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IMPACT OF PSYCHOSOCIAL STRESS ON THE MORBIDITY OF HEALTHCARE PROFESSIONALS

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Abstract: *We have analysed the impact of psychosocial risks on the health of hospital staff, in an attempt to determine whether there is a correlation between the risk level assessed and the number of days of medical absenteeism through diseases with psychosocial stress as a contributory or aggravating factor. There is a strong correlation between the risk level assessed by sectors of activity and the number of days of medical absenteeism through diseases caused or favoured, potentially aggravated by occupational psychosocial stress.*

INTRODUCTION

The involvement of psychosocial risk factors in the causality of work-related illnesses and accidents at work has increased over the last 3 decades, a trend which continues to be upwards.

Stress has been defined by Selye (1980) as the sum of non-specific responses to any strain on the body, resulting in General Adaptation Syndrome. At the workplace, stress arises from insufficient physical resources to cope with professional demands and expectations.(1)

Psychosocial risk factors can be factors of the physical environment (which can cause a number of negative effects on both the body and the psyche, by perceiving them as aggressive agents - physical stress leading to mental stress), factors intrinsic to the workload, (mainly excessive stress, insufficient stress or alternation thereof), temporal demands or factors of organization and management of activities, staffs and organization as a whole.

Hospital staff is exposed to a combination of occupational harmful factors, covering almost the entire spectrum of risks. Staff structure is heterogeneous, both in terms of vocational training (degree and type of schooling) and social background.

AIM

Psychosocial risks are an important public health issue, because there has been a significant increase in morbidity induced/aggravated by occupational stress in recent years among healthcare professionals.

This study aims to provide evidence of the correlation between the level of occupational risk and morbidity through occupational stress related disorders in different sectors of activity.

MATERIALS AND METHODS

We have analysed the impact of psychosocial risks on the health of hospital staff, in an attempt to determine whether there is a correlation between the risk level assessed and the number of days of medical absenteeism through diseases with psychosocial stress as a contributory or aggravating factor.

The method developed by the National Research and Development Institute for Labour Protection in Bucharest (INCDPM) was used to assess the risks of diseases and accidents at work, and the ELVIE method was used for psychosocial risks. The risk levels thus calculated (by sectors of activity) were correlated with morbidity with temporary incapacity for work through conditions for which stress is a causal or aggravating factor.

1. Risk Assessment Methods

Although the legislation in force does not specify by which methods occupational risks must be assessed, the Ministry of Labour, Social Solidarity and Family has approved (in 1993) a single method for assessing these risks, developed within the INCDPM Bucharest. It is part of the category of analytical methods aimed at quantitatively determining the level of risk for a workplace, sector, section or unit, based on systemic analysis and assessment of occupational injury and illness risks.(2)

1.1. INCDPM Occupational Accidents and Diseases Risk Assessment Method:

The principle of the method consists in identifying all risk factors in the system assessed (workplace) on the basis of pre-established checklists and quantifying the size of the risk based on the combination of severity and frequency of the maximum foreseeable consequence.(3)

The elements by which the risk can be characterized are the likelihood that the action of a risk factor may lead to an accident or illness, and the severity of the consequence of the action of the risk factor on the victim.

Therefore, in order to assess the risk, the following steps need to be taken:

a) identification of risk factors in the system analysed;
b) determining the consequences (severity) of the action on the victim;
c) establishing the probability of their action on the worker;
d) assigning risk levels depending on the severity and

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likelihood of the consequences of the action of the risk factors.(4)

1.2. ELVIE Occupational Psychosocial Risk Assessment Method

ELVIE consists of a questionnaire with 144 items (pages 59 to 66 of the quoted source), which analyses 15 topics: 1. Assessing the work performed, 2. Employment relations/Social support 3. Action limits/Autonomy at the workplace 4. Provisions 5. Meaning of work 6. Prospects 7. Workload 8. Hygiene, security, material conditions 9. Contribution, retribution 10. Interest, diversity of work 11. Trust, cooperation 12. Labour splitting 13. Polyvalence 14. Communication, briefing 15. Skills appropriate to work.(5)

2. Morbidity with incapacity to work through diseases with stress as a contributory or aggravating etiological factor

Considering that mental stress is involved in the genesis of conditions listed below, we have studied morbidity with incapacity to work for 2018 compared to 2014.

