

STUDY OF THE CARDIOVASCULAR DISEASES DUE TO OCCUPATIONAL STRESS IN THE EMPLOYEES OF THE MINISTRY OF INTERIOR AND ADMINISTRATION

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Abstract: *The present aspect of the issue is first of all given by approaching “the occupational stress”, a very interesting subject, of a large importance, but very little analysed and discussed at the level of Romania, especially regarding certain categories of professions, such as those within the Ministry of Interior and Administration. In the European Union, occupational stress represents the second health problem in relation to the development of the professional activity, after the back affections, being placed among the most encountered occupational health problems. The European statistics show that, it affects today 28% of the employees. Professions, such as policeman, police soldier, or fireman, which lately, have started to be adopted by women, as well, involve an important psychical stress level. Half of the Romanians consider stress as one of the most important health problems. Stressing professions are first of all characterized by a large responsibility and a high level of psychological stress, features that are entirely superposed over the analysed professions of policeman, police soldier or fireman.*

Keywords: *occupational stress, Ministry of Interior and Administration, cardiovascular diseases*

Rezumat: *Actualitatea temei este dată, în primul rând, de abordarea “stresului ocupațional”, subiect foarte interesant și de o importanță majoră, dar foarte puțin analizat și dezbătut la nivelul României, mai ales la unele categorii de profesii, printre care se numără și aceea de lucrător al Ministerului Administrației și Internelor. În Uniunea Europeană, stresul la locul de muncă reprezintă a doua problemă de sănătate legată de desfășurarea activității profesionale, după afecțiunile dorsale, fiind printre cele mai des întâlnite probleme de sănătate la locul de muncă. Statisticile europene arată că, în prezent, această problemă afectează 28% dintre angajați. Profesiile de polițist, jandarm sau pompier, profesii care în ultima perioadă au început a fi adoptate în număr din ce în ce mai mare și de către femei, implică un grad important de stres psihic. Jumătate dintre români consideră stresul ca una dintre cele mai importante probleme de sănătate. Profesiile stresante se caracterizează primordial prin responsabilitate mare și un grad înalt de solicitare psihologică, caracteristici care se regăsesc în totalitate suprapuse profesiilor de polițist, jandarm sau pompier analizate.*

Cuvinte cheie: *stres profesional; Ministerul Administrației și Internelor; boli cardio-vasculare*

INTRODUCTION

Taking into account the complex issue of the functioning of the state, the abilited structures of the Ministry of Interior and Administration have multiple attributions regarding the defence of the democratic rights and freedoms.

The activity of the different specialized structures is accomplished through the permanent exposure to occupational stress, many times involving physical or neuropsychic strain.

Factors that affect stress-resistance

We are all affected by stress at some time or other during our life, especially within the context of the Romanian economy, specific for the transition period of time. Although, stress is not a new phenomenon, it gathers a more and more global character, affecting all countries, all socio-professional categories, family and society, in general.

The factors that affect stress vulnerability may be: personality, age, gender, the level of the economic development etc.

M. Friedman and R. H. Rosenman, two American cardiologists, showed that there was a close relation between stress, frequency of the cardio-vascular diseases and the type of personality, identifying two major types of personality: type A and type B personality and an intermediary type, that is type AB personality.(5)

Not all the specialists in the field of stress agree to the fact that the two types may be or may not be related to the health problems. There were experts who identified a personality feature, called – **character series** (4) – that may reduce the effects of stress. The strong individuals display three fundamental features of personality: they tend to become strongly involved in what they are doing, they usually act being convinced that their work will lead to something different and perceive most of the life changes as being benefic and normal for their personal development.

Stress sources in the military field

By its nature and specificity, the military field is an environment that generates occupational stress.

For Romania, the last years represented a period

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of profound transformations and social, political and economic restructuring, which extended up to the social level of the military organization. The psychological implications of these changes are very vast; the psychosociological relations are diversified and unfortunately, unpredictable and with surprising finalities. In the military field, these transformations were followed by optimisations in certain compartments, but more often, they lead to dysfunctionalities.

Exposed work places and personnel categories

As we have previously shown, the human being, is by its nature open and adaptable to changes; yet, he is involuntarily affected by them. Each change of form brought about a change of structure.

The policemen from the Departments of Passports, Population Computerized Evidence, Road Traffic, Criminal Records Office, the police soldiers within the Department of Restoration and Maintenance of the Public Security, the firemen within the Intervention Facilities, in general, the workers within the Ministry of the Interior and of the Administrative Reform, whose activity implied the execution of quality works, in due time and in permanent contact with the public – all those investigated had something in common: working in the stressing environment of the “front-office!”.

The main forms of stress manifestation among the workers of the Ministry of Interior and Administration.

The work place actual specific problem is chronic fatigue, a syndrome characterized by emotional and physiological exhaustion, often generated by frustration at chronic level, by the more or less work volume.

The symptoms include:

- The increase of alcohol, coffee or even drugs consumption;
- Depression, low self-esteem, pessimism, loneliness;
- The increase of absenteeism, coming late at work;
- Tiredness, irritability, muscle tension and stomach problems;
- Loss of the sense of humour, accentuation of the guilt feeling.

WORKING HYPOTHESIS

It has been considered that the stressor agents, through their diversity and intensity, lead to important effects among the operative personnel, as against those with administrative positions within the Ministry of Interior and Administration.(1,2)

MATERIAL AND METHOD

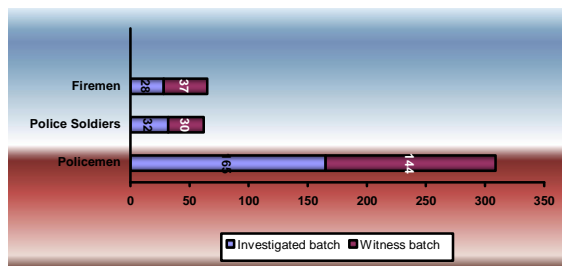
Taking into account the above-mentioned, I aimed at testing the professional status in 272 workers of the Ministry of Interior and Administration, who develop their activity in the county of Bistrița- Năsăud.

