PUBLIC HEALTH

DOI 10.35630/2022/12/psy.ro.5

Received 14 December 2022;
Published 6 January 2023

BURNOUT RISK EVALUATION IN MEDICAL ONCOLOGY – RADIOTHERAPY PERSONNEL

Laura Rebegea[1,2] ✉, Camelia Tarlungianu[1] ✉,
Rodica Anghel[3] , Dorel Firescu[4,5],
Nadejda Corobcean[1,6], Laurentia Gales[3]

[1] Department of Medical Oncology - Radiotherapy, „Sf. Ap. Andrei" Emergency Clinical Hospital, Galati, Romania
[2] Medical Clinical Department, Faculty of Medicine, „Dunarea de Jos" University of Galati, Romania
[3] „Carol Davila" University of Medicine and Pharmacy", Bucharest, Romania
[4] II[nd] Clinic of Surgery, „Sf. Apostol Andrei" Emergency Clinical Hospital, Galati, Romania
[5] Surgical Clinical Department, „Dunarea de Jos" University, Faculty of Medicine and Pharmacy, Galati, Romania
[6] „Nicolae Testemitanu"State University of Medicine and Pharmacy. Chisinau, Moldova

✉ ***laura_rebegea@yahoo.com, tarlungianucamelia@yahoo.com***

ABSTRACT

Introduction: Even if, all studies evidenced that Burnout syndrome affects medical personnel from all medical specialties, the highest prevalence is in surgical, oncological and emergency medical specialties.

Scope: Burnout syndrome evaluation in Medical Oncology and Radiotherapy personnel.

Method and material: This study has involved 50 persons employee in Medical Oncology and Radiotherapy Department, from all categories: 11 superiors personal (medical doctors, physicists, psychologist), 31 nurses, and 8 auxiliary personnel (stretcher-bearer). The following questionnaires were used: professional exhaustion level questionnaire (with 25 items), questionnaire for attitude and adaptation in stressed and difficulties situations, BRIEF COPE and SES scale.

Results: After professional exhaustion level questionnaire for superior personnel, emotional exhaustion prevalence, followed by reduced personal achievement and an accentuated increasing of affecting grade after first year of activity, with a pick around 10 years of activity were revealed. For nurses, share of depersonalization is relative homogenous, in moderate - low limits. The results revealed that 56% of personnel from this study have risk for burnout syndrome developing, without any prevention methods and 12% has already burnout syndrome.

Conclusions: In general, this syndrome is under-evaluated and under-diagnosed, and its incidence can be diminishing by using the techniques of stress resistance, psychological counseling, cresting a friendly and tolerant professional climate.

Keywords: Burnout Syndrome, questionnaire, depersonalization.

INTRODUCTION

The stress is an omnipresent element of the modern world and the professional stress, an undeniable reality. What are specific for today's Romanian society are the substantial increase in stress levels and an increase in the proportion of responses to stress factors. The phenomena's definition is hard to be said, being a complex and abstract concept.

In 1926, Hans Seyle defines stress (Rosch, 2019) as being a general syndrome of adaptation respectively the non-specific response of the body to a specific request which it is subject. Also, he has introduced the terms of **eustress** (the optimal level of stress that can motivate or increase individual performance), **distress** (when requesting the individual becomes critical) and has identified 3 stages of stress's evolution, being alarm, resistance and exhaustion.

The concepts and definitions the term burnout is relatively new and was defined in 1974 by Herbert Freuderberger as: „**the disappearance of motivation or incentive",** especially when the devotion to a cause or relationship falls to produce desired results (Kraft, 2006).

The professional stress (PS) appears when there is a discrepancy between the requirements of the work environment and the individual's ability to do it or keep them under control. Regardless of stressors agents, PS is firstly based on a strong affective participation.

After Maslach (1986) a person with Burnout Syndrome (BS) is a person who over the course of several weeks notices his own exhaustion, shows a considerable decrease in performance, experiences alienation experiences with his person, colleagues, and the institution (Freudenberger, 1974).