Conditions with occupational stress as etiological contributory or potentially aggravating factor:

- Endocrine and metabolic disorders: autoimmune thyroiditis, other non-toxic gout, thyrotoxicosis, type 2 diabetes mellitus, pluriglandular insufficiency, obesity and other intake excess,
- Psychiatric disorders: alcohol abuse, smoking, coffee etc., depression, other mood disorders, stress-related neurotic disorders, psychogenic eating disorders, nonorganic sleep disorders, nonorganic sexual dysfunction,
- Neurological disorders: multiple sclerosis, cephalic algias syndromes,
- Cardiovascular disorders: high blood pressure and its complications, ischemic heart disease, strokes,
- Respiratory disorders: vasomotor/allergic rhinitis, asthma
- Digestive disorders: gastritis, duodenitis, reflux esophagitis, gastric and duodenal ulcer, dyspepsia, Crohn's disease, ulcerative hemorrhagic rectocolitis (UHR), irritable bowel syndrome, biliary dyskinesia,
- Dermatological disorders: allergic/contact dermatitis, psoriasis, lichen planus, prurigo,
- Locomotor disorders: rheumatoid arthritis, spondylosis, back pain, painful shoulder syndrome,
- Gynecological disorders: endometriosis, menstrual disorders,
- Non-specific or general symptoms and signs.(6,7)

RESULTS

Table no. 1. Poorly managed tensions (complaints) grouped by activity sectors

Problem	ICU, ER	Surgical wards	Medical wards	TEA staff	Other sectors
Autonomy	YES	YES	NO	NO	NO
Provisions	YES	YES	NO	NO	NO
Workload	YES	YES	YES	NO	NO
Hygiene, security, material conditions	YES	YES	YES	NO	NO
Retribution	YES	YES	YES	YES	YES
Labor splitting	YES	YES	YES	YES	YES
No. of tensions (unresolved issues)	6	6	4	2	2

Occupational diseases and accident risk assessment

We applied the INCDPM method on wards, for all the hospital staff (2,719 employees), and the risk levels thus obtained were summed by sectors of activity: medical clinics and integrated outpatient care (risk level 3.17), surgical clinics (3.31), anesthesia - intensive care unit (ICU) wards and emergency room (ER) (3.35), support services (laboratories, sterilization, epidemiology, etc. – 3.08), technical service (3.00), officials from TEA technical, economic and administrative services (risk level 3.00).

Assessment of psychosocial risk factors by the ELVIE method

From the analysis of the responses to the questionnaire applied to the hospital staff (247 subjects, from all activity sectors), it results that there are poorly managed tensions (complaints) related to the following problem groups (table no. 1):

Morbidity with occupational stress as contributory factor

Table no. 2. Dynamics and percentage of stress related diseases (cases and days of incapacity for work)

Year	No. of cases of stress related dis.	Days of medical absent. stress related diseases	Total no. of cases of disease	Total days of medical absent.	% cases of stress related disease	% days of absent. stress disease
2014	146	2,085	657	16,488	22.22	12.64
2018	318	4,000	1,184	22,975	26.86	17.41

Figure no. 1. Dynamics of stress related diseases (absolute values)

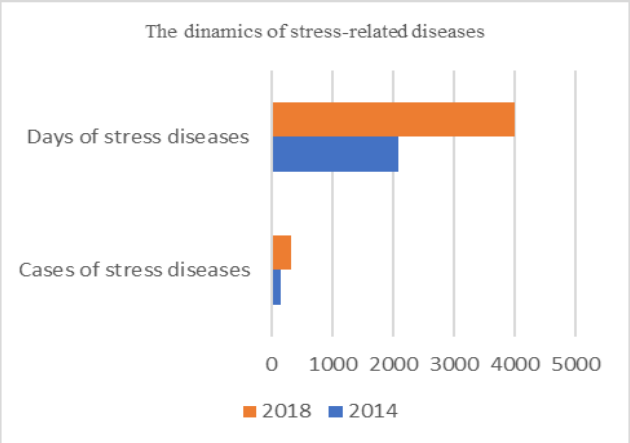


Figure no. 2. Dynamics of stress related diseases (percent of total diseases)

