

# fizjoterapia polska



POLISH JOURNAL OF PHYSIOTHERAPY

OFICJALNE PISMO POLSKIEGO TOWARZYSTWA FIZJOTERAPII

THE OFFICIAL JOURNAL OF THE POLISH SOCIETY OF PHYSIOTHERAPY

NR 2/2015 (15) KWARTALNIK ISSN 1642-0136

## Zaburzenia narządu ruchu u kobiet w zespole Turnera

**Musculoskeletal disturbances  
in women with Turner's  
syndrome**

**Analiza  
potencjalnych  
czynn timerów  
ryzyka syndromu  
wypalenia  
zawodowego  
u fizjoterapeutów**

**The analysis of potential  
risks factors for professional burnout syndrome in physiotherapists**

**ZAMÓW PRENUMERATE!**

**SUBSCRIBE!**

[www.redakcja-fp.pl](http://www.redakcja-fp.pl)

[prenumerata@redakcja-fp.pl](mailto:prenumerata@redakcja-fp.pl)



# Analiza potencjalnych czynników ryzyka syndromu wypalenia zawodowego u fizjoterapeutów

*The Analysis of Potential Risks Factors for Professional Burnout Syndrome in Physiotherapists*

**Ewa Puszczałowska-Lizis<sup>1(A,B,C,D,E,F)</sup>, Monika Niebieszczańska<sup>2(A,B,D,F)</sup>, Sławomir Jandziś<sup>1(A,B,D)</sup>, Marek Kiljański<sup>3,4(A,D,F)</sup>**

<sup>1</sup>Uniwersytet Rzeszowski, Wydział Medycyny, Instytut Fizjoterapii, Rzeszów, Polska/Rzeszow University, Department of Medicine, Institute of Physiotherapy, Rzeszow, Poland

<sup>2</sup>Niepubliczny Zakład Opiekuńczo-Lecznicy i Opieki Paliatywnej „San-Med B&K” w Przemyslu, Polska/Non-Public Medical and Palliative Care Facility "San-Med B&K", Przemysl, Poland

<sup>3</sup>Uniwersytet im. Jana Kochanowskiego w Kielcach, Polska / Jan Kochanowski University, Kielce, Poland

<sup>4</sup>Wyższa Szkoła Informatyki i Umiejętności w Łodzi, Polska / University of Computer Sciences and Skills, Lodz, Poland

## Streszczenie

Cel pracy. Wypalenie zawodowe, określane jako psychiczne i emocjonalne wyczerpanie, charakteryzuje się utratą energii, zaangażowania w pracę, brakiem planów do realizacji na przyszłość. Celem pracy była analiza potencjalnych czynników warunkujących wypalenie zawodowe fizjoterapeutów.

Materiał i metody. Badaniem objęto 102 fizjoterapeutów zatrudnionych w placówkach leczniczych na terenie województwa podkarpackiego. Narzędzie badawcze stanowił Kwestionariusz Wypalenia Zawodowego Christiny Maslach według polskiej adaptacji Pasikowskiego. Obliczono podstawowe miary statystyki opisowej. Do oceny różnic w przeciętnym poziomie cechy liczbowej w więcej niż dwóch populacjach zastosowano analizę wariancji ANOVA Kruskala-Wallisa. W przypadku stwierdzenia statystycznie istotnych różnic wykonano test post-hoc porównań wielokrotnych. Do oceny różnic w przeciętnym poziomie cechy liczbowej w dwóch populacjach zastosowano test U Manna-Whitney'a.

Wyniki. Stwierdzono istotnie wyższe wartości ogólnego wskaźnika wypalenia zawodowego u fizjoterapeutów w wieku 35-40 lat ( $p=0,0078$ ), aktywnych zawodowo ponad 10 lat ( $p=0,0026$ ) i nie podejmujących aktywności fizycznej pozazawodowej ( $p=0,0004$ ). Wartości wskaźnika określającego poziom satysfakcji zawodowej były istotnie niższe u fizjoterapeutów nie uczestniczących w kształceniu podyplomowym ( $p=0,0388$ ).

Wnioski. Istnieje potrzeba podejmowania działań ukierunkowanych na wsparcie emocjonalne pracowników i pomoc w rozwiązywaniu problemów. Należy zachęcać fizjoterapeutów do systematycznego podnoszenia kwalifikacji oraz propagować zasadę dbałości o własną kondycję psychofizyczną poprzez podejmowanie aktywności fizycznej pozazawodowej.

## Słowa kluczowe:

wyczerpanie emocjonalne, depersonalizacja, satysfakcja zawodowa, fizjoterapeuci

## Abstract

Aim. Burnout, defined as mental and emotional exhaustion, is characterized by the loss of energy, commitment to work and the lack of plans for the future. The aim of the study was to analyze the potential determinants of professional burnout in the physiotherapists.

