

The prevalence of burnout syndrome in Polish anaesthesiologists

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Abstract

Background: Burnout syndrome is a psychological response to chronic work-related stress characterized by low enthusiasm towards the job, high psychological exhaustion, indolence and guilt. Being a medical doctor, both in Poland and in other countries, is one of the most stressful occupations and anaesthesiology is considered one of the most stressful specializations, which justify carrying out of the study on Polish anaesthesiologists. The aim of the study was to determine the prevalence of burnout syndrome in Polish anaesthesiologists.

Methods: Non-randomized cross-sectional study was carried out and data were gathered through a self-administrated questionnaire. The sample consisted of 373 Polish anaesthesiologists, 57.6% were women and 42.4% were men. A 66% response rate was achieved. The Burnout Syndrome was measured by the Spanish Burnout Inventory.

Results: The prevalence burnout risk was almost 70%. The percentage of participants who indicated very high levels of burnout was 18%; 5.9% of whom fell into profile 2 considered to be clinical. The instrument applied was reliable with Cronbach's alphas exceeding 0.70.

Conclusions: The sample is characterized by high burnout risk with 5.9% of clinical cases. Participation in prevention programs is recommended.

Key words: burnout syndrome, stress, anaesthesiology

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Research findings reveal that medical profession is ninth on the list of 100 most stressogenic occupations [1]. Medical professionals are a group characterised by an increased level of work-related stress and dissatisfaction with working conditions [2] and anaesthesiology is known to be the most stressful medical speciality [3]. In recent years, much attention has been paid to the working conditions of physicians because adverse working conditions can be essential for the development of work-related stress as well as burnout syndrome in physicians, can result in significant professional errors and reduce the safety of patients [4]. Anaesthesiology is still considered a stressful speciality and the prevalence of burnout syndrome (BS) in this group of physicians is high [5].

BS is an increasingly common workplace-related problem. Widespread interest in BS is associated with the general

tendency to improve the quality of professional life and with growing stress levels [6]. BS, its causes and consequences, phases of development and symptoms have been described using various theoretical models. The first definition of BS was presented by Freuderberger [7] and the term entered both everyday and scientific language. According to Maslach [8], burnout is a response to chronic emotional stress resulting from taking care of other individuals, particularly those with some problems. The above definition of BS is most commonly cited in literature. Gil-Monte [6] described BS as a psychological response to chronic work-related stress of interpersonal and emotional nature whose prevalence in medical professionals is very high.

Some authors indicate three basic sources of BS (personal, associated with interpersonal relations and organi-

zation-related) [9]; according to others, organization-related factors are crucial for the development of BS [9–11]. Professional burnout is a syndrome hindering the work of an individual and the entire team; thus, its appropriate prevention, diagnosis and treatment are relevant [12, 13]. Study findings demonstrate that BS and lack of satisfaction of physicians with work adversely affect the satisfaction of patients with the services provided [14–16].

In the model described by Gil-Monte [17] elucidating the phenomenon of BS, the process of developing feelings of guilt explains the difference between the profile 1, which does not consider feelings of guilt and the profile 2, which includes feelings of guilt and constitutes a serious clinical problem. The profile 1 is characteristic of individuals showing a low level of work enthusiasm, high psychological exhaustion and high levels of indolence without experiencing feelings of guilt associated with negative attitudes towards patients (aggressiveness, indifference) or lack of adaptation to the expectations connected with their role. The profile 1 individuals can work for many years without having relevant personal problems related to professional stress although their attitudes and behaviour, such as indifference, apathy, lack of responsibility, cynicism, indolence, lead to the deterioration of the quality of relations with patients and are a source of patients' complaints. The profile 2 includes individuals who are also characterized by a low level of work enthusiasm and a high level of emotional exhaustion as well as indolence. Additionally, they experience feelings of guilt caused by the fact that they cannot perform their responsibilities properly and use the strategies for coping with stress, which include negative and impersonal attitudes towards patients. In such cases, the feeling of guilt is crucial and leads to severe consequences of BS [18, 19]. Individuals experiencing feelings of guilt require professional psychological or psychiatric help to manage the crises that adversely affect their mental condition and work responsibilities.

The aim of the study was to assess the prevalence of BS in Polish anaesthesiologists, considering the individual profiles according to Gil-Monte.