The term burnout is heterogeneous, and cannot be spoken about a specific pathology, but a minimal clinical picture is acceptable, with the following aspects: signs and somatic symptoms (continual headache, gastrointestinal disorders, asthenia, fatigue), unusual behaviors for the subject (irritability, intolerance and inability to understand or be empathetic to others, unjustified criticism, lack of trust, attitude of superiority to others), defensive attitude (rigidity, negativism, resistance to change, pseudoactivism - subject spends more hours at work but he realizes less of what he proposes).

Other symptoms/signs of excessive stress are anxiety, depression, and loss of interest for the job, sleep disorders, concentration issues, muscle tension, social withdrawal, and the use of alcohol or drugs, loss of sexual appetite, decreasing immunity. It is accepted that BS has a staged evolution: stage 1 is characterized by restlessness, confusion and the appearance of frustration (the perception that something is wrong), stage 2, characterized by intense frustration and discontent, stage 3 characterized by apathy, disclaimer and desperation.

Without being a precise clinical entity, the burnout is centered on the tripod: physical and/or mental exhaustion, professional depersonalization and negative attitude toward one's own accomplishments (Silistraru et al., 2022).

Fengler (2016) identifies 7 levels that may contain factors involved in the occurrence of Burnout: (1) the person himself, (2) private life contexts, (3) professional contacts, (4) team and the circle of colleagues, (5) contact with superiors, (6) the institution and its branch, (7) social framework conditions. Examples of contributing factors: remanence of negative affective states, too big expectations, too much work, unsatisfactory results, increased effort without results, lack of shelter and hope in remedying the situation, requests with opposing motives, conflicts with bosses or mates.

MEDICAL DOCTORS AND PROFESSIONAL PSYCHOLOGICAL PATHOLOGY

The professional category which is the most affected by BS is medical doctors. It was found that this is the result from the individual's permanent obligation to sustain an idealized personal image, the lack of a proper social recognition with the degree of difficulty of the activities carried out, unconventional time schedule, lack of immediate reward due to the work done, lack of knowledge of the quality of the activity, lack of encouragement and moral gratifications (Silistraru et al., 2021), Under these conditions, the subject is exhausted as it finds the collapse of its own illusions in the face of reality's evidence. Medical specialists where the BS is more common are surgeons, oncologists, and psychiatrist. Toker et al performed in 2012 a prospective study in which the BS has been identified as a risk factor for the subsequent incidence of heart disease (Toker et al., 2012). Studies show that the oncologist who is in direct contact with the cancer patient changes unconsciously both his professional behavior and his self-image under the permanent pressure of the situations he faces. He is emotionally charged after the intense transfer takes place in the doctor – patient relationship (a paradoxical patient who at the same time desires despair by over – invigorating the physician's potency, but also regaining autonomy, minimizing the help received.

METHOD AND MATERIAL

This study has involved 50 persons employee in Medical Oncology and Radiotherapy Department, from all categories: 11 superiors personal (medical doctors, physicists, psychologist), 31 nurses, and 8 auxiliary

personnel (stretcher-bearer). The following questionnaires were used: professional exhaustion level questionnaire (with 25 items), questionnaire for attitude and adaptation in stressed and difficulties situations, BRIEF COPE and SES scale.

The survey aims to assess the prevalence and risk of installing BS in staff of the Medical Oncology and Radiotherapy Clinic. For this, the following tools were used: questionnaire evaluating the level of professional exhaustion, emotional exhaustion, depersonalization, reducing personal achievements, adaptive questionnaire and attitudes in difficult or stressful situations BRIEF COPE, scale SES.

RESULTS

Applying the assessment questionnaire to the level of professional exhaustion revealed the following: higher staff: of the three measured dimensions, in most situations, emotional exhaustion is prevalent, followed by a reduction in personal achievements. There is a marked increase in the degree of damage after the first year of activity, with a peak around 10 years old, following a downward trend, with a plateau phase around 25 years of activity. It is possible that the decrease is due to the use of more efficient method of coping. Degree of depersonalization had relative reduced scores. Nurses with university education are a category in which motional exhaustion and personal achievement are very close in value. Depersonalization rate is relatively homogeneous and in low-moderate limits. Nurses without university education had depersonalization rate in relatively homogeneous values (low-moderate). Degree of emotional exhaustion had a constant growth with a peak around 15 years of seniority and maintenance. For 50% of case in this category, the highest scores were obtained in the dimension "reduction of personal achievement". In auxiliary personnel (stretcher-bearer) is remarkable the prevalence of personal achievement along with emotional affecting in short time after beginning of activity.