Material and methods. The study included 102 physiotherapists employed at the health-care centers in Podkarpacie Region. The research tool was a Maslach Burnout Inventory (MBI) adapted in Polish by Pasikowski. Basic measures of descriptive statistics were calculated. Kruskal-Wallis's ANOVA analysis of variance was applied to evaluate differences in average numerical properties in more than two populations. In case of statistically significant differences were found in several groups, post-hoc test of multiple comparisons was performed. The differences in average numerical properties in two populations test were evaluated by means of Mann-Whitney U test.

Results. A significantly higher overall rate of burnout in the physiotherapists at the age of 35-40 years old was found ( $p=0.0078$ ), who were professionally active for over 10 years ( $p=0.0026$ ), and did not take non-professional physical activity ( $p=0.0004$ ). The determination of the value of the indicator of job satisfaction was significantly lower in physiotherapists not participating in postgraduate education ( $p=0.0388$ ).

Conclusions. There is a need to take action aimed at emotional support of the workers and help to solve problems. Physio-therapists should be encouraged to improve systematically their skills and to promote the principle of caring for their physical fitness through physical activity and activities not connected with their profession.

## Key words:

emotional exhaustion, depersonalization, job satisfaction, physiotherapists

## Introduction

Professional work is essential to meet the needs of everyday life, accomplish plans and dreams, gain experience, however, it can cause adverse effects especially when professional success becomes of utmost importance and overshadows other values, and stress hinders the ability to perform professional activities leading to the occurrence of job burnout syndrome [1].

The concept of job burnout syndrome has no clear definition in the literature. Colloquially it means in English roughly that: a person is exhausted and is not able to do more. Burnout is defined as the mental and emotional exhaustion, particularly as a result increased stress and/or lack of satisfactory results in professional activities experienced for prolonged periods. It is characterized by loss of energy and commitment to work, lack of plans to implement in the future [2]. According to the definition by Freudenberg and North, [3] burnout is a condition which crystallizes slowly over a long period of time in constant stress and commitment of the whole life energy, it ultimately has a negative impact on motivation, human beliefs and behaviour. The authors claim that individuals most vulnerable to burnout are those who are very much committed to professional or social life and are interested in the issues concerning the environment concerned and carry out actions closely connected to it. These individuals impose more and more responsibilities on themselves due to increasing ambition, and resulting overload, which occurs after excessive stimulation, and is the costs they entail in exchange for their own achievements.

The most popular theory of job burnout has been developed by a social psychologist - Christina Maslach. The syndrome was described as three-dimensional, which consists of: emotional exhaustion, depersonalization, and lowered assessment of own professional achievements. The syndrome can occur in the individuals who work with other people and often exceed the limits of own capacity [4]. Emotional exhaustion refers to the feeling of emotional overload and reduced energy deposits as a result of professional contacts with others. It is characterized by a lack of satisfaction with performed tasks, frequent emotional reactions such as pessimism, discouragement, a sense of dissatisfaction and continuous internal tension, decreased activity, decreased range of interests and mood swing ranging from anxiety to annoyance. Psychosomatic disorders such as chronic fatigue, insomnia, headaches, gastric ailments, disorders of the circulatory system can also occur. Emotional exhaustion is the most striking symptom of burnout syndrome, it becomes its axis [5, 6]. Depersonalization is associated with treatment of subordinated people as objects in negative, indifferent, often even callous, cynic and contemptuous way. The inevitable consequence of depersonalization of interpersonal relationships is experience of a lack of own subjectivity, a sense of strangeness towards other people and oneself [5, 6]. The abovementioned symptoms create a vicious cycle. The employee, who feels tired, becomes less and less involved in the implementation of entrusted tasks. Their work becomes less and less efficient, and therefore evaluated worse by others. The individual starts to look for the causes of this



situation and often recognizes that this is due to their lack of competence, skills and knowledge to cope with difficulties at work and even perform their profession [6, 7].

A very important factor for the development of burnout is a generalized experience of failure in coping with stress at work and the emergence of belief about the impossibility of effective coping with difficulties, discomfort, conflict and frustration in working life. Recognizing the fact that burnout develops under conditions of chronic stress, where interpersonal competences and commitment play an important role, it can be concluded that it is associated with a sense of self-efficacy. Reduced self-esteem of their professional achievements concerns the absolute decline in sense of professional competence and loss of confidence in the ability to succeed at work [8]. It is worth noting that burnout symptoms concern not only the affected individuals, but also the relationships with patients, clients, colleagues, superiors. They have an impact on the functioning of the family, social life.

