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Physical activity of graduated nurses in one-and multiple-shift work

Gibalna aktivnost pri diplomiranih medicinskih sestrah, ki opravljajo enoizmensko in večizmensko delo

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Key words: lifestyle; working hours; free time; nursing care

Ključne besede: življenjski slog; delovni čas; prosti čas; zdravstvena nega

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ABSTRACT

Introduction: Physical activity enables nurses to better control their mental and physical strain at work, which is important for ensuring quality patient treatment. The aim of the research was to study differences in graduate nurses' physical activity in terms of their working hours, motives and obstacles to regular, free-time physical exercising.

Methods: A quantitative survey with two-stage random sampling included 349 graduate nurses employed in the secondary or tertiary levels of healthcare institutions in Slovenia who work one shift (41 %) or multiple shifts (59 %). The data were collected with a questionnaire in 2012 and analysed with a chi-square test, a t-test for independent samples and discriminant analysis.

Results: Graduate nurses with one shift perform physical activity more often ($p < 0.001$) and are more involved in organised physical exercise ($p < 0.001$) than those who work multiple shifts. The motives for one-shift graduate nurses to engage in physical activity are to control stress, a better mood, along with the desire for exercising, moving and relaxation, whereas nurses who work several shifts encounter obstacles due to not exercising regularly, such as work absences, the fact the effects of exercising are not immediately seen, and the lack of free time ($p = 0.025$).

Discussion and conclusion: The research showed that graduate nurses are not sufficiently physically active. Especially those who work multiple shifts are in danger due to the less organised and lower frequency of activities. It is important to promote health in the workplace in various forms, such as active breaks during work hours and sports games for employees and their families.

IZVLEČEK

Uvod: Gibalna aktivnost medicinskim sestram omogoča boljše obvladovanje duševnih in telesnih obremenitev pri delu, kar je pomembno za kakovostno delo s pacientom. Namen raziskave je bil proučiti razlike v gibalni aktivnosti diplomiranih medicinskih sester glede na delovnik ter njihove motive in ovire za redno prostočasno gibalno udejstvovanje.

Metode: Kvantitativna anketna raziskava je s slučajnostnim dvostopenjskim vzorčenjem zajela 349 diplomiranih medicinskih sester, zaposlenih v sekundarnih in terciarnih zdravstvenih zavodih v Sloveniji, z enoizmenskim (41 %) oz. večizmenskim (59 %) delovnikom. Analiza podatkov, zbranih s vprašalnikom v letu 2012, je bila opravljena s testom hi-kvadrat, t-testom za neodvisne vzorce in diskriminanto analizo.

Rezultati: Diplomirane medicinske sestre z enoizmenskim delovnikom se z gibalno aktivnostjo ukvarjajo pogosteje kot tiste z večizmenskim delovnikom ($p < 0{,}001$) in so v večji meri vključene v organizirane gibalne aktivnosti ($p < 0{,}001$). Zaposlene z enoizmenskim delovnikom za gibalno aktivnost motivira obvladovanje stresa, boljše razpoloženje, sproščenost, želja po gibanju in sprostitvi, medtem ko zaposlene z večizmenskim delovnikom pri rednem udejstvovanju ovirajo službena zadržanost, izostanek takojšnjega vidnega učinka in pomanjkanje prostega časa ($p = 0{,}025$).

Diskusija in zaključek: Diplomirane medicinske sestre se z gibalno aktivnostjo ukvarjajo premalo. Zlasti so ogroženi zaposleni z večizmenskim delovnikom zaradi manjše pogostnosti in vključenosti v organizirane oblike gibalnih aktivnosti. Pomembna je promocija zdravja v delovnem okolju v obliki aktivnega odmora med delovnikom in športnih iger za zaposlene in njihove družine.

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Introduction

An ever greater share of the population associates physical activity with a higher level of health as well as with the improvement and maintenance of health (Sila, 2010), regarding it as one of the main recommendations for developing and upholding a healthy lifestyle (Villarruel & Koniak-Griffin, 2007; Atkinson, et al., 2008). Physical activity encompasses various types of body movements that positively affect a person's health and energy consumption (Doupona Topič, 2010). The types that benefit health include sports recreation, work-recreational activities and transport-related movements (Zaletel-Kragelj, 2006) that are intended for the broad population regardless of age, gender, knowledge level and motor abilities (Berčič, et al., 2007). The sufficiency and suitability of physical activity depend on the frequency (number of days per week), intensity (e.g. light, moderate), duration (length of a training unit) and type of motor activity (e.g. aerobic activities, power exercises, flexibility exercises) (Berčič & Sila, 2007).

About two million deaths a year can be attributed to physical inactivity (World Health Organization, 2010). Regular physical activity changes a human body in morphological and functional terms, and this can prevent or slow down the occurrence of some illnesses and ageing as well as increase physical ability. Evidence suggests that an increased level of physical activity can benefit the health of every person, even after a long period of physical inactivity and regardless of their age (Smernice EU o telesni dejavnosti, 2008).

Regular and systematic physical activity is associated with employees' health since it improves their psychophysical abilities, and these in turn increase productivity at work (Karpljuk, et al., 2009). People who are concerned for their health and work performance organise their lives in such a way that they have enough time for free-time activities, helping them to lead a healthy lifestyle (Mlinar, 2007). The better health condition of employees correlates with high productivity and low absence from work (Popham & Mitchell, 2006). Over a period of 4 years, Ravnik and Kocjančič (2015) conducted three gradual ergonomic interventions among industrial workers so as to reduce musculoskeletal disorders and improve their ergonomic status. The study showed a decline in absenteeism, greater satisfaction at work and milder musculoskeletal pain in the employees who participated in the interventions. Important factors for reducing locomotor problems included active breaks during work hours, following the instructions on the manual lifting of loads, carrying out of physical exercises for the spine and employees' higher awareness of their health. In their study Zapka and collegues (2009) highlighted that the employer should also provide for the physical activity of nurses. Namely, the work of nurses is psychologically and physically strenuous and they frequently work in multiple shifts. To be able to counteract all the strains of their work, it is important for a nurse to lead a healthy lifestyle and regularly engage in physical activity (Mlinar, 2007).

Mere knowledge that physical activity maintains and improves health does not suffice for regular physical engagement. The fact that people undertake physical activity in their free time is largely a consequence of lifestyle and the related set of personal views and external factors that influence it (Doupona Topič & Sila, 2007). Compared to nurses who work one shift, nurses with a multiple-shift work schedule report their working hours affect the continuity and frequency of their physical activity as well as their social and family lives (Han, et al., 2011). Mlinar (2007) reports that only 31.5 % of nurses with a secondary-school education in the Ljubljana University Medical Centre's intensive care units were regularly physically active. Similar findings were reported by foreign studies conducted in Europe and the USA (McElligott, et al., 2009; Tucker, et al., 2010; Blake, et al., 2011; Malik, et al., 2011), emphasising that nurses' physical activity failed to meet the World Health Organization's recommendations (2010).

Aim and objectives

Based on the findings presented in the theoretical premises, it was established that physical activity is extremely important for nurses' health and work. It can be assumed that an important factor in nurses' physical activity is their working hours; especially a multiple-shift work schedule can be an influential factor leading to less frequent physical activity. The purpose of the empirical study was to investigate the physical activity status of graduate nurses in terms of their working hours and to find methods to motivate graduate nurses to overcome the obstacles and, in line with the World Health Organization's recommendations, devote more attention to regular physical activity (World Health Organization, 2010). The following hypotheses were verified in the study:

H1: There are statistically significant differences in physical activity, in terms of frequency, between graduate nurses working in one or multiple shifts.

