

## Burnout Among Lithuanian Cardiac Surgeons and Cardiac Anesthesiologists

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**Key Words:** burnout; cardiac surgeons; cardiac anesthesiologists; career satisfaction.

**Summary.** *Objective.* The aim of this study was to determine the prevalence of burnout among Lithuanian cardiac surgeons and cardiac anesthesiologists, and associations between burnout and the personal and professional characteristics of physicians.

*Material and Methods.* A total of 29 cardiac surgeons and 30 cardiac anesthesiologists employed in Vilnius and Kaunas university hospitals as well as in Klaipėda Hospital were surveyed. Data on personal characteristics (age, gender, marital status, number of children, sleeping hours, and addictions), professional characteristics (years in practice, work character, work profile, and workload), career satisfaction, and symptoms of depression were collected by using an anonymous questionnaire. Burnout was measured by the Maslach Burnout Inventory–Human Services Survey (MBI–HSS).

*Results.* More than half (54.3%) of the physicians surveyed had been in practice for >15 years, 71.2% reported working more than 40 hours per week, and 62% reported of being burned out. As much as 19.3% of physicians reported high emotional exhaustion, 25.9% had high depersonalization, and 42.3% demonstrated low personal accomplishment at work. Nearly 95% of respondents would become a physician and 82.8% would choose to become a cardiac surgeon or a cardiac anesthesiologist again. Physicians who worked more than 40 hours per week, smokers, and those who were desperate were more likely to be burned out.

*Conclusions.* Burnout was found to be prevalent among Lithuanian cardiac surgeons and cardiac anesthesiologists. Some personal and professional characteristics were significantly related to burnout. Burnout relief measures should be developed in order to prevent a further increase of burnout syndrome among Lithuanian cardiac surgeons and cardiac anesthesiologists.

### Introduction

Christina Maslach, one of the leading researchers of this syndrome, states that burnout is emotional exhaustion arising as a result of stress caused by interpersonal interaction (1). This syndrome is typical for representatives of the following professions: physicians, educators, employees of trade and service area, managers, etc. This suggests that burnout is not determined by stress in general, but rather by stress due to long-term and strained communication at work. It is estimated that practically every second employee experiences the situation favorable to burnout. The studies of Maslach and other authors evidence that first of all emotions change and sharpness of feelings as well as sensations disappears. Wish to care about subordinates, associates, and the like decreases gradually. Then

according to Maslach a person says he/she does not care anymore, has no feelings, nothing to return, is exhausted, and finally burned out. The person begins to speak about his/her subordinates or clients (patients) offhandedly, even sneering at them. For some time, he/she is able to control his/her irritation but later he can fly into fury. Anybody having nothing in common – an associate, a client, a patient – can become a victim. Eventually, self-esteem and professional motivation reduces sharply. Communication with others may cause discomfort. Psychosomatic reactions and over-drugging of psyche activating materials can start (2).

Lately, the 3-factor model by Maslach is most popular. It approaches the burnout as a syndrome consisting of 3 components: emotional exhaustion, depersonalization, and low personal accomplishment at work (1, 3). *Emotional exhaustion* as the main component of burnout is evidenced by the decrease of emotions, apathy, and psychic emptiness. *Depersonalization* manifests itself in deformation of human relations. A negative, cynical, or indifferent

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view of people at work begins to dominate – associates are not seen as personalities any longer, they are treated as objects. *Low personal accomplishment at work* shows itself in negative estimation of one's own professional skills and qualifications, restriction of professional potentials, under-evaluation of one's own importance at work. Burnout is a syndrome of emotional exhaustion and depersonalization that leads to decreased effectiveness at work (3). Treating patients as objects rather than human beings and becoming emotionally depleted are common symptoms of burnout. Burnout can affect both physicians' satisfaction with their work and the quality of medical care they provide (4–6).

A career in any type of surgery or anesthesiology brings with it significant challenges that can lead to personal distress for the individual physician and their family. Training for and practicing of the specialty of surgery or anesthesiology are stressful endeavors (7–9). A study, which aimed to measure the prevalence of burnout among American surgeons, has reported that about one-third of US surgeons may experience burnout (10).