Work that involves helping other members of society is a particular challenge for people who perform it. According to Maslach and Leiter, [7] burnout concerns primarily the individuals who perform professions that provide social services and require close, direct work with people, personal involvement in interpersonal contacts which are often associated with helping others. Such professions are referred to in English as *Human Services* or *Helping Professions*. These include medical professions such as: nurses, doctors, physiotherapists, paramedics, but also psychologists, social workers, teachers and educators. Working in the abovementioned occupations requires high activity and sacrifice, leads to physical fatigue, which increases the tendency to emotional exhaustion. Treatment, rehabilitation and care of chronically ill patients can be a factor that predestines to a significant stress burden. Stress is the result both of the professional role that requires close, direct contact and commitment in human suffering but also may be associated with difficulties in achieving therapeutic success [8]. The supporting person is professionally in a situation of long-term overload and stress that results from continuous attempts to solve new tasks with varying degrees of difficulty [5, 6]. When the load is too big, it can activate defense mechanisms. Such "defensive dehumanization" used against emotionally aggravating professional duties causes that the attempts to distance oneself turn into depersonalization, which can consequently lead unpredictable behaviour in patients or their dissatisfaction. This increases stress, leads to the development of a full range job burnout syndrome and its further consequences such as the risk of accidents at work, frequent sick leave, avoiding work, changing jobs, qualifying for a pension or even withdrawal from the profession [8, 9].

The profession of a physiotherapist belongs undoubtedly high public trust jobs. Physiotherapist is the third largest medical profession after nurses and doctors [10]. They are obliged to respect the rights of the patient and should be guided by clear rules of professional art. They have an obligation to act in accordance with their knowledge and skills and to respect the

universally accepted norms of law and sanitation procedures [11]. The physiotherapist should cooperate with an interdisciplinary team to ensure the highest quality of services. The cooperation and the atmosphere in a physiotherapy team are equally important. Physiotherapist profession obliges to the competent and professional relationship with the patient. The quality of this contact often determines the progress which the patient makes. By finding a therapist for a trustworthy person, the patient entrusts him with their problems and concerns. Therefore, the therapist should be empathic and have time and willingness to establish good relations with the patient. Otherwise, the patient may show reluctance to continue rehabilitation, lack of adequate motivation and faith in the therapeutic success.

The White Book of Physical and Rehabilitation Medicine in Europe precisely defines the importance of rehabilitation for the people in need. The physiotherapist profession is a vocation and service to the sick and disabled people [12]. In carrying out this beautiful yet difficult profession it is easy for symptoms of burnout to occur.

The aim of the study was to analyze the potential determinants of professional burnout in the physiotherapists. Research questions:

1. Which components of burnout syndrome are most likely to occur in the physiotherapists?
2. Is burnout related to age, seniority and gender?
3. Is burnout affected by the workplace and related specifics of performed profession?
4. Are the physiotherapists with lower levels of education who do not participate in the post-graduate education more prone to burnout?
5. Are the physiotherapists devoting too little time for rest after work and not undertaking physical activity outside work at greater risk of burnout syndrome?

### Material and methods

The research was conducted from November to December 2014 and covered 102 physiotherapists at the age of 20-50, including 75 women and 27 men employed at the following health-care centers in Podkarpacie Region: hospitals, physiotherapy clinics, spas, revalidation-educational centers for children and youth, residential medical care facility.

The research was carried out by means of diagnostic survey. The research tool applied was a Maslach Burnout Inventory (MBI) (Part I) adapted in Polish by Pasikowski [13]. Inventory consisted of 22 statements related to the subjective perception of the degree of emotional exhaustion (statements 1-9), the presence of the symptoms associated with depersonalization (statements 10-14), as well as a sense of professional satisfaction (statements 15-22). Based on these data, the following indicators were calculated: burnout ratio No. 1 (WWZ1): defining the degree of emotional exhaustion, burnout ratio No. 2 (WWZ2): defining the degree of depersonalization, burnout ratio No. 3 (WWZ3): determining the level of satisfaction (low value of the ratio meant low levels of career satisfaction) as well as an overall burnout

ratio (OWWZ), which was the arithmetic mean of the sum of the ratios of individual dimensions of burnout [13].

In addition, the author's questionnaire in the form of 8 questions about gender, age, level of education, seniority, place of employment, participation in postgraduate education, active leisure were used in the study.

Basic measures of descriptive statistics were calculated. Consistency of the results with normal distribution were estimated by means of Shapiro-Wilk's test and homogeneity of variance with Levene's test. Kruskal-Wallis's ANOVA analysis of variance was applied to evaluate differences in average numerical properties in more than two populations. In case of statistically significant differences were found in several groups, post-hoc test of multiple comparisons was performed. The differences in average numerical properties in two populations test were evaluated by means of Mann-Whitney U test.

