Stress at Work and Burnout Syndrome in Hospital Doctors

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Introduction. Reforming the health care system in Bosnia and Herzegovina began in 1998 through various forms of amendments to existing health plans and programs. There has been the introduction of new technologies, flow of new information from the profession, excessive demands on employers, financial constraints, etc. The hospital doctors in the workplace suffer from too many stressors. Burnout syndrome at work is a form of chronic stress reactions to stressors, and develops as a result of inefficient coping with and solving every day, demanding stressful situations related to professional duties. Goal. The goals of this study were: to identify the specific stressors of high intensity in the hospital physicians work environment, to discover whether and how certain stressors can affect the appearance of burnout syndrome at work in a hospital physician, to determine whether certain individual factors influence the occurrence of burnout syndrome at work. Methods and subjects. We made the intersection study involving the use of questionnaires, in order to assess the stressors and burnout syndrome in hospital among doctors of the University Clinical Center in Tuzla. Results. The study comprised 34.7% hospital doctors (specialists and doctors on specializations) of a total 423 employees in various departments of the University Hospital Clinical Center in Tuzla. High level of emotional exhaustion was recorded in 37.4%, a high level of depersonalization in 45.6%, and a low level of personal accomplishment in 50.3% of respondents. Conclusions. Continuous exposure to stressors at the workplace, such as work at shifts, excessive workload, poor communication with superiors, and lack of continuous education of hospital physicians can lead to mental and physical exhaustion, professional burnout. Management of the University Clinical Center Tuzla should in the future address the structural reorganization of workplaces, as well as ongoing prevention interventions in other domains of risk factors or stressors, that this study identified. Keywords: hospital doctors, stress, stress at work, burnout syndrome at work.

1. INTRODUCTION
Reform of the health care system in Bosnia and Herzegovina began in 1998 through various forms of amendments to existing health plans and programs. There has been the introduction of new technologies, new flow of information about the profession, excessive demands on employers, financial constraints, inadequate work space and equipment, inadequate number of staff and insufficient skilled personnel, and an increasing number of patients with an increasing number of requests. Work assignments are often very difficult to fulfill (1, 2).

Stress and the type of stress in doctors working in hospitals and outside hospitals, were studied in the medical institutions of different countries. Jobs that are associated with stress the most are intensive care unit, oncology, emergency services and operating rooms. The health sector is increasingly talking about the burnout syndrome (3, 4, 5). In relation to emotional exhaustion work is perceived as discomfort, with perceived deterioration and emptiness with the loss of motivation. Knowledge and skills remain intact, but reduces the will and the spirit with which they are engaged. In this process, the motivation becomes impaired, in the most severe cases, completely destroyed (1, 6, 7). Stress at work is not necessarily a negative phenomenon in terms of disturbances in concentration and other pathological effects. However, if stress is intense, continuous or continually repeated, the person is unable to cope with it. In the context of the working environment, stress is often the result of inadequate adaptation to the situation and work colleagues or clients, with a decline in work ability below the optimum level (8, 9, 10).

Burnout syndrome at work is a form of chronic stress reactions, and develops as a result of inefficient coping and solving of everyday, demanding stressful situations related to professional duties. Intensive job stressors lead employees in a professional burnout syndrome, because they are not able to efficiently respond to the tasks. The outcomes of burnout syndrome in the workplace
are generally associated with a decline in the effectiveness of work, sick leave and reduced productivity of individuals and organizations (3, 11, 14). If the institution does not examine the conditions in the workplace, satisfaction of their employees and not taking adequate preventive programs, chances are that the employees because of continuing exposure to stress in the workplace, over a longer period of time, suffer the consequences on physical and mental health (3, 15, 16).

2. GOALS

The goals of this study were: to identify the specific stressors of high intensity in the hospital physicians works environment, to discover whether and how certain stressors can affect the appearance of burnout syndrome at work in a hospital physicians, to determine whether certain individual factors influence the occurrence of burnout syndrome.

3. METHODS AND RESPONDENTS

During 2007 was made a cross-sectional study, which involved the use of questionnaires, in order to assess the stressors and burnout syndrome in medical staff in the University Clinical Centre (UCC) Tuzla. Prior inclusion into the study, subjects were provided with the appropriate information, which clarify the purposes and objectives of this research, and voluntary participation.

3.1. Questionnaires

Questionnaire on stress in the workplace of hospital medical staff

In the study we use the “Questionnaire on work-related stress of hospital medical staff,” which was created at the School of Public Health “Andrija Štampar” in Zagreb (17). The introductory section includes questions on individual factors and demographic data: age, gender, job, marital status and number of children, professional and scientific level, position, total years of service, hours, and the question about working in a team or independent work. The questionnaire includes assessing stressors at workplace of health workers: strength of impact factors of work organization, social relations, work demands, work distribution, the dynamics of performing their tasks, the adequacy of working space, equipment, work, responsibility, coping with incurable patients, fear of risk from hazardous work (ionizing radiation, inhalation of aesthetics, cytostatics, infectious agents, work injury with a sharp object) and the lack of appropriate continuous education. The assumption is that some factor causes the most stress that the respondent experienced in their working environment, has a value of 5, a factor that causes no stress at all is worth 1 point. Answers which are 1 and 2 points represent a factor that does not cause stress, as opposed to responses that are 4 or 5 points that represent the factors that cause stress or stressors.

