# THE WORKING CONDITIONS AND ORGANISM STRAIN AT THE CONTROL PANEL

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#### REZUMAT

Prezenta cercetare s-a efectuat în industria chimică la tabloul de comandă (TC), pentru evidențierea condițiilor de muncă și solicitării organismului și stabilirii măsurilor de optimizare a muncii. Metodologia de cercetare a inclus: analiza muncii și utilajului, caracterizarea mediului de muncă, evaluarea unor indicatori ai organismului și ai stării de sănătate la 50 de subiecți, prelucrarea electronică a datelor obținute. TC funcționeză în încăpere separată, cu aer condiționat. Pe suprafața mare a TC sunt amplasate dispozitive informaționale, predominând informațiile vizuale. Operatorii urmăresc permanent informațiile respective pentru a constata imediat devierea parametrilor de la normal. Efortul fizic este redus, solicitarea neuropsihică predomină: senzorială (în special vederea), mentală (participarea atenției, memoriei, gândirii tehnice), responsabilitatea muncii și monotonia acesteia măresc solicitarea neuropsihică. Performanța indicatorilor organismului scade la terminarea lucrului la majoritatea sau la toți subiecții. Conținutul muncii, dar și alți factori, pot constitui cauze de solicitare, cu instalarea oboselii. Sunt necesare măsuri complexe privind prevenirea suprasolicitării.

Cuvinte cheie: tablou de comandă, solicitarea organismului, prevenire

#### ABSTRACT

The present study was carried out in the chemical industry, at the control panel (CP), in order to highlight the working conditions and the organism strain, to establish interventions for optimizing the work. Research methodology included: work and equipment analysis, working environment characterization, assessment of some of the organism's indicators and investigating the health status in 50 subjects, electronic processing the resulted data. The CP runs in a separate room, with air-conditioning. On the large surface of the CP information devices are placed, regarding the technological process evolution, mostly visual information. The operators watch permanently that information in order to quickly detect the parameters' deviation from normal. The physical effort is low, the neuropsychic strain predominates: sensorial (especially visual), mental (attention, memory, technical thinking participation), the work responsibility and monotony increase the strain. The performance of the organism's indicators decrease at the end of the work program for most or for all subjects. The content of the work, but other factors also, can cause strain, with the onset of fatigue. Complex interventions are necessary to prevent overstrain.

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*Keywords:* control panel, organism strain, prevention

#### **INTRODUCTION**

In the modern technologies, the human operator receives the information about the process being carried out by watching some characteristic indicators and/or signals which represent the grounds for necessary decision making for the good running of the "man-machine" system. The improvement of the technological process, the technical progress, may determine a great flux of information and also special means of information's presentation, which can organism's exceed the possibilities, overstrain fatigue, producing and the decrease of the physiologic and psychological performance. It is necessary to know the working conditions, their influence on the human organism, on its functions, in order to ensure the technical and human activity in normal limits of performance and health in the frame of those technologies. Therefore, a study was carried out in the chemical industry field, at work on the control panel, aiming to highlight the working conditions and the organism strain, to establish interventions for optimizing the work process.

#### MATERIAL AND METHOD

Research methods included [1-3]:

- Work and equipment analysis by direct observation, counting and timing the operator's movements, by characterizing the operator's positions, by the equipment documents and the information received from the operators and the other technicians of the work place.

- Working environment characterization: microclimate (air temperature, relative humidity, velocity), noise level, lighting (illumination, luminance, light reflection, color of the surfaces), air concentration of some chemical substances. - Dynamic assessment of some organism indicators in 30 subjects in the morning work shift (7 - 15 hours):

• skin temperature in central (forehead, sternum) and peripheral (nose top, ear lobule) zones, at the beginning of the work and at the end;

• the heart rate and the urinary release of catecholamines (adrenalin and noradrenalin) as global strain level indicators, before and during the work day;

• some visual and other neuropsychic indicators before the work start and at the end of the work:

- distance of ocular accommodation and convergence (cm);

- visual acuity up close, with performance elements (time and mistakes at optotype reading) by an original test ("Optotype" test) [4];

- palpebral blink frequency, establishing the blink number / minute;

- critical flicker fusion (CFF), H2/s; - exactitude at Weston test (with interrupted Landolt rings), achieved in three minutes, establishing the exactitude coefficient. The CFF and the "Optotype" test have been also applied after 4 hours of work.

- Subjective symptomatology investigation by a questionnaire completed by 50 subjects.

- Investigation of the personality traits by Eisenck personality questionnaire completed by 50 subjects.

- Electronic processing of the obtained data.

The investigated subjects were healthy male operators working at the CP: 22 - 50 years of age (the medium age of 35 years), with seniority of 1 to 20 years (the mean value of 7 years). The age between 30 - 40 years (53%) and the seniority of 1 - 5 years (60%) were predominant.

The study was carried out in summer and autumn.

#### **RESULTS AND DISCUSSIONS**

#### Work place and activity

The chemical manufacturing processes take place in great complex automatic installations, with continuous flow, mostly in the open air. The conduct and supervision of the installations are carried on by the human operator, in a centralized way, at the control panel (CP) which runs in a separate room (control room), with air-conditioning. On the large surface of the CP are placed the information devices regarding the evolution of the technological process. the manufacturing parameters, and the running status of the installations. Most information is visual, on various parameters (pressure, temperature, debit, humidity, capacity, power and others) by means of: measure and control apparatuses with graduated dials and registration device, numerical cursor. presentation, cathodic screen with numerical display and alphanumerical data or curves, lighted dvnamic schemata of some installations, lighted colored signals (red, yellow, green), especially for danger signalization (Figure 1) [5].



There is also acoustic information. The operators watch permanently the information devices at the distance of 30 -120 cm, sitting or walking along the CP in different directions in order to detect, as soon as possible the parameters' deviations from the normal values, to intercept the critical signs quickly. The operators interpret the information to reach the necessary decisions for intervention. The color of the CP's background may be grey, green, brown and even white. Mistakes in watching or interpreting the information showed by the CP can produce disorders of the technological process, even technical and human accident to damage. Figure 2 shows an information device (real dimension).

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In case of technological disorders or damage, the operators of the CP participate to the elimination of that situation; hence they intervene in the frame of the installations. In the control room there are protection masks against the possible noxious substances in the air.

#### Working environment

In the control room, where the CP runs, the microclimate is permanently normal, when the air-conditioning runs well. In summer, without air-conditioning, there is a thermal discomfort with the air temperature of  $25 - 30^{\circ}$ C and low air velocity (0.03 - 0.1 m/s): the skin temperature increases, the thermal sensation of "warm" and "very warm".

The noise level is between normal limits, but it is possible for the noise level to exceed the limits with 1 - 4 dB. The noise in the control room may increase due to the noise of the installations which run near the control room.

The lighting is natural, artificial and mixed according to the season, hour, sky status, work point in the control room emplacement against the light sources. The general artificial lighting is assured by tubular fluorescent lamps placed on the ceiling. The information devices of the CP have different characteristics on their surface, of the lighting, chromatics and distances against the operator's eyes. The lighting may have some deficiencies: lower illumination, reflection of the windows or lamps on the CP background, on the glass that covers the devices and apparatuses with brightness, making difficult to watch the information and may dazzle the eye. The necessary illumination is of 300 lx, without the mentioned situations tiresome for the eye.

The concentration of the chemical substances in the air was under TLV. But the concentration may increase when the noxious emanations from the installations are greater.

#### **Organism strain**

The organism's strain corresponds to the working conditions. Hence, the physical effort is low, determined by the posture (sitting or standing in front of the CP) and the displacements along the CP. The heart rate was 62 - 82 beats/minute, according to the sedentary character of the work. The neuropsychic strain is important, both sensorial and mental. The sensorial strain is especially visual, many visual functions participating in the work process: visual acuity to near and far and between near and far (the distances are repeated: of 30 - 120cm). ocular movements, contrast and chromatic sensibility, perception velocity, retina adaptation, visual field. The auditory strain is determined by the necessity to discern the auditory information of the CP or other auditory signals produced in the The mental installations. strain is determined by the attention (especially distributive), memory and technical thinking participation in the activity. The concentrated and distributive attention is important (visual attention) very for receiving correctly the information. The technical thinking intervenes to establish the characteristics of the CP information, to disturbance understand the of the installation running, to take the correct and necessary decisions. The work responsibility and monotony increase the neuropsychic strain. There is a permanent vigilance state. In case of special events (incidents, especially occurrences in installations), the organism strain increases much. The heart rate is high, of more than 100 beats/minute.

The performances of the neuropsychic indicators have decreased in 76 - 97% of the subjects during the work (p < 0.001) - Table1, Table 2, Figure 3. That decrease makes evident the visual and general fatigue of the operators' organism. The performance of the "Optotype" test and CFF decreased especially after 4 hour of work. In case of a normal organism performance, the urinary release of catecholamines increases to 2 hours p.m. the causes for the decrease during work at the CP are the high neuropsychic strains and the activity without motor discharge (p < 0.002 and 0.006) (Figures 3 and 4).

 Table 1. Subjects with increase or decrease in the neuropsychic tests performances at the work's end in comparison with the values before the beginning of the work

Indicators		Subjects %		
		Increase	Decrease	
	Accommodation RE	61	39	
Distance cm	Accommodation LE	60	40	
	Convergence BE	57	43	
Blink frequency, no/min		72	28	
CFF, Hz/s		12	88	
Ontotuno tost	Time,	97	3	
Optotype test	Mistakes, number	40	-	
Weston test, EC		33	58	

RE – right eye LE – left eye

BE – both eyes EC – exactitude coefficient

The neuropsychic indicators, including the visual indicators, highlight at the end of the work shift the following data: the increase

of the ocular accommodation and convergence distances (decompensate ocular fatigue), blink frequency increase, 10

CFF – sensorial and central test – increase, increase of the reading time during the "Optotype" test, exactitude coefficient decrease at Weston test showing the state of the visual perception and respectively, of the visual performance. These results correspond to the organism's fatigue onset.

The complaints of most subjects (75 - 95%)were the ocular and visual disorders and also the torpor and somnolence. 10 - 20% of the complaints were the attention difficulty, headache, nervousness, muscular and articulation discomfort. The work content responsibility, the work posture may be the mentioned causes of the operators' complaints, related to the work strain. The headache may be a manifestation of the visual fatigue.

#### Organism health state

The investigated subjects had no disorders or diseases which could be caused especially by the activity at CP. The evolution of their morbidity had no high values and the disorders of the superior respiratory tract have been found also as part of the morbidity of other workers, not exposed to noxious environment.

The Eisenck personality questionnaire (Table 3) marked out the predominance of the ambiverted traits (extra- and introverted) and of the emotional stability which permits a good adaptation of the work. The subjects with a light instability had a lower seniority in work (CP), showing the necessity to follow the new operators' adaptation to work at CP.

Table 2. Neuropsychic tests. Mean of differences (MD) between the values obtained a	at
work end and the values obtained at the start of the work	

Indicators		MD	р<
Distance cm Accommodation RE Accommodation LE Convergence BE		+ 2.7 + 2.5 + 1.8	0.001 0.001 0.001
Blink frequency, no/min		+ 4.3	0.05
CFF, Hz/s		+ 4.3	0.001
Time, s Optotype test		+ 6.6	0.001
Weston test, EC		- 4.0	0.01

RE – right eye LE – left eye

BE – both eyes EC – exactitude coefficient



Table 3. Results at the Eisenck personality questionnaire

Indicators	Subjects %
Neuroticism degree: Emotional stability Light instability Grown instability	58.3 58.3 34.1 7.5
Intra-extraversion degree:	
Ambiverted	87.8
Introverted	7.5
Extraverted	4.9

The working conditions analysis makes evident that the visual strain of the operators is very important because the visual analyzer is the main way, together with the attention, to follow the function of the chemical installation by the CP. The operator's fatigue may favor mistakes in manufacturing. The increase of the distances to the accommodation and convergence points of the eyes (Table 2) shows the fatigue installation because of the respective muscular fatigue relaxation. Hence, the CP operators must have a good vision to near and far, with good concentrated and distributive attention and, of course, good professional training (as CP operator). The visual fatigue, together with the relaxation of the accommodation and convergence

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muscles, determines a "posture fatigue" at the eyes level [6,7].