In this paper the STATISTICA StatSoft 10.0 was used to process the statistical test results.

### Results

Based on the analysis of all subjects it was found that the average value of WWZ1 was  $\bar{x}=34.3\pm 31.8$ , the average value of WWZ2 amounted to  $\bar{x}=23.1\pm 24.4$ , the average value of WWZ3  $\bar{x}=66.1\pm 24.9$  and OWWZ ratio  $\bar{x}=41.1\pm 13.9$ . Statistically significant differences in mean values of burnout ratio were found in Kruskal-Wallis's ANOVA test ( $p=0.0000^{***}$ ). Detailed analysis by means of post-hoc test of multiple comparisons showed a statistically significant difference between ratio WWZ1 and WWZ2 ( $p=0.0244^{*}$ ) and WWZ1 and WWZ3 ( $p=0.0000^{***}$ ) as well as between ratio WWZ3 and WWZ2 ( $p=0.0000^{***}$ ) (Table 1).

**Tab. 1. Basic descriptive statistics of job burnout rates and comparison of the average values of the individual rates determining the degree of job burnout**

Indicator	$\bar{x}$	s	max	min	Me	Q <sub>1</sub>	Q <sub>2</sub>	Kruskal-Wallis's ANOVA
WWZ1	34.3	31.8	98.0	0.0	32.0	10.0	65.0	H=94,43 p=0.0000***
WWZ2	23.1	24.4	98.0	0.0	19.0	0.0	39.0	
WWZ3	66.1	24.9	98.0	0.0	73.0	49.0	85.0	
OWWZ	41.1	13.9	75.0	11.0	40.0	31.0	51.0	
post-hoc								
	WWZ1				WWZ2		WWZ3	
WWZ1	-				0.0244*		0.0000***	
WWZ2	0.0244*				-		0.0000***	
WWZ3	0.0000***				0.0000***		-	

\* p<0.05. \*\*\* p<0.001

The data presented in Table 2 indicate that the average rate of WWZ1 reached the highest value in case of the subjects aged 35-40 and the lowest in case of the physiotherapists at the age of 20-30. Similarly, the average rate of OWWZ was the highest among persons aged 35-40 years and the lowest among the individuals aged 20-30 years. In both cases a pattern of growth in medium values of the analyzed ratios followed by a slight decline in people over 40 years of age was visible. Statistically significant intergroup differences were related to WWZ1 ( $p=0.0016^{**}$ ) ratio and OWWZ ( $p=0.0013^{**}$ ). A closer analysis by means of post-hoc test of multiple comparisons showed that in case of both ratios statistically significant differences were found between the group of physiotherapists aged 20-30 years and those aged 35-40 ( $p=0.0023^{**}$ ,  $p=0.0078^{**}$ ).

Tab. 2. The comparison of values of job burnout rates obtained in groups depending on the age

Indicator	Age 20-30 years (n=31)		Age 30-35 years (n=23)		Age 35-40 years (n=25)		Age over 40 years (n=23)		Kruskal-Wallis's ANOVA	
	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	H	p
WWZ1	19.0	22.0	27.0	28.0	51.0	33.0	44.0	36.0	15.26	0.0016**
WWZ2	19.0	25.0	27.0	22.0	27.0	30.0	20.0	19.0	2.35	0.3478
WWZ3	68.0	22.0	68.0	25.0	64.0	25.0	63.0	29.0	0.40	0.9407
OWWZ	36.0	14.0	41.0	15.0	47.0	12.0	42.0	12.0	10.77	0.0013**
post-hoc (WWZ1)										
	20-30 years		30-35 years		35-40 years		Over 40 years			
20-30 years	-		1.0000		0.0023**		0.0549			
30-35 years	1.0000		-		0.1212		0,8534			
35-40 years	0.0023**		0.1212		-		1.0000			
Over 40 years	0.0549		0.8534		1.0000		-			
post-hoc (OWWZ)										
	20-30 years		30-35 years		35-40 years		Over 40 years			
20-30 years	-		0.8786		0.0078**		0,2875			
30-35 years	0.8786		-		0.6482		1.0000			
35-40 years	0.0078**		0.6482		-		1.0000			
Over 40 years	0.2875		1.0000		1.0000		-			

\*\*  $p<0.01$

Table 3 showed that the average ratios of: WWZ1, WWZ2 and OWWZ reached the highest values in case of the physiotherapists with 10-20 years of work experience. The lowest average of above mentioned ratios were found for the physiotherapists with less than 10 years of work experience. Mean values of WWZ3 ratio were similar in the adopted groups. Statistically significant intergroup differences were noted in case of the ratios: WWZ1 ( $p=0.0002^{***}$ ) and OWWZ ( $p=0.0023^{**}$ ). Post-hoc test of multiple comparisons showed a statistically significant differences in the values of WWZ1 between the group of the physiotherapists working less than 10 years and those with 10-20 years of work experience and the group with over 20 years of work experience ( $p=0.0389^*$ ). Statistically significant differences in the values of OWWZ occurred between the group of the physiotherapists with less than 10 years of experience and the group who was professionally active for 10-20 years ( $p=0.0026^{**}$ ).

