanje; brez vodovodne napeljave; brez centralnega ogrevanja; zaradi slabih prometnih povezav porabim veliko časa, da pridem s kraja prebivališča na delovno mesto; zdravstvena služba je daleč od mojega kraja prebivališča; sem precej zadolžen; zdi se mi, da je v družbi prisotna splošna negotovost, ki vpliva na moje delo in počutje; vrtec je daleč od mojega in otrokovega kraja prebivališča).
Odnos zaposlenega z nadrejenim	nadrejeni oziroma delodajalec pretirano nadzira moje delo; imam majhen vpliv na odločitve v delovni organizaciji (o urniku; sodelavcih; delovnih nalogah; politiki poslovanja); ko se pri mojem delu pojavi problem, imam na razpolago malo načinov reševanja in še ti so vnaprej določeni; imam slab nadzor nad vsebino, časovnim razporejanjem in hitrostjo izvajanja delovnih nalog.

na oceno normalnosti porazdelitve podatkov, ki je bila izračunana z uporabo testov Kolmogorov-Smirnov in Shapiro-Wilk, smo v večini spremenljivk ugotovili neenakomerno razporejenost, zato smo za preverjanje povezanosti uporabili Spearmanovo korelacijsko analizo in dodatno izvedli regresijsko analizo. Stopnja statistične značilnosti je bila upoštevana pri vrednosti manjši od $p < 0,05$. Pri izdelavi grafov in preglednic smo uporabili program Microsoft Excel 2010.

Neodvisne in odvisno spremenljivke smo pridobili tako, da smo iz večjega števila spremenljivk, ki

merijo isti koncept, sestavili nove spremenljivke (indekse). Nove pridobljene spremenljivke so intervalnega tipa. Psihofizično zdravje anketirancev je bilo obravnavano kot odvisna spremenljivka.

Rezultati

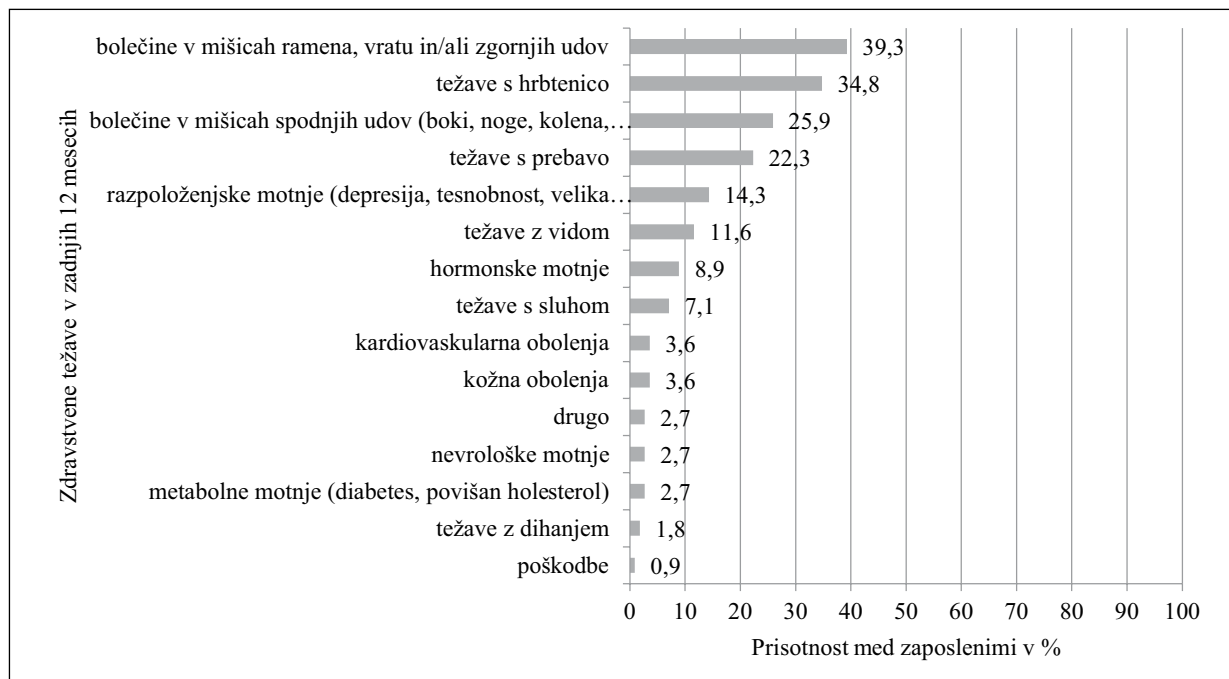
Skoraj tretjina anketiranih ($n = 31$, 27,7 %) je v zadnjih dvanajstih mesecih koristila bolniški stalež, od tega 26 (83,9 %) žensk in pet (16,1 %) moških. Pri 40,6 % ($n = 13$) anketirancev je bolniški stalež trajal od