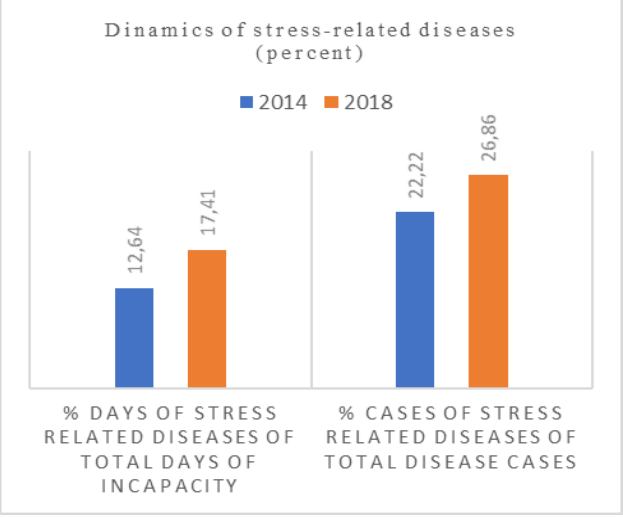


Table no. 3. Cases of stress related diseases groped by age

Age group	No. of cases of stress related diseases 2014	No. of cases of stress related diseases 2018
20 – 45	64	145
46 – 70	82	175
TOTAL	***146***	***318***

t = 0.21 < 12.7 for GL = 1

Figure no. 3. Dynamics of stress related cases of diseases, grouped by age

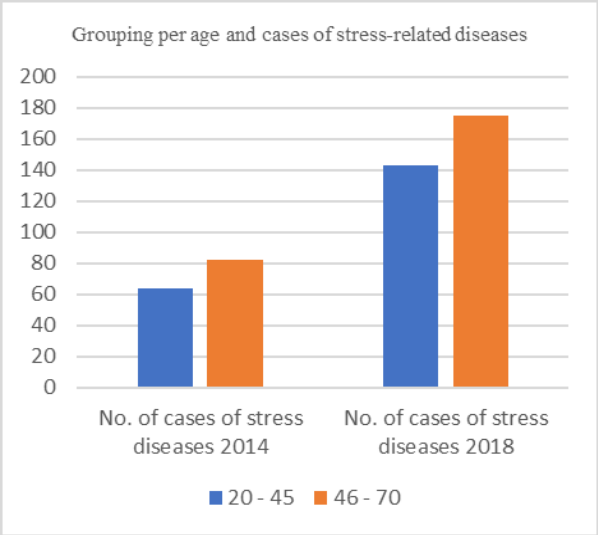
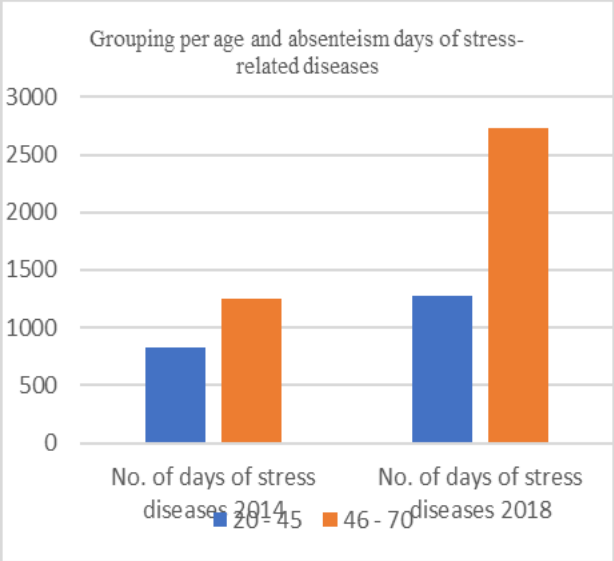


Table no. 4. Days of incapacity through stress related diseases groped by age

Age group	No. of days of incapacity through stress diseases 2014	No. of days of incapacity through stress diseases 2018
20 – 45	829	1,270
46 – 70	1,256	2,730
TOTAL	***2,085***	***4,000***

t = 0.16 < 12.7 for GL = 1

Figure no. 4. Dynamics of incapacity days through stress related diseases, grouped by age



Correlation of psychosocial occupational stress morbidity with the assessed level of work accidents and diseases risk

