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## **Evaluation of the Hungarian Defence Forces' occupational-health system, its guidelines for improvement in peace and in crisis handling**

### **Conceptualization of the problem**

In the Hungarian Defence Forces partaking in international peacekeeping and peace-establishing tasks is handled with great importance besides the traditional national defence tasks.

The new millennium's healthcare policy - focusing on health promotion and the prevention of diseases- provides the base not only for the national health promotion program but for the Hungarian Defence Forces' health promotion program's development too.

There's a need in the different military tasks for establishing and providing the health support in the international military structure as close in quality to the peacetime system as possible.

Quality of preventive medicine as a basis of military medicine is determined by the medical intelligence and the analysis and evaluation of the information collected by its process.

In order to fulfill the task of prevention and health promotion at a high level the field of occupational health and its ingredients and tasks need to be multidisciplinary (specialists of occupational health, professionals specialized in: occupational hygiene, safety and security, ergonomics, national-economy; psychologist, toxicologist).

Occupational health is an activity which takes part in establishing and maintaining the safe and healthy working environment, it helps in preserving the optimal mental and physical capacity in working, in adapting the work to the workers' abilities, to their mental and physical state, moreover its aim to maintain the optimal workload for the workers on the long run considering the risk factors.

In the Hungarian Defence Forces measures in the field of preventive medicine are developed by professionals who were taking part in national and international military and civilian training programs and are experienced in peace-supporting military activities. Considering this, they are able to recognize and identify the risks and danger caused by the terrain, climate and special risks emerging from the characteristics of the surroundings. Their task includes the field of public health, epidemiology, occupational health, radiological – health and environmental health.

The effective work on this field requires collecting data and information in a wide range including the statistical analysis of these data, continuous monitoring of health and a well-equipped laboratory according to the modern technical devices that are functioning at the best level in the new quality-control systems too. Informing the commander in the phase of decision preparing about the potentially endangering and restricting health risks and dangers helps to preserve the soldiers health.

Hungary's joining the NATO requires to be an equal partner for the other member countries in the treaty's medical support system through adapting its knows and standards to the norms (STANAG). Concluding my research I can't take out of consideration the emerging need to integrate the HDF's Health Department to the NATO's professional system from both sides. According and answering to this need I conceptualized my aims and methods of

research and drew my conclusions after taking the appropriate sequence of steps in working on this topic.

**I would like to pay special attention to the following topics while concluding my research**

- Recognizing, evaluating and predicting risks in the special military area and estimating the basis for measurements.
- Examination of the man and its environment where the Hungarian Defence Forces (HDF), considered as hazardous enterprise.
- Possibilities for health surveillance connected to the work and workplace so in the field of occupational health
- Developing the alternatives for health promotion and preservation based on the estimated risk-factors, besides this searching for the possibilities to make more effective the HDF's activity in this field
- Examination of occupational health's main areas as activity in preparing for crisis situations and in crisis
- Analyzing the data collected from the preparation and training period from the perspective of occupational health

#### **Aims of research**

According to the experiences from the last years we can draw the conclusion that an effective occupational health that is useful for the HDF'S other field of profession either, can only fulfill its tasks on preserving health up to the modern expectancies if its perfectly integrated both to the organization of medical support and the military system.

- Stages of development and emerging of occupational health in Hungary and in foreign countries
- Studying NATO's, EU's, Hungary's and the US Army's law and rules connected to this field.
- Analyzing and evaluation of occupational health activity in the HDF's medical support. Our aims are to monitor our staff that is exposed to hazardous factors and to map the potencial points for intervention during the preparation and training period in our country and during the peace supporting activities.
- Examination, analysis and evaluation of the different phases of execution of military tasks from the perspective of occupational health.
- Concise the rules and guidelines of intervention that could be applied on the field and area of operation according to the NATO documents and experiences in the USA
- Developing a complex program for the operation area that fulfills the NATO and EC requirements, besides this preserves its national characteristics, which is able to predict the risk factors (medical intelligence) and it gives guidelines for risk estimation, analysis lowering or stopping risk, while it shows the different stages and places of development integrating the new experiences
- Give advices to develop a new modern occupational health system that accommodates to the changed requirements