H2: There are statistically significant differences in physical activity, in terms of organised physical activity, between graduate nurses working in one or multiple shifts.

H3: Graduate nurses working in one or multiple shifts can be distinguished in terms of the motives for and causes of their physical activity/inactivity.

Methods

A descriptive non-experimental methodology was applied in the study. The data were acquired using the survey technique.

Description of the research instrument

The survey technique was employed to collect the data. The research instrument was a structured written questionnaire. The questionnaire's structure was based on the substance of two studies: "Health-related behavioural style 2008", which was developed and implemented by the CINDI (Countrywide Integrated Noncommunicable Disease Intervention) Ljubljana organisation (Hlastan Ribič, et al., 2010), and "Sport activity and lifestyle of nurses employed in intensive care units of the Ljubljana University Medical Centre", conducted by Mlinar (2007). The questionnaire consisted of a demographic part and 21 questions divided into nine thematic sets: 1) socio-demographic characteristics of the sample; 2) frequency and duration of physical activity; 3) organisation of physical activity (organised training, non-organised training); 4) content and/or type of physical activity; 5) way of spending free time; 6) causes of physical inactivity and motives for movement; 7) assessment of the effects of physical activity on health, well-being and behaviour; 8) opinions about physical activity; and 9) assessment of own health and stress management with physical activity in the workplace. The article presents the results of the first, second, third and sixth thematic sets of the questionnaire. The respondents' socio-demographic characteristics were established by means of relational and ordinal variables. The second thematic set, the frequency of physical activity, was established using ordinal variables with five answers offered in advance. The measured variables in the third and sixth thematic sets of the questionnaire were expressed in the form of statements and assessed based on a 5-point scale, as follows: 1 – never, 2 – very rarely, 3 – occasionally, 4 – frequently, 5 – always.

Before its implementation, the questionnaire was pilot tested on a sample of graduate nurses (n = 22) from the Novo mesto General Hospital. To establish the measurement instrument's reliability, we used the Cronbach alpha coefficient which ranged from 0.710 to 0.876 in some thematic sets of the questionnaire and thus exceeded 0.700, which the literature states is the appropriate reliability level of a measurement instrument (Cencič, 2009).

Description of a sample

The statistical population included graduate nurses employed in public secondary or tertiary healthcare establishments (27 institutions) of the Republic of Slovenia. Two-stage random sampling was employed. In the first stage of the sampling, 15 institutes were randomly selected from among all participating healthcare establishments, and 12 institutes gave their consent for the research. In the second stage of sampling, a sample was created of all graduate nurses employed in healthcare establishments with only one or two intensive care departments. In those healthcare establishments that have several intensive care departments, two intensive care departments were randomly selected, i.e. by drawing lots, from the list of all departments with a multiple-shift work schedule, and two departments with a single-shift work schedule. The research included all graduate

Table 1: *Socio-demographic characteristics of the sample*
Tabela 1: *Socialnodemografske značilnosti vzorca*

Socio-demographic data/Socialnodemografski podatki	***n***	***%***
Higher professional education	349	100
One-shift work schedule	143	41.0
Multiple-shift work schedule	206	59.0
	$\bar{x}$ ***(s)***	***Min–Max***
Age (years)	35.7 (9.2)	21–60
Years of service	13.4 (10.3)	1–40
Body mass index	24.3 (3.8)	15.1–41.5
Body mass index:	***n***	***%***
Malnutrition < 18.50	9	2.6
Normal weight 18.50–24.99	221	63.3
Overweight 25–29.99	91	26.1
First-stage obesity 30–34.99	22	6.3
Second-stage obesity 35–39.99	5	1.4
Third-stage obesity > 40	1	0.3

Legend/Legenda: n – number/število; % – percentage/odstotek; $\bar{x}$ – average/povprečje; s – standard deviation/standardni odklon; Min – minimum/minimum; Max – maximum/maksimum

nurses from the selected departments who had given their consent to participate in the research and were present on the day the research was conducted.

The final sample of nurses included in the research consisted of 349 graduate nurses with a one-shift work schedule (41 %) or a multiple-shift work schedule (59 %). The sample's socio-demographic characteristics are presented in Table 1. The research included graduate nurses, all women, with an average age of 35.7 years (s = 9.2) and average years of service of 13.4 (s = 10.3).

Description of the research procedure and data analysis

The surveying was conducted from May 2012 to August 2012, after the participating health-care establishments had given their written consent for the research. The first author of the article conducted the entire data collection, using a personal written approach. The data collection respected the ethical aspects of research involving human subjects, in accordance with the principles of the Helsinki-Tokyo Declaration (World Medical Association, 2013) and the Slovenian Nurses' Code of Ethics (Kersnič & Filej, 2009). Participation in the research was anonymous and voluntary, with an option to withdraw without any consequences. All of the presented results are based on the anonymity of the participating graduate nurses.

The data were processed using the SPSS version 18.0 (SPSS Inc., Chicago, IL). A chi-square test and a t-test for independent samples were applied to establish differences in terms of physical activity between graduate nurses working one shift and graduate nurses working multiple shifts. The multivariate discriminant analysis method was used to explain the differences between the abovementioned groups of graduate nurses regarding the motives for and causes of physical activity/inactivity. Differences at a 5 % and lower risk level ($p < 0.05$) were considered statistically significant.

Results

The study showed that graduate nurses employed in secondary and tertiary healthcare establishments in Slovenia engage irregularly in physical activity in their free time in one-half of the cases, i.e. on weekends (22.9 %) or only a few times a month (20.3 %), or are not physically active at all (3.4 %) (Table 2). One-half of the nurses are physically active at least twice a week (53.3 %), but only 15.2 % of graduate nurses meet the criterion of recommended daily physical activity.

When verifying the first hypothesis, namely that there are statistically significant differences in physical activity, in terms of frequency, between the discussed groups of graduate nurses, the chi-square test confirmed the differences were statistically significant

Table 2: *Frequency of graduate nurses' physical activity and related differences due to their working hours*
Tabela 2: *Pogostnost ukvarjanja diplomiranih medicinskih sester z gibalno aktivnostjo in razlike glede na delovnik*

What is the frequency of your physical activity?/ Kako pogosto se ukvarjate z gibalno aktivnostjo?		***Shift work/ Delovnik***		***Total/ Skupaj***	***Chi-square test/ hi-kvadrat test***
		One shift/ Enoizmenski	***Multiple shifts/ Večizmenski***		***(p)***
Never	*n*	2	10	12	29.026 (< 0.001)
	% ratio of frequency	16.7 %	83.3 %	100.0 %	
	% ratio of working hours	1.4 %	4.9 %	3.4 %	
2–3 times a month	*n*	10	61	71	
	% ratio of frequency	14.1 %	85.9 %	100.0 %	
	% ratio of working hours	7.0 %	29.6 %	20.3 %	
Only during weekends	n	13	67	80	
	% ratio of frequency	16.3 %	83.8 %	100.0 %	
	% ratio of working hours	9.1 %	32.5 %	22.9 %	
2–3 times a week	*n*	74	59	133	
	% ratio of frequency	55.6 %	44.4 %	100.0 %	
	% ratio of working hours	51.7 %	28.6 %	38.1 %	
Every day	*n*	44	9	53	
	% ratio of frequency	83.0 %	17.0 %	100.0 %	
	% ratio of working hours	30.8 %	4.4 %	15.2 %	
Total	*n*	143	206	349	
	% ratio of frequency	41.0 %	59.0 %	100.0 %	
	% ratio of working hours	100.0 %	100.0 %	100.0 %	

Legend/Legenda: n – number/število; % – percentage/odstotek; p – statistical significance/statistična značilnost

($p < 0.001$). Graduate nurses working one shift are more frequently physically active than those working multiple shifts, namely 30.8 % are physically active every day and 51.7 % at least two or three times a week. Two-thirds of graduate nurses working multiple shifts engage in physical activity only on weekends (32.5 %) or several times a month (29.6 %).