petnajst do 30 dni, 25 % ($n = 8$) anketirancev je bilo na bolniškem staležu do šest dni, dve osebi (1,8 %) sta bili na bolniškem dopustu več kot mesec dni.

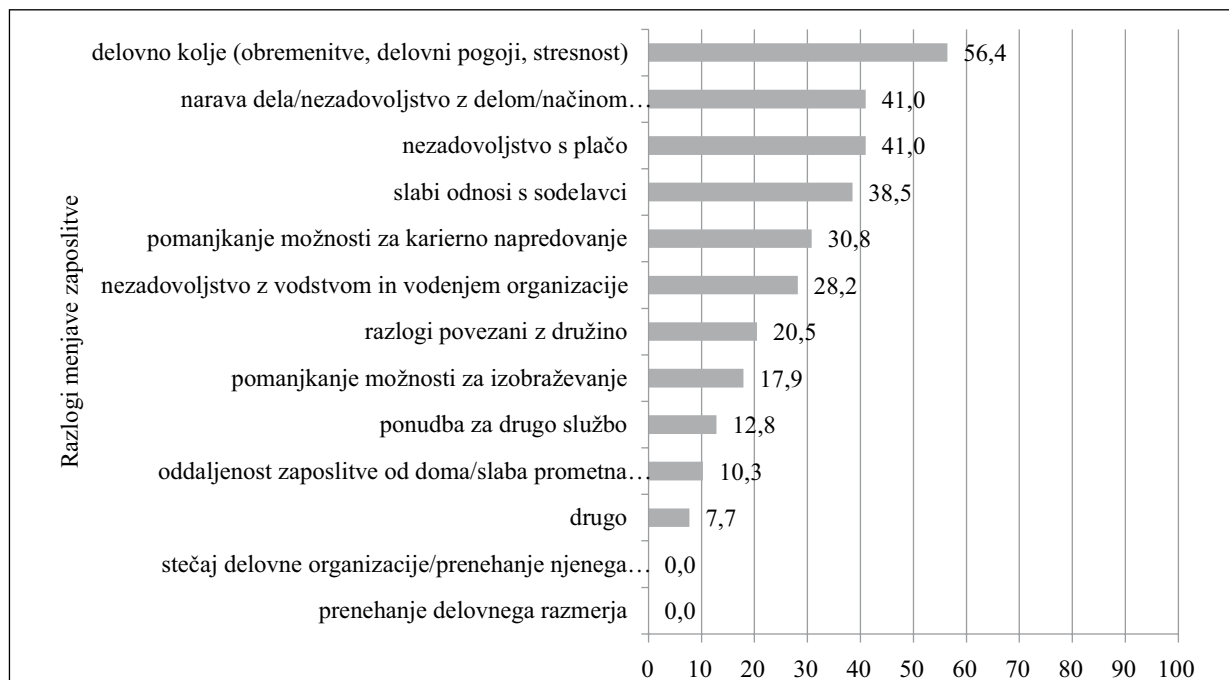
Zaposleni so imeli v zadnjih dvanajstih mesecih najpogosteje bolečine v mišicah ramen, vratu in/ali zgornjih udih ($n = 44$, 39,3 %) in težave s hrbtenico

($n = 39$, 34,8 %) (Slika 1). Bolečine v mišicah ramena, vratu in/ali zgornjih udih so povezane z dvigovanjem bremen ($r_s = 0,247$, $p = 0,009$).