#### CONCLUSIONS

Working on the CP of the automatic technologies, industrial the operator's responsibility is high. The organism's neuropsychic strain is important, determined mainly by the work content, but other factors also can cause strain: deficiencies of information of the technological the equipment (especially of the information's presentation), of the working environment the microclimate, the noise, the lightning, of the operator's health, functional status and professional training.

#### REFERENCES

- 1. Herman H., Marinescu D., Conţulescu A. Et al., 1991, Cercetări privind solicitările vizuale în activități informaționale, Revista Română de Medicina Muncii, 1, 1-19
- Herman H., Conţulescu A., Niţă G., et al., 1994, Le facteur humain et le fonctionnement du système énergétique, XXIX Congrès de la Société d'Ergonomie de Langue Française, Ergonomie et Ingénierie, Paris, septembre 1994, Ed. Eryolles, vol. 2, 457 – 464
- Herman H., 1998, To assure the visual comfort and performance during the workday. Human factors in organizational design and management – VI,

Technical. organizing and medical interventions regarding the mentioned factors are necessary. At the appointment there is necessary a complex medical and psychological investigation. The ophthalmologic examination is important because the vision deficiencies must be corrected by adequate lens (for the vision to near and / or to far). The emotional stability is also important when working at the CP and the psychic examination must follow this aspect. The correct professional training and orientation professional and selection, following the new operators' adaptation to the activity at the CP are obligatory in order to ensure good operators for the work at CP, prevent the organisms overstrain. to

> P.Vink, E.A.P. Koningsveld and S. Dhondt (editors), Elsevier Science B.V., 579 – 584

- Herman H., 1995, Investigarea unor indicatori ai organismului în timpul muncii cu ajutorul videoterminalului, Revista Română de Medicina Muncii, vol. 45, 3, 698 – 699
- 5. Chapanis A., 1965, Man-machine engineering, Belmont, Wadsworth
- 6. Herman H., Popesu A., Grigoriu I. et al., 1978, Revista de psihologie, 3, 351 – 363
- 7. Saito T., Tanaka T., Oshima M., 1979, Eye strain in highly paced inspection work, Ergonomics, vol.22, 6, 726

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## ARTERIOVENOUS FISTULA WITH BASILIC VEIN

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#### REZUMAT

Fistula arterio-venoasă subcutanată, a fost introdusă în 1966 de Cimino, Brescia și Hurwich. Ea reprezintă principala cale de asigurare a accesului vascular pentru hemodializa cronică, deoarece permite puncționarea repetată a unei vene subcutanate cu flux vascular la o presiune înaltă. Scopul acestei lucrări este de a demonstra că fistula arteriovenoasă cu venă bazilică reprezintă o variantă foarte bună și eficientă a fistulei brahiocefalice, în toate cazurile când vena cefalică nu poate fi utilizată pentru anastomoză– scleroza venei cefalice, absența sau insuficienta dezvoltare a venei cefalice sau a venei mediocefalice, distanța prea mare între vena cefalică și arteră, sau alte cauze.

*Cuvinte cheie:* vena bazilică, superficializare, Doppler vascular

#### ABSTRACT

Subcutaneous arterio-venous fistula, was introduced in 1966 by Cimino, Brescia and Hurwich. It is the main way of providing chronic hemodialysis vascular access, because it allows repeated puncture of subcutaneous veins with vascular flow to high pressure. The purpose of this paper is to demonstrate that the arteriovenous fistula with basilic vein is a very good and efficient alternative of brahiocephalic fistula in all cases when the cephalic vein can not be used to cephalic vein anastomosis-sclerosis, absence or insufficient development of the cephalic vein or mediocephalic vein, big distance between the cephalic vein and artery, or other causes.

Keywords: basilic vein, superficialization, vascular Doppler

#### **INTRODUCTION**

Subcutaneous arterio-venous fistula, was introduced in 1966 by Cimino, Brescia and Hurwich. It is the main way of providing chronic hemodialysis vascular access, because it allows repeated puncture of subcutaneous veins with vascular flow to high pressure. Internal arterio-venous fistula is now the best form of hemodialysis vascular access for long term.

Subcutaneous arterio-venous fistula first was conducted between radial artery and cephalic vein. Anastomosis between the two vessels was in the third distal forearm. The principle underlying arteriovenous access over the connection is to relieve arterial flow directly into a vein, thereby increasing its size and making it so accessible for the needs of hemodialysis. Later, they realized arteriovenous fistula between brachial artery and cephalic vein or basilic vein at the fold of the elbow [5,7].

#### **MATERIAL AND METHODS**

Over a period of 10 years between 2001-2010, were made 135 brahiobazilic fistulas. All interventions were performed under local anesthesia with Zeiss magnifying system for dissection (only since 2005), microsurgical instruments, yarn type monofilament nonabsorbable Prolene for anastomosis (6-0, 5-0).

Type of anastomosis was latero-terminal (brachial artery with basilic vein) in 125 cases and latero-lateral, in 10 cases [1-3].

#### RESULTS

Further approaches was possible after a long waiting period of anastomosed vein development (3-5 weeks), 105 cases requiring an superficialization performed in a second surgical intervention. The results were very good, all fistula was functional until now.

#### CONCLUSIONS

Brahio-basilic version of the arteriovenous fistulas are a possible and usable alternative for long time, of the classic type of vascular surgical approach for hemodialysis on the fold of the elbow, respectively brahiocephalic fistula in all cases when cephalic vein can not be used. The key to long-term success in achieving this type of fistula, consists of a complete preoperative evaluation from surgical point of view, including clinical examination, Doppler examination, vascular а very good preparation of the vein, and an impeccable anastomosis, while the operation is performed by an experienced surgeon in vascular microsurgery techniques [4,6].



Figure 1. The fold of the elbow superficial venous vascularisation

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Figure 2. Anatomical landmarks for brahiobasilic fistula



Figure 3. Incision of superficialization



Figure 4. Basilic vein - intraoperative view



Figure 5. Brahio-basilic fistula – intraoperative view



Figure 6. Brahio-basilic fistula – intraoperative view



Figure 7. Brahio-basilic fistula – intraoperative view



Figure 8. Brahio-basilic fistula – intraoperative view



Figure 9. Brahio-basilic fistula – intraoperative view



Figure 10. Brahio-basilic fistula – intraoperative view



Figure 11. Brahio-basilic fistula – postoperative view

#### REFERENCES

- 1. Davies A.H., Gibbons C.P., 2007, Vascular access simplified, Guttenberg Press Ltd., Malta
- Pisoni R.L., Young E.W., Dykstra D.M., et al., 2002, Vascular access use in Europe and the United States – result from the DOPPS. Kidney Int 2002
- Kazuo O., An Atlas of Vascular Acces, 1987, Churchill Livingstone, Longman Group Ltd. Hong Kong

- 4. Rutherford R.B., 1995, Vascular surgery, M.D., W.B. Saunders Company
- 5. Totolici B., Bota N., 2005, Surgery therapeutic arteriovenous fistula, Ed. Mirton Timişoara
- 6. Nassar G.M., Ayuss J.C., 2001, Infections complications of the hemodialysis acces. Kidney Int.
- Ursea N., 1997, Artificial kidney and other extrarenal scrubber means. Kidney Romanian Foundation, Bucharest

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# RISK FACTORS INFLUENCING THE HEALTH STATUS OF PATIENTS THAT ARE ADDRESSING TO AN EMERGENCY UNIT

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#### REZUMAT

Studiul investighează unele comportamente cu risc pentru sănătate la pacienți care sau prezentat la Unitatea de Primire a Urgențelor din Spitalul Județean Deva. Grupul de lucru a fost alcătuit din 431 de bolnavi, 49,88% femei și 50,12% bărbați, cu vârsta medie de 64,28 de ani. Metoda de lucru a fost studiul populațional transversal de evaluare a unor factori de risc comportamentali. Rezultate: 50,6% au un consum zilnic de carne grasă, bărbații având tendința de a consuma mai frecvent carne grasă; 68,2% consumă zilnic grăsimi saturate, bărbații consumând mai frecvent grăsimi saturate; 73,1% consumă sare în exces; 17,4% fumează peste 20 de țigări pe zi, iar numărul crescut de țigări fumate se coreleză cu sexul masculin, mărimea efectului fiind 17,4%. Corelând comportamentele cu risc pentru sănătate studiate, se observă tendința de a consuma în exces carne grasă, grăsimi saturate și sare, acest consum excesiv fiind asociat de multe ori și cu fumatul. Tendința se manifestă preponderant la persoanele de sex masculin.

Cuvinte cheie: comportamente cu risc, bolnavi, serviciul de urgențe medicale

#### ABSTRACT

The study investigates some health risk behaviors in patients addressing to the Emergency Unit of County Hospital Deva. The sample consisted of 431 patients, 49.88% women and 50.12% men, with a mean age of 64.28 years. The research method applied was a cross-sectional study for the evaluation of the behavior risk factors. Results: 50.6% of participans have a daily consumption of fatty meat, men having more frequently than women the tendency to consume; 68.2% have daily intake of saturated fat, men consuming more frequently than women; 73,1% consume salt in excess; 17.4% smoke more than 20 cigarettes per day, and the increased number of cigarettes consumption is correlated with masculine gender, the effect size being 17.4%. Correlating the health risk behavior we had studied, we found that the tendency to consume excessive meat fat, saturated fat and salt, often associated with smoking. Preponderant tendency is manifested in males.

Keywords: risk behavior, patients, medical emergency unit

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#### INTRODUCTION

Any factor that increases a person's risk of contracting a disease is called is a risk factor. Any factor de decreases a person's risk of diseases is called a protective factor. Some factors can be avoided, but many others do not. For example, even if one takes the decision to quit smoking, one cannot choose the genes inherited from parents. Both smoking and inherited genes can be considered risk factors for certain diseases, but only smoking can be avoided.

Due to the numerous diseases caused, there was a constant concern in reducing their influence on the health of individuals. Extensive epidemiological studies have tried to identify risk factors and risk factors and the possibilities for intervention at personal and community level.

While some factors are non-modifiable, and one cannot influence them, other factors, like behavioral, social and environmental may be influenced to reduce their negative effects on health. Intervention on these risk factors is proving to be the most cost effective way in terms of cost, accessibility and long term effects to cope with the epidemic of chronic diseases worldwide.

Individual health is influenced by limited possibilities of choice available to individuals, by the wrong choices in lifestyle. Prevention means avoiding the risk factors and increasing the influence of protective factors so that the risk of a disease to decrease. Sanogenic behaviors such as diet and lifestyle have an important role in the prevention and decrease the likelihood of developing certain diseases. Although many risk factors can be avoided, it is important to remember that this does not guarantee us that we will not get sick.

The study proposes an approach in terms of preventive medicine, the health risk factors in patients that address emergency medical service Deva County Hospital.

#### **METHODOLOGY**

The sample totaled 431 persons who presented to the Emergency Unit of County Hospital Deva, 49.88% females and 50.12% male patents. Their age was between 18 and 93 years with a mean age 66.46 years for females and 62.10 years for men. By age group we have 30.6% patients aged 70 - 79 years, 26.2% aged 60 – 69 years, and 18.6% aged 50 – 59 years.

The design method was the cross-sectional populational study between July and September 2009. Processing and interpretation of data used modern methods of medical statistics and have been filed electronically using Microsoft Excel, 2003 and processed using the program PASW 18, 2010.

### **RESULTS AND DISCUSSIONS**

# **1. Daily consumption of fatty meat** (Table 1)

Answer	Number	Percent
No	213	49.4
Yes	218	50.6
Total	431	100.0

#### Table 1. Distribution of patients according to daily consumption of fatty meat

In terms of consumption of fatty meat, it was observed that 50.6% (218) of patients reported a daily consumption, the remaining 49.4% (213) reported as being non-frequent consumers.

There was a statistically significant correlation between the daily consume of fatty meat and masculine gender,  $(\tau)$ =-0.193, p<0.01. Men tend to eat fatty meat frequently and their attitude is explained that these types of foods offer them energy.

