The Influence of stress
on Moods and Healthy of Medical Staff
in Anesthesia and Intensive Care

ABSTRACT

Keywords: occupational stress, burnout, salivary cortisol, emotional exhaustion, depersonalisation, personal achievement reduction

Occupational stress is present in all human activities, with higher levels in some professions, often caused by a complex of factors both personal and at work, the long persistence of high levels of stress can have disastrous effects on health and individual welfare in some cases leading to burnout syndrome or other diseases.
Study 1 focused on researching the effects of professional stress on ICU medical staff,

Objective Assessment of occupational stress in health professionals and two ICU departments to identify the sources of stress.

The main objective aimed at identifying the defining elements of the behavioral patterns of anesthesiologist.,

Secondary endpoints

- determination of the correlation between exposure to stress, its intensity and severity of its effects on behavior and health.
- establishing correlations between the intensity of stress and the individual resilience.
- establish of specific elements in the ICU. to reduce stress and improve working conditions

It is a survey type, prospective and observational study, addressed to ICU physicians from UCH Mures exposed on professional risk by routine / emergency interface.

Criteria for inclusion in the study:

- anaesthesiologists regardless of age and sex, in activity
- resident doctors

Criteria for exclusion from the study:

- the wish of the individual to withdraw

Subjects

medical staff from emergency services

Available

- 28 ICU specialists and residents from UCH and EUCH Mures ICU and E Departments,

Control population

- other specialized physicians, regardless of age and sex, in activities, separated on specialities: - 27 surgeons,

- 15 in the medical field departments • cardiology • gastroenterology • endocrinology • radiology

Method:

We used a questionnaire based on criteria MBI-Maslach Burnout Inventory plus a questionnaire including general personal data (sex, age, marital status, dependences health, etc.), while maintaining anonymity: Data collected were statistically processed with the program GraphPad Prism 5.0 GraphPad Software Inc.. San Diego, CA. USA. $P < 0.05$ was considered significant.

Study findings: • For anaesthetists, the only association of cofactors and burn-out is the large number of duties monthly $P < 0.0004$,

• The relationship between alcohol consumption in surgery and burn-out reaches significance - $P = 0.013$, although the number of duties or chronic medication use were not significantly associated with emotional exhaustion

• emotional exhaustion is on lower risk for surgeons and medium for the ICU,

Study 2 sought to assess the level of burnout in medicine for ICU, general surgery, urology and a group of medical specialties of the County Hospital.

Type of study: prospective survey type,

- We followed:

- how individual evaluated their own activities
- their place in community
- their manner to integrate
- the interpersonal relations

Method:

We used a questionnaire based on BPI criteria - Burnout Potential Inventory + saliva collection - 3 samples for determination of cortisol in 3 times day:

-1 In the morning at awakening -a-

-2. In the most stressful time of the day-b-

- 3. At bedtime-c-

Interpretation of results

low potential preventive measures are taken when the individual scored 45-180

moderate potential 181-270.one is supposed to draw up a contingency plan in areas with problems

high potential for 271-450 points. It is vital to intervene Results:

Results obtained after determination of cortisol diurnal variations were correlated with the risk for burnout scores of respondents from different specialties

Differences between concentrations of salivary cortisol collected in the morning upon awakening, when the professional is minimal stress and maximum stress are significant

Lack of significant differences in salivary cortisol values of maximum stress time and vesperal, evokes slow and incomplete reduction of cortisol triggered by stress to the end of the day, where decreasing of stress reaction is not complete

Concentration gradient between morning salivary cortisol and vesperal is also significant, as the gradient- maximum stress / vesperal value

Final Conclusions

1. For the ICU, the only association of cofactors and burn-out is the number of duties monthly P <0.0004, the same trend works for internal medicine, but with less power
2. .In surgery the relationship between alcohol consumption and burn-out reaches significance - P = 0.013, while the number of duties or chronic medication use are not significantly associated with the burnout syndrome
3. Emotional exhaustion risk is small for surgeons but medium for the ICU reflecting the adaptability to the profession, coping with, or resistance to stress and / or is a criterion unconscious carrier option criteria - it remains to be studied on larger sets of different centers.

4. Depersonalization risk is predominantly low, non-discriminatory, being reduced for surgeons followed by uniform average intensity in specialties. Surgeons do not record any case of high risk of depersonalization.
5. Risk to personal achievement reduction is medium, the lowest percentage being for surgeons, whose dominant risk is the lowest. ICU segment are most vulnerable, being the dominant medium risk, while in medical specialties uniformly express the medium and low risk.
6. Salivary cortisol, well correlated with the serum cortisol dynamic is a consistent marker of the stress levels thus I propose it as a measure of individual and professional group reactivity to stress, owing to its intensity.

We advance a package of measures to mitigate professional risk management, mainly based on:

1. Compliance with European norms of work

2. Providing leisure with at least 90 minutes of uninterrupted sleep for the anaesthetist to prevent delirium induced by exposure to light over 24 hours and noise supraliminare

3. Psychological mitigation to diminish interdisciplinary conflicts degenerated between individuals and transferred in family, with disruptive behavior management.