Anketiranci so navedli različne dlje časa prisotne pojave v zdravju. Med njimi je najpogostejši občutek preobremenjenosti in utrujenosti ($n = 52$, 46,6 %),



Slika 1: Zdravstvene težave zaposlenih v zadnjih dvanajstih mesecih



Slika 2: Razlogi za željo po menjavi zaposlitve

sledita pomanjkanje energije in izčrpanost ($n = 43$, 38,4 %). Preobremenjenost in utrujenost se značilno povezuje z nočnim delom ($r_s = 0,266$, $p = 0,005$) in s premalo odmori med delom ($r_s = 0,199$, $p = 0,036$). Podobno se izčrpanost in pomanjkanje energije povezuje s premalo odmori med delom ($r_s = 0,229$, $p = 0,015$) in premalo dovoljenimi izhodi z delovnega mesta ($r_s = 0,236$, $p = 0,012$). Anketiranci so bili kljub tem pojavom zadovoljni s svojim zdravjem, saj jih je kar 62,5 % ($n = 70$) obkrožilo 4 – S svojim zdravjem sem zadovoljen. ali 5 – S svojim zdravjem sem zelo zadovoljen. (na lestvici od 1 do 5) ($m = 3,62$, $s = 0,903$).

Anketiranci usklajenost poklicnega in zasebnega življenja ocenjujejo kot dobro in večina ($n = 73$, 65,2 %) jih ne razmišlja o menjavi zaposlitve, ali delovnega mesta, ali delodajalca. Tisti, ki bi se za menjavo zaposlitve odločili, bi to dejanje storili predvsem zaradi delovnega okolja, narave dela in nezadovoljstva s plačo (Slika 2).

Vsi opazovani indeksi oziroma neodvisni kazalniki skupaj pojasnijo 23,3 % ($p < 0,001$) variabilnosti spremenljivke psihofizično zdravje. Psihofizično zdravje določata indeksa Delovno okolje, delovna oprema in fizične obremenitve ter obremenitve kot

posledica sociodemografskih okoliščin (Tabela 2).

Indeks Delovno okolje, delovna oprema in fizične obremenitve sestavlja enajst spremenljivk, med katerimi se jih šest značilno povezuje z indeksom Psihofizično zdravje (Tabela 3). Večina ($n = 79$, 69,9 %) anketiranih še ni bil priča resni delovni nesreči oziroma poškodbi sodelavca, nasploh jih večina ocenjuje, da je verjetnost nesreč pri delu nizka ($n = 67$, 60,1 %) in še niso imeli nesreče oziroma poškodbe pri delu ($n = 88$, 77,9 %). Jih pa veliko ($n = 79$, 77 %) dela v okolju, v katerem je prisotno večje število ljudi, ki dvigujejo težka bremena ($n = 68$, 60,2 %) in tudi izvajajo ponavljajoče gibe ($n = 73$, 46,6 %). Značilnosti delovnega okolja določajo 19,2 % psihofizičnega zdravja zaposlenega.

S psihofizičnim zdravjem zaposlenih je povezanih pet izmed osmih dejavnikov, ki kažejo na sociodemografske značilnosti zaposlenih (Tabela 4). Da ima preizek osebnih dohodek glede na potrebe, navaja 36,6 % anketirancev ($n = 41$), petina jih ima slabo premoženjsko stanje ($n = 23$, 20,3 %). Večina ima dobre prometne povezave od doma do delovnega mesta ($n = 82$, 72,6 %), zdravstvena služba je blizu ($n = 91$, 80,5 %). Tretjina ($n = 35$, 30,9 %) anketirancev

Tabela 2: Povezanost in moč direktnih dejavnikov tveganja na psihofizično zdravje zaposlenih

Psihofizično zdravje		Koefficienti			
		r_s	Beta	p	R^2
Indeksi	delovno okolje, delovna oprema in fizične obremenitve	0,385	0,273	0,019**	0,156
	obremenitve kot posledica sociodemografskih okoliščin	0,401	0,206	0,038*	0,084
	vsebina dela	0,122	0,180	0,100	0,006
	odnos zaposlenega z nadrejenimi	0,261	0,145	0,132	0,093
	delovna obremenitev in hitrost poteka dela	0,319	0,127	0,315	0,08
	urnik dela	0,026	0,073	0,432	0,00