The prospective study Meat Intake and Mortality, conducted by Sinha et al, found modest increases in overall risk of death, cardiovascular disease and cancer mortality in women and men who consumed increases amounts of red and processed meat [1]. Increased amounts of white meat consumption was associated with reduced risk of death, for both men and women [2,3]. Two interventional studies. Diet and Reinfarction (DART) and **GISSI-**Prevenzione, whether have assessed consumption of fish or fish oil reduces mortality from coronary disease in patients with infarction. Increasing the consumption at 2 servings of fish per week at 2033 men included in the dart study, reduced total mortality by 29% in 2 years [4]. GISSI-Prevenzione trial included 11.324 patients with myocardial infarction, especially men. Daily supplementation with omega 3 fatty acids led to a 10 - 15% reduction in death, non-fatal myocardial infarction and stroke [5,6].

# 2. The consumption of saturated fat (Table 2)

A high percentage of patients, 68.2% (292) consume daily saturated fat, compared to 31.8% (137) who do not consume saturated fat. During the interview patients were explained which are the types of saturated fat.

Answer	Number	Percent
No	137	31.8
Yes	294	68.2
Total	431	100.0

The consumption of saturated fat and male gender are statistically significantly correlated ( $\tau$ )=-0.146, p<0.01. As with fatty meat consumption, men are eating more frequently than woman saturated fat.

Most studies were based on the classic dietassociation. which claims heart that increased intake of saturated fats and cholesterol leads to plaque formation and subsequently heart disease. Hu et al., conducted a detailed prospective analysis of dietary fat and cardiovascular disease, a significant trial due to size of the sample and the repeated determination of diet composition. This multivariate analysis revealed that 5% of energy from saturated fat, compared with equivalent energy from carbohydrates, was associated with a risk of developing cardiovascular disease higher with 17%. Replacing 5% of energy from saturated fat with unsaturated fat would reduce risk by 42% and 5% replacement of energy from saturated fat with carbohydrates reduces the risk by 14% [7].

In a meta-analysis of four cohort studies involving nearly 140 000 participants, Mozaffarian et al., estimated that an increase of 2% of energy from saturated fat intake was associated with an increase of 23% of the risk of developing a cardiovascular disease [8].

#### 3. Excess salt consumption (Table 3)

Answer	Number	Percent
No	116	26.9
Yes	315	73.1
Total	431	100.0

 Table 3. The distribution of patients according to the consumption of salt in excess

According to the answers recived from the participants, the excess salt is consumed by most respondents, 73.1% (315). There was no significant association between salt intake and the gender of patients.

Dietary sodium intake should be reduced to no more than 100 mEq/L or 2.4g of natrium, or 6 g NaCl. In the hypertensive population, many interventional studies have shown an increased sensitivity to salt in patients with hypertension and type II diabetes. By reducing the salt intake from diet the blood pressure has been reduced [9-11].

A meta-analysis from 1996 showed that for a hypertensive population older than 45 years, a decrease of 100 mmol in salt intake was associated with a decrease in SBP by 6.3 mmHg and DBP by 2.4 mmHg. This effect was less evident in younger patients, SPB decreased by 2.4 mmHg [12].

Sacks et al., communicated the results of a study from 2001, which had evaluated the effects of three types of salt consumption (high = 150 mmol, medium = 100 mmol, and small = 50 mmol) associated with a typical American diet (control diet) or dash diet (a diet designed to stop hypertension) on normotesive and hypertensive patients. They have achieved reductions of 11.5 mmHg in hypertensive patients and 7.1 mmHg in normotensive patients at the group who consumed the DASH diet [13].

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#### 4. Smoking

Of the 431 patients, a percent of 67.5% (291) do not smoke, 14.6% (63) smoke

under 20 cigarettes per day, a percentage of 17.4% (75) smoked over 20 cigarettes per day (Table 4, Figure 1).

Table 4. T	he distribution	of cases	according	to the	consum	ption of	f cigarette	es

Smoking	Number	Percent
Did not answer	2	0.5
Yes, under 20 cigarettes	63	14.6
Yes, over 20 cigarettes	75	17.4
No	291	67.5
Total	431	100.0



Figure 1. The distribution of cases according to the consumption of cigarettes

Increased number of cigarettes correlates with male gender ( $\tau$ )=-0.418, p=0.01, and the effect size is 17.4%.

Weak, negative and statistically significant correlations were found between age and the



Figure 2. The distribution of cases according to the consumption of cigarettes and gender

According to WHO statistics for Romania, the percentage of smokers is between 16.3 and 24% of total population. Percentage of male smokers is between 27.2% and 35.1%, much higher than women smokers, approximately 10.4% [14]. In Romania the proportion of smokers was 58% for girls and 71% for boys anged 15 - 16 years and 26%of girls and 43% of boys have smoked their first cigarette at the age of 13 years or less [15,16]. According to ESPAD, young people begin smoking at increasingly young ages, at 13 - 15 years and 70 - 80% of them have smoked at least once by the age of 15 -16 years [17].

The Global Youth Tobacco Survey reported that the percentage of smokers among young

Europeans is twice higher than the percentage found elsewhere [18].

number of cigarettes smoked (r = -0.348,

p < 0.01,  $r^2 = 0.12$ ). We can conclude that

younger patients tend to smoke more

cigarettes than older patients.

The study CORT 2004, conducted between 2003 and 2005 in Timis County included 2908 students, and showed that smoking is the second risk behavior after drinking, the percentage of smoking boys is bigger than that of girls, regardless of age group. Another important observation of the study is that the onset age of smoking is lower for boys. For the age of 8, the percentage of smoking boys is 3.3% higher than for girls. For ages 9-10, the percentage of boys is 4.2% higher, and for ages 11-12 the percentage of boys is 6.5% higher, and for ages 13 – 14 the percentage of boys is 2.1% higher. According to the study, at 15-16

years a higher percentage of girls start smoking. At 17 years or more, the percentual difference is favorable to smoking girls with a difference 1.2% [19].

Smoking is an important risk factor for most diseases. A meta-analysis of 22 studies shows that smoking doubles the risk of ischemic stroke. Observational studies have shown that smoking cigarettes is an independent risk factor for ischemic stroke for both genders [20].

Individuals who stop smoking reduce their risk of stroke by 50%. There is evidence that stopping smoking reduces the risk of risk of stroke. In a case control study, former smokers had a lower relative risk than casual or moderate smokers, and found an inverse relationship between the time passed since they had smoked the last cigarette and the risk of hemorrhagic stroke. А prospective study of 117 006 women found that former smokers had a lower relative risk of subarachnoidal hemorrhage than active smokers, and the duration of smoking cestation was associated with decreased risk [21].

In terms of cardiovascular risk of smokers, numerous studies have been conducted over time. Thus, Nusselder et al., based on the Framingham trial studied in 4634 subjects, over 36 years the relation of 3 healthy behaviors (the lack of smoking behavior, normal weight and increased physical activity) and the prevention of cardiovascular disease and the possibility of increasing the life expectancy. The study found the following: non-smokers had an increased life expectancy of 4.3 years for men and 4.1 years for women, compared to smokers, and a delay of cardiovascular disease of 3.8 years for non smoking men and 3.4 years for non smoking women [22]. Smoking produces coronary atherosclerosis, which is the main cause of mortality worldwide, and smoking cestation as a primary prevention for the coronary disease will reduce the rate by 7 - 47%, according to US studies. Patients who continue smoking after an AMI have a 22 - 47%increased risk of repeating the infarction or sudden death [23].

Extensive epidemiological studies have shown that smokers' risk of lung cancer is 20 times higher than for non-smokers. The risk is correlated with the cumulative dose of cigarettes (number and type of cigarettes, number of packages per year), nicotine content, the use of non-filter cigarettes. It is estimated that 1 in 7 smokers will develop lung cancer. Lung cancer is 3-4 times more frequent in men than women, a fact explained by the high prevalence of smoking men. Cessation of smoking reduces the risk of lung cancer, reaching the level of non-smoking after 15 years [24,25].

# 5. Correlations between health risk behaviors

In the populational group presenting health risk behaviors, significant correlations were found between different behaviors, such as consumption of fatty meat, consumption of saturated fat, salt consumption and the increased number of smoked cigarettes (Table 5).

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Health risk	<b>Correlation</b> <b>Coefficient</b>	p (sig)	
Consumption of	Consumption of	0.402	0.01
fatty meat	saturated fat		
Consumption of	Salt consumption	0.112	0.05
fatty meat			
Consumption of	Smoking	0.171	0.01
fatty meat			
Consumption of	Smoking	0.164	0.01
saturated fat			

 Table 5. Correlations between health risk behaviors

There is a significant correlation, between the consumption of fatty meat and the consumption of saturated fat, r=0.402, p=0.01.

A statistically significant correlation was found between the consumption of fat meat and the consumption of salt in excess, r=0.112, p=0.05.

The consumption of fatty meat is associated with smoking statistically significant, r=0.171, p=0.01, also the consumption of saturated fat is associated with smoking, r=0.164, p=0.01.

In terms of daily consumption of fatty meat and saturated fat, we had found a statistically significant correlation between male gender and consumption of these foods  $(\tau)$ =-0.193, p<0,01 și respectiv  $(\tau)$ =-0.146, p<0.01, the effect between the sex and the consumption being a small one.

#### CONCLUSIONS

50.6% of patients reported a daily consumption of fatty meat. Daily consumption of fatty meat and male sex are significant correlated, men tending to eat fatty meat more frequently.

68.2% of patients reported a daily consumption of saturated fat. Saturated fat consumption and male gender are significant correlated, men tending to eat saturated fat more frequently.

Excessive salt consumption was declared by most respondents, 73.1% without a significant association between salt intake and the gender of participants.

14.6% of patients smoke less than 20 cigarettes a day and a percentage of 17.4% smoke more than 20 cigarettes per day. The increased number of cigarettes smoked is correlated with the male gender, and the effect size is 17.4%. We had found weak, negative and statistically significant between age and the number of cigarettes smoked, younger patients tending to smoke more cigarettes than older patients.

Correlating the risk behaviors studied, the tendency to consume excessive fatty meat, saturated fat and salt is often associated with smoking. The preponderant tendency for health risk behavior is manifested in males.

#### REFERENCES

- 1. Sinha R., Cross A.J. et al., 2009, Meat intake and mortality, a prospective study of over half a million people, Arch Intern Med
- 2. Hu F.B., Willet W., 2002, Optimal diets for the prevention of coronary heart disease, JAMA
- Halton T., Hu F.B., 2004, The effects of high protein diets on termogenesis, satiety and weight loss, J Am Coll Nutr
- 4. Burr M., Fehily A. et al., 1989, Effects of changes in fat, fish and fibre intake on death and myocardial reinfarction: Diet and reinfarction trial(DART)
- 5. \*\*\*, GISSI- Prevenzione, Investigators, 1999, Dietary supplementation whih vitamin E and polyunsaturated acid after myocardial infarction
- 6. Hu F.B., Stampfer M., 1997, Dietary fat intake and risk of coronary heart disease in women
- 7. Hu F.B., Manson J., 1996, Dietary protein and risk of coronary heart disease in women, A J Nutrition
- 8. Mozaffarian D., Katan M. et al., 2006, Trans fatty acids and cardiovascular disease
- 9. Apel L, Moore T et al., 1997. A clinical trial of the effectsof of dietary patterns on blood pressure, New Engl J of Med
- 10. Donciu D., Costache C., Balan H., 2007, Importanța educației și a tratamentului nefarmacologic al hipertensivilor cu DZ tip 2
- 11. Feldstein C.A., 2002, Salt intake, hypertension and diabetes mellitus. J Hum Hypertension
- 12. Midgley J.P. et al., 1996, Effect of reduced dietary sodium on blood: a meta-analysis of randomited controlled trials. JAMA

- 13. Sacks F.M. et al., 2001, Effect on blood pressure of reduce dietary sodium and DASH diet. DASH sodim collaborative research grup, J Med
- 14. \*\*\*, 2003, Smoking, diet, nutrition and preventive of chronic disease. Report of a joint WHO/ FAO expert consultation. Geneva
- 15. Vlaicu B., 2007, Comportamente cu risc la adolescentii din judetul Timis, Editura Eurobit, Timisoara
- 16. Ursoniu S. et al., 2004, CORT 2004. Metode de eşantionare şi testarea chestionarelor. Revista de Igienă şi Sănătate Publică-Journal of Hygiene and Public Health
- 17. Hibell B., Ansersson B. et al., 2004, The ESPAD Report 2003-Alcohol and other drug use among students in 35 European countries, Sweden
- MacKay A., Fingerhut L., 2000, Health, United States , Adolescent Health Chartbook, Hyattsville, Maryland
- 19. \*\*\*, CAST 2001/2003, Raport privind consumul de alcool, stupefiante și tutun în rândul elevilor de liceu din Timișoara, Autoritatea de Sănătate Publică Timiș
- 20. \*\*\*, 2009, Ghidul European pentru atacul ischemic tranzitor și AVC ischemic, Societatea de Neurologie din România
- 21. \*\*\*, 2008, Guidelines to management of ischaemic stroke . European Stroke Organization
- 22. Nusselder W.J., 2010, Comparative effects of three heart- healthy behaviors on life. BMJ
- 23. Franco O., Nusselder W.J., 2009, Living healthier for longer: comparative effects of life expectancy with and without cardiovascular disease.