**Tab. 3. The comparison of values of job burnout rates obtained in groups depending on the work experience**

Indicator	Work experience less than 10 years (n=49)		Work experience 10-20 years (n=31)		Work experience over 20 years (n=22)		Kruskal-Wallis's ANOVA	
	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	H	p
WWZ1	21.0	24.0	49.0	31.0	43.0	37.0	17.51	0.0002***
WWZ2	20.0	24.0	28.0	26.0	22.0	23.0	2.38	0.3045
WWZ3	68.0	24.0	64.0	25.0	65.0	28.0	0.36	0.8345
OWWZ	36.0	14.0	47.0	13.0	43.0	12.0	12.19	0.0023**
post-hoc (WWZ1)								
	Less than 10 years		10-20 years		Over 20 years			
Less than 10 years	-		0.0002***		0.0389*			
10-20 years	0.0002***		-		0.9848			
Over 20 years	0.0389*		0.9848		-			
post-hoc (OWWZ)								
	Less than 10 years		10-20 years		Over 20 years			
Less than 10 years	-		0.0026**		0.0977			
10-20 years	0.0026**		-		1.0000			
Over 20 years	0.0977		1.0000		-			

\*  $p<0.05$ , \*\*  $p<0.01$ , \*\*\*  $p<0.001$



The men were characterized by significantly higher rate of depersonalization ( $p=0,0492^*$ ). Mean values of other ratios were similar for both sexes (Table 4).

**Tab. 4. The comparison of values of job burnout rates obtained in groups depending on the sex**

Indicator	Women (n=75)		Men (n=27)		Mann-Whitney U test	
	$\bar{x}$	s	$\bar{x}$	s	Z	p
WWZ1	36.0	32.0	30.0	32.0	1.21	0.2257
WWZ2	20.0	24.0	31.0	25.0	-1.97	0.0492*
WWZ3	66.0	24.0	66.0	27.0	-0.27	0.7853
OWWZ	41.0	14.0	42.0	14.0	-0.30	0.7614

\*  $p<0.05$

Mean ratios of: WWZ1, WWZ2 and OWWZ in the employees of revalidation-educational centers for children and youth achieved slightly higher values in comparison to the average obtained in other groups, although there was no statistically significant differences (Table 5).

**Tab. 5. The comparison of values of job burnout rates obtained in groups depending on the workplace**

Indicator	Hospital (n=16)		Physiotherapy clinic (n=20)		Spa (n=19)		Revalidation educational center (n=25)		Residential medical care facility (n=15)		More than one work place (n=7)		Kruskal-Wallis's ANOVA	
	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	H	p
WWZ1	39.0	40.0	24.0	24.0	31.0	35.0	46.0	35.0	35.0	20.0	18.0	17.0	6.78	0.2379
WWZ2	23.0	19.0	21.0	26.0	21.0	24.0	31.0	31.0	21.0	17.0	11.0	10.0	3.22	0.6662
WWZ3	63.0	32.0	72.0	24.0	62.0	23.0	64.0	26.0	67.0	23.0	73.0	19.0	2.45	0.7834
OWWZ	42.0	14.0	39.0	13.0	38.0	16.0	47.0	15.0	41.0	12.0	34.0	4.0	8.52	0.1297

Mean ratios of WWZ1 and WWZ2 were slightly higher in people with the title of a technician and a master's degree. Mean values of remaining ratios reached similar values in the groups divided according to the level of education. No statistically significant differences between the groups were found in this regard (Table 6).

**Tab. 6. The comparison of values of job burnout rates obtained in groups depending on the level of education**

Indicator	Technician (n=27)		Bachelor (n=23)		Master (n=52)		Kruskal-Wallis's ANOVA	
	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	H	p
WWZ1	38.0	33.0	23.0	23.0	38.0	34.0	2.63	0.2689
WWZ2	25.0	19.0	16.0	26.0	25.0	26.0	5.20	0.0742
WWZ3	69.0	27.0	71.0	23.0	62.0	24.0	3.15	0.2070
OWWZ	43.0	11.0	38.0	12.0	42.0	16.0	2.15	0.3410

The data contained in Table 7 indicate that mean values of WWZ1 and WWZ2 were similar in both groups of the physiotherapists divided on the basis of postgraduate education, while the values of WWZ3 were significantly lower in the physiotherapists not participating in postgraduate education ( $p=0,0388^*$ ).