Assessing the affecting grade, on personal categories, we observed that the most affected personnel category is represented by nurses with university education. Nurses without university education are more frequent affected, followed by medical doctors. Risks for professional exhaustion syndrome development for medical doctors, physicists and psychologist were 27.27% - low total score, 54.55% - medium total score, and 18.18% - high total score (fig. 1).

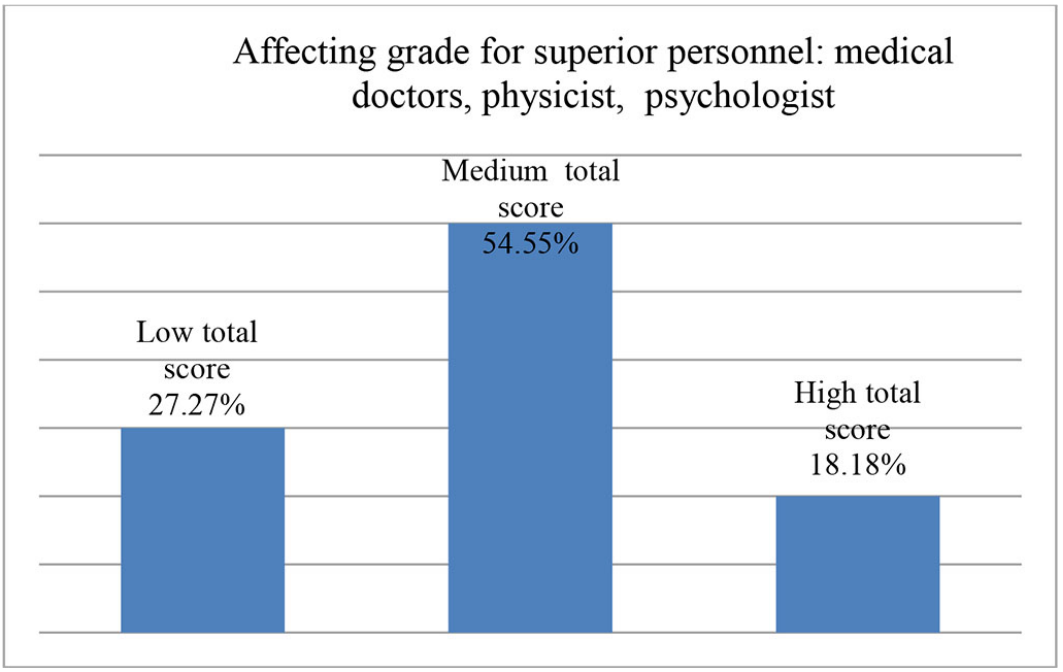

Fig. 1. Affecting grade for superior personnel: medical doctors, physicist, psychologist

Affecting grades for nurses with university education were 40% - low total score, 30% - medium total score, and 30% - high total score (fig. 2).