24.	Gherasin	1 L.,	1998, 1	Medicină	internă
		volui	nul III,	Editura N	ledicală
		Bucu	ıreşti		
25	Daatars	۸	Nuccold	lor WI	2006

25. Peeters A., Nusselder W.J., 2006, Successful aging: measuring

#### **Correspondence to:**

*28* 

Branzan Lucretia Phone: 0744-620135 *Received for publication: 18.12.2010, Revised: 15.01.2011*  the years lived with functional loss. J Epidemiol Community Health

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## WORK ENVIRONMENT EVALUATION FOR PUBLIC OFFICERS

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#### REZUMAT

Studiul și-a propus evaluarea unor elemente ale climatului de lucru la funcționari publici, pentru a oferi un suport pentru promovarea sănătății acestora. Grupul de lucru a fost alcătuit din 210 funcționari publici, angajați ai unor instituții de stat din Județul Hunedoara, iar metoda de lucru a fost studiul populațional transversal de evaluare a stresului profesional. Rezultate: 18,6% dintre funcționarii publici sunt satisfăcuți de activitatea prestată; 56,2% au relații foarte bune cu colegii; 54,8% consideră că relațiile cu șefii ca fiind bune. Cunoașterea climatului de muncă la funcționari publici poate preveni apariția de evenimente traumatice care, la rândul lor, pot duce la apariția stresului, a problemelor psihologice cu evoluție spre patologii psihiatrice.

Cuvinte cheie: funcționari publici, climat de lucru

#### ABSTRACT

The study aims to assess elements of public officers working climate to provide a base to promote a healthy lifestyle. The working group was composed of 210 public officers, employees of state institutions in Hunedoara County, and the method of work was a crosssectional study for the assessment of occupational level of stress. Results: 18.6% of all public officers are satisfied with the work performed, 56.2% had very good relations with colleagues, 54.8% believe that relations with the heads are good. Knowledge of public officers working climate can prevent the occurrence of traumatic events which, in turn, can lead to stress, psychological problems with evolution towards psychiatric illnesses.

Keywords: public officers, working environment

#### **INTRODUCTION**

Public official is the person named in a public office, according to current laws. The activities of public officials involve the exercise of public powers [1]. Rights and obligations of public officials are set unilaterally by the state bodies with legal rules [2].

Improvement and training of officials is not only a right, but an obligation. Training of civil servants is a complex process which should include the following components: professional training, management training, additional training, ethics training and preparation of European policies [3]. The rules of professional conduct are set by the code of conduct for public officials. The service is born and is carried out based on the administrative act of appointment, issued under the law [4]. 30

Labor process, conducted individually or in a group, directly or indirectly has always a social character. The time spent at work by contemporary man is long enough so that the conditions under which they employees operate constitute a group of factors with significant influence on attitude and his performance and his health status [5,6].

Workplace factors are interdependent with other structures of the human-technology environment system can be summarized as follows [5-10]:

- physiological factors are related to professional tasks and work organization (work intensity, pace of work, working conditions/activity report-break, working hours, static and/or dynamic position during work, alternating shift work, automated and monotonous work)

- hygiene factors (work environment), physical (noise, mechanical vibrations, electromagnetic radiation, temperature, humidity, airflow, lighting), chemical (mineral dust, plant, animal), biological (microbes, viruses, parasites)

- ergonomic factors: related to human - technology relationship

- psychosocial factors: psychosocial relationships inside the team, individual characteristics.

Although in physiological and hygienic conditions, work is an important factor of health, when working conditions are becoming unfavorable to human health, individuals get sick and the working capacity is reduced [11].

The 21st century had brought a great variety of change regarding working positions, the jobs are more technical and multicultural, the organizational types are more diversified and the share of team jobs has increased. For organizations, life quality of the employs is becoming a big issue lately [12].

The study aims to assess elements of public officials working climate to provide a base to promote their health.

#### METHODOLOGY

The method of research was the cross sectional population study that included the "Occupational stress scale" which investigates various sources of stress, including work environment, relations with colleagues and hierarchical superiors.

Data was obtained through direct interview. The study was conducted with the written approval of the institutions belonging to the participants. Inclusion of study the participants was done only after the freely expressed consent with respect for individual with respect of individual rights and insurance of protection from possible adverse effects. The principles of anonymity and confidentiality were always respected during research.

Processing and interpretation of data was performed using modern statistical methods. Data were filed electronically using Microsoft Excel, version 2001 and processed using SPSS 18 software. Threshold of statistical significance p values considered < 0.05were statistically significant and p<0.01 highly significant. We have applied the following statistical tests: chi-square test, Mann-Whitney test, Pearson correlations

The group consisted of 210 participants, public officials, employees in seven institutions in Hunedoara county. By age, there are 50% of participants in the 36-50 years age group, 30% are over 50 years and 20% are in the 20-35 years age group.

#### **REZULTS AND DISSCUTIONS**

#### 1. The satisfaction obtained from work

Most study participants, 69.5% have an average degree of satisfaction related to work, 11.9% responded responded the the work they are performing is satisfying them out a little, and 18.6% are satisfied with the work performed (Figure 1).

Regarding the sex of participants, there weren't any significant differences found in the work satisfaction, p>0.05 (Figure 2).

According to the position in the institution, there weren't any significant differences found in work satisfaction of participants, p>0.05 (Figure 3).



Figure 1. The distribution of participants according to their degree of satisfaction obtained from work



Figure 2. The distribution of participants according to their degree of satisfaction obtained from work and the gender of participants



Figure 3. The distribution of participants according to their degree of satisfaction obtained from work and the position in the institution

# 2. The appreciation of relations with the work team

A percentage of 56.2% of participants said they have very good relationships with colleagues, 40% considered the relations as acceptable, and 3.8% that the relations are tensed (Figure 4).

Depending on the gender of the participants we had found statistically significant differences in the perception of relations with colleagues, men considering relations 1.36 times more frequent than women more than acceptable,  $\chi^2$ =6.49, p=0.03.

According to the position, there were found statistically significant differences of perception regarding the quality of relations, depending on the occupied position. People in leadership considers relations acceptable 3.13 times more frequently than persons in the execution position,  $\chi^2=23.92$ , p=0.00.



Figure 4. The distribution of participants according to their appreciation of relations with colleagues



Figure 5. The distribution of participants according to their appreciation of relations with colleagues and gender



Figure 6. The distribution of participants according to their appreciation of relations with colleagues and the occupied position

# **3.** Appreciation of relation with hierarchal leaders

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Half of the participants, 54.8% considered the relations with leaders as good, 42.9% as acceptable and 2.4% thought that relations are strained (Figure 7).

We had found statistically significant differences about the perception of the relationship with the leaders and sex. Women had found 2.2 times more frequent that relations with leaders were good when compared with relations considered acceptable,  $\chi^2$ =8.13, p=0.01 (Figure 8).

According to the position, there weren't any significant differences found between the perception of relationships with superiors (Figure 9).



Figure 7. The distribution of participants according to their appreciation of relations with leaders



Figure 8. The distribution of participants according to their appreciation of relations with leaders and gender



Figure 9. The distribution of participants according to their appreciation of relations with leaders and the occupied position

#### CONCLUSIONS

Only 18.6% of all public officers are satisfied with the work performed.

56.2% said they have very good relations with colleagues. Statistically significant differences were found related to the perception of peer relations by gender of participants, men considering 1.36 times more frequent than women that relations are acceptable. Related to the position occupied in the institution, people in leadership considers relations acceptable 3.13 times more frequently than persons in the execution position.

#### REFERENCES

- \*\*\*, Hotărâre nr. 553 din 6 mai 2009 privind stabilirea unor măsuri cu privire la evidența funcțiilor publice şi a funcționarilor publici, Emitent Guvernul, Publicat în Monitorul oficial nr. 324 din 15 mai 2009
- 2. \*\*\*, Ordonanța nr. 6 din 24 ianuarie 2007, privind unele măsuri de

54.8% believe that relations with the leaders are good. We found statistically significant differences between the perception of relationships with leaders and the gender of participants, women considering 2.2 times more frequent that relations with leaders were good when compared with relations considered acceptable.

Knowledge of public officers working climate can prevent the occurrence of traumatic events, which in turn can lead to stress, psychological problems with evolution towards psychiatric illnesses.

> reglementare a drepturilor salariale și a altor drepturi ale funcționarilor publici până la intrarea în vigoare a legii privind sistemul unitar de salarizare și alte drepturi ale funcționarilor publici, precum și creșterile salariale care se acordă funcționarilor publici în anul 2007. Emitent

Guvernul, Publicat în Monitorul Oficial nr. 66 din 29 ianuarie 2007

- 3. \*\*\*, Hotărâre nr. 611 din 4 iunie 2008 pentru aprobarea normelor privind organizarea şi dezvoltarea carierei funcținarilor publici, Emitent Guvernul, Publicat în Monitorul Oficial nr. 530 din 14 iulie 2008
- 4. \*\*\*, Legea nr. 7 din 18 februarie 2004, în Monitorul Oficial nr. 157 din 23 februarie 2004
- 5. Păuncu E.A., 2008, Medicina muncii, Teorie și practică, Editura Orizonturi Universitare Timișoara
- 6. Toma I., 2006, Medicina muncii, Ediția a II-a, Editura Sitech Craiova

- 7. Păuncu E.A., 2003, Medicina muncii, Curs Lito UMF Timișoara, Ed. Solness Timișoara
- 8. Păuncu E.A., 2004, Medicina muncii, Ed. Orizonturi Universitare Timișoara
- 9. Niculescu T., Todea A., Toma L., Pavel A., 1999,2001, Medicina muncii, vol.I, II, Ed. Medmun
- 10. Niculescu T., Todea A., Toma L., Pavel A., 2002, Medicina muncii, vol. III, Ed. Medmun
- Tat M. şi colab., 1999, Medicina muncii. Orientare, Patologie, Practică, ediția a II-a, Ed. Viața Medicală Românească Bucureşti
- Bogathy Z., 2007, Manual de tehnici şi metode în psihologia muncii şi organizațională, Editura Polirom Iaşi

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## **RISK FACTORS FOR TRAUMA CAUSING INCIDENTS**

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#### REZUMAT

Trauma, ca orice altă boală, trebuie abordată dintr-un punct de vedere stiințific, cu delimitarea factorilor de risc. În această lucrare prezentăm unele date epidemiologice privind cazuri de incidente care au primit îngrijiri medicale oferite de personalul medical de la o unitate SMURD din județul Timiș, în anul 2009, în etapa prespital. Metoda de lucru a fost studiul populațional transversal privind evaluarea tipului de incident i a unor factori de risc. Lotul de pacienți prespital a totalizat 395 de pacienți: 31,4% femei și 68,6% bărbați; cu vârsta de la 2 ani, până la 90 de ani, și o medie de vârstă de 36,34 +/- 17,78 ani. Rezultate: în anul 2009 în județul Timiș au fost accidente auto în procent de 78%, accidente casnice, 8,8%, și cazuri de agresiune, 4,4%, în principal; viteza a fost factor de risc la 25,3% dintre incidente, asociată cu incidentele rutiere; alcoolul a fost incriminat ca factor de risc în 14,5% din cazuri, fiind asociat cu incidente rutiere, 55,2%, pe primul loc; 11,7% dintre cazuri au prezentat ca factor de risc nerespectarea regulilor de circulație, în accidente rutiere și feroviare; 5,5% dintre cazuri au avut ca factor de risc neatenția, în accidente rutiere, accidente casnice și accidente de muncă. Identificarea și ierarhizarea factorilor de risc asociați traumatismelor ar putea concura la elaborarea unor baterii de recomandări care să contribuie la reducerea frecvenței acestora.