METHODS

Six hundred letters with questionnaires were sent to randomly selected departments of anaesthesiology and intensive therapy; heads of departments and physicians were asked to fill the questionnaires provided conscientiously and return them to the addressee. The Spanish Burnout Inventory (SBI) was used, which addresses the psychometric limitations of the most popular instrument to measure BS, i.e. the Maslach Burnout Inventory [20]. The SBI consists of 20 questions with the frequency scale containing 5 adjectives. Respondents choose from the following answers:

Table 1. The Spanish Burnout Inventory

Scale value	Percentile	Level
1	< 11	Very low
2	11–33	Low
3	34–66	Medium
4	67–89	High
5	> 89	Critical

“Never”(0), “Rarely: several times a year”(1), “Sometimes: several times a month”(2), “Often: several times a week”(3), and “Very frequently: every day”(4).

The Spanish Burnout Inventory assesses four dimensions of burnout using the following subscales: 1. Enthusiasm towards the job, 2. Psychological exhaustion, 3. Indolence, and 4. Feeling of guilt. Enthusiasm towards the job is the desire of an individual to achieve goals at work because it is a source of personal satisfaction. Psychological exhaustion is characterized by emotional and physical exhaustion due to daily contact with people who present problems. Indolence is characterized by the appearance of negative attitudes of indifference and cynicism towards patients and workplace. The feeling of guilt is associated with negative attitudes and behaviours developed on the job, particularly towards patients.

The SBI is the scale developed by Gil-Monte at the University of Valencia and translated by a group of Polish psychologists and physicians fluent in Spanish using the method of reverse translation. In the study, the critical level was applied (above 89 percentile) to assess the prevalence of BS and four SBI subscales were used (Table 1). The scale of enthusiasm towards the job is a reversed scale, i.e. level 1 is critical (lack of enthusiasm towards the job).

A mean of scores was considered the final score in each scale.

According to the methodological assumptions of Gil-Monte [21], individuals with critical scores in indolence and psychological exhaustion and low scores in enthusiasm towards the job belong to profile 1. Individuals with the critical level 5 in indolence and psychological exhaustion, the critical level 1 in the reverse scale of enthusiasm towards the job and critical scores in feeling of guilt fall into profile 2 — considered a critical condition.

STATISTICAL ANALYSIS

IBM SPSS Statistica v.21 software was employed for statistical analysis. Results regarding the prevalence of BS were presented as an absolute number and percentage. Ordinal data were presented as a median, minimum and maximum whereas interval ones as a mean and standard deviation. Reliability of the measurement methods used was defined

Table 2. Age and work experience among anaesthesiologists

	Age (years)	Years in the position	Years of professional experience	Years of holding a managerial position
Mean	42.1	11.2	16.2	8.9
SD	10.1	9.2	10.2	7.5
Minimum	26	1	1	0
Maximum	65	39	40	39

Table 3. Assessment of reliability of scales

Scale	Cronbach's alpha	Number of items	Mean	SD	Skewness	Kurtosis	Minimum	Maximum
SBI	0.84	15	1.38	0.52	0.29	0.09	0.20	3.13
Enthusiasm towards the job	0.86	5	2.77	0.73	-0.35	-0.43	0.60	4
Psychological exhaustion	0.85	4	1.80	0.83	0.47	0.00	0	4
Indolence	0.80	6	1.24	0.64	0.78	1.13	0	4
Feeling of guilt	0.86	5	0.93	0.57	0.76	2.00	0	4

SBI — Spanish Burnout Inventory

using Cronbach's alpha. $P < 0.05$ was considered as statistically significant.

RESULTS

In total, 373 professionally active anaesthesiologists from the departments of anaesthesiology and intensive therapy in Poland participated in the study (the response rate — 62%). The majority of respondents were women (57.6%). Assistants constituted the largest group (57.1%) followed by residents — 15.3%, those holding managerial positions — 12.6% and those holding other positions — 8.8%. The mean age of respondents was slightly above 42 years. The data regarding age and years of professional experience are presented in Table 2.

ASSESSMENT OF RELIABILITY OF THE SCALES USED

Table 3 presents the assessment of reliability of scales measured with Cronbach's alpha. The coefficient for all scales was above 0.70, indicating a proper level of reliability of the methods used.

PREVALENCE OF BURNOUT SYNDROME COMPONENTS

For the lack of enthusiasm towards the job scale, there were no answers reaching the value of 5 in the study group; in 46.6% of cases, the value of 2 was found. The critical level was observed in 19.6% of respondents. In the psychological exhaustion scale, the value of 3 characterised the highest number of individuals (48.0%). The critical level of psychological exhaustion occurred in 11.3% of participants. Moreover, in the indolence scale, the percentage of values 3 (40.5%) and 4 (32.4%) was demonstrated to be the

highest. The critical level of indolence occurred in 12.9% of respondents. No answers were scored 0 in the feeling of guilt scale whereas the critical level on this scale was found in 6.4% of respondents.