- Determine the possible factors of developing the effective, high quality work

### **Research methods**

In order to carry out my aims of research I've applied the following research methods:

- I've followed through and studied the national and international literature on this topic at different research bases. I've analyzed the historical facts including today's happenings – with applying retrospective methods.
- I have tried to collect data on a wide range in this field of profession and to analyze them later on.
- I've found it important to gain insight in the rules, laws, guidelines, orders and other important documents are used in the EU, NATO and in the USA in this field.
- After studying the HDF's, NATO's and other organizations' health system's functioning and organization through their doctrines, documents, studies, rules, orders and guidelines in our bilateral relationship, I've drawn the necessary conclusions.
- I've tried working on to apply on the wide range my national and international experiences that have been collected so far on my foreign travels, peacekeeping missions and international relationships.
- I've published articles and studies, gave lectures whereas I've showed my conception connected to my field of research at scientific magazines and conferences, besides this I've always gave the opportunity for discussion.
- I have chosen induction, deduction, analysis and synthesis from the general scientific research methods and the historic method from the field of military science while working on my topic.
- Besides drawing the conclusion I've given advices for further mainstreams for development, I've conceptualized my offers.

I haven't finished my research, I would like to continue it according to the needs emerging from the field of my profession besides this to the tasks where my results could be used and a new system can be based on them.

***I've carried out my analysis according to the structure as I've pointed out in my aims of research.*** After studying the national, international, NATO and USA concerning documents, I've analyzed this field of military medicine and its place today. I've showed and analyzed (my intention was doing so) the stages of developing the occupational health program for the different missions. I've given advices and recommendations for the further lines of improvement.

### **Concise description of examination by chapters**

In the ***first chapter*** I've studied the history of occupational health, after it I've been dealing with the field's changes and development over time in the EC, in Hungary and in the HDF.

In the ***second chapter*** after discussing the professional background, I am making an analysis of military occupational health both in preparation and in execution phase, based on my experiences.

In the *third chapter* I give a chronological order from 1996 of labour health's development in different international tasks accommodating to the changing needs using modern and effective equipments and methods, after my experiences while taking part actively in these process.

In the *forth chapter* I give recommendations and advices for the new lines of development in this field based on the civilian and military research on the wide range, on my personal professional relationship, on my experiences in missions both in national and international concerns.

In the *last chapter I concise* the first four chapter's hypotheses and draw my conclusions about the results of my research.

*The basic research connected to my essay I've finished in January 2004 and in December 2005 the supplementary research connected to them.*

### **Summarized conclusions**

In my dissertation I've been dealing with the analysis of occupational health. Based on my experiences in practice I *gave a summarized picture* of the field's development and changes in the new millennium.

After *studying* the history of international occupational health I've summarized the developmental main stages of Hungarian occupational health both in military and in civilian concerns.

*I've collected, analyzed and evaluated* EC's, NATO's and USA's military medicine literature connected to occupational health. In my dissertation I've analyzed certain parts of military medicine that has a connection to and has consequences to occupational health *going into details not forgetting about its critics and clinical elements*. The analysis was followed by *evaluation* whereas I've given my *conclusions and recommendations* connected to the preparation phase. I've connected the tasks of preventive medicine to the phases of peace supporting operations paying attention to international, national, civilian and military documents, especially to NATO doctrines and rules. I've *prepared* with the help of my colleagues the occupational health program that could be applied for special crisis situations based on my personal experiences and professional guidelines, literature and scientific research on this field.