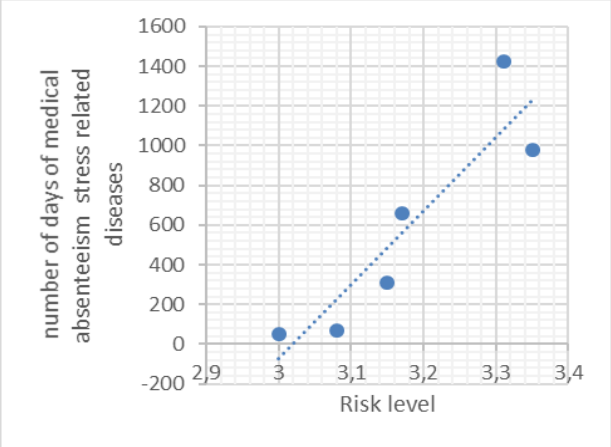
For the year 2018, the results presented in Table no. 5 were obtained:

Table no. 5. Days of incapacity through stress related diseases and assessed risk level

Activity segment	Risk level	Days of stress related diseases absenteeism	Tensions (Complaints)
Technical service	3.00	51	2
Support services	3.08	66	2
TEA staff - officials	3.15	308	2
Medical clinics and outpatient hospital	3.17	659	4
Surgical clinics	3.31	1,426	6
ICU and ER wards	3.35	978	6

By calculating the Pearson correlation coefficient, we obtain the value r = 0.90 (sig 0.012), so a strong correlation between the risk level and the number of days of medical absenteeism through diseases caused or favoured, potentially aggravated by occupational psychosocial stress (figure no. 5).

Figure no. 5. Correlation between incapacity days through stress related diseases and the assessed risk level



DISCUSSIONS

Occupational diseases and accident risk assessment

The overall level of risk at hospital level is 3.18 (moderate risk).

Assessment of psychosocial risk factors by the ELVIE method

In all sectors, complaints of workers concern the retribution and work splitting, complaints about workload and hygiene, safety and material conditions at the workplace arise in wards with beds, and staff in surgical wards also complaints about autonomy at the workplace (action limits).

While nurses mostly complain about issues related to perspectives, diversity of work, trust and cooperation, communication, information and competence, physicians mostly complain about problems related to conflicting provisions and workload, but both categories complain equally about issues related to hygiene, security, material conditions, retribution and work splitting.

Morbidity with occupational stress as contributory factor

From the results presented in tables no. 2 and in figures no. 1 and, 2 it is noted that both the number of cases of stress-related illness and the number of days of stress-related disease and their share increased in 2018 compared to 2014.

In 2014, the age ranged between 26 and 63 years, and in 2018 the age ranged between 21 and 68 years, in both years the average was 44.5 years. There were no statistically

significant differences from the age point of view, as seen from tables no. 3 – 4 and figures no. 3 and 4 ($t = 0.21 < 12.7$ for $GL = 1$ for the cases of stress related diseases, respectively $t = 0.16 < 12.7$ for $GL = 1$ for the medical absenteeism through stress related diseases).

Correlation of psychosocial occupational stress morbidity with the assessed level of work accidents and diseases risk

The results presented in table no. 5 show that there is a strong correlation between the risk level assessed by sectors of activity and the number of days of medical absenteeism through diseases caused or favoured, potentially aggravated by occupational psychosocial stress.

Each of the risk assessment methods presented has specific advantages (the INCDPM method provides quantitative, accurate data and the ELVIE method allows graphical presentation, being easier to understand by both the executive staff and the management of the unit).

CONCLUSIONS

Psychosocial risks are an important public health issue, particularly when it comes to the exposure of healthcare professionals.

In recent years, both the number of cases of stress-related diseases and the number of days of medical absenteeism through stress-related diseases have increased (both in absolute values and as a share of total diseases), further reasons to consider that psychosocial risks are emerging.

There is a strong correlation between the risk level assessed by sectors of activity and the number of days of incapacity for work through stress related diseases.

For these reasons, it is necessary for the employer to take measures to combat and prevent these risks, both in order to fulfil its legal obligations and to mitigate the negative effects on labour productivity (medical absenteeism, staff fluctuations, etc.).

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