Cuvinte cheie: trauma, factori de risc, prevenție

#### ABSTRACT

Trauma, like most pathologies, needs to be scientifically approached, followed by the determination of risk factors. This paper presents epidemiological data of trauma cases that had benefitted of prehospital medical care, offered by the medical emergency team of a hospital in the Timis County in 2009. The study was cross-sectional and evaluated the types of incidents and risk factors. The sample included 395 patients of which 31.4% women and 68.6% men. The sample had a minimum age of 2 years and a maximum age of 90 years, with a media of 36.34 +/- 17.78 years. Results: during 2009, the vehicle incidents represented 78%, the domestic incidents 8.8% and the hetero-aggression 4.4% from all types of recorded incidents. The alcohol was incriminated as a risk factor in 14.5% of all cases, being associated with traffic incidents in 55.2%. 11.7% of all cases had as a risk factor the non-obedience to the traffic rules in road and train incidents. 5.5% of all cases had the negligence, in traffic incidents, domestic incidents and work related incidents. The

*identification and the ranking of the risk factors could help in issuing legal requirements for the purpose of reducing the frequency of incidents. Keywords: trauma, risk factors, prevention* 

#### **INTRODUCTION**

Trauma was recently called "the neglected pathology of modern society", and had became one of the most expensive medical conditions [1]. Until recent years it was thought that trauma appeared in a random manner, succeeding unforeseeable events, accidents. Do to this fact trauma was perceived as fundamentally different from other diseases that had preventable causality. This kind of approach had limited the preventive efforts [2].

Like any other pathology, trauma has to be scientifically approached, followed by the determination of risk factors and the development of preventive strategies. The scientifically approach had successfully reduces of mortality and morbidity rates for a lot of diseases and had been recently applied for trauma [3].

The recent years had been characterized by an explosive increase in trauma incidence, especially multiple traumas due to traffic incidents. The rapid rhythm of usage motorized means of transport and urbanization will further increase the prevalence of trauma, estimating that in 2020 the trauma will be pandemic problem, and will became the third cause of invalidity after the cardiac ischemia and depression [4]. Since 1896 when the first 2 mortal car incidents were reported, now the number of traffic incidents had reached hundreds of thousands of cases, affecting one in four individuals.

This paper presents epidemiological data of trauma cases that had benefitted of prehospital medical care, offered by the medical emergency team of a hospital in the Timis County in 2009.

#### **METHODOLOGY**

The study was cross-sectional and evaluated the types of incidents, risk factors and favorable situations, using the medical charts. The data base was created using the Microsoft Excel, 2001 software and was interpreted using the PASW 18, 2010 software. The sample included 395 patients of which 31.4% women and 68.6% men. The sample had a minimum age of 2 years and a maximum age of 90 years, with a media of 36.34 +/- 17.78 years.

#### RESULTS

#### **Types of incidents**

Depending on the type of incident, 77.98% were vehicle incidents, the domestic incidents represented 8.81% and the hetero-aggression 4.40%. Train incidents and suicide attempts represented each1.30%. A frequency under 1% was recorded for self aggression, accidental fall, drowning, and sport related accidents (Figure 1).



Figure 1. The percentual distribution depending on the type of incident

#### Incidents' associated risk factors

Risk factors were identified in 67.09% of all incidents. Speed is the most frequent risk factor present in 28.10% of incidents. The alcohol was incriminated as a risk factor in 14.94% of all cases, and the combination of both in 1.01% of all cases.

Other risk factors, classified after the descending values of prevalence were: the non-obedience to the traffic rules, 8.35%; negligence, 6.08%; illegal road crossing, 4.05% (Figure 2).



Figure 2. Percentual distribution depending on the presence of risk factors
Speed had contributed as a risk factor in 25.3% of incidents (Figure 3).



Figure 3. Percentual distribution according to the presence of speed as a risk factor

Depending on the type of incident, the speed was associated only with traffic incidents. Of the total of 301 traffic incidents, in over a third the inappropriate, excessive speed was present. Depending on the presence of alcohol as a risk factor, 14.48% of injured cases had consumed alcohol before the incident (Figure 4).



Figure 4. Percentual distribution according to the presence of alcohol consumption as a risk factor

Depending on the type of incident, it can be seen that alcohol was most frequent consumed associated with road incidents in 55.2% of cases, with incidents of bullying in 20.7%, domestic incidents 13.8%, suicide attempts 3.4 % (Figure 5).



# Figura 5. The distribution of cases according to the type of incident and the presence of alcohol consumption as a risk factor

Depending on the non-obedience to the traffic rules, 11.72% of cases presented this risk factor at the incident (Figure 6).



Figure 6. Percentual distribution according to the presence of non-obedience to the traffic rules as a risk factor

Failure to obey traffic rules in road accidents occurred in 98% of cases, and in

railway accidents in 2% of cases (Figure 7).



# Figure 7. The distribution of cases according to the type of incident and the presence of non-obedience to the traffic rules as a risk factor

Depending on the presence of negligence as a risk factor, 5.52% of cases had presented

this risk factor at the onset of the incidence (Figure 8).





Only traffic accidents, representing 56.5% of cases, household accidents, 26.1%, and

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accidents at work, 17.4% had negligence as a risk factor (Figure 9).



Figure 9. The distribution of cases according to the type of incident and the presence of negligence as a risk factor

### DISCUSSIONS

Reducing vehicle speed is a priority in preventing road accidents. According to some studies on the impact of speed on road accident victims, a rate decrease of 1% leads to a decrease in the likelihood of injury in accidents by 2-3%, and the existence of victims is reduced to two times more than for injuries. The impact on pedestrian injuries is also affected to some extent the speed: if the car's speed increases from 30 to 50km/h, the probability of a pedestrian death increases from one to eight units. Simple measures such as speed limiters or installation of modular supervisory control and speed can reduce both the speed and number of victims [5].

Another major risk factor for accidents is drunk driving. It was shown that the degree of alcohol in the body of drivers and pedestrians, increase the likelihood that accidents are more serious. 20% of drivers and over 30% of pedestrians killed had blood alcohol level above the legal limit. The risk of an accident may increase up to 5 times at a blood alcohol concentration equal to 80 mg/100, 7 times at a concentration of 100 mg/100 and 25 times and the 150 mg/100.

Appropriate legislation and effective control of the rules governing drinking and driving have been effective in reducing the likelihood of death and disabity in road accidents.

Alcohol use is incriminated in a very high percentage of hetero-and self injuries. Both victim and abuser had much higher concentrations of alcohol in the blood [6].

The non-usage of safety devices (seat belts, helmets, seats for children) is involved in the onset of incidents. Using safety belts is a proven positive effect on the severity of road accident victims. Recent studies had shown that seat belt use by front seat occupants reduces by 61% the risk of death in accidents.

Failure to use or inadequate use of safety devices for children, increase the risk of

injuries. A study in Greece found that two thirds of children's injuries caused by road accidents could be avoided by using protection belts and chairs for children. The safety devices can protect the passengers, but not vulnerable road users [7]. In developing countries, where motorization is growing rapidly, the number of motorcycles increased dramatically, with a parallel increase in head injuries. Multiple studies in developed countries have shown that the use of appropriate helmets reduce head injuries by 20-45% [7-9].

### **CONCLUSIONS**

In 2009, in Timis county, the incidents where SMURD team was called for medical assistance were car accidents 78%, domestic accidents 8.8% and cases of aggression 4.4%.

Speed was a risk factor in 25.3% of incidents, and was associated with traffic incidents in a percentage of 36.5%.

### REFFERENCES

- 1. \*\*\*, 2006, American Trauma Society, 2006 February 13, Trauma Watch
- 2. Barss P., Smith G., Baker S., et al, 1998, Injury Prevention: An International Perspective. New York: Oxford University Press
- 3. Rivara F.P., Grossman D.C., Cummings P., 1997, Injury prevention: First of two parts. N Engl J Med
- 4. \*\*\* , 2003, United Nations General Assembly, Global Road Safety Crisis-Report of the Secretary-General
- 5. Haddon W., 1972, A logical framework for categorizing highway safety phenomenon and activity, J Trauma

Alcohol has been incriminated as a risk factor in 14.5% of cases and was associated with traffic incidents in 55.2% of cases, with aggression in 20.7% of all cases, domestic incidents in 13.8% of all cases, and suicide attempts in 3.4% of all cases.

The combination of speed and alcohol consumption was present in 1% of all incidents.

According to obedience to traffic rules, 11.7% of the cases presented this risk factor in road and rail accidents.

Depending on the presence of negligence, 5.5% of the cases had this risk factor in road accidents, domestic accidents and workplace accidents.

We believe that identifying and prioritizing risk factors associated with each trauma groups would compete to develop recommendations to help reduce their frequency.

- 6. Borkenstein R.F., Crowther R.F., Shumate R.P., et al, 1974, The role of the drinking driver in traffic accidents. Alcohol Drugs Behav
- 7. Rowland J., Rivara F.P., Salzberg P., et al, 1996, Motorcycle helmet use and injury outcome and hospitalization costs in Washington State. Am J Publ Health
- 8. Anderson P., Rivara F., Maier R., et al, 1991, The epidemiology of seatbelt-associated injuries. J Trauma
- 9. \*\*\*, 2006, Insurance Institute for Highway Safety, Graduated Licensing: A Blueprint for North America. Available from: www.iihs.org/laws/state\_laws/

pdf/blueprint.pdf

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## THE INFLUENCE OF ENTOURAGE UPON THE SMOKING STATUS OF STUDENTS

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### REZUMAT

**Premise.** Cei trei factori, factorul socio-demografic, mediul și comportamentul sunt cei mai importanți factori care duc la instalarea obiceiului de a fuma. Prezența acestor factori psiho-sociali crește șansa consumului de țigări, de asemenea crește șansele instalării problemelor de sănătate asociate fumatului, atât pe termen lung cât și pe termen scurt. Metodologia. Metoda de lucru a fost studiul populațional transversal bazat pe utilizarea chestionarului CORT 2004 referitor la comportamentele cu risc pentru sănătate la adolescenți și tineri. Eșantionul reprezentativ de elevi a totalizat 2908 subiecți provenind din licee din județul Timiș. Rezultate. Numărul ridicat de prieteni care fumează este cel mai important predictor al statutului de fumător al elevilor, elevii având un număr mai ridicat de prieteni care fumează au de aproximativ 2,9 ori mai multe șanse să înceapă să fumeze decât cei care nu au prieteni fumători, această afirmație fiind valabilă în cazul în care toți ceilalți factori sunt constanți pentru eșantionul dat. Un alt predictor important este statutul de fumător al fraților, elevii care au frați fumători începând să fumeze într-un procentaj de 2,2 ori mai mare. Alți predictori statistici importanți sunt: sexul masculin, faptul că părinții nu cunosc modul în care copilul lor își petrece timpul liber, o vârstă mai mare, frecvența redusă a respectării regulilor impuse de către părinți, statutul de fumătoare a mamei, nivelul educațional mai crescut al tatălui, lipsa stabilirii unor regului de comportament de către părinți, lipsa satisfacției în relația cu părinții și frații. Concluzii. Cunoașterea unora dintre caracteristicile anturajului adolescenților este benefică pentru promovarea programelor de sănătate la populația tânără.

Cuvinte cheie: adolescenți, fumatul, influența anturajului

### ABSTRACT

**Premises.** The three factors, socio-demographic, environment and behavior are the main factors that lead to the onset of smoking. The presence of these psychosocial factors raise the chances of using cigarettes as well as those of the onset of health problems associated with smoking, on both long or short term. **Methodology.** The working method was the transversal population study based on the use of CORT 2004 questionnaire on the risk behaviors for health in adolescents and young people. The representative student sample totals 2908 subjects from high schools from Timis County. **Results.** The higher number of friends that smoke is the most powerful predictor of the smoking status of students, students

with a higher number of smoking friends have about 2.9 times more chances of starting smoking than those without friends that smoke, this happening in the case that all the other factors for the sample are constant. Another important predictor is the smoking status of siblings, student with siblings that smoke have a 2.2 higher percentage for starting smoking. Other important statistically predictors are: male gender, unawareness of parents about their children's way of spending free time, a higher age, the low frequency of respecting the rules imposed by the parents, mother's smoking status, the father's higher educational level, parents not establishing behavior rules, the lack of satisfaction towards the relation with parents and siblings. **Conclusions.** Being aware of some of the specifications of the adolescents' entourage is beneficial for promoting healthy programs in the young population. **Keywords:** adolescents, smoking, the influence of entourage

### **INTRODUCTION**

The ages when the individuals experiment activities that involve risk elements are the adolescent period and the beginning of young adult period. Usually not all adolescents and young adults take part in activities that could affect their health and security. There are circumstances when adolescents and young adults do not involve themselves in risky activities while for other young adolescents and people some circumstances ease their seem to dangerous involvement in potentially activities [1,2].