As regards the organisation of physical activity (Table 3), the graduate nurses most often indicated they engage in physical activity alone or in a non-organised way ($\bar{x} = 3.4$). Organised physical activity was on average reported very rarely ($\bar{x} = 2.2$). In the assessment of the types of physical activity, the respondents' opinions differed considerably as the standard deviation value exceeded 1 in all types.

The t-test for independent samples was used to verify the second hypothesis, namely that there are statistically significant differences in physical activity, in terms of organised physical activity, between graduate nurses working in one or multiple shifts. The t-test revealed the statistically significantly higher inclusion of graduate nurses with a one-shift work schedule in sports clubs, sports associations or fitness centres compared to graduate nurses who work multiple shifts ($p < 0.001$). Employees with a one-shift work schedule were statistically significantly more involved in non-organised physical activities with their family members ($p = 0.019$). Graduate nurses with a multiple-shift work schedule prevailed in individual physical activity ($p < 0.001$). No statistically significant differences were established between the studied groups of nurses in terms of engaging in physical activity in the company of friends.

Table 4 shows that the discussed groups of graduate nurses differ most distinctively in terms of their motives for physical activity, which include: to reduce or manage stress (0.671), to improve mood and unwind (0.547), a desire for movement (0.497) and relaxation (0.452). The causes of physical inactivity that clearly distinguish the two groups of graduate nurses include not enough time due to work (–0.583), absence of an immediate visible effect (–0.497) and absence of free time (–0.456). The first four relations are positive while the next three are negative, meaning

Table 3: *Organisation of graduate nurses' physical activity and related differences due to their working hours*
Tabela 3*: Organiziranost ukvarjanja z gibalno aktivnostjo diplomiranih medicinskih sester in razlike glede na delovnik*

What is the organization of your physical activity?/ V kakšni obliki se ukvarjate z gibalno aktivnostjo?	***Total/ Skupaj n = 349***		***One shift/ Enoizmenski n =143***		***Multiple shifts/ Večizmenski n = 206***		***t***	***p***
	$\bar{x}$	***s***	$\bar{x}$	***s***	$\bar{x}$	***s***		
Organised, in a sports club, association, fitness centre	2.2	1.1	3.0	1.0	1.7	0.8	13.090	< 0.001
Non-organised, with friends	2.7	1.1	2.8	1.2	2.7	1.1	0.954	0.341
Non-organised, with my family members	3.1	1.1	3.3	1.1	3.0	1.2	2.349	0.019
I engage in physical activity alone	3.4	1.1	2.7	0.9	3.9	0.9	–12.425	< 0.001

Legend/Legenda: n - number/število; $\bar{x}$ – average/povprečje; s – standard deviation/standardni odklon; t –independent sample t-test/ t-test za neodvisne vzorce; p – statistical significance/statistična značilnost

Table 4: *Discriminant analysis of motives for and causes of physical activity/inactivity of graduate nurses who work one or multiple shifts*
Tabela 4: *Diskriminantna analiza motivov in vzrokov za gibalno aktivnost/neaktivnost med diplomiranimi medicinskimi sestrami, ki opravljajo enoizmensko oz. večizmensko delo*

Motives and causes for physical activity/inactivity/ Motivi in vzroki za gibalno aktivnost/neaktivnost	***Discriminant function 1 (structure coefficients)/ Diskriminantna funkcija 1 (strukturne uteži)***	***Canonical correlation coefficient (p)/ Kanonični korelacijski koeficient (p)***
Physical activity often helps me reduce stress.	0.671	0.356 (0.025)*
The current job does not allow me to engage in physical activity.	–0.583	
Physical activity helps improve my mood and I am more relaxed.	0.547	
I engage in physical activity because I have a desire for movement.	0.497	
I am physically inactive because the effect is not immediately visible.	–0.497	
I am physically inactive because I do not have enough free time.	–0.456	
I engage in physical activity to relax.	0.452	

*Legend/Legenda: p –statistical significance/statistična značilnost; * – the share of correctly classified units is 63.5 %/delež pravilno uvrščenih enot je 63,5 %*

the importance of the motives for physical activity increases with the performance of one-shift work, whereas the causes of physical inactivity decrease; in the case of a multiple-shift work schedule the causes of physical inactivity increase and the motives for physical activity decrease.

The third hypothesis, in which it was assumed that the groups of graduate nurses differ in terms of their motives for and causes of physical activity/inactivity, was verified with the canonical correlation coefficient (0.356). The coefficient is medium-high and shows that the investigated motives for physical activity and the causes of inactivity distinguish the graduate nurses who work one or multiple shifts with a 63.5% probability. The groups differ statistically significantly ($p = 0.025$) in terms of their motives for and causes of physical activity/inactivity in their free time.

Discussion

It was established that more than one-half of all graduate nurses in our research engaged in physical activity from twice a week to every day. Only one-fifth of them meet the World Health Organization's recommendation (2010), namely, at least 150 minutes of moderate to intense aerobic training per week for adults, with an uninterrupted duration of at least 10 minutes (e.g. 50 minutes three times a week). Less than one-half of the graduate nurses in our research were irregularly physically active, i.e. only on weekends or a few times a week. Conducted in Great Britain, the study by Blake and Harrison (2013) included 540 nurses. They found that, in view of the World Health Organization's recommendations (i.e. at least 30 minutes of moderate to intense physical activity five or six times a week for a positive effect on health), nearly one-half of the nurses were insufficiently physically active, which is comparable with our research. Tucker and collegues (2010) established in a study conducted in the USA that slightly less than one-half of the surveyed nurses were physically active and that most did not meet the recommendations concerning regular movement. In the abovementioned study, 6 % of those surveyed were completely physically inactive, which was slightly higher than the share of physically inactive subjects in our research (3.4 %).

A comparison of the results for frequency of physical activity showed statistically significant differences between the graduate nurses working one or multiple shifts, whereby graduate nurses with a multiple-shift work schedule dedicate less time to physical activity than graduate nurses working a single shift. The data showing that slightly less than one-third of the graduate nurses with a one-shift work schedule find time for physical activity every day are encouraging. On the other hand, occasional or irregular physical activity prevails among graduate nurses working multiple shifts. Our results differ from those of the study by Díaz-Sampedro and collegues (2010), conducted in a Spanish hospital among nurses working multiple shifts. They found that nearly three-quarters of the surveyed nurses were engaged in regular physical activity. Given the obtained results, the first research hypothesis "There are statistically significant differences in physical activity, in terms of frequency, between graduate nurses working in one or multiple shifts" can be accepted.

