Psychiatria Danubina, 2011; Vol. 23, No. 4, pp 389-395 *Original paper*

BURNOUT SYNDROME AMONG PHYSICIANS – THE ROLE OF PERSONALITY DIMENSIONS AND COPING STRATEGIES

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received: 15.2.2011; revised: 31.8.2011; accepted: 7.10.2011

SUMMARY

Background: *Burnout syndrome (BS) and stress-related disorders are frequent among medical specialists, but it has been suggested that some health workers are more prone to the BS than others. This study assessed the intensity of the BS among 3 groups of physicians: psychiatrists, general practitioners and surgeons and examined correlation both between the intensity of BS and physicians` personality dimensions as well as between the level of BS and stress coping strategies.*

Subjects and methods: *The sample consisted of 160 physicians (70 general practitioners, 50 psychiatrists, 40 surgeons). The assessment was carried out by the Maslach Burnout Inventory, The Temperament and Character Inventory and Manual for the Ways of Coping Questionnaire.*

Results: *Dimension of emotional exhaustion was the most prominent in general practitioners ($F=5.546$, $df1=2$, $df2=156$, $p<0.01$), while dimension of depersonalization was highest in surgeons ($F=15.314$, $df1=2$, $df2=156$, $p<0.01$), as well as lack of personal accomplishment ($F=16.079$, $df1=2$, $df2=156$, $p<0.01$). We found that the Harm Avoidance has lead to development of BS while Self-directedness and Cooperativeness were prominent in physicians with low level of BS. The escape-avoidance was in correlation with high depersonalization and lack of personal accomplishment while self-control was prominent in physicians with lower BS.*

Conclusion: *The BS affects personal well-being and professional performance. It is important to identify individuals with a tendency towards its development, in order to undertake preventive measures such as stress management and improvement of the stress coping strategies.*

Key words: *burnout syndrome - physicians - personality dimensions - coping strategies*

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INTRODUCTION

The burnout (BS) develops after a prolonged response to chronic emotional and interpersonal job stressors, and is defined by 3 dimensions - emotional exhaustion, depersonalization and lack of personal accomplishment (Maslach et al. 2001, Kumar et al. 2006). It is a construct describing the psychological state resulting from ineffective strategies for coping with enduring stress in both client and non-client professions (Ekstedt & Fagerberg 2005). The BS occurs most frequently in professions that require an intensive involvement with people, including medical staff such as physicians (Lecic-Tosevski et al. 2006, Embracio et al. 2007, Sharma et al. 2008, Katschnig 2010). It is well documented that physicians experience high level of stress and that they are susceptible to BS (Bruce et al. 2005, Kushnir & Cohen 2006, Lesic et al. 2009, Arigoni et al. 2010, Pejuskovic & Lecic-Tosevski 2011). Personality dimensions determine the ways in which people deal with stressors and thus influences behaviour and performance (Mitra et al. 2003), while consequences of the stress reaction occur when a perceived demand exceeds one's coping.

Recent findings indicate that personality traits such as neuroticism, type A behaviour pattern, external locus of control or pessimism may increase the sense of stress and contribute to the development of BS (Oginska-Bulik 2005, McManus et al. 2004, Ngidi & Sibaya 2002). It has been suggested that health workers might have personality characteristics that make them more prone to BS (Gundersen 2001). Some studies pointed out that psychiatrists may be predisposed to BS due to their personality traits, which make them prone to internalize their stressful experiences (Kumar 2007). This indicates that personality traits may influence the perception of environmental work conditions and may play a mediating role between stress and its cones-quences.

Some authors have pointed out the influence of psychological hardiness and coping strategies in development of BS (Maslach et al. 2001, Lindblom et al. 2006). Several studies have shown that social support as a coping strategy has a positive effect on well-being and job satisfaction (Burke & Greenglass 2001) and that, Avoidance Coping may be helpful (Koeske et al. 1993). The construct of personality hardiness is thought to buffer the effects of stress, and it has been found that

hard individuals are less prone to physical illness, more willing to accept social support, more optimistic, less stressed, capable of using a wider variety of coping strategies, and are less burned out (Rowe 2006). In cross-sectional studies, emotion-focused coping has been associated with job stress and BS among physicians (Sharma et al. 2008, Deary et al. 1996). One recent longitudinal study has shown that reduction in emotion-focused coping and job stress preceded reduction in emotional exhaustion (Isaksson Ro et al. 2010).