Usually behaviors with certain risks on health start in the adolescence period, these having important consequences upon physical and psychical health status on short or long periods of time. Risky behaviors started in adolescence are usually carried on in the adult period as well [3].

Starting smoking is usually linked to more factors like: socio-demographic, behavior environment. The presence of and psychosocial factors raise the chance of starting smoking as well as the onset of the medical issues associated with smoke on long and short term. The young ones are especially affected by the psychosocial factors; this is one of the reasons that they are so vulnerable to starting smoking. Primary prevention antismoking consists of psychosocial risk factors that are the starting points for a causal way followed by consequences on individual health [4].

### **MATERIAL AND METHOD**

Students from Timis County were used for the study of risk behavior in adolescents. Using the program Epiinfo, 6.04, 2001 version, a representative sample was established. The samples were stratified in nests. The sample's primary unit is the nest the student class [5].

The working method was the transversal population study based on the use of the CORT 2004 questionnaire about the risky health behaviors in young people and adolescents.

The representative student sample totaled 2908 students from high schools all over Timis County. The distribution upon gender in the sample was the following: 51.5% (1495) girls and 48.5% (1407) boys.

Those who took part in the study were part of adolescents from the age point of view: the ages were between 14 years (0.4%) and 20 years (0.6%). The most common ages were 16 and 17 years, reported by 830 (28.5%) and respectively 825 (28.4%) participants.

### **RESULTS AND DISCUSSIONS**

# The parental limits and monitoring of the young

In case the parents have strict rules in what the indoor and outdoor behavior is concerned

Half of the adolescents, 50.2% (1444) answered that their parents have only sometimes strict rules in what the indoor and outdoor behavior is concerned. In

23.3% (670) of the cases the parents never have any rules, only 12.9% (372) have always rules (Figure 1).



# Figure 1. The percentage distribution of students based on what adolescents can do indoor or outdoor

We discovered that in case of boys, only in some cases parents settle any indoor or outdoor rules, U= 977463, z= -2.65, p<0.01.

If the rules settled by parents in what indoor and outdoor behavior is concerned are followed Out of the total of 2887 respondents, a third of them 34.2% (986) say that they follow almost always the rules of their parents in what indoor and outdoor behavior is concerned. A percentage of 39.3% (1135) say that they follow only sometimes the rules of their parents. 6.9% (199) of the participants declare that they never respect the rules of their parents (Figure 2).



# Figure 2. The percentage distribution of students based on following the parents' established rules in what the indoor and outdoor behavior is concerned

We found out that girls respect the rules much more often than the boys in what indoor and outdoor behavior is concerned U = 934920, z=-5.00, p < 0.001.

### If the parents know where and with whom their kids spend their time

Half of the adolescents 52.8% (1520) answer that their parents know almost every time where and with whom they spend their time. A percentage of 23.1% (666) answered that only sometime their parents know where and with whom they spend their time. 6.3% (182) of parents never know anything about their kids (Figure 3).



Figure 3. The distribution of students based on their parents knowledge on whom and where their kids spend their time

During the period of late adolescence, parents give more freedom to young people, therefore teenagers spend more time unattended [6,7]. Usually parents think that they can attend their teenagers by inviting their children's friends at home. But usually parents stop direct supervision of their teens, letting them in a private space with their friends. Although in these cases a make off is created a vice versa trust between parents and kids sometimes this liberty encourages the sexual behavior and the consumption of different substances (smoking, drugs. alcohol) [8]. The trust between parents and kids is based on communication and the fact that the parent is always informed about his child's activities [9] and also the parent should be sure of the adolescent's responsibility in different circumstances [8]. It is settled that adolescents that consider they have a good trust relationship with their parents have lower chances to commit delinquency [10].

### Teenagers` satisfaction towards their relationship with their family members

*On their relation with the parents*, 71.1% (2050) of the respondents declared that are satisfied, on gender being almost equal. 23.2% (669) have declared that they are not satisfied with their relationship with their parents, a percentage of 4.9% (141) are unsatisfied with the relation with their parents.

0.9% (25) boys and girls, in almost equal percentage, answered that they have no parents (Figure 4).



# Figure 4. The percentage distribution of students based on the satisfaction degree with their relationship with their parents

The students that have no parents were eliminated from the study for a better comparison between the satisfaction degrees towards the relationship with the parents of both genders. We have discovered that boys

are much more satisfied than girls U= 919215.5, z = -5.88, p < 0.001.

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*Towards the relation with brothers or/and sisters*, 61.2% (1727) of the participants are satisfied, the percentages are similar for both genders. 14.4% (407) of them are not

satisfied or unsatisfied towards the relation with brothers or/and sisters. 3.7% (104) declared that they are not satisfied with the relation with brothers or/and sisters. 20.6% (582) of the adolescents do not have brothers (Figure 5).



Figure 5. The percentage distribution of students based on the satisfaction degree about the relationship with brothers or/and sisters

The students that have no brothers or sisters were excluded from the study for comparing the satisfaction degree towards the relationship between brothers/sisters for both genders. We have discovered that boys are much more satisfied than girls about the relationship between brothers/sisters U = 586647, z = -4.82, p < 0.001. *Comparing the satisfaction degree towards the relationship with their parents and towards the relationship with their siblings*, there is a higher satisfaction degree towards the relationship with parents for all the samples and for both genders. Boys are often more satisfied towards their relation with the family members, than girls (Figure 6).



# Figure 6. The percentage distribution of satisfied students towards their relationship with their family members

We did not find statistically important differences between the satisfaction degree towards the relationship with parents and towards the relationship with siblings, p > 0.05.

In a study developed by Field and Diego

[11], we discovered that the adolescents that

had good relations with their parents and

their brothers had more friends, a better

family communication, were less depressed and used much less forbidden substances.

### Risky behaviors towards entourage

The percentage of smoking is 49.41% (1412) for fathers, 30.56% (947) for mothers and 30.56% (725) for brothers or sisters (Figure 7).



Figure 7. The percentage of smokers in students' family members

Hill and collaborators [12] have proven that in families with smokers that have strict rules towards smoking, the children will adopt smoking behaviors. Children choose smoking even if neither one of their parents smoke, they do these things just for doing the opposite of what they should do. Foshee and Baumann [13] have proven that the raised parental attachment is associated with cooperation in smoking between children and their parents.

8.6% (246) of the adolescents do not have friends that smoke. 91.4% (2630) of the students have friends smokers: 46.2% (1328) have only a few friends that smoke, 37.1% (1067) declared that most of their friends smoke and 8.2% (235) declared that all of their friends smoke (Figure 8).



Figure 8. The percentage distribution of students based on the number of their friends that smoke

There were no statistically important differences regarding the number of friends that smoke and the participants' gender p > 0.05.

In a recent study by Hoffman [14] it was shown that the smoking status of friends it is positively linked to smoking in adolescents. This happens due to the pressure of the group, when adolescents follow the behavior of their friends, or when adolescents choose their friends due to the smoking status. The influence of the group was lower than the selection of the group in the adolescents used in the study by the authors.

#### The impact of entourage on smoking behavior

For determining the impact of many factors of entourage on smoking in students the logistic regression test was applied. The model is composed of 14 independent variables (age, gender, last graduated school of the father, last graduated school of the mother, the frequency with which the parents have established behavior rules, the

frequency with which these rules are followed, the awareness of parents towards how their children spend their time outdoor, the satisfaction towards the family incomes, the number of friends that smoke, father's status of smoker, mother's status of smoker, or brother's, the satisfaction towards the relation with parents, siblings). The model that contains these predictors is statistically important  $\chi^2(14)=418.02$ , p<0.001, this means that the proposed model can differentiate the students that smoke and those who do not smoke. The model can explain a percentage between 20.1 and 28.7% from the variation status of smoking and can correctly classify a percentage of 75.6% of the cases.

The higher number of friends that smoke is the most powerful predictor of the smoking status of students, students with a higher number of smoking friends have about 2.9 times more chances to start smoking than those without friends that smoke, this happens in case all the other factors for the sample are constant. Another important predictor is the smoking status of brothers, student whose brothers smoke have a 2.2 higher percentage for starting smoking.

Other important statistically predictors are: male gender, unawareness of parents about their children's way of spending free time, a higher age, the low frequency of respecting the rules imposed by the parents, mother's smoking status, higher educational level of the father, parents that do not establish behavior rules, the lack of satisfaction towards the relation with parent and brothers.

Other predictors that do not have an important statistic contribution to the sample are: mother's educational level, father's smoking status, the satisfaction level towards financial status of the family (Table1).

							95% fr	om CI
Independent variables	_	~			~ .		for (	<u>DR</u>
	В	S.E.	Wald	df	Sig.	OR	min	max
Age	.206	.050	16.906	1	.000	1.229	1.114	1.356
Gender (1)	.329	.123	7.159	1	.007	1.389	1.092	1.768
Last school graduated by the father	149	.059	6.368	1	.012	.862	.768	.967
Last school graduated by the mother	017	.063	.072	1	.788	.983	.869	1.113
Establishment of behavior rules	146	.065	5.054	1	.025	.865	.762	.982
The frequency with which these rules are followed	.123	.064	3.671	1	.055	1.131	.997	1.283
The parents' knowledge about the time spend by their kids	.283	.061	21.493	1	.000	1.327	1.178	1.496
Satisfaction towards the financial status of the family	083	.064	1.674	1	.196	.920	.812	1.044
Number of friends that smoke	1.056	.084	158.099	1	.000	2.875	2.439	3.389
Father's smoking status (1)	.186	.118	2.462	1	.117	1.204	.955	1.519
Mother's smoking status (1)	.292	.125	5.474	1	.019	1.339	1.049	1.710
Brother's smoking status (1)	.798	.120	44.356	1	.000	2.222	1.757	2.810
Satisfaction with the relation	.221	.113	3.832	1	.050	1.247	1.000	1.555
towards parents								
Satisfaction with the relation towards brothers	.294	.114	6.696	1	.010	1.342	1.074	1.677
Constancy	-7.087	.896	62.525	1	.000	.001		

 Table 1. The logistic regression for predicting the smoking status in students

### CONCLUSIONS

In 23.3% of the cases parents do not establish any rules, in 12.9% of the cases there are rules established by parents. Parents apply fewer rules regarding what boys should do indoor or outdoor.

A percentage of 34.2%, of the adolescents declare that they follow their parents rules regarding what they should do indoor or outdoor, 6.9% declare that they never respect their parents rules. Girls respect more often the rules imposed by their parents indoor and outdoor.

52.8%, half of the adolescents say that their parents know where and with whom their children spend their time; in 6.3% of the cases parents are not aware of anything. Girls` parents know more often where and with whom their children spend their time.

Regarding the relationship with their parents a percentage of 71.1% of the respondents say that are satisfied, boys and girls, while 4.9% are not satisfied. Boys are much more often satisfied than girls. Regarding the

### REFERENCES

- 1. Miller P.H., 1989, Theories of adolescent development. In J. Worell & F. Danner (Eds.), The adolescent as decision-maker, San Diego, CA: Academic Press
- 2. Furby L., Beyth-Marom R., 1992, Risktaking in adolescence: A decision-making perspective, Developmental Review
- McCord J., 1990, Problem behaviors, In S. S. Feldman & G. R. Elliott (Eds.), At the threshold: The developing adolescent, Cambridge, MA: Harvard University Press
- 4. \*\*\*, 1994, Preventing Tobacco Use Among Young People—A Report of the Surgeon General, CDC

relationship with brothers or sisters 61.2% are satisfied, while 3.7% are not. Boys are more often satisfied than girls.