*I've the opportunity to analyze and evaluate on the base of my personal experience in the operational area* HDF's first active participations and its most important phases in NATO missions after the political changes. Under my leadership a workgroup *has developed a new effective environmental and occupational health program* according to the gained experiences, to the emerging needs from the labour health and to the changes in the military and civilian medicine and their consequences to the profession, that could be applied for identifying and analysing the endangering factors in the peace supporting operations and could give advices for handling them. As a result of the international success of this study that part of the protocol about the risk-analysis of the electromagnetic radiation has evoked the attention of the NAMSA, so we have *won the application for* making NATO locators' risk-analysis and fulfilled our task successfully.

I gave my *advices and recommendations for the changes should be implemented in the organization of labour health's structure and for the improvement of the equipments and examination* methods based on my experiences and the reinforcements from other professionals. With my professional guiding we have developed *a complex occupational health protocol* that is able to give an effective basis for the predictive risk-analysis and for the follow up examinations too for the military departments taking part in peace-supporting missions, after adapting it to the local circumstances. The protocol contains the methodological guidelines for the different stages off risk-analysis, the detailed description of mechanic measurements and the sample-taking methods and the preparation of the stuff for the endangering factors (lectures and reminding cards), supplements for the checking for the healthcare professionals.

In my research one of my most important aims was searching for and to find the *possible ways for development*, that could ensure the continuous improvement of occupational health activity's quality, making work more effective, which could lead to a lower amount of occupational accidents and injuries.

One of the most challenging parts of my field of profession is the handling of the hazardous substances. Lowering the danger caused by the chemical substances is a great challenge. In my essay I have conceptualized the *national chemical security program* and according to the NATO recommendations the basic rules of the military chemical security in the HDF. I've emphasized the role of quality controlling in this field, I've *conceptualized the tasks of quality controlling*, and realizing the importance of this system in the operation area, I've *recommended the extension of quality-control system*.

I've recognized the importance of IT (Information Technology) and its potentials for this field of profession, so I've *conceptualized* the new implementation of thee new age- the *e-health program*.

*I gave practical advices* for health-promotion besides this I gave the *reason for preferring the effectiveness-studies and health-impact examinations* in the HDF.

*I have conceptualized* the main lines for *education research and development* on the field I've found necessary.

### **New scientific results**

- 1) I was the first to determine preventive medicine's complex task system for the peace-supporting operations both in the preparation phase and in the further phases too, according to the comparative analysis of the national and international, civilian and military documents and NATO's occupational health recommendations.
- 2.) I have developed a new occupational health program, which had been implemented so far and the content of my analytical study for the NATO had been recommended for international application.
- 3.) The electromagnetic risk-analysis program that was based on my research is an important part of NATO 3D locators' risk-analysis.

- 4.) I have developed a complex occupational health protocol, based on my experiences in foreign missions and research results connected to them, which protocol could be applied both to the predictive and the follow up risk-analysis of the military groups taking part in peace-supporting activities, after adapting it to the local characteristics.
- 5.) I was the first to conceptualize the new lines for the development of military occupational health, which gives us the opportunity to integrate this field of the professional Hungarian army both in NATO's health system and in the civilian system either according to the European rules.

### **Practical considerations of the essay, recommendations**

- 1.) The content of the dissertation could be used in the training and education of military medicine and for the introduction of the occupational health as a field of profession in today's Hungarian Defense Forces.
- 2.) It could be a base for the further development of labour health in the structural changes concerning the whole military organization or a certain part of it.
- 3.) Risk-analysis is a valuable factor for the commander in the decision-preparing phase in the preparation phase and in peace supporting operations; it influences the operation's success. I recommend introducing my concept in the commanders' usual training.
- 4.) The national and the foreign civilian documents and the NATO's and USA's documents in this field can help in recognizing the connections in the fields those have a common border with occupational health and it can strengthen the ability for interaction.

I believe that all capable and active members of this field of the organization should take steps as quick as possible in order to establish a health-promoting working environment. We should recognize in time and follow the fast economical, social, technical and cultural changes.

I've fulfilled my aims of research with the methods I've pointed out in my dissertation. I've conceptualized summarized conclusions and recommendations besides this I've showed new scientific results which could help in answering the needs of professional army better in the field of military occupational health in the field of military medicine.