The critical level of BS (level 5 in the SBI), understood as a sum of subscales: lack of enthusiasm towards the job, psychological exhaustion and indolence, occurred in 18% of participants. The prevalence of profile 1 was 12.1% and of profile 2, 5.9%.

The prevalence and percentage of scores in BS subscales are presented in Table 4.

DISCUSSION

According to the study findings, 69.4% of participants demonstrated the risk of BS (moderate and high level). The critical level of BS was found in 18% of respondents, 12.1% of them fell into profile 1 and 5.9% into profile 2 (with the subscale of feelings of guilt included). The Spanish Burnout Inventory is the only instrument to measure BS which considers feeling of guilt; hence, its results are difficult to be compared with those obtained using other research tools. The fact that the SBI shows the criterion validity with the MBI enables comparisons with other studies in which this scale is employed. However, this validity regards only the profile 1.

The results obtained regarding BS differ from those presented by other authors who studied the phenomenon in question using both the MBI and SBI. Grau and colleagues [22] carried out their study in various professional groups in Spain and countries of South America using the Maslach Burnout Inventory; its overall result was 11.4%. In the analysed countries, the highest percentage of BS was found in

Table 4. Prevalence and percentage of scores for burnout syndrome components

Scale value	Enthusiasm towards the job		Psychological exhaustion		Indolence		Feeling of guilt		BS	
	n	%	n	%	n	%	n	%	n	%
1	73	19.6%	8	2.1%	14	3.8%	0	0.0%	7	1.9%
2	174	46.6%	70	18.8%	39	10.5%	117	31.4%	40	10.7%
3	83	22.3%	179	48.0%	151	40.5%	152	40.8%	118	31.6%
4	43	11.5%	74	19.8%	121	32.4%	80	21.4%	141	37.8%
5	0	0.0%	42	11.3%	48	12.9%	24	6.4%	Profile 1 — 45	12.1%
									Profile 2 — 22	5.9%

BS — burnout syndrome

Spain (14.9%) and Argentina (14.4%); physicians constituted the highest risk group (12.1%). However, the prevalence of BS was not the same for all medical specialities. The highest risk groups included emergency medicine (17%) and internal medicine (15.5%). Surprisingly, anaesthesiology and dermatology were characterized by the lowest risk (5.5%). The authors emphasise that differences in the level of BS in different countries are most likely associated with the level of economic development; more developed countries, and Spain or Argentina are considered such countries, show higher levels of BS compared to the remaining countries of South America. A low percentage of risk amongst anaesthesiologists is controversial; according to other researchers, this group of professionals is characterised by the highest level of BS [23, 24]. Interestingly, Frade and co-workers [25], who studied the group of Spanish anaesthesiologists, diagnosed BS in 13% of participants.

Under Polish organizational conditions, similar to the majority of European countries, anaesthesiologists are a group of physicians working on a rotation basis in operating theatres, pain management outpatient departments as well as departments of intensive care, i.e. places of various degrees of BS risk. Therefore, it is difficult to compare our results with those obtained in the Spanish study, which was conducted in uniform groups of anaesthesiologist or intensivists.

The study by de Oliveira and colleagues [26] included 93 American anaesthesiologists holding a managerial position and evaluated BS using the MBI; its findings reveal that 28% of participants showed a high level of BS and 31% a moderate level. Thus, 59% of the anaesthesiologists studied showed a high risk of BS. The authors emphasise an alarmingly high percentage of risk among anaesthesiologists as compared to other specialities. In our study in which the moderate and high levels were considered a BS risk, the risk was 70%, which indicates that the problem is serious.

According to Embriaco and colleagues [27], the risk of BS among physicians working in intensive care units is 46.5%. Field and co-workers [28] assessed that risk among paediatricians working in intensive care units at 14%, 36% of whom showed an increased risk of BS. The above can suggest that working in intensive care units generates burnout amongst physicians.

A low percentage of BS in the group of Spanish anaesthesiologists reported by Grau and colleagues [22], compared to our findings, can be substantiated by the fact that in Spain anaesthesiology and intensive therapy function as separate specialities whereas in Poland intensive therapy, which according to the majority of studies presents high BS scores, functions inseparably with anaesthesiology. Moreover, it should be objectively stated that despite vast advances in many fields of economy, Poland is still developing dynamically, which is likely to translate into high levels of stress and more difficult working conditions compared to highly developed European countries. The above suggestions are indirectly proven by the analysis of BS subscales in our study. Its findings explicitly demonstrate that 12.9% of participants showed very high values (90th percentile) in the indolence scale (corresponding to MBI depersonalisation), 11.3% in the psychological exhaustion scale (corresponding to MBI emotional exhaustion), 19.6% in the scale of enthusiasm towards the job (corresponding to MBI personal accomplishments) and 6.4% in the scale of feeling of guilt. Although the results of each of the scales are comparable, it is worth stressing that participants had the highest scores in the lack of enthusiasm towards the job.