The prevalence of smoking is 49.41% for fathers, 30.56% for mothers and 30.56% for siblings. 8.6% of the adolescents do not have friends that smoke. 91.4% of the adolescents have friends that smoke in variable proportions.

The most powerful predictor of the adolescent's smoking status is the high number of friends that smoke; students with more friends that smoke are 2.9 times more exposed to start smoking than those who do not have friends that smoke, in case all the other factors for the sample are constant. The smoking status of siblings is also an important predictor, students that have smoking brothers have 2.2 times more chances to start smoking.

Being aware of some of the specifications of the adolescents' entourage is beneficial for promoting healthy programs in the young population.

- 5. Ursoniu S. et al., 2004, CORT 2004. Metode de eşantionare şi testarea chestionarelor. Revista de Igienă şi Sănătate Publică-Journal of Hygiene and Public Health
- 6. Patterson G.R., 1997, Performance models for parenting: A social international perspective. In: Grusec J, Kuczynski L (eds), Parenting and Children's Internalization of Values: A Handbook of Contemporary Theory. New York, NY: Wiley
- 7. Patterson G.R., Stouthamer-Loeber M., 1984, The correlation of family management practices and delinquency, Child Dev
- 8. Kerr M., Stattin H., Trost K., 1999, To know you is to trust you: Parent's trust is rooted in child

disclosure of information. J Adolesc

- 9. Stattin H., Kerr M., 2000, Parental monitoring: A reinterpretation, Child Dev
- 10. Leas L., Mellor D., 2000, Prediction of delinquency: The role of depression, risk-taking and parental attachment. Behav Change
- 11. Field T., Diego M., 2002, Adolescents' parent and peer relationships, Adolescence
- 12. Hill K.G., Hawkins D.J., Catalano R.F., Abbott R.D., Guo J., 2005,

Family influences on the risk of daily smoking initiation, Journal of Adolescent Health

- 13. Foshee V., Bauman K.E., 1992, Parental and peer characteristics as modifiers of the bondbehavior relationship: Elaboration of control theory, Journal of Health and Social Behavior
- 14. Hoffman B., Monge P., Chou C.P., Valente T., 2006, Perceived peer influence and peer selection on adolescent smoking, Addictive Behaviors

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### **DEFINING ELEMENTS FOR TEENAGER'S GROUP OF FRIENDS**

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### REZUMAT

Inițierea consumului de tutun este atribuită amestecului de factori socio-demografici, de mediu și de comportament. Prezența acestor factori psihosociali crește atât șansele de inițiere a folosirii tutunului, cât și șansele de apariție a problemelor de sănătate asociate cu consumul de tutun, pe termen scurt și lung. Metoda de lucru a fost studiul populațional transversal bazat pe folosirea chestionarului CORT 2004 privind comportamentele cu risc pentru sănătate la adolescenți și tineri. Eșantionul reprezentativ de elevi care a fost luat în studiu a totalizat 2908 de elevi din instituții de învățământ liceal din județul Timiș. Cel mai puternic predictor al statusului de fumător al elevilor este numărul crescut de prieteni care fumează, elevii cu un număr crescut de prieteni fumători având de 2,9 ori mai multe șanse de a fuma decât cei fără prieteni fumători, dacă ceilalți factori din model sunt constanți. Statusul de fumător la fraților este de asemenea un predictor important, elevii cu frați fumători având de 2,2 ori mai multe șanse de a fuma. Ceilalți predictori semnificativi statistic sunt: sexul masculin, necunoașterea de către părinți a modului de petrecere a timpului liber, vârsta mai crescută, frecvența redusă a respectării regulilor impuse de părinți, statusul de fumător al mamei, nivelul crescut de studii ale tatălui, nestabilirea de către părinți a unor reguli de comportament, nemulțumirea față de relația cu părinții și frații. Cunoașterea unor caracteristici ale anturajului adolescenților contribuie la promovarea programelor de sănătate la populația tânără.

Cuvinte cheie: adolescenți, consumul de tutun, influența anturajului

### ABSTRACT

Along with the family, which has a role of a permanent partner in the teenager's evolution towards the adult age, informal society of friends constitutes a temporary but very important partner. Since the need of belonging to a group of friends is very well known, as well as the significance of this example in the teenager's behavior, the presence of behaviors of high risk has negative effects. The representative sample of 2908 teenager high-school students from the Timiş County included group ages of 15-19 years in a proportion of 99%, girls constituting 51.5% of the total, and boys, 48.5%. The working method was the cross-examination of the population based on the anonymous self-administration of the CORT 2004 questionnaire for the investigation of behaviors of risk among young people, as a part of a CNCSIS research project. The study of the population highlights the high satisfaction index towards the current group of friends, thus underlining their role in the process of

development of a new identity, other than that of a child in a family, and also the reality of behaviors with a high risk for health.

Keywords: teenager, group of friends, identity definition

### **INTRODUCTION**

A teenager group, whether formal (e.g. school class), or informal (the type of music loving people, litterated, positively or negatively orientated), offers substantial opportunities for evolution on an individual scale. A teenager can put in value his possibilities in the participating groups with the same statute. These groups are the only capable to offer him the possibility of isolation from the adult society, with a authenticity feeling of and mature seriousness in the same time. Teenagers behave in the participating group as if they were adults. They can only be understood through silent and sincere participation to their serious game of mature people [1-3].

### Teenager group functions are:

Differentiate satisfaction of needs. Most groups fulfill a specific function (satisfaction of the dominant needs of the group in a formal environment) and secondary functions (satisfaction of the of the informal group). needs The substitution of specific functions by the secondary ones is determined by: the change of needs and requirements of the group members; cross-connections and crossinfluences between groups; the appearance of new aspirations and the assimilation of new adherents.

*The need for social embodiment and domination.* The need for domination is only present to certain individuals. The need of participation to common activities can be found to all members.

*The creation of new needs*. Individual needs change according to group needs and aspirations of its members. Newer needs are those who cause the durability of the group, raise moral and strengthens cohesion.

For teenagers, the functions that a group can may varv according fulfill to sex. aspirations, and possibilities and are often contradicting. Teenagers feel the need for society, they search for it, and they desire social recognition. At the same time, it can be considered as a period in which the need for loneliness is being felt, as well as the need of self-evaluation and self-confrontation. A group provides the teenager with an ideal in itself, a favorable image of his/her own ego, a decrease in intensity of previous concerns. Only a group can satisfy his affirmation desires and give him back the sentiment of being valuable. A teenager would seek for the comfort that only common responsibility can provide. He/she tries to prove to adults that he/she means something. For this purpose, boys seek or create obstacles, tests through they can put their qualities to the test and verify their limits and possibilities. Through this behavior, they want to prove that they are mature, that they represent strong and independent individualities. The emergence of a teenager in society is done through a long sinuous road of extremes. Together with the deepening of knowledge of one's own ego, he/she becomes interested in the values of the ambiance, of the cultural acquisitions of society, of the placement in time of his own self in the evolution of the universe. It is the moment when a teenager defines himself by opposing others (parents, through a dual educators) attitude: "obedience and revolt"; independence and non-conformism, imitation: "crisis of originality" and integration at the same time [4,5].

### **METHODOLOGY**

The representative sample of 2908 highschool students in the Timiş County consisted of group ages between 14-25 years, with a proportion of 99% of those

between 15-19 years, girls constituting 51.5% of the group and boys 48.5%.

The working method was the crossexamination of the population based on the anonymous self-administration of the CORT 2004 questionnaire for the investigation of behaviors of risk among young people, as a part of a CNCSIS research project [6-8].

Response rate of the classes was of 97.9 %, the rate of the students was of 76.2%, resulting a response rate74,6%.

Data interpreting was done with the EpiInfo software, version 6.04, 2001.

### **RESULTS AND DISCUSSIONS**

### Teenage satisfaction degree towards the relationship with current friends (Table 1)

From the teenagers between 15-19 years, 98.4% (2712) have declared that the currently have friends. A percentage of 1.6% (42) of the teenagers do not have friends currently, that is 1.9% (24) of the girls and 1.3% (18) of the boys.

Teenagers satisfied with their relationship with their current friends are on the first place, 81.4% (2209). Up next are teenagers that are neither satisfied nor dissatisfied, with a percentage of 16.7% (453). On the last place come the teenagers dissatisfied with their relationship with current friends, 1.8% (50).

### Table 1. Satisfaction of teenagers with regard to their relationship with current friends

		Sex				
	F		Μ		Total	
Answers	No.	Average	No.	Average	No.	Average
		percentage		percentage		percentage
Satisfied	1108	77.8	1101	85.4	2209	81.5
Neither satisfied nor	289	20.3	164	12.7	453	16.7
dissatisfied						
Dissatisfied	26	1.8	24	1.9	50	1.8

Non-answers: 154

### Behaviors of risk among current friends

### Smoking (Figure 1)



Figure 1. Prevalence of tobacco smoking among friends

Tobacco smoking is a behavior of risk for health that is the most frequently indicated among the group of friends. A percentage of 37.2% (1008) of the teenagers respond that most of their friends smoke, and 8.2% (214) respond that all their friends smoke. A percentage of 7.9% (219) of the teenagers do not have friends who smoke.

Alcoholic drinks consumption (Figure 2)



Figure 2. Prevalence of alcohol consumption among teenagers

In terms of frequency, alcoholic drinks consumption is very similar for the group of friends as tobacco smoking.

A quarter of the teenagers, 25.4% (679), have mostly alcohol drinkers among their

Verbal and physical aggression (Figure 3,4)

friends, and 7% (186) indicate alcohol consumption for all their friends.

A group of 13.8% (368) of the questioned do not indicate any alcohol drinkers among their friends.



Figure 3. Prevalence of verbal aggression by friends towards other people

A percentage of 33.6% (889) of the teenagers deny verbal aggression of other

people by their friends, whereas 66.4% (1784) confirm this behavior.



Figure 4 . Prevalence of physical aggression of other people by friends

Physical aggression of other people by the friends of the teenagers is indicated by

41.7% of them (1103), especially for the "some friends" category – 34.8% (929).

### Drugs consumption (Figure 5)



Figure 5. Prevalence of marijuana smoking among friends

A percentage of 86.5% (2307) of the teenagers responded that none of their friends consume marijuana; 13.5% (394) indicate the consumption of drugs by their friends, especially the "some friends" category, 11.8% (318).

### CONCLUSIONS

Along with the family, which plays a role as a permanent partner in the evolution of the teenager towards adult age, informal society of friends constitutes a temporary yet very important partner. Since the need of belonging to a group of friends is very well known, as well as the significance of this example in the teenager's behavior, the presence of behaviors of high risk has negative effects [9].

### REFERENCES

- Miu N. (editor), 1999, Treaty of teenager's medicine, Casa Cărții de Știință, Cluj Napoca
- 2. Williams P.G., Holmbeck G.N., Greenley R.N., 2002, Adolescent health

The study of the population highlights the high satisfaction index towards the current group of friends, thus underlining their role in the process of development of a new identity, other than that of a child in a family, and also the reality of behaviors with a high risk for health.

