

# PROFESSIONAL BURNOUT SYNDROME IN DOCTORS OF SURGICAL SPECIALTIES IN UKRAINE: CAUSES, CONSEQUENCES, LABOR OPTIMIZATION WAYS

Dmytro A. Skurupii, Dmytro A. Kholod, Evgen G. Sonnik

HIGHER STATE EDUCATIONAL INSTITUTION OF UKRAINE «UKRAINIAN MEDICAL STOMATOLOGICAL ACADEMY», POLTAVA, UKRAINE

## ABSTRACT

**Introduction.** The professional burnout syndrome (PBS) affects quality of medical care provision for people, which is acquires the special actuality in terms of reforming the health care system.

**Aim.** To study ways to improve the efficiency of doctors of surgical specialties based on analyzes of PBS and its consequences.

**Materials and Methods.** A survey of psychological tests and 62 surgical doctors was carried out.

**Results.** It was found out that the PBS reaches a peak after 11 to 15 years of working experience. Anesthesiologists have high levels of PBS, emotional exhaustion, cynicism, low desire for career growth, frequent misunderstanding with the administration, they prefer 8-hour working day, and relieve stress by sleeping and consuming alcohol. Obstetrician-gynecologists show moderate level of PBS and emotional exhaustion, high degree of cynicism, strong desire for career growth, frequent misunderstandings with patients and their relatives, prefer 8-hour working day, relieve stress by smoking and socializing with family and friends. Traumatic surgeons have moderate level of PBS, emotional exhaustion, high degree of cynicism, strong desire for career growth, frequent misunderstandings with their colleagues of related specialties, prefer the 24-hour working day, and relieve their stress with alcohol and sports. Surgeons have moderate level of PBS, emotional exhaustion, low degree of cynicism, moderate desire for career growth, frequent misunderstandings with their colleagues of related specialties, prefer the 8-hour working day, and relieve stress by smoking and sleeping.

**Conclusions.** PBS is most expressed in doctors having working experience of 11 to 15 years and in anesthesiologists. They get professional deformations. These features should be considered in course of organization of working process of medical teams.

**KEY WORDS:** doctors, surgery, professional burnout syndrome

Wiad Lek 2017, 70, 3, cz. I, 508-511

## INTRODUCTION

Reforming the health care system in Ukraine intends to increase professional load upon single-discipline specialists. In such circumstances one can expect growing problem of the professional burnout syndrome (PBS) in the doctors of surgical specialties, which will surely affect the quality of medical care. This syndrome was first described in 1974 by Herbert J. Freudenberger. The main factors of its establishing are professional physical and emotional stresses, working experience and specialization [1, 2, 6].

## THE AIM

Justification of ways to improve efficiency of doctors of surgical specialties based on analyzes of PBS and its consequences.

## MATERIALS AND METHODS

In course of the study questionnaire survey and psychological tests were conducted, in which 62 surgical doctors took part, including 23 anesthesiologists (37%), 17 surgeons (27.6%), 13 obstetricians and gynecologists (20.4%), 9 traumatic surgeons (15%).

Subjective characteristic values were evaluated for each participant of the questionnaire survey with regard to their

regime of work and rest, nature of emotional stress relief, level of PBS using Maslach Burnout Inventory method in the modification of N.E. Vodopyanova (2008) [3]. The data were associated with specialty of each doctor and his/her experience: 0.5 to 5 years ( $n = 26$ ; 42.2%); 6 to 10 years ( $n = 9$ , 14.3%), 11 to 15 years ( $n = 4$ ; 6.7%), and over 15 years of working experience ( $n = 23$ ; 36.8%).

Statistical evaluation of the study findings was carried out by descriptive statistics methods with calculation of the median (Me) and nonparametric statistics using Wilcoxon-Mann-Whitney differences criteria (U) and Spearman correlation criteria (R). The minimum faultless prognosis level considered was  $P = 0,95$  and, respectively, the error probability level was  $p < 0.05$ .

Prior to the study the persons, who participated in the study, have given written informed consents concerning participation in the study. During the study, bioethical standards in accordance with the requirements of Helsinki Declaration of 1975 as amended by 2005 were complied with.