The Portuguese study demonstrated that 57.8% of anaesthesiologists were diagnosed with emotional exhaustion and 91% with depersonalization (MBI subscales) [23]. Furthermore, according to the study conducted among German anaesthesiologists, 25% of participants had high values in the scale of emotional exhaustion and depersonalization

[29]. The authors did not, however, define which percentile was used as a cut-off point and which categories were applied to consider the result as high. If in our study the 66th percentile was accepted as a cut-off point (high level), the percentages would be as follows: of indolence — 35.7%, of psychological exhaustions — 31.2%, of lack of enthusiasm towards the job — 56.2% and of feeling of guilt — 27.8%. The percentages are still relatively low as compared to the results reported by the authors cited above, although the level of BS in our study seems high. The inconsistency is highly likely to result from the use of different instruments, which hinders the comparisons. The available literature data concerning other medical specialities also do not allow to draw explicit conclusions.

In the study by Nirel and co-workers [30] carried out in the group of Israeli paramedics, BS occurred in 35% of participants. BS was assessed as physical fatigue as well as cognitive and emotional burnout, although to a lower extent (7% and 9% of participants, respectively). Klersy and colleagues [31] studied the medical personnel (physicians and nurses) working in dialysis departments of hospitals in northern Italy. A high level of BS was found in 30% of nurses and 18% of physicians; according to the authors, the result is lower than expected considering the literature data indicating the BS level of 25–30% in medical professionals. However, the result in question is similar to that in our study. In the study by Nirel, lower values were observed in the scale of emotional exhaustion and depersonalisation and higher ones in the scale of personal accomplishment compared to Italian norms, which is also comparable with our findings. According to Klersy and colleagues [31], nurses (the group where women definitely outnumber men) had higher values in the scale of emotional exhaustion than physicians (lack of gender dominance). Many authors highlight the fact that women tend to have higher scores in the emotional exhaustion scale as compared to men [32–35]. Misiolek and co-workers [36], conducting their study in anaesthesiological nurses in Silesian hospitals, used the SBI and demonstrated a high level of BS in 22.36% of nurses, with 3.73% of them falling into profile 2 additionally characterized by high scores on feelings of guilt. Since the study was conducted using the SBI and the critical level was determined by the 90th percentile, its results can be accurately compared with our findings regarding anaesthesiologists. Anaesthesiological nurses show a slightly higher level of BS than anaesthesiologists in our study, which is consistent with the results reported by others. Hyman and colleagues [37] compared the prevalence of BS in the groups of anaesthesiological nurses and anaesthesiologists working in the intensive care unit and showed a lower level of BS amongst anaesthesiologists compared to anaesthesiological nurses. It is worth to return to the controversial issue of discrepancies in the

results reported by various authors, which is associated with the use of different questionnaires or cultural differences but mainly with the lack of uniform cut-off points of levels of BS and its subscales. In our study, levels of BS were divided according to percentile values; a high level of BS — percentiles between 66 and 89 whereas the critical level - measured from the 90th percentile. On the one hand, determination of cut-off points is arbitrary and does not guarantee that the critical level of BS is the case requiring urgent therapy. On the other hand, norms have to be unified to compare the results of studies carried out by various authors. Empirical evidence speaks in favour of the use of the 90th percentile. Schaufeli and colleagues [38] carried out research in professionals who presented for BS-related therapy, i.e. the homogenous group of clinical population. The authors emphasise that it is worth distinguishing the clinical (undergoing therapy) and non-clinical population (untreated), in which there are no individuals with the critical level of BS. They focused on discriminating the clinical and non-clinical cases, i.e. on the issue of the lack of uniform cut-off points used in the MBI and Burnout Measure (BM) [39]. Schaufeli and co-workers [38] stress that manuals for both questionnaires indicate arbitrary cut-off points, which leads to equivocal results. Moreover, the authors of both questionnaires emphasise that cut-off points cannot be used for diagnostic purposes. The above suggestions are supported by the study in 139 employees qualified for therapy by psychiatrists. BS was diagnosed in 64% of them according to the MBI and in 65% according to the BM, which indicates that in 46%–45% of patients the test failed to diagnose the syndrome; thus, the usefulness of the scale seems limited [38]. In another study, the authors demonstrated that the 90th percentile could be used to discriminate between the cases requiring therapy and non-clinical ones [40]. Based on the cut-off points obtained in the group of clinical patients, Bakker and colleagues [41] estimated that 4% of the Dutch working population (about 260 000 individuals) suffered from clinical BS, manifesting symptoms qualifying them for therapy. Our study also confirms the rightness of the use of the 90th percentile as an accurate cut-off point since a statistically significant relation between BS and health-related consequences occurs at the critical level of syndrome.