The group of friends is, most of the time, the context for learning, encouraging and practicing behaviors of risk such as smoking, alcoholic drinks consumption, psychotropic substances consumption, [9,10]. The reality of behaviors of constant risk can increase the unhealthy environment in which the teenager evolves towards maturity.

psychology, Journal of Consulting and Clinical Psychology, vol.70, nr 3, 828-842

3. Santelli J.S., Rogers A.S., Rosenfeld W.D., DuRant R.H., Dubler N., Morreale M., English A., Lyss S., Wimberly Y., Schissel A., 2003, Guidelines for Adolescent Health Research, Journal of Adolescent Health, vol.33, nr. 5, 396-409

- Klein J.D., Allan M.J., Elster A.B., Stevens D., Cox C., Hedberg V.A., Goodman R.A., 2001, Improving Adolescent Preventive Care in Community Health Centers, Pediatrics, vol.107, nr 2, 318-327
- Vlaicu B., Doroftei S., Petrescu C., Putnoky S., Fira-Mlădinescu C., 2000, Elements of child and teenager hygiene, Solness Timişoara Publishing House
- 6. Hibell B., Andersson B., Bjarnason T., Ahlström S., Balakireva O., Kokkevi A., Morgan M., 2004, The ESPAD Report 2003. Alcohol and Other Drug Use Among Students in 35 Countries. European The Swedish Council for Information on Alcohol and Stockholm, Other Drugs, Sweden

- 7. \*\*\*, 2004, grant tip A CNCSIS, cod 1167, 2003-2005, Evaluation of the dimension of behaviors of risk among teenagers and youth in high-schools, trade schools and universities of the Timis County, UMFVB Timişoara
- Vlaicu B., editor, 2007, Teenager behaviors of risk in Timiş County, Solness Publishing House, Timişoara
- 9. MacKay A.P., Fingerhut L.A., Duran C.R., 2000, Health, United States, 2000, Adolescent Health Chartbook, Hyattsville, Maryland: National Center for Health Statistics
- 10. Ursoniu S., Vernic C., Silberberg K., Korbuly B., 2004, CAST 2003: Investigation with regard to alcoholic drinks consumption, smoking and drug consumption among high-school stundents in Timisoara, Magazine of Hygiene and Public Health, 54(3): 81-85

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## "A EUROPE WITHOUT TOBACCO"-WHO ACTION OF KNOLEDGE OF FREQUENCY OF ADOLESCENT SMOKING IN BOTOSANI COUNTY

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### REZUMAT

Fumatul a devenit astăzi unul din cele mai răspândite obiceiuri umane, iar efectele nocive ale tutunului asupra sănătății deși erau suspectate, menționate și susținute cu argumente mai mult sau mai puțin convingătoare, abia la jumătatea secolului al XX-lea, au fost aduse dovezi științifice asupra pericolului fumatului. Motiv pentru care perioada în care ne aflăm, să fie denumită și "epocă a bolilor și deceselor de tutun". Lucrarea se bazează pe aplicarea de chestionare cu o primă etapă de pretestare, urmată de testarea propriu-zisă la elevi de liceu. Acțiunea se înscrie în Programul Global Youth Tabacco Survey (GYTS), în vederea semnării de către România a Convenției Cadru de Control al Tutunului (CCCT). Vor fi implementate programe de profilaxie și combatere a consumului de tutun la elevi finanțate de OMS și UE, bazate pe rezultatele acestor acțiuni de aplicare a chestionarelor. Acestea sunt adresate elevilor din 2 clase a IX-a, din cadrul liceului "Grigore Ghica-Voievod", din municipiul Dorohoi, județul Botoșani.

Cuvinte cheie: fumat, adolescenți, prevenire prin educație

### ABSTRACT

Nowadays, smoking is one of the most spread human habits. Though the harmful effects of the tobacco for health were supposed, mentioned and backed up with more or less convincing arguments, only in the middle of the 20th century there were conclusive scientific proofs for the danger of smoking. There for, the times we live in are called ,,the age of death and diseases caused by tobacco". The action is based on questionnaires. The first stage is the pretesting, followed by the actual testing of the high-school pupils. The action is part of the Global Youth Tobacco Survey (GYTS), with a view to Romania' s signing of the Tobacco Control Framework Convention. There will be programs of prophylaxis and smoking control among pupils, financed by the OMS and UE. The programs of will be based on the results of the questionnaires taken by the high-school pupils from two classes of the 9th grade, from ,, Grigore Ghica-Voievod" Highschool in Dorohoi, Botosani county.

Keywords: smoking, adolescents, prevention through education

### INTRODUCTION

Differences in health indicators between Western countries and Romania are assigned in proportion of 30% to the economic gap and associated socioeconomic factors, in proportion of 50% to risk factors related to life-style, 10% due to environmental pollution and 10% due to deficiencies in lifestyle [1]. The greatest contribution to improving the health status is assigned to the promotion of healthy lifestyle and healthy behaviors [2].

In the model of risk behavior, the smoking has the greatest weight, but other risk behaviors, such as alcohol, drugs and fastfood consumption can lead to dependence [3].

WHO considers that about 4 millions deaths worldwide are caused by smoking and it is estimated that their number will increase to 8.4 millions in 2020 and that 70% of all deaths will happen in developing countries [4].

Worldwide 22% of adolescents are smokers, and 16% of them smoke daily. In Romania, the monitoring of health risk behaviors began with a nationwide scale action, under the coordination of the Institute of Public Health Cluj-Napoca. The study had showed for Moldova region a 30.99% frequency of smoking among teenagers, reported to a frequency of 31.7% for Romania [3]; the educational school programs can led to a shift of opinion of teenagers regarding smoking and to straighten the choice of nonsmoking at peer pressure [5].

In 2004, under the egis of WHO, the program "A tobacco-free Europe" was ran in Romania and Botosani county was included in the study with a total sample of 454 school pupils of different ages and collectivities.

The results of this study support the adhesion of Romania to the Convention

framework against smoking, as it was considered appropriate to conduct the annual monitoring of the same territories, within the National Health Plan objectives of the Ministry of Health. Numerous studies reveal different tendencies of distributions of risk behaviors in adolescents [6,7].

### **MATERIAL AND METHOD**

The study was conducted using the methodology developed by ISP Cluj in the following stages:

- the nomination of collectivities, and establishing the study sample

- the application of WHO-GYST questionnaire to the sample

- the development of intensive education programmes of this sample on the risks of smoking

- retesting the same populational segment with the same questionnaire.

Based on these steps the following objectives were achived:

1. the evaluation of smoking prevalence

2. the assessment of impact of health education in combating smoking among teenagers by:

- the evaluation of changes occurring in school curriculum regarding smoking prevention and combating this habit

- impact assessment of knowledge, attitudes and risk perception on smoking

3. the determination of development of risk predictors.

The results of this research, obtained during the first stage from a teenager collectivity from the city of Dorohoi had shown the frequency and intensity of smoking and the knowledge regarding the health risks. The results had entered the national database, coordinated by the Instituite of Public Health Cluj.

### **RESULTS AND DISSCUSIONS**

Under this methodology, the school collectivities nominated by the WHO Coordination Center, such as National College "Grigore Ghica Voievod" from Dorohoi where the 9th and 10th grade where included in the study. The students of these classes constituted the study group and was

composed of 58 students aged between 15 and 17years, with a higher preponderance of girls (Table 1). The boys/girls ratio was 1/1.3. The average age group was  $16.26 \pm$ 0.58 years and the age differences per gender are not statistically significant (p>0.05).

Age	Male	Female	Total
15 years	1	3	4
16 years	15	20	35
17 years	9	10	19
Total	25	33	58
Media	$16.32 \pm 0.56$	$16.21 \pm 0.60$	$16.26 \pm 0.58$

Table 1. The investigated sample from National College "Grigore Ghica Vo	oievod"
from Dorohoi	

The results revealed the following aspects:

the number of students who have tried / experienced cigarette smoking accounts for nearly half the group (26 of 58), being higher for boys (16 of 25) than for girls (10 of 33) (Figure 1). By age, the number of students who have tried at least once to smoke is increasing at 16 years for boys and 17 years for girls. Throughout the whole group, the highest frequency of those who have tried smoking is at the age of 17 years (6 of 10 students).



### MASCULIN









Figure 1. The distribution of students who smoked/did not smoke by gender and age

The age of first time cigarette smoking is variable, the lowest being 7 years for boys. Most of them, boys and girls try to smoke for the first time at 14 - 15 years of age (Table 2).

Age (Years)	Male	Female	Total
7	2	-	2
8 – 9	2	-	2
10 - 11	1	-	1
12 – 13	3	1	4
14 – 15	8	6	14
16 or more	-	3	3
Total	16	10	26

### Table 2. The distribution of students who tried smoking by age and gender

The trying and then the adoption of this behavior are favored by the ease with which students can purchase cigarettes, so of the 50 students who had answered the question, only 2 had admitted that they were refused by the merchandisers, eleven consider that it is difficult to obtain cigarettes from shops, but most of the smokers acknowledged that there was no difficulty in obtaining the cigarettes (Table 3).

### Table 3. Aspects of the ease of purchase cigarettes from trade

Method of purchasing cigarettes	Number of students
The student was refused in the store because of age	2
Pretty difficult	2
Difficult	9
Was not refused	15
Pretty easy	7
Easy	15

Regarding the adolescents' knowledge and attitudes about smoking we have found that 47 of 58 responders had a discussion in the family about the harmful effects of smoking. Most of them know that active and second-hand smoking is harmful for health (Table 4).

Harmful effect of smoking on		Harmful effect of second hand smoking				
health		on health				
Opinion	No. of students	Opinion	No. of students			
Definitely no	2	Definitely no	3			
Probably no	1	Probably no	1			
Probably yes	6	Probably yes	11			
Definitely yes	48	Definitely yes	43			

Table 4. Opinions on	the risk of smoking	on health status
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Students' opinion is that public health interventions are a must in order to prevent and combat this behavior in teenage population. The intervention should, in their opinion prohibit the advertising, marketing and smoking in public spaces (Table 5).

### Table 5. Opinions on prevention/ control of smoking

Opinion	No. of students
Prohibit the advertising	31
The price of cigarettes must be increased	41
Selling the cigarettes to minors must be forbidden	51
Smoking in public spaces must be forbidden	45

Students think that these restrictions are necessary especially to prevent smoking, because the students are aware that once installed the giving up is difficult. Thus, 38 respondents said that giving-up smoking is difficult (Table 6).

Table (	<b>O</b>		ana alvin a
I able o.	Opinions	on giving-up	smoking

Opinions	No. of students
It is very easy to give up	1
It is very to give up	3
It is difficult to give up	14
It is very difficult to give up	24

The educative measures and the information received by students are diverse, and are considered of some enough, but by the great majority are considered insufficient. A large proportion of teenagers (between 11-30) consider that the information received through media do not deserve to be taken into consideration (Table 7).

Opinion	Source						
	TV	Radio	Advertising boards	Posters	Newspapers	Cinema	
Are considered enough	18	6	8	7	9	-	
Are considered insufficient	28	9	23	21	25	4	
Do not take the information in consideration	11	23	27	30	24	18	

# Table 7. The distribution of students which accept the informationreceived through media

Regarding the school's contribution on offering information on the risk of smoking, students state the following:

- Classes on the risk of smoking were taught
- 35 students

- Classes on the reasons of smoking were taught -34 students.

These students consider that these information received in an organized manner, in school could have a positive impact on students, influencing their decision in rejecting this habit.

Other aspects encountered in school, may be rather an extra motivation in trying to smoke:

- The fact that some teacher are smoking outside the school- 35 students – and even in school – 20 students

- The fact that some colleagues are smoking outside the school -34 students - and even in school -16 students.

### REFFERENCES

 Mireștean I., 2004, Monitorizarea comportamentelor cu risc pentru sănătate la elevii din România – raport intern, ISP Cluj Napoca

### CONCLSIONS

The results of the study show a high frequency of smoking (almost half of the students) at the critical age of 16 years.

The study did not reveal different aspects from other studies conducted in Romania, and the result is a confirmation, on a different sample of the findings of other investigators: "the feminization" and "the rejuvenation" of this risk behavior.

The results of the study were added to the national database and became the basis for decision-makers for school community regarding the educational measures that must be implemented to prevent and combat this risk behavior.

- 2. Wong A.K., 1991, Vivre mieux, long temps et en meilleur santé, Forum Mondial de la Santé, vol. 12
- 3. Ciobanu D.T., 2008, Fumatul și adolescența, Editura Pim, Iași
- 4. Levin Lowel S., 1989, Jeunesse et bonne santé, espoir du monde de

demain, Forum Mondial de la Santé, vol. 10/1989

- 5. Barna O., Tetraru M., Florescu N., 2008, Evaluarea cunoştinţelor, atitudinilor şi comportamentelor cu risc la adolescenţi. Sunt programele educative eficace? Revista de Sănătate Publică, Economie şi Management în Medicină, numărul 5/26/2008, Chişinău, Editura Epigraf
- Vlaicu B., Petrescu C., şi colab., 2008, Aspecte epidemiologice privind varsta de debut a unor comportamente cu risc pentru sanatate la adolescenti, Revista de Igienă şi Sănătate Publică, 58(1): 82-87
- Dinescu C., Lazar A., 2008, Renunta adolescentii din Bihor la fumat? De la program la fapte, Revista de Igienă şi Sănătate Publică, 58(1): 121-125

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A number of 3-5 key-words will be given.

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Show the importance of the approached theme. Clearly state the aim, objective or research hypothesis. Only make strictly pertinent statements and do not include data or conclusions of the presented paper.

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