The most common occupational stressors associated with burnout among surgeons were found to be as follows: lack of autonomy, difficulty balancing personal and professional life, excessive administrative tasks, and high patient volume (11). For anesthesiologists, the lack of control, professional relationship, and work overload were identified as the main sources of burnout (12).

Additional data suggest that physician's distress may contribute to their plans to take an early retirement (8). Therefore, the aim of this study was to ascertain the prevalence of burnout among Lithuanian cardiac surgeons and cardiac anesthesiologists and to determine associations between burnout and the personal and professional characteristics of physicians.

### Material and Methods

A total of 59 physicians employed at 3 Lithuanian cardiac surgery centers (Vilnius, Kaunas, and Klaipėda) were surveyed. There were 30 cardiac anesthesiologists and 29 cardiac surgeons. Data were gathered in 2009 by means of questionnaires. The questionnaires were distributed by hand, and all 59 were filled in properly. Before the survey, the purpose of the research was clarified; the participants were instructed how to fill in the questionnaires were informed that the survey was anonymous and would not have any influence on their work or personal life. The study was approved by Kaunas Regional Ethical Committee. The non-standardized anonymous questionnaire included the questions regarding personal characteristics (age, gender, marital status, number of children, sleeping hours, and addictions),

professional characteristics (years in practice, work character, work profile, and workload), burnout, career satisfaction, and symptoms of depression. Data of personal and professional characteristics collected as categorical variables. Burnout was measured by the Maslach Burnout Inventory–Human Services Survey (MBI-HSS), which is recognized as the most commonly used tool for burnout assessment (3). It is a 22-item questionnaire divided into 3 subscales: emotional exhaustion, 9 items (the feelings of being emotionally overrun and exhausted by one's work); depersonalization, 5 items (the tendency to view others as objects rather than as feeling persons), and personal accomplishment, 8 items (the degree to which a person perceives doing well on worthwhile tasks). The items are answered in terms of the frequency with which the respondent experiences these feelings, on a 7-point scale ranging from 0 (never) to 6 (every day). The 3 dimensions are measured for each respondent. A higher score indicates greater burnout except for personal accomplishment that is rated inversely and low scores indicate high burnout. Specifically, a high degree of burnout is represented by high scores of emotional exhaustion (low <13, medium 14–26, high >27), high scores of depersonalization (low <5, medium 6–9, high >10), and low scores of personal accomplishment (low <33, medium 34–39, high >40). Reliability (Cronbach  $\alpha$ ) calculated for each MBI-HSS subscale was as follows: emotional exhaustion,  $\alpha=0.856$ ; depersonalization,  $\alpha=0.612$ ; and personal accomplishment,  $\alpha=0.794$ .

The original version of the MBI-HSS has been translated and back translated into Lithuanian by 2 certified translators. Exploratory and confirmatory factor analysis was performed to confirm the 3-factor structure of the original version of the MBI-HSS questionnaire. The internal consistency was assessed by Cronbach  $\alpha$  coefficient. Symptoms of depression were identified using the 2-item Primary Care Evaluation of Mental Disorders (PRIME MD) questionnaire (13, 14). A negative response to both questions makes depression highly unlikely. For respondents who answer “yes” to either of the two questions, other symptoms such as fatigue, poor concentration, suicidal ideation, restlessness, and change in sleep or appetite, guilt should be elicited to confirm the diagnosis of depression (14). Two questions were used to assess career satisfaction (4, 15–19). The first question concerning career choice was as follows: “Would you choose to become a physician again?” The second question estimating specialty choice was as follows: “Would you choose to become a cardiac surgeon or a cardiac anesthesiologist again?” (20).

The statistical analysis was performed using SPSS 13 program. For assessing quantitative vari-

ables of the two groups, the Student *t* test was employed. The interdependence of qualitative variables was evaluated using the asymptomatic chi-square ( $\chi^2$ ) or precise criterion. Kendall or Spearman rank correlation was employed to test the relationships. A significance level of 0.05 was chosen for the examination of statistic hypothesis.