## RESULTS

In course of the study it was found out that the highest level of professional burnout occurs in doctors having

working experience more than 10 years, but for those, who have over 15 years of working experience, burnout rates are drastically reduced. Thus, taking into account the estimating scale of the PBS, Me level of this figure for doctors having working experience between 0.5 and 5 years was 7 points; 6 to 10 years it was 6.5 points, from 11 to 15 years — 7.5 points and over 15 years of working experience — 5.9 points.

The degree of emotional exhaustion was also the highest in doctors with experience ranging from 11 to 15 years (Me = 26 points) compared to the ones having working experience of 0.5 to 5 years (Me = 18.2 points), 6 to 10 years (Me = 10.6 points) and over 15 years of working experience (Me = 16.2 points).

The highest degree of depersonalization (cynicism) was observed in doctors with over 15 years of working experience (Me = 14.3 points) compared to the ones having working experience ranging from 0.5 to 5 years (Me = 12.3 points), 6 to 10 years (Me = 12.1 points) and 11 to 15 years (Me = 13.8 points).

The highest degree of commitment to professional success was observed in doctors having working experience ranging from 6 to 10 years (Me = 39.7 points) compared to the doctors having work experience of 0.5 to 5 years (Me = 31 points), 11 to 15 years (Me = 29 points) and over 15 years of working experience (Me = 37 points).

In the study of groups of doctors classified by their specialties, it was found that anesthesiologists have the highest levels of PBS. Surgeons, traumatic surgeons, obstetricians and gynecologists had moderate degrees of this syndrome. The degree of PBS severity under Me depending on the specialties was 7.6, 6.4, 5.9, and 6 points, respectively. Anesthesiologists have also shown the highest level of emotional exhaustion (Me = 21.9 points). Among surgeons, this figure was 16.8 points, among traumatic surgeons — 12.8 points, and among obstetricians and gynecologists — 14.5 points.

The highest level of cynicism was found out in trauma surgeons (Me = 13.1 points). It was determined to be lower in other specialties, and the following figures were obtained: anesthesiologists — 12.2 points, surgeons — 10.9 points, and obstetricians and gynecologists — 12.2 points.

Instead, obstetricians and gynecologists have the highest level of commitment to professional success (Me = 36.2 points); for anesthesiologists this figure reached 32 points, for surgeons — 34.9 points, and trauma surgeons — 36 points.

When comparing the groups of doctors according to specialty the following statistically proven findings were obtained: anesthesiologists tend to burnout with a greater degree than trauma surgeons ( $U = 46, p < 0.05$ ) and have a tendency to get a greater degree of emotional exhaustion ( $U = 47, p < 0.05$ ) than trauma surgeons; obstetricians and gynecologists tend to have higher levels of depersonalization than surgeons ( $U = 109, p < 0.05$ ) and a greater desire to achieve professional success than anesthesiologists ( $U = 63, p < 0.05$ ); trauma surgeons tend to have higher degrees of professional success than anesthesiologists ( $U = 38, p < 0.05$ ).

In analyzing the impact of working experience on the indicators under consideration the statistically significant cor-

relation was established, indicating that the longer working experience is, the lower professional success ambitions are ( $R = -0.32; p < 0.05$ ), and the bigger severity of cynicism ( $R = 0.7; p < 0.05$ ) and emotional exhaustion ( $R = 0.2; p < 0.05$ ) are.

Conflict situations with the administration in the workplace arise most often in doctors having experience less than 5 years ( $n = 8; 30.8\%$ ) and in anesthesiologists ( $n = 16; 69.6\%$ ). Major part of misunderstandings with colleagues of related specialties arise in doctors having work experience ranging between 11 and 15 years ( $n = 3, 75\%$ ) and in surgeons ( $n = 6; 66.4\%$ ). The most frequent conflicts with patients and their relatives are observed in doctors having over 15 years of working experience ( $n = 10; 43.5\%$ ) and in obstetricians and gynecologists ( $n = 7; 53.8\%$ ).

The causes of fear in course of professional activities related to lack of experience were observed in doctors having working experience under 5 years ( $n = 25; 96.2\%$ ); in other age groups, it was associated with the understanding of potential risks based on doctors' own experience and reached almost the same level for anesthesiologists ( $n = 22; 95.7\%$ ), surgeons ( $n = 17; 100\%$ ), obstetricians and gynecologists ( $n = 11; 84.6\%$ ), and trauma surgeons ( $n = 9; 100\%$ ).