**Tab. 7. The comparison of values of job burnout rates obtained in groups depending on the participating in postgraduate education**

Indicator	Participating in postgraduate education (n=77)		Not participating in postgraduate education (n=25)		Mann-Whitney U test	
	x	s	$\bar{x}$	s	Z	p
WWZ1	33.0	31.0	39.0	34.0	0.79	0.4293
WWZ2	23.0	25.0	24.0	23.0	0.45	0.6516
WWZ3	69.0	24.0	58.0	25.0	-2.07	0.0388*
OWWZ	41.0	14.0	40.0	14.0	-0.53	0.5939

\*  $p<0,05$

Mean values of the ratios: WWZ1 and OWWZ were higher in the physiotherapists who relaxed after work for less than 11 hours a day. WWZ3 ratio was lower in the people relaxing longer. There were no statistically significant differences in the mean level of each ratio between the groups depending on the number of hours devoted to relax after work (Table 8).

**Tab. 8. The comparison of values of job burnout rates obtained in groups depending on the number of hours devoted to rest after work**

Indicator	Relaxing less than 11 hours a day (n=93)		Relaxing more than 11 hours a day (n=9)		Mann-Whitney U test	
	$\bar{x}$	s	$\bar{x}$	s	Z	p
WWZ1	36.0	32.0	20.0	25.0	1.46	0.1435
WWZ2	22.0	24.0	32.0	24.0	-1.42	0.1559
WWZ3	67.0	25.0	58.0	29.0	0.77	0.4397
OWWZ	42.0	14.0	37.0	18.0	0.91	0.3633

The data contained in Table 9 showed that the ratios: WWZ1, WWZ2 and OWWZ were significantly higher and the standard rate of WWZ3 reached a lower value in cases of the physiotherapists who did not take up non-professional physical activity. Statistically significant differences were found between groups in the mean level of the analyzed ratios ( $p=0.0001^{***}$ ,  $p=0.0010^{**}$ ,  $p=0.0301^{*}$ ,  $p=0.0004^{***}$ ).

**Table 9. The comparison of values of job burnout rates in groups depending on non-professional physical activity**

Indicator	Undertaking physical activity (n=83)		Not undertaking physical activity (n=19)		Mann-Whitney U test	
	$\bar{x}$	s	$\bar{x}$	s	Z	p
WWZ1	27.0	27.0	64.0	33.0	-4.04	0.0001***
WWZ2	20.0	24.0	38.0	22.0	-3.33	0.0010**
WWZ3	68.0	25.0	56.0	21.0	2.17	$p=0.0301^{*}$
OWWZ	39.0	13.0	52.0	12.0	-3.54	$p=0.0004^{**}$

\*  $p<0,05$ , \*\*  $p<0,01$ , \*\*\*  $p<0,001$

### Discussion

The problem of burnout has been the subject of numerous scientific studies, which concerned mainly teachers, police officers, social workers, firefighters, prison staff, health professionals, including nurses, doctors, paramedics [14, 15, 16, 17, 18, 19, 20, 21]. The issue of burnout is not a new concept in the literature, however, there are very few papers focusing on the group of professional physiotherapists. Donahoe [22] on the basis of the studies of the physiotherapists from Massachusetts found moderate level of job burnout that has no connection with the seniority and the

number of patients admitted during a day. Pavlakis [23] found in the study of the Cypriot physiotherapists that this profession belongs to the stressful jobs, particularly for those employed in public health care facilities. Burnout syndrome, which more commonly affects women, is mostly influenced by stress and low pay. Makara-Studzińska et al. [2] investigated burnout and life satisfaction in Polish women working as a physiotherapist. It was found that life satisfaction of the physiotherapists was quite low, which can be caused by physical exhaustion and a strong chronic fatigue resulting from work. The authors found that the risk factors of professional burnout syndrome in the studied group included: high job demands, low pay, stress, little impact on the results of their work, the lack of promotion prospects. Bartkowiak [15] believed that the continuous raising of qualifications is included in all professions related to health care. It is associated with the promotion prospect, raising of qualifications and the increase in professional prestige. Raising the qualifications influences the self-esteem, self-confidence in performing own duties. Sęk [8] stressed that a person can avoid burnout, provided they believe they are effective in achieving significant career goals. In this study the most-numerous group of respondents were the physiotherapists with master's degree. A significant proportion regularly participated in further education training expanding professional skills, which may be indicative of strong competition in the job market, but also of increasing awareness and knowledge of patients and their families, who can somehow enforce improving the competences of the therapist. It was found that participation in postgraduate education increases the level of professional satisfaction in the physiotherapists.