## Results

The personal characteristics of the overall sample and by specialty separately are summarized in Table 1. The mean age of the physicians participating in this study was 44.1 years (SD, 9.7; range, 27–69 years; median, 44.5 years). Significant gender and marital status differences were documented: all cardiac surgeons were men and all of them were mar-

ried. Meanwhile, there were no significant differences comparing the respondents by specialty with respect to age, number of children, smoking habits, and frequency of alcohol consumption.

Table 2 shows the professional characteristics of the overall study sample and by specialty separately with respect to years in practice, workload, duration of sleep, and work character. A greater percentage of cardiac surgeons than cardiac anesthesiologists reported working more than 40 hour per week (83.3% vs. 58.6%,  $P=0.047$ ). No other significant associations regarding years in practice, duration of sleep a day, and work character were found.

The overwhelming majority (94.7%) of respondents would choose physician's profession again if they could and 82.8% would become a cardiac sur-

Table 1. Personal Characteristics of Physicians by Specialty

Personal Characteristic	Total n=59	Cardiac Anesthesiologists n=30	Cardiac Surgeons n=29	$\chi^2$ , <i>df</i> , <i>P</i>
Age, mean (SD), years	44.1 (9.7)	43.8 (10.5)	44.4 (9.0)	$P=0.8$
Sex				
Male	83.1	66.7	100	$df=1$ , $P=0.001$
Female	16.9	33.3	0	
Marital status				
Married	87.9	75.9	100	$df=1$ , $P=0.01$
Single	12.1	24.1	0	
Number of children				
0	10.2	13.4	6.9	$\chi^2=1.6$ , $df=3$ , $P=0.6$
1	28.8	33.3	24.1	
2	37.3	33.3	41.4	
>3	23.7	20.0	27.6	
Smoking				
Yes	13.6	16.7	10.3	$df=1$ , $P=0.7$
No	86.4	83.3	89.7	
Alcohol consumption				
Every day	5.5	7.4	3.6	$\chi^2=3.0$ , $df=4$ , $P=0.6$
A few times a week	21.8	29.7	14.3	
A few times a month	43.6	37.0	50.0	
A few times in half a year	10.9	7.4	14.3	
During holidays	18.2	18.5	17.8	

Values are percentages unless otherwise stated.

Table 2. Professional Characteristics of Physicians by Specialty

Professional Characteristic	Total n=59	Cardiac Anesthesiologists n=30	Cardiac Surgeons n=29	$\chi^2$ , <i>df</i> , <i>P</i>
Years in practice				
<10	28.8	20.0	37.9	$\chi^2=7.2$ , $df=3$ , $P=0.5$
10–15	16.9	26.7	6.9	
15–20	8.5	13.3	3.5	
>20	45.8	40.0	51.7	
Workload (number of hours per week)				
≤40	28.8	41.4	16.7	$df=1$ , $P=0.047$
>40	71.2	58.6	83.3	
Sleep within 24 hours, hours				
4–8	88.1	90.0	86.2	$df=1$ , $P=0.7$
>8	11.9	10.0	13.8	
Work character				
On day time	12.1	13.8	10.4	$\chi^2=1.1$ , $df=2$ , $P=0.6$
Nights on call	1.7	0	3.4	
Mixed	86.2	86.2	86.2	

Values are percentages.

geon or a cardiac anesthesiologist again (Table 3). No significant associations were found comparing the response rate by specialty. Kendall correlation analysis revealed an important link between the number of children in the family and the choice of physician's profession again ( $r=0.4$ ,  $P=0.001$ ). All participants (100%) having 2 children would become a physician again, but the corresponding percentage of respondents answering to this question positively and having 3 and more children was smaller (76.9%) (data not shown). Nearly 40% of the physicians surveyed felt melancholic, depressed, and desperate during the last month. More than one-fourth (30.5%) of respondents lost interest in everything that surrounds or gives pleasure. No significant associations were found comparing the response rate by specialty. Less than one-fourth (22.0%) of the respondents (20.0% of cardiac anesthesiologists and 24.1% of cardiac surgeons) indicated being melancholic, depressed, and desperate and lacking interest in everything that surrounds or gives pleasure, i.e., gave positive answers to both questions.