The graduate nurses in our research most often exercise in the framework of non-organised independent physical activity or with their family members. They rarely take part in organised trainings, and those who do are statistically significantly more often those who work one shift. One-shift nurses are more frequently physically active in the company of their family members, whereas those who work multiple shifts rank independent physical activity in first place. Statistically significant differences between the groups were expected because a multiple-shift work schedule is related with absence from home and thus fewer possibilities for spending family free time together or for engaging in organised physical activities with a fixed timetable. Hypothetically, it may be concluded that the differences between the studied groups stem from the characteristics of the working environment, the available recreational physical activities in connection with working hours, and the place of residence in the case of those deciding to engage in an organised or non-organised type of physical activity. Similar results were reported by Mlinar (2007) whose study revealed that nurses with a multiple-shift work schedule participated statistically significantly less often in organised physical activities than nurses working one shift. Given the results, the second research hypothesis "There are statistically significant differences in physical activity, in terms of organised physical activity, between graduate nurses working in one or multiple shifts" can be accepted.

Research shows that, in terms of the effects on a person's physical and mental health, organised physical activity led by a qualified expert is the highest in quality (Zurc, 2008). An unsettled issue to be answered in future studies is how to encourage nurses with a multiple-shift work schedule to engage in organised physical activities or how to adjust the latter to them. Special attention should be paid to exploring nurses' internal and external motives for engaging in organised physical activity.

The purpose of the third hypothesis was to identify the strongest motives for and causes of physical (in)activity that distinguish between graduate nurses working in one or multiple shifts. Based on the findings, it can be predicted with a 66.6 % level of reliability that, in terms of the causes of physical inactivity, those graduate nurses who work multiple shifts will differ from those working a single shift in the following views: the current job does not allow them to engage in physical activity,

the effect of the physical activity is not immediately visible, and they do not have enough free time. Similar causes of the physical inactivity of nurses working multiple shifts were reported in the study by Mlinar (2007), namely the differences compared to nurses with a one-shift work schedule were seen in the following statements: "multiple-shift work does not permit me", "overfatigue", "lack of leisure time", "the effect is not immediately visible", "I don't feel the urge to engage in physical activity" and "there are no sports facilities in the vicinity". In a study by Han and collegues (2011), nurses with a multiple-shift work schedule reported that their working hours influenced the low frequency of their physical activity. Similar findings were reported by Malik and collegues (2011) in a study conducted in England among graduate nurses and nurses with a secondary-school education where the main obstacles to physical activity included a lack of time, overfatigue, a lack of financial resources, and nurses' non-motivation. Given the results obtained from the discriminant analysis, the third research hypothesis "Graduate nurses working in one or multiple shifts can be distinguished in terms of the motives for and causes of their physical activity/inactivity" can be accepted.

The measurement instrument for studying the graduate nurses' physical activity in view of the working hours, which was composed based on previous research, proved to be appropriate for our study in terms of the data collection, while also offering opportunities for improvements in further research on graduate nurses' physical activity. The result of this study is only nurses' descriptive self-assessment of their movement-related behavioural style and not an objective measurement of their actual physical activities. This can serve as a basis for future research that could objectively measure the performed physical activity. The research offers starting points for deliberating on the status of the studied population's physical activity and for considering the possibility of including physical activity in regular working hours with the aim of encouraging nurses, especially those working multiple shifts, to be more physically active so as to maintain and improve their health.

Conclusion

The study found that graduate nurses, particularly those with a multiple-shift work schedule, engage insufficiently in physical activity. As physical activity is necessary to maintain health and ensure the high-quality work of nurses, employees in nursing care should be appropriately motivated, empowered and educated to adopt a more positive attitude to regular physical activity.

Based on the results of our study, we propose preventive trainings on the importance of physical activity for the health of employees in nursing care, especially nurses with a multiple-shift work schedule. Attention should be paid to adjusting the timetables of organised physical activities for nurses who work multiple shifts. Given the fact that graduate nurses are aware of the importance of physical activity but encounter certain obstacles in their attempt to regularly engage in such activity, it would be worth considering introducing an active break for employees during their working hours as well as different sports events for employees and their families; health institutions would thus boost the level of interest and offer their employees various possibilities for regular and continuous engagement in physical activities. Physical activity in the workplace improves employees' well-being and health and should be an indispensable part of the annual work plan. Physical activity only achieves its purpose when implemented regularly. As our research results show, in the case of nurses this is only feasible if the specifics of their working hours are considered.

Slovenian translation/Prevod v slovenščino

Uvod

Vse večji delež prebivalstva povezuje gibalno aktivnost z višjo ravnjo zdravstvenega stanja, izboljšanjem in ohranjanjem zdravja (Sila, 2010) ter jo umešča med glavna priporočila za razvoj in vzdrževanje zdravega načina življenja (Villarruel & Koniak-Griffin, 2007; Atkinson, et al., 2008). Gibalno aktivnost predstavljajo najrazličnejše oblike gibanja telesa, ki pozitivno učinkujejo na človekovo zdravje in porabo energije (Doupona Topič, 2010). Med zdravju koristne oblike prištevamo športno rekreacijo, delovno-rekreativne aktivnosti ter transportne oblike gibanja (Zaletel-Kragelj, 2006), ki so namenjene najširšim množicam prebivalstva ne glede na starost, spol, znanje in gibalne sposobnosti (Berčič, et al., 2007). Zadostnost in primernost gibalne aktivnosti opredeljujejo pogostnost (število dni tedensko), intenzivnost (npr. lahka, zmerna), trajanje (dolžina vadbene enote) in vrsta gibalne dejavnosti (npr. aerobne aktivnosti, vaje za moč, vaje za gibljivost) (Berčič & Sila, 2007).

Približno dva milijona smrti na leto lahko pripišemo gibalni neaktivnosti (World Health Organization, 2010). Človeško telo se zaradi redne gibalne aktivnosti morfološko in funkcionalno spremeni, kar lahko prepreči in upočasni pojav nekaterih bolezni in staranja ter poveča fizično zmogljivost. Na voljo so dokazi, da lahko povečana stopnja gibalne aktivnosti tudi po daljšem obdobju nedejavnosti koristi zdravju vsakega človeka ne glede na njegovo starost (Smernice EU o telesni dejavnosti, 2008).

Redno in sistematično gibalno aktivnost povezujemo z zdravjem zaposlenih, saj izboljšuje psihofizične sposobnosti, ki posledično povečujejo delovno

storilnost (Karpljuk, et al., 2009). Osebe, ki so odgovorne za svoje zdravje in delovno uspešnost, si svoje življenje organizirajo tako, da imajo čas za prostočasne dejavnosti, ki jih podpirajo pri oblikovanju zdravega življenjskega sloga (Mlinar, 2007). Boljše splošno zdravje delavcev pa je povezano z visoko produktivnostjo in nižjo stopnjo odsotnosti z dela (Popham & Mitchell, 2006). Ravnik in Kocjančič (2015) sta v obdobju štirih let izvedla tri postopne ergonomske intervencije na delovnem mestu pri zaposlenih v industriji z namenom zmanjšanja mišično-skeletnih težav in izboljšanja ergonomskega statusa. Raziskava je pokazala upad absentizma, večje zadovoljstvo pri delu in manjšo izraženost mišično-skeletnih bolečin pri zaposlenih, ki so bili vključeni v intervencije. Zlasti pomembno vlogo na zmanjšanje lokomotornih težav so imeli aktivni odmori med delom, upoštevanje navodil pravilnega dvigovanja bremen, izvedba gibalnih vaj za hrbtenico ter večja splošna osveščenost zaposlenih o njihovem zdravju. V raziskavi Zapka s sodelavci (2009) opozarja, da bi tudi delodajalec moral poskrbeti za gibalno aktivnost medicinskih sester. Delo medicinskih sester je namreč psihično in fizično naporno, pogosto je njihovo delo tudi večizmensko. Z namenom premagovanja vseh delovnih obremenitev je za medicinsko sestro pomemben zdrav življenjski slog in s tem tudi redna gibalna aktivnost (Mlinar, 2007).