The question repeatedly asked is why, under the same working conditions, one individual burns out, whereas another shows no symptoms at all. It seems fair to assume that other causes such as personality dimensions and the way of perceiving stress play important roles (Buhler & Land 2003, Morais et al. 2006). The specific strategies may ultimately account for why one individual when exposed to an identical stressor becomes ill and another does not (Savicki 2002).

It seems that the BS in physicians does not differ from that syndrome in other professions, but physicians' reactions may be unique in some aspects, in part because they can have devastating consequences for patients (Bruce et al. 2005, Gundersen 2001, Galeazzi et al. 2004). Also, the consequences of this syndrome can be manifold and could jeopardize a person on a psychological and somatic level (Ahola et al. 2006, Akerstedt et al. 2007, Armon et al. 2008), as well as affect the capability for work (Chiu & Tsai 2006).

The highest BS indices were found in surgery (Sharma et al 2008), general practice (Cathebras et al. 2004, Goehring et al. 2005), psychiatry (Priebe et al. 2005, Fischer et al. 2007), child psychiatry, internal medicine, intensive care and oncology (Embriaco et al. 2007, Asai et al. 2007, Travado et al. 2005). Some authors suggest that psychiatrists as a group are vulnerable to experiencing BS, more than other physicians and surgeons (Kumar 2007).

The objective of our study was to examine the intensity of BS among 3 groups of physicians: psychiatrists, general practitioners and surgeons and compare expressiveness of the dimensions of BS in these groups, but also to identify the role and effect of personality dimensions and coping strategies. Also, we established the relationship between BS and sociodemographic variables and role of gender.

SUBJECTS AND METHODS

This was a cross-sectional survey of 160 physicians of different specialties: 70 general practitioners (43.8%) working in public health centres, 50 psychiatrists (31.3%) and 40 general surgeons (25%) employed at Belgrade university clinics. The data were collected during 2007. There were 57 male (35.6%) and 103 female (64.4%) physicians. In the male group 5 physicians were general practitioners (3.1%), 17 were psychiatrists (10.6%) and 35 were surgeons (21.9%). In the female group 65 of them were general practitioners (40.6%), 33 were psychiatrists (20.6%) and five were surgeons (3.1%). The mean age of the subjects was 45 years (SD 8.14), ranging from 30 to 64 years. As for their marital status, 122 were married (76.3%), 23 physicians were single (14.4%), 12 were divorced (7.5%), and 3 (1.9%) were widows/widowers.

The informed consent was obtained and the acquired data were kept confidential. The Ethical Committee of the Institute of Mental Health approved the study. The instruments have been administrated face to face but physicians filled up the questionnaires anonymously and put them into boxes which were prepared for that purpose in each institution. Participants have taken about 45 minutes to complete the survey. We have administered equal number of questionnaires to each group (70), but the response rate was 100% in general practitioners, in psychiatrists it was 71.43%, and in surgeons 57.14%.

Measures

A structured questionnaire covered the sociodemographic characteristics (age, gender, marital state, type of education, occupation, years in present position, years in the profession) and job details (caseloads, length of experience, professional responsibilities, and activities per week, daily number of patient).

Burnout

The BS was assessed using the Maslach Burnout Inventory (MBI) (Maslach et al. 1996), which is a self-report tool with 22 items yielding scores for three components - emotional exhaustion (EE), depersonalization (DP) and reduced personal accomplishment (PA). The participants were asked to provide a rating for each item, ranging from (0) – never, to (6) - everyday (with possible sum scores of burnout ranging from 0 to 132).