Table 4 shows the prevalence of burnout and its components among physicians by specialty. Overall, more than half (62%) of the respondents met the criteria for being burned out; 19.3% reported high emotional exhaustion, 25.9% had high depersonalization, and 42.3% demonstrated low personal accomplishment at work. Cardiac anesthesiologists were more likely to report burnout than cardiac surgeons, but the difference was not significant as well (66.7% vs. 57.7%,  $P>0.05$ ), comparison of the associations between burnout components and specialty, reports high sense of emotional exhaustion, depersonalization and low sense of personal accomplishment than cardiac surgeons, but the difference was not significant (24.1% vs. 14.3%, 27.6% vs. 24.1% and 48.0% vs. 37.1% respectively;  $P>0.05$ ). However, cardiac anesthesiologists were less likely to report a high sense of personal accomplishment and medium emotional exhaustion than cardiac surgeons (12% vs. 37% and 31% vs. 60.7%, respectively;  $P=0.03$  for both). Comparison of the associations between burnout and the professional and

Table 3. Carrier Satisfaction and Symptoms of Depression During the Last Months

Physician' Attitude and Feeling	Total n=59	Cardiac Anesthesiologists n=30	Cardiac Surgeons n=29	<i>P</i>
Would become a physician again	94.7	96.7	92.6	$P=0.5$
Would become a cardiac surgeon or a cardiac anesthesiologist again	82.8	90.0	75.0	$P=0.1$
Felt melancholic, depressed, and desperate	39.7	36.7	42.9	$P=0.6$
Felt lack of interest in everything that surrounds or gives pleasure	30.5	23.3	37.9	$P=0.2$
Felt melancholic, depressed, and desperate, lack of interest in everything that surrounds or gives pleasure (positive answers to both questions)	22.0	20.0	24.1	$P=0.7$

Values are percentages.

Table 4. Burnout and its Components Among Physicians by Specialty

Burnout and its Component	Total n=59	Cardiac Anesthesiologists n=30	Cardiac Surgeons n=29	$\chi^2$ , <i>df</i> , <i>P</i>
Emotional exhaustion				
Low	35.1	44.9	25.0	$df=2$ , $*P=0.03$
Moderate	45.6	31.0*	60.7*	
High	19.3	24.1	14.3	
Depersonalization				
Low	34.5	37.9	31.0	$\chi^2=0.7$ , $df=2$ , $P=0.7$
Moderate	39.6	34.5	44.9	
High	25.9	27.6	24.1	
Personal accomplishment at work				
Low	42.3	48.0	37.1	$df=2$ , $*P=0.03$
Moderate	32.7	40.0	25.9	
High	25.0	12.0*	37.0*	
Burnout				
No	38.0	33.3	42.3	$df=1$ , $P=0.5$
Yes	62.0	66.7	57.7	

Values are percentages.

Table 5. Correlation Between Personal and Professional Characteristics and Burnout Among Cardiac Surgeons and Cardiac Anesthesiologists

Personal and Professional Characteristic	Burnout Rate	<i>r, P</i>
Workload (number of hours per week)		
≤40	66.7	<i>r</i> =0.3,
>40	20.0	<i>P</i> <0.05
Smoking		
Yes	100	<i>r</i> =0.3,
No	55.8	<i>P</i> <0.05
Felt melancholic, depressed, and desperate		
Yes	80.0	<i>r</i> =0.3,
No	51.7	<i>P</i> <0.05
Felt lack of interest in everything that surrounds or gives pleasure		
Yes	68.8	<i>P</i> >0.05
No	58.8	
Hours of sleep a day		
>8	100	<i>r</i> =−0.3,
4–8	56.8	<i>P</i> <0.05
Sex		
Male	63.4	<i>P</i> >0.05
Female	55.6	
Marital status		
Married	63.6	<i>P</i> >0.05
Single	50.0	
Years in practice		
<10	54.5	<i>P</i> >0.05
10–15	75.0	
15–20	37.5	
>20	51.7	
Alcohol abuse		
Yes	63.0	<i>P</i> >0.05
No	50.0	

Values are percentages.

personal characteristics of physicians by specialty showed no significant differences (data not shown); therefore, the data of cardiac anesthesiologists and cardiac surgeons were pooled together to investigate the correlations between burnout and personal and professional characteristics (Table 5).