Legenda: r_s - Spearmanov korelacijski koeficient; Beta - regresijski koeficient; p - statistična značilnost; R^2 - R determinacijski koeficient; *** - statistična značilnost pod 0,001; ** - statistična značilnost pod 0,05

Tabela 3: Povezanost indeksa psihofizično zdravje s spremenljivkami in z indeksom delovno okolje, delovna oprema in fizične obremenitve

Indeks in podrejene spremenljivke	Psihofizično zdravje r_s
Delovno okolje, delovna oprema in fizične obremenitve	0,385***
Na tem delovnem mestu sem bil/-a že priča resni delovni nesreči oziroma poškodbi sodelavca.	0,351***
Pri delu dvigujem težka bremena.	0,344***
V prostoru, kjer delam, je veliko ljudi.	0,229**
Moje delo vključuje ponavljajoče se gibe.	0,233**
Pri mojem delu je velika verjetnost za nastanek nesreče, poškodbe pri delu (delo na višini, gradbišču, v prometu).	0,218**
Pri delu je drža mojega telesa dalj časa prisiljena (sedenje, stanje).	0,211**

Legenda: r_s - Spearmanov korelacijski koeficient; *** - statistična značilnost pod 0,001; ** - statistična značilnost pod 0,05

Tabela 4: Povezanost indeksa psihofizično zdravje s spremenljivkami in indeksom obremenitve kot posledica sociodemografskih okoliščin

Indeks in podrejene spremenljivke	Psihofizično zdravje r_s
Obremenitve kot posledica sociodemografskih okoliščin	0,401***
Zdravstvena služba je daleč od mojega kraja prebivališča.	0,349***
Zdi se mi, da je v družbi prisotna splošna negotovost, ki vpliva na moje delo in počutje.	0,264**
Moj osebni dohodek je prenizek za zadovoljevanje osebnih potreb.	0,235**
Moje premoženjsko stanje je slabo.	0,234**
Zaradi slabih prometnih povezav porabim veliko časa, da pridem s kraja prebivališča na delovno mesto.	0,187**

Legenda: r_s – Spearmanov korelacijski koeficient; *** – statistična značilnost pod 0,001; ** – statistična značilnost pod 0,05

ne občuti splošne negotovosti v družbi. Obremenitve kot posledica sociodemografskih okoliščin vplivajo na 13 % psihofizičnega zdravja zaposlenih in se šibko povezujejo s pojavom nevroloških obolenj ($r_s = 0,287, p = 0,002$), povečanim znojenjem ($r_s = 0,215, p = 0,023$), napetostjo v mišicah ($r_s = 0,224, p = 0,018$) in splošno slabostjo ($r_s = 0,235, p = 0,013$). Sociodemografske okoliščine vplivajo na pojav kardiovaskularnih obolenj ($\beta = 0,304, p = 0,001$) in težave v komunikaciji ($\beta = 0,186, p = 0,034$).

Indeksa Vsebina dela ($r_s = 0,077, p = 0,42$) ter Urnik dela ($r_s = 0,035, p = 0,712$) nista značilno povezana s psihofizičnim zdravjem zaposlenih. Izmed podrejenih spremenljivk v indeksu Vsebina dela, je edina značilna povezava z monotonim delom ($r_s = 0,265, p = 0,005$), pri čemer je večina anketirancev ($n = 86, 76,1\%$) zanimala, da bi bilo njihovo delo monotono. V indeksu Urnik dela ima značilno povezavo s psihofizičnim zdravjem s spremenljivko nočno delo ($r_s = -0,229, p = 0,002$) in trditvijo, da je med delom premalo odmorov ($r_s = -0,253, p = 0,007$). Nočno delo sicer opravlja 59,3 % ($n = 67$) anketirancev, 80,6 % ($n = 91$) jih dela izmensko, za 63 % ($n = 70$) velja, da je njihov delovni čas pogosto daljši od osem ur. Nočno delo se povezuje z napetostjo v mišicah ($r_s = 0,322, p = 0,001$), občutkom obremenjenosti in utrujenosti ($r_s = 0,227, p = 0,017$), trajanjem ($r_s = 0,215, p = 0,022$) in pogostostjo bolniške odsotnosti ($r_s = 0,198, p = 0,036$). Izmensko delo, več kot osemurno delo, nepredvidljiv urnik in omejenost izhodov z dela niso povezani s psihofizičnim zdravjem zaposlenih.