Questionnaire designed to evaluate burnout syndrome at work

To estimate the burnout syndrome “Maslach Burnout Inventory”–MBI questionnaire was used translated into our language (14). The questionnaire was used in the assessment of three specific dimensions of the burnout syndrome at work: the decline of personal accomplishment–PA by 8 claims, emotional exhaustion –EE by 9 claims and depersonalization–DP) by 5 claims. Evaluation of responses was provided by a Likert-type scale from 0 (never) to 6 (every day). Burnout syndrome at work is contained in the answers “often” and “every day”. The high level of personal accomplishment (PA) was estimated on the basis of score PA<30; moderate PA on the basis of score 30-36, a low level for PA>37. Exposure to emotional exhaustion (EE) of the respondents was estimated on the basis of EE score, so the score for the high level is EE >14, moderate level for score 9-13, a low level for score EE <8. Assessment of levels of depersonalization (DP) of the respondents was made on the basis of DP score. The high level is score DP>9, a moderate level score 3-8, and a low level for score DP <2.

3.2. Subjects

Respondents were doctors employed in the University Clinical Centre (UCC) Tuzla. In 2006 in the University Clinical Center in Tuzla, there were 423 doctors employed (18). The survey covered a representative sample of 147 (34.7%) hospital doctors (97 specialist doctors and 50 doctors on specialization), employed in various hospital departments that have voluntarily agreed to the interview.

3.3. Statistical analysis

To analyze the results was used standard SPSS version 10.0, as well as standard methods of descriptive statistics. To test the statistical significance of differences of selected variables was used nonparametric χ2-test. Basic socio-demographic data were presented descriptively, and stress was ranked according to the prevalence of intensity of stress experienced at high intensity. After that was formed three regression models in which variables are related to the experience of stress and defined as predictors, while individual components of the burnout syndrome as a dependent variable. Workplace stressors that are statistically significantly correlated with certain components of burnout syndrome were separated (model 1) and individual factors (model 2). Statistical hypotheses were tested at the level of statistical significance for p<0.05.

4. RESULTS

During 2006 in the University Clinical Center in Tuzla, were employed 423 specialists in various medical specialties, and physicians specializing in various clinical disciplines. A cross-sectional study was conducted during 2007 which included a representative sample of 147 hospital doctors. Among the respondents there were 66% medical specialists and 34% of doctors specializing in various clinical disciplines (Figure 1).

The study showed a high degree of stress at work. The most common stressors in the group “Labor organization” were 24-hour duty, overloaded with work and night work. The highest prevalence among stressors domain “Lack of continuous education and inadequate funds for the work” are inadequate income, financial constraints to work and inadequate working space. Stressors that were present in the domain of “Support and interpersonal relationships” are the administrative jobs, 24-hour duty and the everyday unforeseen situations. Stress from the domain of „professional risk“ was afraid because of possible infection from the diseased and fear about the possibility of injury by sharp objects.
Analysis of present and identified workplace stressors in hospital medical staff in the University Clinical Center in Tuzla has shown that the presence of these phenomena can lead to burnout syndrome at work. This study (Table 1) clearly showed presence of burnout syndrome at work in three dimensions of personality: the level of emotional exhaustion (37.4%), high level of depersonalization (45.6%) and low perception of personal accomplishment (50.3%).

Regression analysis showed that the decline in perceptions of personal achievements significantly affected by shift work and the pressure of time deadlines for completion of tasks, all of the domains of work organization. Significant predictor of decreased personal achievements and overtime. Individual factors (as confirmed in a second step regression analysis) have no influence in the development of the PA decline.

As predictors of emotional exhaustion in hospital physicians, recognized as inadequate by the expectations of patients and their families, overloaded with work, and lack of continuous education. Little opportunity for promotion and administrative activities can adversely affect the appearance of burnout syndrome. Age may have significant impact on the perception of emotional exhaustion.

The main predictor of stress at the workplace that affects the occurrence of depersonalization in the group of hospital doctors is poor communication with superiors. The introduction of new technologies, poor communication with colleagues and the unavailability of the necessary literature, can also lead to depersonalization worsening. On the occurrence of depersonalization do not affect individual factors.

5. DISCUSSION

Burnout syndrome at work is similar to chronic fatigue syndrome, and can often remain unrecognized as a problem. With a sense of fatigue, in burnout syndrome, a person changes their attitude toward work as for the chronic fatigue it is not a characteristic (19). Burnout syndrome at work is a kind of trap. Because this process exhausts the person to a degree when work becomes too painful and when it is necessary to take certain steps in order to break the circle of emotional exhaustion (1).