Many authors believe that chronic fatigue is a prominent symptom of developing burnout. According to Kowalska, [24] mental exhaustion is more likely in people who take extra work. This does not allow for a full regeneration and relaxation. The body, which is excessively overloaded, is more susceptible to stress or depression. Under the Labor Code, the worker shall have at least 11 hours of uninterrupted rest every day between the end of the work and its commencement. This means that a person employed in the basic working system can work up to 13 hours per day [25]. Majority of respondents relaxed after work for less than 11 hours a day, but it did not affect the level of burnout.

Lewandowska and Litwin [19] found in their studies of nurses that the most common somatic symptoms coexisting with burnout are: exhaustion and fatigue, back pain, loss of interest in work, irritability, weakening of effective thinking, feeling of helplessness and sleep disorders. Szaton and Harazin [21] found that doctors, nurses and paramedics employed in ambulance stations showed symptoms of burnout reaching the average level in case of emotional exhaustion and a sense of



own achievements, while high for depersonalization. Factors such as age, education level and seniority did not affect the level of burnout. Women exhibited higher emotional exhaustion than men. Our findings indicate that the physiotherapists regardless of gender are prone to emotional exhaustion to the greatest extent. Depersonalization more frequently affects men which is consistent with the results by Houkes et al. [26]. Symptoms associated with burnout are similar to the symptoms observed by Szaton and Harazin [21]. Age and seniority have an impact on the development of burnout: most vulnerable are people aged 35-40 including those with more than 10 years of work experience. The emotional exhaustion and deteriorating in the overall burnout rate clearly intensifies in these individuals. Therefore, it is worth focusing on the need to create support groups for emotional support of employees, joint analysis and problem solving.

The physiotherapist at work frequently faces pain and suffering of other people. In many cases, suffering is prolonged and impossible to overcome. Working with sick and suffering people is demanding and involves the psyche. The physiotherapist who has close contact with patients' problems must respond appropriately to their changing mood, motivate them to exercise. Wilczek-Rużyczka [17] believes that people who are in interpersonal relationships overloading their psyche are especially vulnerable to the job burnout syndrome. Kowalska [24] observed lower degree of professional satisfaction in the physiotherapists working with chronically ill patients, whose condition is not promising progress in rehabilitation. Our findings indicate that work place and the related specifics of the profession are not potential factors of burnout in the physiotherapists.

It was found that physiotherapists who did not undertake non-professional physical activity were at greater risk for burnout. Therefore, proper psychophysical condition should be focused on spending free time actively.

The acknowledgement of the burnout syndrome may be the first step to understand the need for change in the current style of work [27]. Therefore, it is worth to emphasize the need to undertake educational activities to raise awareness of the range of issues associated with the burnout, and in particular the ways of its prevention.

### Conclusions

1. The physiotherapists are mostly prone to emotional exhaustion.
2. The physiotherapists at the age of 35-40 years with more than 10 years of work experience are most vulnerable to burnout. This indicates to the need to take action aimed at the emotional support of employees, joint analysis and problem solving. Gender is not a factor determining the occurrence of burnout syndrome.
3. The workplace and related specifics of the profession do not significantly affect the level of burnout in the physiotherapists.

4. The level of education does not condition the incidence of burnout syndrome. The physiotherapists not participating in postgraduate education are characterized by lower levels of career satisfaction, and therefore should be encouraged to raising the qualifications in a systematical way.

5. The number of hours devoted to relaxation after work does not substantially affect the level of burnout. The physiotherapists who do not undertake physical activity are at greater risk for burnout. Therefore, in order to prevent adverse effects one should care for own psychophysical condition by undertaking physical activity in their leisure time.