Those 272 workers were divided in two batches:

1. The research batch (A) was made up of 141 subjects; they belonged to the operative staff, being exposed to aggressive stressors agents (increased responsibility and danger). (picture no. 1)

2. The witness batch (B) was made up of 131 subjects; the batch was similar with the A batch, in terms of structure, gender, age, salary, level of education, life environment; these subjects were exposed to a more reduced stress level.

Picture no. 1. Repartition of the workers of the Ministry of Interior and Administration, per categories and specializations



The measured parameters were the following:

1. cardiac frequency;
2. blood pressure;
3. cardiac rhythm;
4. electrocardiography;

due to the fact that these parameters are changing in stress conditions.

RESULTS

Table no. 1. The results of the cardiac frequency measurements

Total of the monitored patients	Cardiac frequency at rest		Cardiac frequency in activity	
	60 – 70 beats/min	70 – 85 beats/min	90 – 110 beats/min	More than 110 beats/min
141	102	39	85	40

The monitoring was made systematically, for a period of 60 days. As you could see, 125 patients (88.6%) registered significant changes in the cardiac rhythm during the activity period of time. Out of them, 79 (63.2%) registered an increase of the cardiac frequency, more than 40 beats/min, as against the initial value, at rest.

Those 125 patients, who, during monitoring, registered changes in the cardiac rhythm during the performance of the tasks specific to their work place, were weekly submitted to an electrocardiography examination. This illustrated, without exceptions, the presence of cardiac rhythm disorders, ST-T segment denivelation, more than 1 mm during activity, manifestations that were considered specific to the type of personnel working in work places with exposure to noxious factors (stress, neuropsychic strain).

The blood pressure had been monitored through the classic oscylometric method, during holiday and over a period of 30 days, on the first month after resuming the working activity. It is interesting to mention that in all patients, the blood pressure values registered a significant increase during the first half of the monitored interval, followed by a slight decrease to the normal

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values, in the second half of the monitored period of time. It also must be mentioned that all the monitored patients received antihypertensive treatment and that the values of the blood pressure measured outside the working hours (between 20.00 – 21.30) were in normal limits, irrespective of its value during the activity programme. Schematically, the results obtained are presented in the table below. (table no. 2).

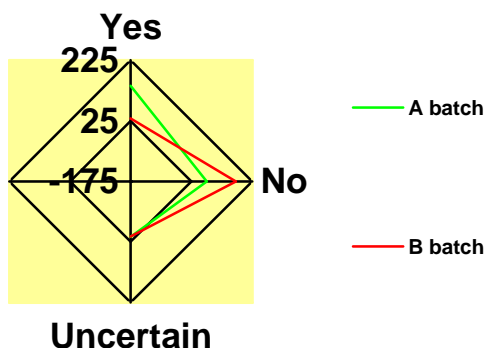
Table no. 2. The monitoring of the blood pressure values in those 141 subjects of the A batch

Blood pressure values during holidays		Blood pressure values in the first half of the working day		Blood pressure values at the end of the working day	
Max.	Min.	Max.	Min.	Max.	Min.
Between 120-45	Between 65-80	Between 145-180	Between 75-95	Between 130-155	Between 70-85

It may be noticed that all the monitored patients reacted in the same manner, the values of blood pressure increasing in the first half of the activity period of time with 25-40 mmHg, remaining constantly increased and decreasing at the end of the working day. This type of reaction is recognized in literature as being specific to work places characterised by constant stress as a result of cognitive (mental-emotional) strain.

By applying the Likelihood ration test on the investigated batch (the A batch) and on the witness batch (the B batch), we may say that in 99% of the cases, the cardiovascular diseases could be associated to the investigated batch. (picture no. 2)

Picture no. 2. Incidence of the cardiovascular diseases in the two batches (research batch and witness batch)



CONCLUSIONS

The establishment of the cardiovascular parameters: cardiac frequency, blood pressure, cardiac rhythm and electrocardiography reveal that there is a positive correlation between the cardiovascular changes and the investigated batch, in comparison with the witness batch, which is statistically significant.

The main reasons for the above-mentioned effects are related to stress: neuropsychic strain, fatigue, the contact with the public in the conditions of a

permanent agglomeration of the working points.

Symptomatology association differences in the two investigated batches (the investigated and the research batch) are statistically significant, the response of the organism of the workers within the investigated batch being much prominent.

The studied data lead to an obvious fact: the employees of the Ministry of Interior and Administration are constantly submitted to a lifestyle and to psychological pressures that maintain the occupational stress to a high level. The Ministry of Interior and Administration is not an institution without a social affiliation, but one anchored in the Romanian contemporary society. Due to this, the military rigours of the 60's, which still exist in many similar institutions at the beginning of the XXI century, cannot find their purpose and usefulness. By extrapolating this and without exaggeration, the situation existing at the level of the military units within the Ministry of Interior and Administration of the county of Bistrița-Năsăud, at the level of the whole ministry, we may state that stress management should become one of the main concerns of the decision makers at central level, which should extend to the lower levels, up to that of the "small commanders".

The most important conclusion of this study is that the occupational stress is present in this national organization, represented by the Ministry of Interior and Administration and represents a factor generating stress and occupational diseases.

Up to the present, the fight against this risk factor has been made at individual, empirical level. In order to efficiently intervene in reducing the harmful effects of this risk factor, it is necessary to adopt unitary, clear, incisive measures, which should be applied to this type of organization.

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