We compared the exposure to stressors of high intensity exposure in a hospital environment of our respondents in relation to the results of Knezevic et al. (5). Dominated are the stressors out of the domain organization of business and finance, which is a general regional problem, when it comes to the medical profession. Varying is the proportion of stressors in communication and professional risk factors. In our subjects more prominent stressor is administration in relation to the research by physicians in Croatia (5), the result is still conducted under the reform processes in health care in Tuzla Canton. Results from Melbourne, Australia (20) showed that the leading, among other stressors, was the time limit for the examination of the patient. In our research, this stressor is associated with the perception of decline of personal accomplishment.

The results of earlier burnout syndrome studies in 511 cases of Bosnian physicians showed that 27% have high levels of emotional exhaustion, 22% have high levels of depersonalization, and 29% of doctors have a low level of personal accomplishment perception (1). Comparison of these parameters with results of other authors of different countries (U.S. and some European Union countries), showed that physicians in Bosnia and Herzegovina suffered a lower degree of emotional exhaustion and depersonalization, and have higher personal accomplishment scores (8, 16, 19, 21, 22, 23). Our research has shown that high levels of emotional exhaustion had (37%), which is closest to the prevalence of 33% in physician-radiologists in the UK (8). The high level of depersonalization (46%) found in our population is similar to the prevalence in the general practice residents in the United States (21). The low level of personal accomplishment (50%) in our hospital physicians is almost identical to the prevalence of British radiologists (49%) (8).

Overloaded with work in our research is the dominant predictor of emotional exhaustion in the burnout syndrome, as in Bergman’s and co-workers study (24), conducted in Toronto, Canada. For depersonalization, poor communication to the superiors is the key. Predictor overloaded with work, too, proved to be very important, leading doctors in the burnout syndrome at work (15), a lack of education has a lasting impact on the occurrence of the syndrome of professional burnout among specialist doctors. Age

### Table 1. Estimate by the frequency of the three dimensions of professional burnout and intensity and mean values in subjects (n=147). *SD* standard deviation

<table>
<thead>
<tr>
<th>PERSONALITY DIMENSIONS MBI</th>
<th>N (%)</th>
<th>Mean ±SD*</th>
</tr>
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<tbody>
<tr>
<td>Personal Accomplishment (PA)</td>
<td>221 (15.2)</td>
<td>38.1±11.39</td>
</tr>
<tr>
<td>High level</td>
<td>26 (17.7)</td>
<td></td>
</tr>
<tr>
<td>Moderate level</td>
<td>47 (32.0)</td>
<td></td>
</tr>
<tr>
<td>Low level</td>
<td>74 (50.3)</td>
<td></td>
</tr>
<tr>
<td>Emotional Exhaustion (EE)</td>
<td>10.15±9.14</td>
<td></td>
</tr>
<tr>
<td>High level</td>
<td>55 (37.4)</td>
<td></td>
</tr>
<tr>
<td>Moderate level</td>
<td>37 (25.2)</td>
<td></td>
</tr>
<tr>
<td>Low level</td>
<td>55 (37.4)</td>
<td></td>
</tr>
<tr>
<td>Depersonalization (DP)</td>
<td>5.12±4.81</td>
<td></td>
</tr>
<tr>
<td>High level</td>
<td>67 (45.6)</td>
<td></td>
</tr>
<tr>
<td>Moderate level</td>
<td>55 (37.4)</td>
<td></td>
</tr>
<tr>
<td>Low level</td>
<td>25 (17.0)</td>
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</table>

*FIGURE 1. Number of physicians surveyed (n=147) employees of the University Clinical Center in 2006*
has a statistically significant influence in the perception of emotional exhaustion. Other individual factors have a significant impact on the development of burnout syndrome. Gill-Monte (16) points out that specialist status affects the increase in emotional exhaustion, and age can influence on increasing levels of depersonalization.

6. CONCLUSIONS

The study identified specific risk factors for physician in UCC Tuzla. The presence of inappropriate expectations by patients and their families, work overload, poor communication with supervisors, work in shifts, inadequate or lack of continuous education, hospital physicians exposed to continuous stress. Everyday stress can lead to mental, psychological and physical exhaustion, and professional burnout. They are often added to the enumerated other factors, such as lack of support from colleagues, the introduction of new technology, little opportunity for promotion, administrative work and time pressure for completion of tasks.

Management of UCC Tuzla should in future address the structural reorganization of workplaces, as well as the continuous preventive interventions in the domains of risk factors or stressors, that this study identified. Structural and organizational changes and preventive interventions could positively influence the suppression, not only of professional burnout syndrome, but also to protect the health of hospital doctors in general.

This study is accompanied by certain difficulties and limitations. The key limitation is the relatively small number of subjects, as well as local character (doctors employed in the University Clinical Center in Tuzla).

REFERENCES

2. World Health Organization. Bosnia and Herzegovina profiler. Updated: April 2007. This brief is available online at the WHO Country Focus web site http://www.who.int/countryfocus