Zgolj védenje, da gibalna aktivnost ohranja in krepi zdravje, še ne zadošča za redno gibalno udejstvovanje. Na to, da se ljudje v svojem prostem času ukvarjajo z gibalno aktivnostjo, v veliki meri vplivata življenjski slog in z njim povezana množica osebnih stališč in zunanjih dejavnikov, ki ga oblikujejo (Doupona Topič & Sila, 2007). V primerjavi medicinskimi sestrami, ki delajo enoizmensko, medicinske sestre, ki opravljajo večizmensko delo, poročajo, da njihov delovnik vpliva na kontinuiteto in pogostnost gibalne aktivnosti ter na družabno in družinsko življenje (Han, et al., 2011). Avtorica Mlinar (2007) poroča, da je redno gibalno aktivnih samo 31,5 % srednješolsko izobraženih medicinskih sester v intenzivnih enotah Kliničnega centra Ljubljana. Do podobnih ugotovitev so prišle tudi tuje raziskave v Evropi in Združenih državah Amerike (McElligott, et al., 2009; Tucker, et al., 2010; Blake, et al., 2011; Malik, et al., 2011), ki izpostavljajo, da gibalna aktivnost medicinskih sester ne dosega priporočil Svetovne zdravstvene organizacije (World Health Organization, 2010).

Namen raziskave in cilji

Na podlagi v teoretičnih izhodiščih predstavljenih spoznanj ugotavljamo, da je gibalna aktivnost izrednega pomena za zdravje in delo medicinskih sester. Predvidevamo, da ima za gibalno aktivnost medicinskih sester pomembno vlogo njihov delovnik; zlasti večizmensko delo lahko predstavlja vplivni dejavnik manjše pogostnosti gibalne aktivnosti. Namen empirične raziskave je bil zato raziskati stanje gibalne aktivnosti diplomiranih medicinskih sester z vidika delovnika in poiskati načine motiviranja ter premostitve ovir pri diplomiranih medicinskih sestrah, da bi glede na priporočila Svetovne zdravstvene organizacije redni gibalni aktivnosti namenile več pozornosti (World Health Organization, 2010). V raziskavi smo preverjali sledeče hipoteze:

H1: Med enoizmensko in večizmensko zaposlenimi diplomiranimi medicinskimi sestrami obstajajo statistično značilne razlike v gibalni aktivnosti po pogostnosti udejstvovanja.

H2: Med enoizmensko in večizmensko zaposlenimi diplomiranimi medicinskimi sestrami obstajajo statistično značilne razlike v gibalni aktivnosti po organiziranosti udejstvovanja.

H3: Enoizmensko in večizmensko zaposlene diplomirane medicinske sestre se ločujejo po motivih in vzrokih za gibalno aktivnost/neaktivnost.

Metode

Raziskava temelji na opisni neeksperimentalni metodologiji. Podatki so bili zbrani s tehniko anketiranja.

Opis instrumenta

Podatke smo zbirali s tehniko anketiranja. Kot instrument raziskave smo uporabili strukturiran pisni vprašalnik. Pri sestavljanju vprašalnika smo vsebinsko izhajali iz dveh raziskav: »Z zdravjem povezan vedenjski slog 2008«, ki jo je razvila in izvedla organizacija CINDI (Countrywide Integrated Noncommunicable Disease Intervention) Ljubljana (Hlastan Ribič, et al., 2010), ter raziskave »Športna dejavnost in življenjski slog medicinskih sester, zaposlenih v intenzivnih enotah Kliničnega centra v Ljubljani«, ki jo je izvedla Mlinar (2007). Vprašalnik je bil sestavljen iz demografskega dela in 21 vprašanj, skupaj razdeljenih v devet tematskih sklopov, in sicer 1) socialnodemografske značilnosti vzorca, 2) pogostnost in trajanje gibalne aktivnosti, 3) oblike ukvarjanja z gibalno aktivnostjo (organizirana vadba, neorganizirana vadba), 4) vsebina oz. vrsta gibalne aktivnosti, 5) način preživljanja prostega časa, 6) vzroki za gibalno neaktivnost in motivi za gibanje, 7) ocena učinkov gibalne aktivnosti na zdravje, počutje in vedenje, 8) stališča do gibalne aktivnosti ter 9) ocena lastnega zdravstvenega stanja in obvladovanja stresa z gibalno aktivnostjo na delovnem mestu. Članek prikazuje rezultate prvega, drugega, tretjega in šestega tematskega sklopa vprašalnika. Socialnodemografske značilnosti anketirancev smo ugotavljali z razmernostnimi in ordinalnimi spremenljivkami. Drugi tematski sklop, pogostnost gibalne aktivnosti, smo ugotavljali z ordinalnimi spremenljivkami s

petimi ponujenimi odgovori. Merjene spremenljivke v tretjem in šestem tematskem sklopu vprašalnika so bili izražene v obliki trditev in ocenjevane po petstopenjski ocenjevalni lestvici, pri kateri so vrednosti pomenile sledeče: 1 – nikoli, 2 – zelo redko, 3 – občasno, 4 – pogostno, 5 – vedno.

Pred izvedbo smo vprašalnik pilotno testirali na vzorcu diplomiranih medicinskih sester (n = 22) v Splošni bolnišnici Novo mesto. Za ugotavljanje zanesljivosti merskega instrumenta smo uporabili koeficient Cronbach alfa, ki je v posameznih tematskih sklopih vprašalnika dosegel vrednosti med 0,710 in 0,876 ter s tem presegel vrednost 0,700, ki v literaturi predstavlja ustrezno stopnjo zanesljivosti merskega instrumenta (Cencič, 2009).

Opis vzorca

Populacijo ali statistično množico so predstavljale diplomirane medicinske sestre, ki so bile v času izvedbe raziskave zaposlene v javnih sekundarnih in terciarnih zdravstvenih zavodih (27 zavodov) Republike Slovenije. Vzorčenje je bilo slučajnostno dvostopenjsko. Na prvi stopnji vzorčenja je bilo iz seznama vseh vključenih zdravstvenih zavodov slučajnostno izbranih 15 zavodov, soglasje za izvedbo raziskave je dalo 12 zavodov. Na drugi stopnji vzorčenja smo v zdravstvenih zavodih, kjer sta bila le en ali dva intenzivna oddelka, izbrali v vzorec vse zaposlene diplomirane medicinske sestre. V zdravstvenih zavodih z več intenzivnimi oddelki smo iz seznama vseh oddelkov naključno z žrebom izbrali dva intenzivna oddelka z večizmenski delom in prav tako dva oddelka z enoizmenskim delom. V raziskavo smo vključili vse diplomirane medicinske sestre izbranih oddelkov, ki so dale ustni pristanek za sodelovanje v raziskavi in so bile prisotne na dan izvedbe raziskave.

Končni vzorec v raziskavo vključenih diplomiranih medicinskih sester je predstavljal 349 diplomiranih medicinskih sester, zaposlenih na delovnih mestih z enoizmenskim delovnikom (41 %) oz. zaposlenih na delovnih mestih z večizmenskim delovnikom (59 %). Socialnodemografske značilnosti vzorca so prikazane v Tabeli 1. V raziskavi so sodelovale diplomirane medicinske sestre, vse ženskega spola, s povprečno starostjo 35,7 (s = 9,2) let in povprečno delovno dobo 13,4 (s = 10,3).