Spearman correlation analysis showed a significant relationship between burnout and the feeling of melancholy, depression, and desperation during the last month in the subgroup of cardiac surgeons ( $r=0.6$ ,  $P=0.004$ ). Such a relationship was not significant for cardiac anesthesiologists (data not shown).

Workload; smoking habits; feeling of being melancholic, depressed, and desperate; and duration of sleep were the personal and professional characteristics of physicians significantly related to burnout syndrome (Table 5). The respondents who worked >40 hours per week were more likely to be burned out than those who worked ≤40 hours per week (66.7% and 20.0%, respectively;  $r=0.3$ ,  $P<0.05$ ). A significant association was found between smoking habits and burnout syndrome: all smokers (100%) reported being burned out as compared with 55.8%

of nonsmokers ( $r=0.3$ ,  $P<0.05$ ). The positive answer to the question “Did you feel melancholic, depressed or desperate during the last month?” was significantly associated with a higher frequency of being burned out: 80% of physicians who felt melancholic, depressed, and desperate reported burnout as compared with 51.7% of their colleagues not experiencing melancholy, depression, and desperation ( $r=0.3$ ,  $P<0.05$ ). Those respondents who slept more than 8 hours were more likely to experience burnout than their counterparts who slept 4–8 hours (100% vs. 56.8%,  $r=-0.3$ ,  $P<0.05$ ). No significant associations between burnout and the personal and professional characteristics, such as gender, marital status, practice in years, and alcohol consumption, were found.

### Discussion

To our knowledge, this is the first study in Lithuania surveying burnout among physicians. It is well known that some professions, such as physicians, educators, and social workers, are significantly associated with burnout syndrome. It is very important to stress that there are great differences “inside” the professions: e.g., physicians of surgical profile experience burnout more often than others. Comparison of different professions showed that burnout is caused not by the specificity of a particular profession, reflecting in some factor, but rather by a complex of many factors. That is why the impact of some factors on burnout can be a direct reflection of social status, social prestige, etc. of a particular profession.

Some earlier studies reported the lower rates of burnout, but a similar number of recent studies presented the similar data (21–24). Our study showed that burnout was rather prevalent among the physicians surveyed (62%); 19.3% reported high emotional exhaustion, 25.9% had high depersonalization, and 42.3% demonstrated low personal accomplishment at work. The largest study ( $n=7905$ ) carried out in the United States where burnout among the US surgeons was surveyed reported a considerably lower rate of burnout (39.6%) (20). The factors predisposing burnout were young age, the number of nights on call, working hours as well as years in practice. The degree of satisfaction with physician's profession and the chosen specialty was significantly lower: 70.5% and 74% of the study participants reported that they would become a physician and would choose to become a surgeon, respectively, again. Similar results were obtained in an analogous study (25), where burnout among European general practitioners ( $n=1393$ ) was surveyed. The rate of their burnout was 43%. A study by Nyssen et al. showed that the prevalence of burnout among Belgian anesthesiologists ( $n=151$ ) was 40.4%, i.e., similar as well (9).



Our study showed that the duration of sleep was negatively correlated with burnout, meaning that the physicians who slept more hours a day were burned out more frequently than those who slept fewer hours. Many studies examining burnout among medical professionals showed the contrary findings: physicians who slept less were more likely to experience burnout. The finding in our study could be explained by the fact that if a physician is burned out, he/she demands more sleeping hours for recovery. This could be confirmed by other study that revealed the association between burnout and sleep: burnout was associated with the disturbed sleep, but independent of the duration of sleep (26).