Personality dimensions

The personality assessment was carried out by the Temperament and Character Inventory (TCI) (Cloninger et al. 1994). It is a 240-items questionnaire which evaluates 7 dimensions of personality including 4 temperament and 3 character dimensions, such as Novelty Seeking, Harm Avoidance, Reward Dependence, Persistence, Self-Directedness, Cooperativeness, and Self-Transcendence. The temperament traits are automatic responses to emotional stimuli that are evident in infancy and remain constant throughout life. The character traits mature through social learning and develop from infancy through adulthood in a stepwise fashion. Each question is rated on a Likert-type 5-point scale.

Coping strategies

The coping strategies were assessed by the revised version of the Ways of Coping Questionnaire (Lazarus & Folkman 1988) with 39 items and 8 subscales (Social

Support, Confrontative Coping, Distancing, Self-control, Positive Reappraisal, Planned Problem-solving, Escape-avoidance and Accepting responsibility. All subscales have 5 items with the exception of the last one which has 4 items. The subjects were asked to indicate how they coped with difficulties in the stressful situations. Each question is rated on a Likert-type 3-point scale.

Statistical analysis

The data were analyzed using the Statistical Package for Social Science (SPSS Version 11). One-way analysis of variance (ANOVA) with Scheffe post-hoc test was used to test the statistical significance of differences between three groups of doctors on BS. The same analysis tested the correlation between marital status and BS. T-test for independent samples was used to test the differences between the two genders in intensity of BS and Pearson correlation to assess associations between age, years of practice, daily number of patients and intensity of BS. In order to test associations between BS and personality dimensions, as well as between BS and coping strategies we used canonical correlation analysis. In all performed analysis, a significance criterion equal to, or smaller than 0.05, was used to determine statistical significance.

RESULTS

The score of the BS was moderate in all three examined groups. The emotional exhaustion for the whole sample was 22.57 (range is between 0 and 27 or over), depersonalization was 5.01 (range is between 0 and 13 or over) and personal accomplishment was 37.27 (range is between 0 and 39 or over, scored in opposite direction). One-way analysis of variance (ANOVA) has shown a significant difference in intensity of the BS between the 3 examined groups of physicians. Statistically significant difference between the groups was shown in all dimensions of BS - emotional exhaustion ($F_{2.156}$=5.546, p<0.01), depersonalization ($F_{2.156}$=15.314, p<0.01), lack of personal accomplishment ($F_{2.156}$=16.079, p<0.01), as well as on the total score ($F_{2.156}$=3.401, p<0.05). Scheffe post-hoc test has shown that general practitioners had higher score of emotional exhaustion than the other two groups, which were mutually equal, while depersonalization and lack of personal accomplishment were higher in surgeons. The total BS score, was lowest in psychiatrists and highest in surgeons (Figure 1).

After determining differences between groups of physicians we tested various correlates of BS. Pearson coefficient has shown a statistically significant correlation between daily number of patients and BS dimensions of emotional exhaustion (r=0.29, p<0.01) and personal accomplishment (r=0.31, p<0.01). These correlations were positive, i.e. physicians with greater daily number of patients were more prone to emotional exhaustion, but they had higher sense of personal accomplishment. Also there was a statistically significant correlation between BS dimension of depersonalization and age (r=-0.27, p<0.01), years of practice (r=-0.17, p<0.05) and daily number of patients (r=-0.15, p<0.05). In this case, correlations were negative, i.e. older physicians, with greater years of practice and daily number of patients was less prone to depersonalization.

One-way analysis of variance has shown that there were no differences between participants of different marital status on BS scales ($F_{3.155}$=1.12, p>0.05; $F_{3.155}$= 0.48, p>0.05; $F_{3.155}$=0.78, p>0.05; $F_{3.155}$=0.68, p>0.05).

There were no statistically significant gender differences on total BS score (t_{157}=-0.53, p>0.05) and depersonalization dimension (t_{157}=-1.240, p>0.05), but, on other two dimensions gender differences were statistically significant (Figure 2). The emotional exhaustion was higher in women ($t_{148.698}$=-3.460, p<0.01), and lack of personal accomplishment was higher in men ($t_{82.364}$=-2.132, p<0.05).