Opis poteka raziskave in obdelava podatkov

Izvedba anketiranja je potekala od maja 2012 do avgusta 2012 po pridobitvi pisnih soglasij vključenih zdravstvenih zavodov za izvedbo raziskave. Zbiranje podatkov je v celoti izvedla prva avtorica članka z osebnim pisnim pristopom. Zbiranje podatkov je potekalo z upoštevanjem etičnih vidikov raziskovanja, ki vključujejo raziskave na ljudeh, v skladu z načeli Helsinško-Tokijske deklaracije (World Medical Association, 2013) in Kodeksa etike medicinskih sester in zdravstvenih tehnikov Slovenije (Kersnič & Filej, 2009). Sodelovanje v raziskavi je bilo anonimno in prostovoljno, z možnostjo prekinitve brez posledic. Vsi predstavljeni rezultati temeljijo na anonimnosti vključenih diplomiranih medicinskih sester.

Tabela 1: *Socialnodemografske značilnosti vzorca*
Table 1: *Socio-demographic characteristics of the sample*

Socialnodemografski podatki/Socio-demographic data	***n***	***%***
Visoka strokovna izobrazba	349	100
Enoizmenski delovnik	143	41,0
Večizmenski delovnik	206	59,0
	$\bar{x}$ ***(s)***	***Min–Maks***
Starost v letih	35,7 (9,2)	21–60
Delovna doba v letih	13,4 (10,3)	1–40
Indeks telesne mase	24,3 (3,8)	15,1–41,5
Indeks telesne mase:	***n***	***%***
Podhranjenost < 18,50	9	2,6
Normalna teža 18,50–24,99	221	63,3
Prekomerna telesna teža 25–29,99	91	26,1
Debelost 1. stopnje 30–34,99	22	6,3
Debelost 2. stopnje 35–39,99	5	1,4
Debelost 3. stopnje > 40	1	0,3

Legenda/Legend: n – število/number; % – odstotek/percentage; $\bar{x}$ – povprečje/average; s – standardni odklon/standard deviation; Min – minimum/minimum; Maks – maksimum/maximum

Podatke smo obdelali z računalniškim programom SPSS verzija 18.0 (SPSS Inc., Chicago, IL). Za namen ugotavljanja razlik v gibalni aktivnosti med diplomiranimi medicinskimi sestrami z enoizmenskim in diplomiranimi medicinskimi sestrami z večizmenskim delovnikom smo uporabili test hi-kvadrat in t-test za neodvisne vzorce. Za pojasnjevanje razlike med obravnavanima skupinama diplomiranih medicinskih sester glede motivov in vzrokov za gibalno aktivnost/neaktivnost smo uporabili multivariatno metodo diskriminantne analize. Za statistično značilne smo upoštevali razlike na ravni 5% in manjšega tveganja ($p < 0,05$).

Rezultati

Raziskava je pokazala, da se diplomirane medicinske sestre, zaposlene v sekundarnih in terciarnih zdravstvenih zavodih v Sloveniji, z gibalno aktivnostjo v prostem času v polovici primerov ukvarjajo neredno, tj. ob koncu tedna (22,9 %) ali samo nekajkrat mesečno (20,3 %), oziroma sploh niso gibalno aktivne (3,4 %) (Tabela 2). Polovica medicinskih sester pa je gibalno aktivna vsaj dvakrat tedensko (53,3 %), od tega samo 15,2 % diplomiranih medicinskih sester zadosti pogoju priporočene vsakodnevne gibalne aktivnosti.

Pri preverjanju prve hipoteze, s katero smo predvideli, da med obravnavanima skupinama diplomiranih medicinskih sester obstajajo statistično značilne razlike v gibalni aktivnosti po pogostnosti, je test hi-kvadrat potrdil statistično značilne razlike ($p < 0,001$). Diplomirane medicinske sestre v enoizmenskem delovniku so v primerjavi z večizmenskim delovnikom bolj pogosto redno gibalno aktivne, 30,8 % se jih giblje vsak dan, 51,7 % pa vsaj dvakrat ali trikrat na teden. V dveh tretjinah so diplomirane medicinske sestre z večizmenskim delovnikom navedle, da se z gibalno aktivnostjo ukvarjajo samo ob koncih tedna (32,5 %) ali nekajkrat na mesec (29,6 %).

Glede oblike ukvarjanja z gibalno aktivnostjo (Tabela 3) so diplomirane medicinske sestre najpogosteje odgovorile, da se z gibalno aktivnostjo ukvarjajo same oz. v neorganizirani obliki ($\overline{x} = 3,4$). Organizirano ukvarjanje z gibalno aktivnostjo je bilo v povprečju navedeno kot zelo redko ($\overline{x} = 2,2$). V ocenah posameznih oblik gibalne aktivnosti so bila mnenja anketirancev zelo razpršena, saj je bila vrednost standardnega odklona pri vseh oblikah nad 1.

S t-testom za neodvisne vzorce smo preverjali drugo hipotezo, s katero smo predvideli, da se diplomirane medicinske sestre z enoizmenskim delovnikom statistično značilno bolj pogosto vključujejo v organizirane gibalne aktivnosti. T-test je pokazal statistično značilno večjo vključenost diplomiranih medicinskih sester z enoizmenskim delovnikom v športne klube, športna društva ali fitnes centre v primerjavi z diplomiranimi medicinskimi sestrami z večizmenskim delovnikom ($p < 0,001$). Zaposlene

Tabela 2: *Pogostnost ukvarjanja diplomiranih medicinskih sester z gibalno aktivnostjo in razlike glede na delovnik*
Table 2: *Frequency of graduated nurses' physical activity and its differences due to their working hours*

Kako pogosto se ukvarjate z gibalno aktivnostjo?/ What is the frequency of your physical activity?		***Delovnik/Shift-work***		***Skupaj/ Total***	***Test hi-kvadrat/ Chi-square test (p)***
		Enoizmenski/ One-shift	***Večizmenski/ More-shifts***		
Nikoli.	*n*	2	10	12	29,026 (< 0,001)
	% razmerje med pogostostmi	16,7 %	83,3 %	100,0 %	
	% razmerje med delovnikoma	1,4 %	4,9 %	3,4 %	
2–3-krat mesečno.	*n*	10	61	71	
	% razmerje med pogostostmi	14,1 %	85,9 %	100,0 %	
	% razmerje med delovnikoma	7,0 %	29,6 %	20,3 %	
Samo ob koncih tedna.	*n*	13	67	80	
	% razmerje med pogostostmi	16,3 %	83,8 %	100,0 %	
	% razmerje med delovnikoma	9,1 %	32,5 %	22,9 %	
2–3-krat tedensko.	*n*	74	59	133	
	% razmerje med pogostostmi	55,6 %	44,4 %	100,0 %	
	% razmerje med delovnikoma	51,7 %	28,6 %	38,1 %	
Vsak dan.	*n*	44	9	53	
	% razmerje med pogostostmi	83,0 %	17,0 %	100,0 %	
	% razmerje med delovnikoma	30,8 %	4,4 %	15,2 %	
Skupaj	*n*	143	206	349	
	% razmerje med pogostostmi	41,0 %	59,0 %	100,0 %	
	% razmerje med delovnikoma	100,0 %	100,0 %	100,0 %	

Legenda/Legend: n – število/number; % – odstotek/percentage; p – statistična značilnost/statistical significance

Tabela 3: *Organiziranost ukvarjanja z gibalno aktivnostjo diplomiranih medicinskih sester in razlike glede na delovnik*
Table 3: *Organisation of graduated nurses' physical activity and its differences due to their working hours*