Despite a high frequency of burnout, the surgeons surveyed were generally satisfied with their career and specialty choice where approximately 95% would become a physician again. While this percentage suggests that Lithuanian cardiac surgeons and cardio anesthesiologists are personally satisfied with a career in surgery/anesthesiology, only 80% would recommend their children pursue a career as a surgeon/anesthesiologist. One interpretation of these findings is that although Lithuanian cardiac surgeons and cardiac anesthesiologists generally enjoy the practice of surgery/anesthesiology, their workloads are excessive, often leave inadequate time for personal/family pursuits, and frequently lead to burnout.

There are associations between burnout and health behaviors, such as smoking, alcohol consumption, etc. In our study, alcohol consumption and burnout did not correlate positively, but smoking habits were found to be significantly related to burnout. Many studies on burnout have emphasized the association between burnout and health behaviors especially alcohol consumption. One of the largest studies, which investigated drinking habits among Finnish doctors ( $n=2671$ ), revealed that alcohol consumption was much higher among doctors than in the general Finnish population, and heavy drinking appeared to be associated with stress and burnout (27).

The recent years have highlighted the issue of brain drain of talented and skilled physicians from our country to other foreign countries. It is mainly caused by low salaries, and due to this, physicians have to work excessive working hours, leading to mental, emotional, and physical instability. However, scarce official statistics on the number of physicians who left the country and their personal experience is related to a lack of information about changes in their mental health, assessed in the aspect of burnout. Therefore, further research comparing physicians who practiced in Lithuania and emigrated abroad could disclose the main factors leading to emigration and if emigration reduced the degree of burnout. Moreover, it would be of interest to carry

out a study and to compare the prevalence of burnout among physicians still working in the medical profession and those who left their medical profession. Recently, considerable numbers of physicians come to work in hospitals in the United Kingdom. The question is, why this country is so attractive? German scientists while searching for the answer to this question noted that the reasons of emigration to the United Kingdom were not only salary, which was several times larger, but also personal promotion system, continuous postgraduate training, improved working conditions, and better opportunities for professional skills development (28).

Though the analysis of personality factors showed that the problem of burnout can be treated as simply a human problem; however, it was found out that this position is right as well as contrary stating that the source of the problem lies more in the situation than in a person. It is not a coincidence that in some surveys, the role of organizational factors is emphasized (2). The most important of them are as follows: working conditions and content of work.

The parameters of working hours and the amount of work have an essential influence on burnout. Practically all researches show that a heavy workload and working overtime induce the process of burnout, and reasoned breaks at work reduce it (29, 30).

The essential parameters in the context of burnout are qualitative and quantitative aspects of work with patients: the number of patients, the frequency of provision of services, the closeness of contact with patients, etc. Studies reported a positive association between these variables and burnout syndrome (31). Complicated and fraught problems of clients, particularly of chronically ill patients and those who need surgical services, serve for an especially favorable situation to be exposed to burnout. It is important whether the physician himself/herself has any possibility to make decisions independently and if he/she is engaged in making important decisions. If so, the probability to experience burnout is noticeably lower (29).

The potential limitation of this study was a small sample size; however, the response rate was high (100%). The cause of tremendous response rate was that questionnaires were distributed directly to the participants, not sent by e-mail, and this may lead to the biased responses of the participants, but such a mode of data collection was the only possibility to enroll the greatest number of participants into the study from such a rather small population of physicians.

Another limitation was the use of the PRIME MD scale. This scale was used to assess depression, which is not used alone for the assessment of depression; however, the studies show that this instrument is useful in the identifying depression. It has a sensitivity of 96% and a specificity of 72% when

compared with other measures (14).

## Conclusions

Burnout was found to be prevalent among Lithuanian cardiac surgeons and cardiac anesthesiologists. Some personal and professional characteristics, such as smoking habits, being melancholic, depressed, and desperate, duration of sleep per day, and work-

load per week, were found to be significantly related to burnout. Burnout relief measures should be developed in order to prevent a further increase of burnout syndrome among Lithuanian cardiac surgeons and cardiac anesthesiologists.

## Statement of Conflict of Interest

The authors state no conflict of interest.

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