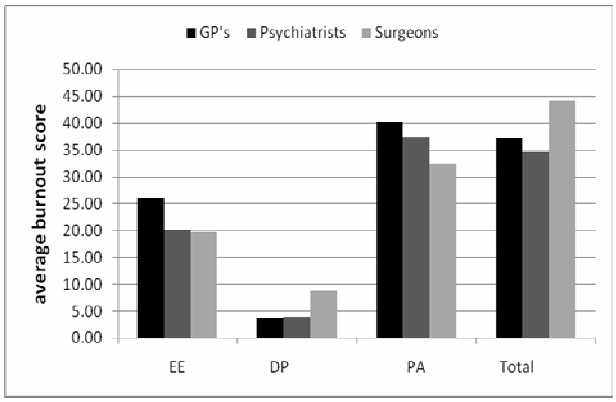

Figure 1. Average burnout scores for three groups of specialists

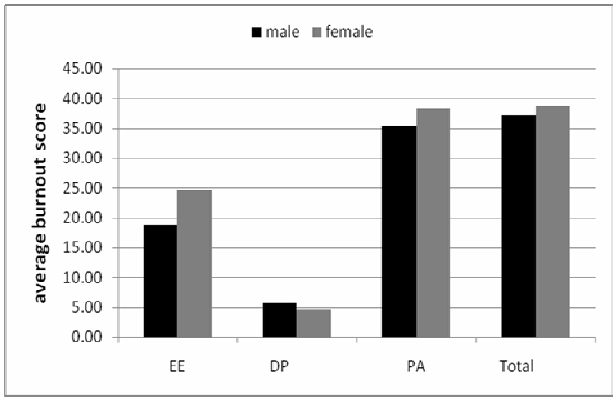

Figure 2. Average burnout scores for two genders

Using canonical correlation analysis we found statistically significant correlation between the BS and personality dimensions. Three significant canonical functions were extracted, showing moderate or relatively high correlation between them (Rho=0.661, Chi^2=140.556, df=21 p<0.01; Rho=0.442, Chi^2=53.040, df=12 p<0.01; Rho=0.349, Chi^2=19.835, df=5 p<0.01).

According to the structure of the first canonical function, the BS and personality dimensions could be correlated in the following way: lack of personal accomplishment was in negative correlation with the Harm Avoidance and in positive correlation with Reward Dependence, Persistence, Self-Directedness and Cooperativeness. Depersonalization was in negative correlation with Reward Dependence, Persistence, Self-Directedness and Cooperativeness and in positive correlation with Harm Avoidance. In this case canonical correlation was relatively high (Rho=0.661), meaning that in our sample personality dimensions and BS share 44% of variance.

According to the second canonical function, the Emotional Exhaustion was positively correlated with the Harm Avoidance (Table 1, Figure 3). Canonical correlation was moderate (Rho=0.442), meaning that, in this relation, personality dimensions and BS share 19.5% of variance.

The third canonical function has shown that Depersonalization was in positive correlation with Persistence and Self-Transcendence and in negative correlation with Harm Avoidance (Table 1, Figure 3). For this function, canonical correlation is also moderate (Rho=0.349), meaning that, personality dimensions and BS share 12.2% of variance.

Table 1. Structure of canonical functions for burnout syndrome and personality dimensions

		Canonical function 1	Canonical function 2	Canonical function 3
Burnout dimensions	Emotional exhaustion	0.239	-0.916*	0.321
	Depersonalization	0.673*	0.067	0.737*
	Personal accomplishment	-0.968*	-0.081	0.238
		Canonical function 1	Canonical function 2	Canonical function 3
Personality dimensions	Novelty seeking	0.296	0.205	0.156
	Harm avoidance	0.598*	-0.488*	-0.401*
	Reward dependence	-0.440*	-0.382	-0.042
	Persistence	-0.594*	-0.235	0.599*
	Self-directedness	-0.733*	0.380	-0.359
	Cooperativeness	-0.901*	-0.229	-0.216
	Self-transcendence	-0.058	0.019	0.714*

* - significant correlation coefficients

By canonical correlation analysis we found that there was a correlation between the level of BS and stress coping strategies, since the analysis extracted one significant canonical function (Rho=0.343, Chi^2=20.865, df=6 p<0.01). The structure of canonical function shows that the Escape-avoidance as a coping strategy was in positive correlation with Depersonalization and lack of Personal accomplishment, while the Self-control was negatively correlated with the same dimensions (Table 2, Figure 4). Canonical correlation was moderate (Rho=0.343), meaning that, coping strategies and BS dimensions share 11.7% of variance.