V kakšni obliki se ukvarjate z gibalno aktivnostjo?/ What is the organization of your physical activity?	***Skupaj/ Total n = 349***		***Enoizmenski/ One-shift n =143***		***Večizmenski/ More-shifts n = 206***		***t***	***p***
	$\bar{x}$	***s***	$\bar{x}$	***s***	$\bar{x}$	***s***		
Organizirano v športnem klubu, društvu, fitnesu.	2,2	1,1	3,0	1,0	1,7	0,8	13,090	< 0,001
Neorganizirano s prijatelji.	2,7	1,1	2,8	1,2	2,7	1,1	0,954	0,341
Neorganizirano v krogu družine.	3,1	1,1	3,3	1,1	3,0	1,2	2,349	0,019
Z gibalno aktivnostjo se ukvarjam sam/a.	3,4	1,1	2,7	0,9	3,9	0,9	–12,425	< 0,001

Legenda/Legend: n - število/number; $\bar{x}$ – povprečje/average; s – standardni odklon/standard deviation; t –t-test za neodvisne vzorce/ independent-sample T test; p – statistična značilnost/statistical significance

Tabela 4: *Diskriminantna analiza motivov in vzrokov za gibalno aktivnost/neaktivnost med diplomiranimi medicinskimi sestrami, ki opravljajo enoizmensko oz. večizmensko delo*
Table 4: *Discriminant analysis of motives and causes for physical activity/inactivity of graduated nurses who work one shift and more shifts*

Motivi in vzroki za gibalno aktivnost/neaktivnost/ Motives and causes for physical activity/inactivity	***Diskriminantna funkcija 1 (strukturne uteži)/ Discriminant function 1 (structure coefficients)***	***Kanonični korelacijski koeficient/ Canonical correlation coefficient (p)***
Gibalna aktivnost ima pogost učinek na zmanjšanje stresa.	0,671	0,356 (0,025)*
Trenutna služba mi gibalne aktivnosti ne dopušča.	–0,583	
Z gibalno aktivnostjo sem bolj razpoložen/a, sproščen/a.	0,547	
Z gibalno aktivnostjo se ukvarjam zaradi želje po gibanju.	0,497	
Sem gibalno neaktiven/a, ker ni takojšnega vidnega učinka.	–0,497	
Sem gibalno neaktiven/a, ker imam premalo prostega časa.	–0,456	
Z gibalno aktivnostjo se ukvarjam zaradi sprostitve.	0,452	

*Legenda/Legend: p – statistična značilnost/statistical significance; * – delež pravilno uvrščenih enot je 63,5 %/the percentage of correctly classified units is 63.5 %*

z enoizmenskim delovnikom so bile statistično značilno v večji meri vključene tudi v neorganizirane gibalne aktivnosti v krogu svoje družine (p = 0,019). Diplomirane medicinske sestre z večizmenskim delovnikom pa so prevladovale v samostojni gibalni aktivnosti (p < 0,001). Pri ukvarjanju z gibanjem v družbi prijateljev med proučevanima skupinama ni bilo ugotovljenih statistično značilnih razlik.

Tabela 4 prikazuje, da se obravnavani skupini diplomiranih medicinskih sester najbolj izrazito ločujeta po motivih za gibalno aktivnost zaradi zmanjševanja oziroma obvladovanja stresa (0,671), boljšega razpoloženja, sproščenosti (0,547), želje po gibanju (0,497) in sprostitvi (0,452). Vzroki za gibalno neaktivnost, ki vidno ločujejo obravnavani skupini diplomiranih medicinskih sester, pa so službena zadržanost (–0,583), izostanek takojšnjega vidnega učinka (–0,497) in pomanjkanje prostega časa (–0,456). Prve štiri povezave so pozitivne, naslednje tri so negativne, kar pomeni da z vključenostjo v enoizmenski delovnik narašča pomen motivov za gibalno udejstvovanje in upadajo vzroki za gibalno neaktivnost, medtem ko z vključenostjo v večizmenski delovnik naraščajo vzroki za gibalno neaktivnost in upadajo motivi za gibalno aktivnost.

Tretjo hipotezo, v kateri smo predvideli, da se obravnavani skupini diplomiranih medicinskih sester ločujeta po motivih in vzrokih za gibalno aktivnost/ neaktivnost, smo preverjali s kanoničnim korelacijskim koeficientom (0,356). Koeficient je srednje visok in kaže, da proučevani motivi za gibalno aktivnost in vzroki za neaktivnost s 63,5% verjetnostjo ločujejo med enoizmensko in večizmensko zaposlenimi diplomiranimi medicinskimi sestrami. Skupini sta glede motivov in vzrokov za gibalno aktivnost/neaktivnost v prostem času statistično značilno različni (p = 0,025).

Diskusija

Ugotovili smo, da se več kot polovica vseh diplomiranih medicinskih sester v naši raziskavi posveča gibalni aktivnosti od dvakrat na teden do vsak dan. Od tega pa jih samo ena petina zadosti priporočilom Svetovne zdravstvene organizacije (World Health Organization, 2010), ki za odrasle priporoča najmanj 150 minut zmerne do intenzivne

aerobne vadbe na teden, z neprekinjenim trajanjem najmanj 10 minut (npr. trikrat na teden po 50 minut). Slaba polovica diplomiranih medicinskih sester je bila v naši raziskavi neredno gibalno aktivna, tj. samo ob koncih tedna ali nekajkrat na mesec. V raziskavi Blake & Harrison (2013), ki je bila izvedena v Veliki Britaniji, je sodelovalo 540 medicinskih sester. Ugotovili so, da je glede na priporočila Svetovne zdravstvene organizacije (za pozitiven učinek na zdravje je potrebnih vsaj 30 minut zmerne do intenzivne gibalne aktivnosti pet ali več dni na teden) slaba polovica medicinskih sester premalo gibalno aktivnih, kar je primerljivo z našo raziskavo. Tudi Tucker s sodelavci (2010) v svoji raziskavi, izvedeni v Združenih državah Amerike, ugotavlja, da je gibalno aktivna slaba polovica anketiranih medicinskih sester, ki večinoma ne dosegajo priporočil glede rednega gibanja. V navedeni raziskavi je bilo 6 % anketiranih gibalno povsem neaktivnih, kar je malenkost višje od v naši raziskavi ugotovljenega deleža neaktivnih (3,4 %).

Pri primerjavi rezultatov pogostnosti gibalne aktivnosti smo med enoizmensko in večizmensko zaposlenimi diplomiranimi medicinskimi sestrami ugotovili statistično značilne razlike, pri čemer diplomirane medicinske sestre z večizmenskim delovnikom gibalni aktivnosti posvetijo manj časa kot diplomirane medicinske sestre z enoizmenskim delovnikom. Razveseljiv je podatek, da je med enoizmensko zaposlenimi diplomiranimi medicinskimi sestrami, nekaj manj kot tretjina takih, ki vsak dan najdejo čas za gibalno aktivnost. Na drugi strani pa pri večizmensko zaposlenih diplomiranih medicinskih sestrah prevladuje občasna oz. neredna gibalna aktivnost. Naši rezultati se razlikujejo od raziskave Díaz-Sampedro s sodelavci (2010), ki so jo izvedli med medicinskimi sestrami z večizmenskim delovnikom v španski bolnišnici. Ugotovili so, da se skoraj tri četrtine anketiranih medicinskih sester redno ukvarja z gibalno aktivnostjo. Glede na dobljene rezultate lahko prvo raziskovalno hipotezo, ki se je glasila »Med enoizmensko in večizmensko zaposlenimi diplomiranimi medicinskimi sestrami obstajajo statistično značilne razlike v gibalni aktivnosti po pogostnosti udejstvovanja«, sprejmemo.