Corresponding author



### **Dr Ewa Puszczałowska-Lizis**

Uniwersytet Rzeszowski, Instytut Fizjoterapii

35-205 Rzeszów, ul. Warszawska 26 A

tel. 17 872-19-20, fax. 17 872-19-30

e-mail: ewalizis@poczta.onet.pl

## **References**

1. Anczewska M, Świtaj P, Roszczyńska J. Wypalenie zawodowe. *Postępy Psychiatr Neurol* 2005; 14 (2): 67-77.
2. Makara-Studzińska M, Kryś-Noszczyk K, Starczyńska M, Kiebzak W, Śliwiński Z. Wypalenie zawodowe i zadowolenie z życia kobiet pracujących w zawodzie fizjoterapeuty. *Fizjoter Pol* 2012; 12 (4): 327-339.
3. Freudenberg HJ, North G. 2002. Burnout bei Frauen, über das Gefühl des Ausgebranntseins. Frankfurt, str. 44-45.
4. Tucholska S. Christiny Maslach koncepcja wypalenia zawodowego: etapy rozwoju. *Prz Psychol* 2001; 44 (3): 301-317.
5. Lazarus R. Paradygmat stresu i radzenie sobie, *Nowiny Psychol* 1986; 3-4: 2-31.
6. Okla W, Steuden S. Psychologiczne aspekty zespołu wypalenia. *Ann Psychol* 1998; 1: 119-130.
7. Maslach Ch, Leiter MP. 2001. Die Wahrheit über Burnout. Streß am Arbeitsplatz Und was Sie dagegen tun knel. Springer, Wien, str. 48-60.
8. Sęk H. Poznawcze i kompetencyjne uwarunkowania wypalenia w pracy z chorymi. *Post Psychiatr Neurol* 2005; 14 (2): 93-98.
9. Leitner MP, Harvie PL. Burnout among mental health workers: a test of the job demands - control model. *Int J Soc Psychiatry* 1996; 42 (2): 90-101.
10. Kiljański M. Wydawanie prawa wykonywania zawodu fizjoterapeuty to podstawa. *Prakt Fizjoter Rehab* 2010; 10 (1): 6-10.
11. Niedzielska M, Tyburska A. Odpowiedzialność prawna fizjoterapeutów za wyrządzoną krzywdę lub uszczerbek na zdrowiu. *Prakt Fizjoter Rehab* 2012; 33: 58-61.
12. Kwolek A. Komentarz do listu: „Bezpośredni dostęp oraz samo-skierowanie się pacjenta/klienta na fizjoterapię”, [www.ur.edu.pl/wydziały/medyczny/instytut-fizjoterapii/wydarz](http://www.ur.edu.pl/wydziały/medyczny/instytut-fizjoterapii/wydarz) [dostęp: 15.03.2015 r.].
13. Pasikowski T. 2000. Polska adaptacja kwestionariusza Maslach Burnout Inventory. H. Sęk (red.). Wypalenie zawodowe - przyczyny, mechanizmy, zapobieganie. PWN, Warszawa, str. 13-31, 135-138.
14. Modzelewska T, Kulik TB. Stres zawodowy jako nieodłączny element zawodów profesjonalnego pomagania - sposoby radzenia sobie ze stresem w opinii pielęgniarek. *Ann Univ Mariae Curie Skłodowska* 2000; 58 (8): 312-316.
15. Bartkowiak G. Stres i wypalenie zawodowe pracowników ochrony zdrowia w świetle wyników badań. *Men Zdrow* 2002; 4: 15-19.
16. Kosińska M, Pilarz Z. Satysfakcja pielęgniarek z pracy zawodowej i jej uwarunkowania. *Ann Univ Mariae Curie Skłodowska [Med]* 2005; 60 (3): 46-53.
17. Wilczek-Rużyczka E. Empatia a wypalenie zawodowe u pracowników ochrony zdrowia. *Sztuka Leczenia* 2006; 13 (1-2): 39-49.
18. Leszczyńska A. Konsekwencje wypalenia. *Mag Piel Położ* 2007; 3: 22-23.
19. Lewandowska A, Litwin B. Wypalenie zawodowe jako zagrożenie w pracy pielęgniarki. *Roczniki Pomorskiej Akademii Medycznej w Szczecinie* 2009; 3: 86-89.
20. Kowalczyk K, Zdańska A, Krajewska-Kulak E, Łukaszczyk C i wsp. Stres w pracy pielęgniarek jako czynnik ryzyka wypalenia zawodowego. *Probl Pielęg* 2011; 19 (3): 307-314.
21. Szaton M, Harazin B. Wypalenie zawodowe wybranych zespołów ratownictwa medycznego w województwie śląskim. *Ann Acad Med Siles* 2013; 67 (1): 28-32.
22. Donahoe E, Nawawi A, Willker L, Schindler T et al. Factors associated with burnout of physiotherapists in Massachusetts rehabilitation hospitals. *Phys Ther* 1983; 73: 750-761.
23. Pavlakis A, Raftopoulos V, Theodorou M. Burnout syndrome in Cypriot physiotherapists: a national survey. *BMC Health Serv Res* 2010; 10 (1): 63.
24. Kowalska J. Wypalenie zawodowe wśród polskich fizjoterapeutów. *Post Rehab* 2011; 25 (3): 43-52.
25. Kodeks Pracy z komentarzem. 2014. Czas pracy. Prawo do odpoczynku. Dział 6, rozdział III, art. 132 § 1. Infor, Warszawa, str. 80.
26. Houkes I, Winants Y, Twellaar M, Verdonk P. Development of burnout over time and the causal order of the three dimensions of burnout among male and female GPs. A three-wave panel study. *BMC Pub Health* 2011; 11: 240.
27. Siemiński M, Nitka-Siemińska A, Nyka M. Zespół wypalenia. *For Med Rodz* 2007; 1: 45-49.