Odnos zaposlenega z nadrejenim je šibko povezan ($r_s = 0,269, p = 0,004$) s psihofizičnim zdravjem. Izmed podrejenih kazalnikov indeksa Odnos zaposlenega z nadrejenim se z odvisno spremenljivko značilno povezuje z Nadrejeni ali delodajalec pretirano nadzira moje delo ($r_s = -0,245, p = 0,009$) in Imam majhen vpliv na odločitve v delovni organizaciji (o urniku, sodelavcih, delovnih nalogah, politiki poslovanja) ($r_s = 0,258, p = 0,006$). Za večino anketirancev ($n = 80, 70,8\%$) namreč velja, da (sploh) niso pretirano nadzorovani, za dobro polovico ($n = 59, 53,2\%$), da le malo vplivajo

na odločitve v delovni organizaciji. Odnos zaposlenega z nadrejenim vpliva na nezadovoljstvo na delovnem mestu ($\beta = 0,193, p = 0,047$).

Neodvisna spremenljivka Delovna obremenitev in hitrost poteka dela je šibka ($r_s = 0,280, p = 0,03$), povezana z odvisno spremenljivko Psihofizično zdravje zaposlenega. Sestavljena je iz osmih spremenljivk, med katerimi so tri značilno povezane s spremenljivko psihofizično zdravje: Moje delo vključuje veliko časovnih rokov v kratkem času ($r_s = -0,437, p < 0,001$), Delovna organizacija ima nerealna pričakovanja do mene o količini dela, ki naj bi ga opravil/-a ($r_s = -0,540, p < 0,001$), Delodajalec mi ob rednem delu nalaga še dodatno delo ($r_s = -0,698, p < 0,001$). Da pogosto delajo v kratkih časovnih rokih, je navedlo 45,1 % ($n = 51$) anketiranih. Ne velja oziroma sploh ne velja, da bi imeli vodje nerealna pričakovanja v zvezi z delom ($n = 51, 45\%$) in ne, da bi delavcem nalagali dodatno delo ($n = 53, 46,9\%$). Delovna obremenitev in hitrost poteka dela se povezuje z pojavom kroničnih bolečin in boleznimi ($r_s = 0,346, p < 0,001$) in vplivata na razbijanje srca ($\beta = 0,264, p = 0,006$), na splošno nezadovoljstvo ($\beta = 0,281, p = 0,005$), težave s prebavo ($\beta = 0,213, p = 0,020$) in dihanjem ($\beta = 0,181, p = 0,046$).

Diskusija

Z orodjem OPSA smo v splošni bolnišnici raziskovali; cilj je bil ugotoviti psihosocialne dejavnike tveganja, ki se povezujejo s psihofizičnim zdravjem zaposlenih. Anketiranci so navedli številne zdravstvene težave, ki so jih pestile v zadnjem letu, posebej so povzročale težave bolečine v mišicah ramen, vratu in zgornjih udih, ki jih lahko povežemo z dvigovanjem bremen pri delu. Zelo pogosto so prisotne tudi težave s hrbtenico, ki jim sledijo bolečine v mišicah spodnjih udov. Podobne ugotovitve najdemo v literaturi, ki pravi (Ellapen & Narsigan, 2014; Yan et al., 2018), da so pri polovici zdravstvenih delavcev glavni vzrok za absentizem mišično-skeletne bolezni. V raziskavi Yan et al. (2018) je imelo bolečine v predelu hrbta osem od deset medicinskih sester. Ellapen & Narsigan (2014) ugotavljata, da so najpogostejše med zdravstvenimi delavci bolečine v spodnjem delu

trebuha, ki jim sledijo bolečine v vratu, zgornjem delu hrbta in medenici.