Diplomirane medicinske sestre v naši raziskavi se najpogosteje gibljejo v neorganizirani samostojni obliki ali pa v krogu svoje družine. Redkeje se vključujejo v organizirane gibalne vadbe, pri čemer statistično značilno prednjačijo zaposlene z enoizmenskim delovnikom. Enoizmensko zaposlene so tudi bolj pogosto gibalno aktivne v krogu svoje družine, medtem ko večizmensko zaposlene na prvo mesto postavljajo samostojno gibalno aktivnost. Dobljene statistično značilne razlike med skupinama smo pričakovali, saj je večizmenski delovnik povezan z odsotnostjo od doma in tako tudi z manj možnostmi za skupno družinsko preživljanje časa ali za vključevanje v organizirane gibalne aktivnosti, ki imajo določen stalen urnik izvajanja. Hipotetično lahko sklepamo, da razlike med proučevanima skupinama izhajajo iz značilnosti delovnega okolja, iz ponudb prostočasnih gibalnih aktivnosti glede na delovnik in iz kraja bivanja pri odločanju za ukvarjanje z organizirano ali neorganizirano obliko gibalne aktivnosti. Podobne rezultate so dobili v raziskavi Mlinar (2007), kjer so se večizmensko zaposlene medicinske sestre statistično značilno manj pogosto udeleževale organiziranih vadb kot medicinske sestre z enoizmenskim delovnikom. Glede na dobljene rezultate lahko drugo raziskovalno hipotezo, ki se je glasila »Med enoizmensko in večizmensko zaposlenimi diplomiranimi medicinskimi sestrami obstajajo statistično značilne razlike v gibalni aktivnosti po organiziranosti udejstvovanja«, sprejmemo.

Raziskave kažejo, da je z vidika učinkovanja na posameznikovo telesno in duševno zdravje najbolj kakovostno organizirano gibanje, ki poteka pod vodstvom za to usposobljenega strokovnjaka (Zurc, 2008). Tu ostaja odprto vprašanje, namenjeno prihodnjim raziskavam, na kakšen način spodbuditi oziroma prilagoditi organizirane oblike vadb večizmensko zaposlenim medicinskim sestram. Posebno pozornost velja v tem okviru nameniti tudi proučevanju notranjih in zunanjih motivov medicinskih sester za udeležbo v organiziranih gibalnih aktivnostih.

S tretjo hipotezo smo želeli preveriti, kateri so najmočnejši motivi in vzroki za ukvarjanje oziroma neukvarjanje z gibalno aktivnostjo, ki ločujejo enoizmensko in večizmensko zaposlene diplomirane medicinske sestre. Na osnovi dobljenih ugotovitev lahko z dvotretjinsko zanesljivo gotovostjo napovemo, da se bodo zaposlene diplomirane medicinske z večizmenskim delovnikom glede na vzroke neukvarjanja z gibalno aktivnostjo od zaposlenih z enoizmenskim delovnikom ločile po naslednjih stališčih: da jim trenutna služba ne dopušča gibalnega udejstvovanja, da ni opaziti takojšnjega vidnega učinka gibalne aktivnosti in da jim primanjkuje prostega časa. Podobne razloge za gibalno neaktivnost medicinskih sester z večizmenskim delovnikom je v svoji raziskavi navedla tudi avtorica Mlinar (2007), in sicer so bile ugotovljene razlike z zaposlenimi z enoizmenskim delovnikom v trditvah: »večizmensko delo mi ne dopušča«, »preutrujenost«, »pomanjkanje prostega časa«, »ni takojšnjega vidnega učinka«, »ne čutim potrebe po fizičnem naporu« in »v bližini ni športnih objektov«. V raziskavi Han s sodelavci (2011) so medicinske sestre z večizmenskim delovnim časom poročale, da njihov delovni urnik vpliva na manjšo pogostnost gibalne aktivnosti. Do podobnih ugotovitev so v svoji raziskavi, izvedeni med diplomiranimi in srednješolsko izobraženimi medicinskimi sestrami v Angliji, prišli tudi Malik s sodelavci (2011), kjer so se kot osrednje ovire za gibalno aktivnost pokazali pomanjkanje časa, preutrujenost, pomanjkanje

finančnih sredstev in nemotiviranost medicinskih sester. Glede na dobljene rezultate diskriminante analize lahko tretjo raziskovalno hipotezo, ki se je glasila »Enoizmensko in večizmensko zaposlene diplomirane medicinske sestre se ločujejo po motivih in vzrokih za gibalno aktivnost/neaktivnost«, sprejmemo.

Merski instrument za proučevanje gibalne aktivnosti diplomiranih medicinskih sester glede na delovni čas, ki smo ga sestavili na osnovi dosedanjih raziskav, se je izkazal za ustreznega z vidika zbiranja podatkov v naši raziskavi in hkrati ponuja priložnosti za izboljšave za prihodnje raziskave proučevanja gibalne aktivnosti diplomiranih medicinskih sester. Z izvedeno raziskavo smo dobili le opisno samooceno medicinskih sester o njihovem gibalnem vedenjskem slogu in ne objektivno izmerjene dejanske gibalne aktivnosti. To ponuja priložnost za nadgradnjo v prihodnjih raziskavah, s katerimi bi objektivno merili izvedeno gibalno aktivnost. Raziskava nudi izhodišča za premislek o stanju gibalne aktivnosti na proučevani populaciji in proučitev možnosti za vključitev gibalne aktivnosti v redni delovni čas in s tem spodbujanje medicinskih sester, zlasti z večizmenskim delovnim časom, da bi bile bolj gibalno aktivne za ohranjanje in krepitev lastnega zdravja.

Zaključek

Z raziskavo smo ugotovili, da se diplomirane medicinske sestre, zlasti tiste, ki opravljajo večizmensko delo, z gibalno aktivnostjo ukvarjajo premalo. Ker je gibalna aktivnost nujno potrebna za zdravje in kakovostno delo medicinskih sester, je zaposlene v zdravstveni negi nujno potrebno motivirati, opolnomočiti in zdravstveno vzgojiti za oblikovanje bolj pozitivnega odnosa do redne gibalne aktivnosti.

Na osnovi rezultatov naše raziskave predlagamo preventivno izobraževanje o pomenu gibalne aktivnosti za zdravje pri zaposlenih v zdravstveni negi, zlasti medicinskih sester z večizmenskim delovnim časom. Pozornost velja usmeriti tudi v prilagoditev urnika organiziranih vadb za medicinske sestre z večizmenskim delovnikom. Glede na to, da se diplomirane medicinske sestre zavedajo pomena gibalne aktivnosti, vendar imajo določene ovire za redno gibalno udejstvovanje, bi bilo dobro razmisliti o organizaciji aktivnega odmora za zaposlene med delovnim časom in o organizaciji športnih dogodkov za zaposlene ter njihove družine, s katerimi bi zdravstveni zavodi dvignili raven zanimanja in možnosti za redno in kontinuirano gibalno udejstvovanje med svojimi zaposlenimi. Gibalna aktivnost na delovnem mestu prispeva k boljšemu počutju in zdravju delavcev in bi morala biti sestavni del letnega načrta dela. Gibalna aktivnost doseže svoj namen namreč šele takrat, ko jo izvajamo redno. Le-to pa je pri medicinskih sestrah, kot kažejo rezultati naše raziskave, izvedljivo šele z upoštevanjem tudi značilnosti delovnega časa.

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