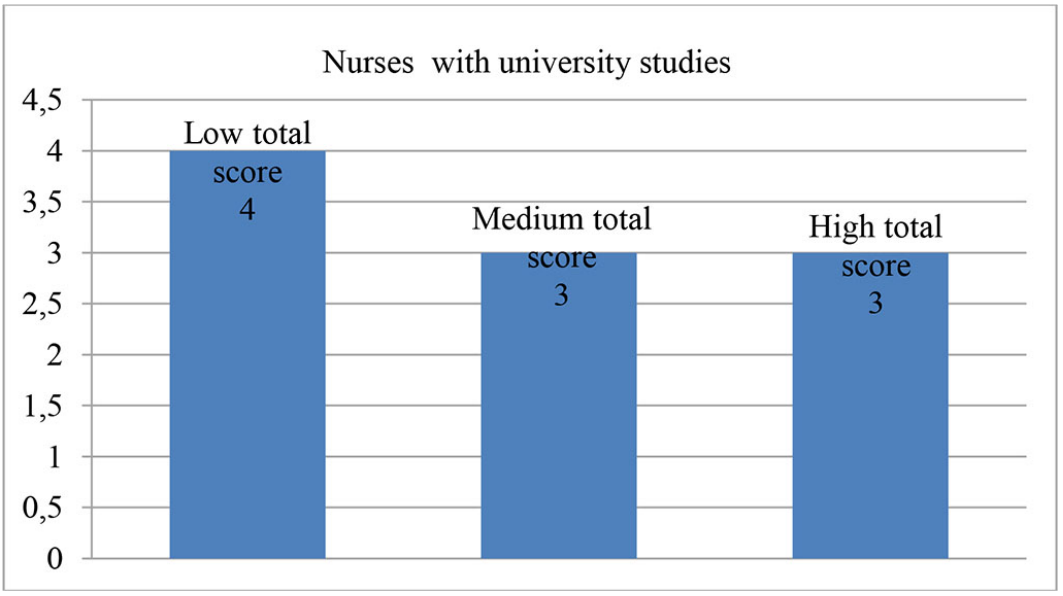

Fig. 2. Affecting grades for nurses with university education

Affecting grades for nurses without university education were 19% - low total score, 76% - medium total score, and 5% - high total score. Affecting grades for auxiliary personnel (stretcher-bearer) were 63% - low total score, 37% - medium total score. From charged self-efficacy point of view, the scores are situated, in general, in superior range, with specification that the higher scores are found in nurses without university education.

Comparative analysis of total affecting grade did not indicate significant differences between superior personnel group vs. nurses with university study group, p=0.85, and between nurses with university study group vs. nurses without university study group, p=0.84.

These results are positively correlated with coping mechanism based on **active adaptation** and **positive reframing** for medium and superior personnel, and most frequent, **planning** for auxiliary personnel.

DISCUSSIONS

These results have only a statically value indicating the level of professional stress from Medical Oncology and Radiotherapy Clinic. The evaluation revealed that 12% of participating personnel is affected by BS, 56% of them had different grades of risk for BS development, in near future, without any preventive actions. The dimensions involved in BS development are depersonalization, emotional exhaustion and reducing of personal performances.

The most frequent in affecting grade at all categories is emotional exhaustion and most influencing factors are affective involvement, assisting patients with hard pain and time spent with patients, unreasonable requirements from patient's family, professional climate, difficulties in relationships, bad communication, and no right to do a mistake. Decreasing of personal performances is more frequent in nurses and auxiliary personnel and the main factors are: high and permanent pressure and high workload. Depersonalization is characterized by decreasing of human relationships. The contributing factors are: lack of polite, tensioned and aggressive relationships, lack of solidarity.

A meta-analysis by Panagioty et al. (2018) including 47 studies in which 42,473 doctors participated, revealed that professional burnout led to a decrease in the quality of the medical act (OR, 2.28; 95% CI, 1.42-3.68) and a rate of patient satisfaction three times lower due to the decrease in professionalism. Last but not least, exhaustion doubles the likelihood of patient safety incidents. It has been demonstrated that depersonalization as a dimension of Burnout is strongly negatively associated with the quality of care as well as with patient satisfaction and safety. Regarding the decrease in professionalism caused by burnout, it was more obvious in the case of residents and doctors at the beginning of their careers (Maslach et al., 1996; Panagioty et al., 2018).

Antoni Font et al. (2015; Maslach, 2009; Maslach et al., 2001) performed a study which evaluated the risk of developing burnout syndrome among professionals working in the oncology field and to measure their professional satisfaction. In this study 115 professionals answered the Maslach Burnout Inventory and the results revealed that 36.9% of respondents presented high emotional exhaustion values and 22% show high characteristics of depersonalization in relationships.