Skoraj polovica anketirancev je imela občutek preobremenjenosti in utrujenosti, pri dobri tretjini sta bila prisotna pomanjkanje energije in izčrpanost, pri petini pa dlje časa tesnoba, nemir, napetost in zaskrbljenost. Občutek preobremenjenosti in utrujenosti je povezan z opravljanjem nočnega dela. Pri medicinskih sestrah utrujenost na delovnem mestu narašča z leti, še posebno pri tistih, ki opravljajo nočno izmensko delo (Rollins, 2015). Izčrpanost je zaradi dela s premalo odmori in izhodi z dela. Raziskave kažejo, da okrog 10 % medicinskih sester v svojem delovniku nima časa za odmor. Odmori naj bi bili za zaposlene nadvse pomembni, saj lahko izboljšajo kratkoročno uspešnost in zmanjšujejo utrujenost (Witkoski & Vaughan Dickson, 2010). Kot kaže, je nočno delo v kombinaciji z visoko intenzivnostjo dela in nizko avtonomijo pri delu dejavnik, zaradi katerega nastane sindrom izgorelosti z značilno kronično utrujenostjo in občutki preobremenjenosti (Portoghese, Galletta, Coppola, Finco, & Campagna, 2014; Martins Pereira, Teixeira, Carvalho, Hernandez-Marrero, & Null, 2016).

Indeks Delovno okolje, delovna oprema in fizične obremenitve se povezuje s psihofizičnim zdravjem. Večina anketirancev je navedla, da pri delu dvigujejo težka bremena in izvajajo ponavljajoče se gibe. Izvajajo dejavnosti, ki zahtevajo delo v večjih skupinah. Te obremenitve, ki izhajajo iz okolja, se kažejo v raznih težavah, kot so bolečine v vratu in nogah, nespečnosti, napetosti mišic, nezadovoljstvo, razdražljivost, občutek preobremenjenosti in pomanjkanje energije ter težave s komunikacijo. V literaturi poročajo (Freimann, Coggon, Merisalu, Animagi, & Paasuke, 2013), da so v največji nevarnosti zaradi ponavljajočih gibov tiste medicinske sestre, ki instrumentirajo pri operacijah, ter tiste, ki se bolj ali manj ukvarjajo z administracijo. Za medicinske sestre je tudi sicer značilno, da pri delu dvigajo težka bremena (D'Agostin & Negro, 2016).

Psihofizično zdravje je slabše, če sta osebni dohodek in premoženjsko stanje nižja od nujnega. Dobra tretjina anketirancev je zatrdila, da je njihov osebni dohodek prenizek za zadovoljevanje osebnih potreb, vendar so obenem zapisali, da njihove bivalne razmere in premoženjsko stanje niso slabi. Tveganja se kažejo v kardiovaskularnih obolenjih in težavah s komunikacijo. Prav tako je lahko tak zaposlen nezadovoljen z delom in nemotiviran za opravljanje dela (Šprah & Dolenc, 2014). Skupaj z nefinančnimi motivacijskimi viri so namreč pri zaposlenih v zdravstvu izredno pomembni tudi finančni (Baljoon, Banjar, & Banakhar, 2018).

Med delovnimi obremenitvami so zaposleni poudarili delo v kratkih časovnih rokih, kar se po Mark & Smith (2011) lahko kaže kot tesnoba in depresija. Predvsem tiste medicinske sestre, ki delajo na oddelkih s kratko ležalno dobo, poročajo o večjem številu nalog, ki jih morajo opraviti, in hitrejšem delovnem

ritmu. Na takih oddelkih ugotavljajo več konfliktov med delom in družino pa tudi večje čustvene zahteve, ki so povezane z nespečnostjo, stresom, izgorelostjo in nezadovoljstvom na delovnem mestu (Cho, Park, Jeon, Chang, & Hong, 2014).

Odnos zaposlenega z nadrejenim in psihofizično zdravje se med seboj šibko povezujeta. Zdravje slabša pomanjkljiv nadzor nad delom in (pre)majhen vpliv delavcev na odločitve v organizaciji. Ko je pri zdravstvenih delavcih prisotna višja raven delovne obremenitve, so ti bolj izčrpani, če je ob tem prisoten tudi slab nadzor nad delom. Ob tem so zaposleni bolj negotovi, ali delajo prav, negotovost pa vodi v izčrpanost (Portoghese et al., 2014).

Ugotovili smo tudi povezanost psihofizičnega zdravja zaposlenih z vsebino dela, pri čemer je večina anketirancev navedla, da njihovo delo ni monotono in kot tako pripomore k njihovem boljšemu zdravju. Za zaposlitve v zdravstvu je značilno delati v spreminjajočem se delovnem okolju, nenehno se je treba prilagajati, se soočati s spremembami, delovnik je pester in poln raznolikih nalog (Fiedler et al., 2012).