Table 2. Structure of canonical functions for burnout syndrome and coping strategies

		Canonical function
Burnout dimensions	Emotional exhaustion	0.239
	Depersonalization	0.008*
	Personal accomplishment	-0.599*
		Canonical function
Coping strategies	Confrontative coping	0.198
	Distancing	-0.149
	Self-control	0.354*
	Social support	0.154
	Accepting responsibility.	0.058
	Escape/Avoidance	-0.770*
	Planned problem-solving	0.264
	Positive reappraisal	0.128

* - significant correlation coefficients

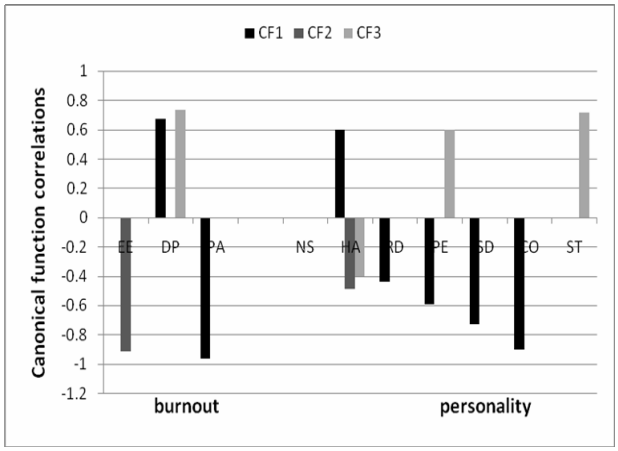

Figure 3 Structure of three canonical functions for personality and burnout dimensions

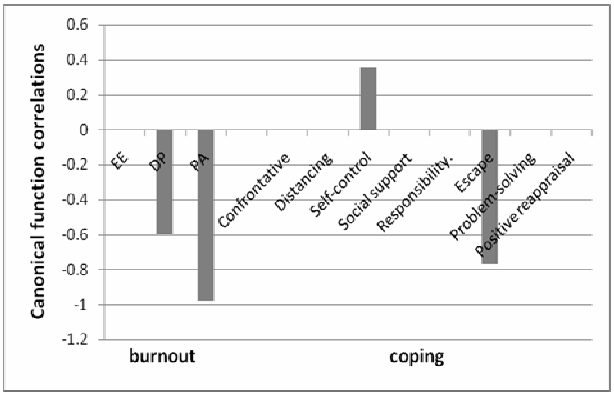

Figure 4 Structure of canonical function for coping strategies and burnout dimensions

DISCUSSION

Our findings have shown that surgeons had the highest and psychiatrists the lowest score of the total BS. Emotional exhaustion was the most prominent in general practitioners while depersonalization and lack of personal accomplishment in surgeons. These findings are in accordance with results obtained by Sharma with collaborators (Sharma et al. 2008) who have shown high level of depersonalization and low level of personal accomplishment in surgeons. They are also consistent with previous findings of studies of general physicians which have shown high levels of emotional exhaustion (Arigoni et al. 2010, Goehring et al. 2005, Grassi & Magnani 2000).

Our findings have also shown that physicians with greater daily number of patients were more prone to emotional exhaustion, which is in accordance with our previous study (Lecic-Tosevski et al. 2006), but that these physicians had higher sense of personal accomplishment. The older physicians, with greater years of practice and daily number of patients were less prone to depersonalization. Some studies have shown that the level of BS is decreasing with age and that younger surgeons were more likely to have a high level of depersonalization (Sharma et al. 2008, Ahola et al. 2006). It seems that daily number of patient can be protective and harmful at the same time.

The differences between genders were interesting - the emotional exhaustion was higher in women, the lack of personal accomplishment was higher in men while the dimension of depersonalization was the same in the both genders. In contrast to our findings, other authors have shown that women physicians had 1.6 times higher burnout compared to men (McMurray et al. 2001) and that men are more prone to depersonalization (Schaufeli & Greenglass 2001).