In a cross-sectional study performed by Sibyl Kleiner and Jean E. Wallace on oncologists from across

Canada (n = 312) the questionnaires were completed for assessment of the burnout syndrome, the fatigue induced by the manifestation of compassion, the assigned workload, the time pressure, the personal characteristics involved in the work-family conflict (Kleiner & Wallace, 2017). The results of the study showed that the staff's personal perception of time pressure in the work task is an essential predictor of burnout syndrome and compassion fatigue, and closely linked to work-family conflict.

Other independent predictors of burnout are family and professional characteristics: parental role, academic activities, sarcoma treatment, are negatively associated with burnout. In contrast, breast cancer treatment is positively associated with exhaustion. Regardless of the perception of the workload, women are more affected by burnout than men. Analyzing the concept of compassion fatigue, K and W indicated that this phenomenon contains both the feeling of being too tired to help and the effort of self-protection against despair (Kleiner & Wallace, 2017).

Emotional exhaustion is a predisposing factor to leave the profession of health worker. High levels of emotional exhaustion are associated with the intention to leave such jobs. Only 17% of the oncology and hematology nurses affected by the burnout syndrome expressed their intention to stay in the same environment. Other factors associated with emotional exhaustion are: age, social status, the opportunity to plan days off, the quality of the relationship with collaborating doctors. Bourdeanu et al. (2015) considers that the burnout syndrome affects both the quality of life of the staff and the quality of care given to patients, which is why he recommends considering it as a health indicator for nurses working in oncology/hematology (Bourdeanu et al., 2015).

Professional stress management may be done with changes at three levels: (1) modifying of organizational structure and process of work, (2) improvement of relationships between organization and each medical doctor, through professional development programs, (3) individual actions for stress reducing.

There are studies which analyzed dynamics and anxiety in cervical cancer patients; authors analyzed 72 patients with cervical cancer, stage III who underwent radiotherapy. The results of this study revealed that anxiety derived from frustration and perceived social support had a bidirectional evolution, and these findings might be useful for medical personnel in order to monitor the anxiety during radiotherapy.

Oncological treatment is multidisciplinary, involving surgery (in different departments), chemotherapy, radiotherapy, hormonal therapy, depending on disease stage, performance status, comorbidities. In recent years, many immunotherapy protocols have been developed and are increasingly used in addition to other treatments.

In Radiotherapy and Medical Oncology Departments, the work is a continue challenge for all personnel trying to adapt each step-in benefit for patients.

There are some adapting strategies of stress using techniques for development of stress tolerance, maintaining positive self-esteem, maintaining the emotional equilibrium, development of satisfactory relationship with the others (Ciobotea et al., 2016; Lupu et al., 2016; Paduraru et al., 2019; Vendemmia et al., 2019).

CONCLUSSIONS

In general, work overload and organizational problems seem to be the main difficulties as we Analyzing specifically the oncology field, the conclusions show that this is an environment with a high risk of emotional exhaustion of the staff, doctors being especially exposed to mental health problems due to demands at work. The most incriminated factors are overloading with tasks, organizational problems, but also aspects related to effective communication with colleagues and patients, as well as the specific emotional load of work. BS is under evaluated and under-diagnosed, and its incidence can be diminishing by using the techniques of stress resistance, psychological counseling, cresting a friendly and tolerant professional climate.

REFERENCES

1. Bourdeanu, L., Pieper, B. B., Cannistraci, P., Faber, S., & Chen, L. (2015). *Burnout among Hematology/Oncology Nurse Practitioners*. STTI 43rd Biennial Convention, November 7-11, 2015 Las Vegas. https://sigma.nursingrepository.org/bitstream/handle/10755/603307/2_Pieper_B_p75634_1.pdf?sequence=1&isAllowed=y
2. Ciobotea, D., Vlaicu, B., Ciubara, A., Duica, C. L., Cotocel, C., Antohi, V., & Pirlog, M. C. (2016). Visual Impairment in the Elderly and its Influence on the Quality of Life. *Revista de Cercetare si Interventie Sociala*, *54*, 66-74. https://www.rcis.ro/images/documente/rcis54_05.pdf
3. Fengler, J. (2000). *Helping to Tire-Burn in Work*. Gdańskie Wydawnictwo Psychologiczne.
4. Font, A., Corti, V., & Berger, R. (2015). Burnout in Healthcare Professionals in Oncology. *Procedia*