Pričakovali smo značilno povezanost psihofizičnega zdravja z indeksom Urnik dela, ki se je pokazala kot značilna samo pri nočnem delu, kar povzroča občutek utrujenosti in neprespanosti (Peršolja et al., 2018) ter nespečnost, slabo kakovost in krajši čas spanja po nočni izmeni (Liira et al., 2014). Znano je tudi, da nočno delo spada med verjetne rakotvorne dejavnike (Peršolja et al., 2018). Prav tako smo ugotovili, da obstaja statistično značilna povezanost med odmori in psihofizičnim zdravjem zaposlenega. Odmori so (predvsem med dolgimi delovniki) pomembni, saj izboljšajo kakovost oskrbe bolnikov in zmanjšujejo možnost napak (Min, Yoon, & Hong, 2019).

Glede na strukturo in velikost raziskovalnega vzorca rezultatov raziskave ne moremo posplošiti na večje število prebivalstva. Vendar smo z naključnim vzorčenjem v našo raziskavo vključili dovolj zaposlenih, da predstavljajo reprezentativni vzorec v obravnavani bolnišnici. Na rezultate iz anketnih vprašalnikov lahko vplivajo različne naključne napake, motiviranost anketirancev za sodelovanje, nenatančnost pri izpolnjevanju vprašalnikov, mogoče navajanje socialno zaželenih odgovorov, napačno razumevanje vprašanj in nepripravljenost oziroma nejevoljnost za reševanje vprašalnika zaradi njegove obsežnosti. Za nadaljnje raziskave predlagamo stratificiran in dovolj velik vzorec preiskovancev, ki bo omogočil posplošitev rezultatov na celotno prebivalstvo.

Zaključek

Izmed direktnih dejavnikov tveganja na psihofizično zdravje zaposlenih značilno vplivata dva dejavnika: Delovno okolje, delovna oprema in fizične obremenitve ter Obremenitve kot posledica sociodemografskih okoliščin. Psihofizično zdravstveno stanje zaposlenih

bi lahko izboljšali z več povratnimi informacijami vodij, z vključevanjem zaposlenih v strateško odločanje v organizaciji, večjo pozornostjo in prilagajanjem časovnih rokov ter spodbujanjem zaposlenih h koriščenju odmora, predvsem med dolgimi delovniki. Dvigovanje bremen, ki je značilno za osebje zdravstvene nege, ki dela neposredno s pacientom, kaže, da je treba s (ergonomičnimi) pripomočki izboljšati razmere dela. S krajšanjem nočnega turnusa in omejevanjem števila nočnih izmen na mesec bi po vsej verjetnosti uspeli znižati občutke preobremenjenosti in utrujenosti ter nespečnost.

Conflict of interest/Nasprotje interesov

The authors declare that no conflicts of interest exist./Avtorici izjavljata, da ni nasprotja interesov.

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Ethical approval/Etika raziskovanja

Approval to conduct the study was obtained from the Medical Ethics Committee (application number: 0120-557/2017/4) and the management of the research institute. The study was conducted in accordance with the Helsinki-Tokyo Declaration (World Medical Association, 2013) and the Code of Ethics for Nurses and Nurse Assistants of Slovenia (2014)./Za izvedbo raziskave je Komisija za medicinsko etična vprašanja (štev. vloge: 0120-557/2017/4) in vodstvo zavoda podelilo dovoljenje. Raziskava je pripravljena v skladu z načeli Helsinško-tokijske deklaracije (World Medical Association, 2013) in v skladu s Kodeksom etike v zdravstveni negi in oskrbi Slovenije (2014).

Author contributions/Prispevek avtorjev

The authors jointly designed the study, which was conducted by the first author. The co-author participated in the analysis and interpretation of the results. Both authors participated in the writing of the article./Avtorici sta skupaj zastavili raziskavo, ki jo je izvedla prva avtorica. Soavtorica je sodelovala pri analizi in interpretaciji rezultatov. Obe avtorici sta sodelovali pri pisanju članka.

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