Most doctors of surgical specialties prefer 8 hour working schedule and planned working days: anesthesiologists — 86.96% ( $n = 20$ ), surgeons - in 47.1% ( $n = 8$ ), obstetricians and gynecologists 53.8% ( $n = 7$ ). Only trauma surgeons give preference to alternating daily shifts ( $n = 9; 77.8\%$ ).

Having professional deformation of their behavior, doctors of surgical specialties are trying to adapt to its adverse effects, or ignore them, acting in various ways. Thus, doctors try to mitigate professional psychological load in following ways with regard to their work experience:

- under 5 years — sleeping ( $n = 15; 57.7\%$ ) and alcohol ( $n = 11; 42.3\%$ );
- 6 to 10 years — sleeping ( $n = 5; 55.6\%$ ) and smoking ( $n = 7; 77.8\%$ );
- 11 to 15 years — sports ( $n = 3; 75\%$ ) and alcohol ( $n = 3, 75\%$ );
- over 15 years — communication with relatives ( $n = 17; 73.9\%$ ) and smoking ( $n = 12; 52.2\%$ ).

The ways different surgical doctors try to eliminate professional load are as follows:

- anesthesiologists — sleeping ( $n = 23; 100\%$ ) and alcohol ( $n = 19; 82.6\%$ );
- obstetricians and gynecologists — communication with relatives ( $n = 12; 92.3\%$ ) and smoking ( $n = 9, 69.2\%$ );
- trauma surgeons — sports ( $n = 7; 77.8\%$ ) and alcohol ( $n = 4; 44.4\%$ );
- surgeons — sleeping ( $n = 10; 58.8\%$ ) and smoking ( $n = 12; 70.6\%$ ).

## DISCUSSION

Summarizing the data provided hereabove the following standard psychological profile of a doctor of surgical specialty can be formed:

- an anesthesiologist suffers a high degree of burnout, emotional exhaustion, cynicism, low desire for career

growth, frequent misunderstanding with the administration, is aware of possible difficulties that can be met in course of professional activities, which awareness is formed based on his/her experience, prefers 8-hour working day, relieves stress by sleeping and alcohol;

- an obstetrician/gynecologist has a moderate degree of burnout and emotional exhaustion, high cynicism, strong desire for career growth, frequent misunderstandings with patients and their relatives, is aware of possible difficulties that can be met in course of professional activities, which awareness is formed based on his/her experience, prefer 8-hour working day, relieves stress by smoking and socializing with family and friends;
- a traumatic surgeon has a moderate degree of burnout and emotional exhaustion, high cynicism, strong desire for career growth, frequent misunderstandings with colleagues of related specialties, is aware of possible difficulties that can be met in course of professional activities which awareness is formed based on his/her experience, prefers 24-hour working day, relieves stress by alcohol and sports;
- surgeon has a moderate degree of burnout and emotional exhaustion, low cynicism, moderate desire for career growth, frequent misunderstandings with colleagues of related specialties, is aware of possible difficulties that can be met in course of professional activities which awareness is formed based on his/her experience, prefers the 8-hour working day, relieves stress by sleeping and smoking.

Peculiarities of professional deformation of an individual depending on his or her working experience lie in the fact that the severity of PBS is reaching a peak after 11-15 years of experience and decreases after that period; doctors having working experience of under 5 years usually have difficulty communicating with an administration, the ones having working experience within 6 to 15 years range — with their colleagues of related specialties, and those having over 15 years of working experience — with their patients. Unlike their older colleagues, doctors with working experience under 5 years prefer 24-hour shift alternation working schedule.

The findings of this study are descriptive not only for Ukrainian doctors; they are universal, as evidenced by a number of authors from all over the world [4-7].

Taking into account the data provided hereabove it can be recommended to healthcare process organizers to optimize working process of doctors of surgical specialties in order to carry put preventive measures and correction of possible consequences of PBS. It is important to create adequate conditions for correct and mutually respectful communication between administration, young professionals and experienced doctors (particularly anesthesiologists), to develop a plan of incentives for representatives of these groups.