Our findings have shown that personality dimensions might be important for development of the BS. We found that the most important dimension was the Harm Avoidance, which might be a »negative« dimension which leads to a development of the BS, particularly to low personal accomplishment, high depersonalization and high emotional exhaustion. Cooperativeness and Self-Directedness might be potential protective dimensions. However, the development of BS probably depends on combination and interaction of personality dimensions, and not on some particular, independent dimension.

Our findings are in accordance with the results of similar studies which have shown the important link between personality and BS (Maslach et al. 2001, Mitra et al. 2003, Kumar 2007, Buhler & Land 2003, Glasberg et al. 2007, Narumoto et al. 2008, Gustafsson et al. 2009). According to our knowledge not many studies have used the TCI, particularly not in physicians' population. However, there are studies which have used other personality inventories and have shown the important link between BS and personality. Mitra and collaborators (Mitra et al. 2003) used the TCI but for comparison of surgeons and anesthesiologists and did not find any significant differences. Oginska-Bulik (Oginska-Bulik 2006) has pointed out the role of Type D personality and negative affectivity in the development of BS. Buhler and Land (Buhler & Land 2003) by using Eysenck Personality Inventory have shown positive correlations of the "external locus of control" with the BS variables of emotional exhaustion and depersonalization. A recent study in dentistry has shown that narcissistic and borderline personalities are most frequently found in the individuals with the BS (Alemany et al. 2008). A study on health-care personnel in Sweden has shown that the most important indicators for "belonging to the burnout**"** were "openness to changes" and "anxiety", and for "belonging to the non-burnout**"**, "emotional stability", "liveliness", "privateness" (i.e. forthright or discreet) and "tension" (Gustafsson et al. 2009).

Our findings have also shown that coping strategies might be very important for development of BS – Escape-avoidance might lead to depersonalization and lack of personal accomplishment, while self-control is a good way to cope with prolonged job stress and leads to a higher personal accomplishment and low depersonalization. This is in accordance with other studies which have shown the important role of emotion-focused stress coping strategies (Narumoto et al. 2008, Sharma et al. 2008, Isaksson Ro et al. 2010). One recent study of surgeons and nurses has shown that coping strategies, especially those in which respondents isolated themselves from friends and family, were associated with higher psychiatric morbidity and BS (Sharma et al. 2008). Rowe (Rowe 2006) has shown that subjects who were taught to develop proactive strategies, such as direct problem solving were more effective in coping with stress, felt stronger sense of personal accomplishment, and were less emotionally exhausted. According to a recent study of Japanese professional caregivers, higher neuroticism and higher emotion-oriented coping are associated with higher BS (Narumoto et al. 2008). The most authors suggest that social support is the best coping strategy against

developing BS (Lindblom et al. 2006, Glasberg et al. 2007, Bakker et al. 2004, Prins et al. 2007). The results of one recent longitudinal study indicated that it was reduction in emotion-focused coping strategies that influenced decrease in emotional exhaustion (Isaksson Ro et al. 2010). Since our findings have shown that coping strategies are not in significant correlation with emotional exhaustion it opens space for discussion and further research.

The limitations of our study are the sample size since the number of subjects in each examined groups were not equal. Also, the cross-sectional research design provides no information of the burnout process and does not allow affirmative causal explanation. Therefore, further research needs to approach the process of BS in longitudinal studies.

CONCLUSION

Our findings could have practical implications on the BS and its development. There are a number of potential negative and protective factors for development of this syndrome. We believe that findings of important role of personality dimensions and coping strategies could be helpful in identifying individuals with a tendency towards development of BS and timely application of preventive strategies. The European Forum of Medical Associations and World Health Organization have issued in 2003 a statement of the BS among physicians (EFMA 2003). The statement expressed EFMA's serious concern about the increase in BS levels, encouraging all national medical associations to increase awareness of the problem and recommended that the situation should be monitored. In practice, it would be important to establish preventive measures such as stress management and improvement of the stress coping strategies in order to avoid negative consequences both at professional and personal level.

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