Economics and Finance, 23, 228–232. https://doi.org/10.1016/S2212-5671(15)00320-2

5. Freudenberger, H. J. (1974). Staff burn-out. *Journal of social issues*, *30*(1), 159-165. **https://doi.org/10.1111/j.1540-4560.1974.tb00706.x**
6. Kleiner, S., & Wallace, J. E. (2017). Oncologist burnout and compassion fatigue: investigating time pressure at work as a predictor and the mediating role of work-family conflict. *Kleiner and Wallace BMC Health Services Research, 17*(1), 639. DOI: 10.1186/s12913-017-2581-9
7. Kraft, U. (2006). *Burned-Out.* Scientific American Mind. http://jb-schnittstelle.de/wp-content/uploads /2014/08/Burned-Out.pdf
8. Lupu, V. V., Ignat, Ancuta., Paduraru, Gabriela., Ciubara, A., Ioniuc, I., Ciubara, A. B., ... & Burlea, M. (2016). The study of effects regarding ingestion of corrosive substances in children. *Revista de Chimie*, *67*(12), 2501-2503. http://bch.ro/pdfRC/LUPU%20V%2012%2016.pdf
9. Maslach, C. (2009). Understanding Burnout. *Ciencia y Trabajo, 11*(32), 37-43.
10. Maslach, C., Jackson, S., & Leiter, M. (1996) *Maslach. Burnout Inventory Manual*. Consulting Psychologists Press
11. Maslach, C., Schaufeli, W. B., & Leiter, M. (2001). Job burnout. *Annual Review of Psychology, 52*, 379-422. DOI: 10.1146/annurev.psych.52.1.397
12. Paduraru, I. M., Vollmer, J., Precupanu, D., Ciubară, A. B., Hozan, C. T., Firescu, D., & Ciubară, A. (2019). Anxiety and Depression in Patients with Cancer. A Case Report. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, *10*(3), 55-59. https://lumenpublishing.com/journals /index.php/brain/article/view/2165
13. Panagioty, M., Geraghty, K., Johnson, J., Zhou, A., Panagopoulou, E., Chew-Graham, C., Peters, D., Hodkinson, A., Riley, R., & Esmail, A. (2018). Association Between Physician Burnout and Patient Safety, Professionalism, and Patient Satisfaction: A Systematic Review and Meta-analysis. *JAMA internal medicine*, *178*(10), 1317–1331. DOI: 10.1146/annurev.psych.52.1.397
14. Rosch, P. J. (2019). *Reminiscences of Hans Selye, and the Birth of "Stress".* The American Institute of Stress. https://www.stress.org/about/hans-selye-birth-of-stress
15. Silistraru, I., Ciureanu, A. I., Ciubara, A., & Olariu, O. (2021). Prevalence of burnout in medical students in Romania during COVID-19 pandemic restrictions (preliminary data). *Archiv Euromedica*, *11*(5), 12-15. https://doi.org/10.35630/2199-885X/2021/11/5.3
16. Silistraru, I., Olariu, O., Ciubara, A., Rosca, T., Rosca, R. O., Stanciu, S., Condratovici, A. P., & Ciureanu, I. A. (2022). Burnout and Online Medical Education: Romanian Students in Lockdown and Their Residency Choices. *International Journal Of Environmental Research And Public Health, 19*(9), 5449. **https://doi.org/10.3390/ijerph19095449**
17. Toker, S., Melamed, S., Berliner, S., Zeltser, D., & Shapira, I. (2012). Burnout and risk of coronary heart disease: a prospective study of 8838 employees. *Psychosomatic Medicine, 74*(8), 840-847.
18. Vendemmia, M., Ciubara, A., & Raimondi, F. (2019). Cognitive Evolution in the Perinatal Period. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, *10*(3), 49-54. https://lumenpublishing.com/journals/index.php/brain/article/view/2164

back