In order to achieve mutual understanding, to develop ability to work as a team, and to elaborate common tactics with regard to care provided to patients, one should organize interfacing clinical, organizational and methodical

conferences, meetings and seminars for doctors of related specialties with obligatory participation of doctors having experience ranging from 6 to 15 years.

In order to reduce the risk of misunderstandings between patients and medical staff it can be advisable to involve of experts in communication psychology to provide psychological support and trainings to patients, particularly in obstetric practice and to doctors who have over 15 years of working experience.

In order to optimize working process one should involve doctors with experience of 5 years into daily urgent duty attendance and prefer this operating mode in organizing traumatic surgeons' working process.

For doctors with experience of fewer than 10 years, anesthesiologists, and surgeons it can be advisable to arrange shifts in a way, which ensures establishment of a healthy sleeping regime.

For doctors having more than 15 years of working experience, obstetricians and gynecologists shifts should be organized and vacations should be made in accordance with a schedule ensuring comprehensive communication with their dear ones.

It can be recommended to organize sports recreation for doctors (table tennis, chess, corporate sports) within a hospital and in their free time, which is particularly required by doctors having working experience ranging from 6 to 15 years and trauma surgeons.

## CONCLUSIONS

1. Doctors of surgical specialties suffer from PBS, which is mostly expressed in doctors having 11 to 15 years of working experience and anesthesiologists.
2. Doctors of surgical specialties suffer from professional deformation of personality expressed in a form of reduced desire for career growth, increased emotional exhaustion and cynicism, misunderstandings with administration, with their colleagues of related specialties, patients, and patients' relatives, severity of which depends on the specialty of a particular doctor and his or her work experience.
3. Attempts to mitigate PBS include consuming alcohol, smoking, full sleep, and less frequently — sports, and also depend on the specialty and seniority of a particular doctor.
4. Doctors of surgical specialties prefer 8-hour working day except for doctors having experience less than 5 years and trauma surgeons.
5. Organizers of healthcare can be recommended to consider psychological profiles of doctors of surgical specialties during the preparation of schedule, planning vacations and to focus on forming ability to work in teams, to develop correct communication skills both between doctors and patients, and among medical staff themselves.

## REFERENCES

1. Kaschka W.P., Korczak D., Broich K.: Burnout: a Fashionable Diagnosis. *Dtsch Arztebl Int.* 2011, 108(46), 781–787.

2. Tsiga E., Panagopoulou E., Montgomery A.: Examining the link between burnout and medical error: A checklist approach. *Burnout Research* 2017, 6, 1–8.
3. Dombrovskis V., Guseva S., Murasovs V.: Motivation to Work and the Syndrome of Professional Burn-out among Teachers in Latvia. *Procedia - Social and Behavioral Sciences* 2011, 29, 98-106.
4. Nobre R., Matos L.R., Jardelino R.E. et al.: Burnout Syndrome prevalence of on-call surgeons in a trauma reference hospital and its correlation with weekly workload: cross-sectional study. *Revista do Colégio Brasileiro de Cirurgiões Rev. Col. Bras.* 2016, 43(5). Disponível em: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0100-69912016000500314](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-69912016000500314)
5. Pintado-Cucarella S., Penagos-Corzo J.C., Casas-Arellano M.A.: Burnout syndrome in medical and obstetric perception of violence. *Ginecol Obstet Mex.* 2015, 83(3), 173-178.
6. Magalhães E., Machado Á.C. Oliveirab S., Govêia C.S., et.al.: Prevalence of burnout syndrome among anesthesiologists in the Federal District. *Brazilian Journal of Anesthesiology (English Edition)* 2016, 65(2), 104–110.
7. Stress and Burnout Among Surgeons Understanding and Managing the Syndrome and Avoiding the Adverse Consequences Balch C.M., Freischlag J.A., Shanafelt T.D., *Arch Surg.* 2009, 144(4), 371-376.

---

**ADDRESS FOR CORRESPONDENCE****Dmytro Shkurupii**

Department of anesthesiology and intensive care,  
Higher State Educational Institution of Ukraine  
«Ukrainian Medical Stomatological Academy»,  
Shevchenko 23 str., 36011 Poltava, Ukraine  
tel.: +380662369670  
e-mail.: Shkurupiy@list.ru

**Nadesłano:** 20.04.2017**Zaakceptowano:** 20.05.2017