In the study among dental residents, Maccur [42] demonstrated different prevalence of BS depending on the cut-off criteria recommended by various authors: 5.55% — Maslach and Jackson [43], 33.33% — Gil-Monte and Peiro [23], 38.88% — Neira [44]. Although the author sums up that the most appropriate cut-off point for the Argentinean sample is 38.88% recommended by Neira [45], the study is however an example of equivocal results due to the lack of uniform criteria. The study carried out among paediatricians from hospitals in Buenos Aires revealed the

following prevalences of BS according to the criteria assumed: 10.6% — American, 24.4% — Spanish and 37.4% — Argentinean norms. The restrictive Dutch norm described by Schaufeli and Bakker [38] (90th percentile) demonstrated the presence of BS in only 3.2% of cases [46].

The longitudinal study by Gray-Alberola and colleagues [45] conducted in the group of nurses from Spanish hospitals disclosed a constant level of BS within the year (2.84% during the first year and 1.89% during the second year according to the American norm and 1.26% and 0.94%, respectively according to the Dutch norm). Besides the differences in BS levels depending on the norms accepted, it is worth stressing that the level of BS is lower than that in our study, which is likely to be associated with the fact that anaesthesiology and intensive therapy are separate specialties in Spain. The problem mentioned above is also dealt with by Thomas [47] who searched the literature published over the period of 20 years concerning the prevalence of BS in the homogenous group of residents. Seventy-seven publications explicitly demonstrated that results could not be compared due to the use of different scales and different cut-off points. An additional limitation for the analysis of reports on BS is the lack of longitudinal studies that would confirm cause-effect relations of BS models. Still another example of difficulties in comparative analysis of various reports and our study is the study by Pincet and colleagues [48], who examined the level of BS among nurses working in intensive care units in France. According to the authors, the critical level of BS was found in 33% of participants. The cut-off criterion most probably used in this group was not the 90th percentile describing clinical cases; the authors did not define the cut-off criteria used.

The usefulness of the SBI and MBI for establishing proper diagnosis is evidenced by the fact that respondents are not aware that their level of BS is assessed. In other scales, questions contain opinions of respondents regarding the level of burnout and the results based on such questionnaires reveal substantially higher levels of burnout in higher percentages of participants. An example is the questionnaire study carried out in 1740 oncologists working in the USA. Up to 61.7% of physicians recognised that they suffered from BS and 83.2% diagnosed BS symptoms in co-workers. More than 70% of physicians found their symptoms increasingly persistent. According to the respondents, the best-recognised symptoms of BS were frustration (78%), emotional exhaustion (69%) and lack of satisfaction with the job (50%) [49]. Noteworthy, the general understanding of burnout among respondents is much less critical than the clinical norms recommend, which should be taken into account during analyses of studies on BS prevalence based on such questionnaires rather than reliable psychometric instruments like the MBI or SBI.

The psychometric values of the Polish version of SBI fulfil the criteria necessary to consider this test reliable. Values for the Polish version are higher than the minimum value, i.e. 0.70, which is comparable with the results of the Spanish version.

The major limitation of our study is its non-randomised nature; thus, it can be assumed that individuals with the highest level of BS might have not participated in it. Sung [50] emphasises that the lack of randomisation is one of the main limitations of questionnaire studies regarding BS. Additionally, Schaufeli and Van Dierendonck [51] pay attention to a small number of longitudinal studies on BS. The study presented is cross-sectional, which excludes the possibility of 100% confirmation of BS causes and effects and empirically confirmed assumptions are based on a theoretical model.

CONCLUSIONS

In the study group of Polish anaesthesiologists, the risk of BS was found to be high and moderate in almost 70% of respondents, which is alarmingly high compared to other specialties both in Poland and in other countries. Otherwise, the prevalence of the critical BS level in the study group fluctuating around 18% is comparable with worldwide findings regarding anaesthesiologists and physicians of other specialties.

Moreover, the prevalence of such BS symptoms as intolerance, psychological exhaustion, enthusiasm towards the job and feeling of guilt in the study population of anaesthesiologists were very high according to the scale employed (12.9%, 11.3%, 19.6% and 6.4%, respectively). However, it is difficult to compare the obtained results with those of other studies, as the methods of assessment applied were inventive.

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