AZ NKE HHK TUDOMÁNYOS FOLYÓIRATA HADMŰVÉSZET

HADTUDOMÁNYI SZEMLE

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INDEX OF THE TROOP UNIT MEDICAL CENTRE IN 2012

A CSAPATEGÉSZSÉGÜGYI RENDELŐK 2012. ÉVI BETEGFORGALMI MUTATÓI

In this article the indicators of the troop unit medical centre are being presented from the year 2012, mainly focusing on the primary health care, which had been defined by their primary duty. Most of the cases from the total 88733 derived from acute medical attention, including infections and respiratory diseases. The analysis on the personnel categories shows a more differentiated picture on illnesses. Among civilian servants lingering illnesses, especially vascular lesion are of frequent occurrence that comes together with the increasing time of being away from work. Compared to the youngest, military students who are away from their workplaces 5.5 days a year on average, the civilian servants miss 9.4 days due to illness. The hospital treatment days also corresponds to this data. In favour of the higher level of specialist care provided for the personal ranks of the Hungarian Defence Forces the civil health care facilities also take part. 46% of all professional medical provision and 35% of in-patient care is taking place out of the Hungarian Defence Forces Health Centre's system.

The personal infrastructure of the troop unit medical centres has been showing an unfavourable image for years. In 2012 seven corps of the Hungarian Defence Forces were lacking a troop physician. For a troop physician who needs to take care of 2535 cases on average, besides living up to his or her other basic duties can end up in reaching the end of their bearing capacity.

A cikkben bemutatásra kerülnek a csapat-egészségügyi szolgálatok első számú feladataként meghatározott gyógyító alapellátásának a 2012. évi mutatói. A 88733 orvoshoz fordulás a legtöbb esetben valamilyen akut ellátási igény, fertőzés és légúti megbetegedés okán történt. Az állománykategóriák közötti elemzések differenciáltabb képet mutatnak a megbetegedésekről. A polgári beosztásúak körében a krónikus, főként keringési megbetegedések ellátása áll az első helyen, mely a munkából kiesett idő emelkedésével is együtt jár. Míg a legfiatalabb, tanintézeti hallgatói állomány átlagosan 5,5 napot, addig a polgári állomány majdnem dupláját, 9,4 napot van távol a munkahelyétől betegség miatt. A kórházi ellátási napok száma is ezzel párhuzamos képet mutat. A Magyar Honvédség személyi állományának magasabb szintű szakellátásában a polgári egészségügyi intézmények is részt vesznek, az összes szakorvosi ellátás 46%-a, míg az összes fekvőbeteg ellátás 35%-a a honvéd-egészségügyi szakellátó rendszeren kívül történik. A csapat-egészségügyi szolgálatok személyi infrastruktúrája évek óta igen kedvezőtlen képet mutat. 2012-ben a Magyar Honvédség hét alakulatánál nem volt katonaorvos. Az átlagosan egy orvosra jutó 2535 eset ellátása, ill. a további alapfeladataik végrehajtása az ellátók teherbíró-képességének a határát jelzik.

INTRODUCTION

Similarly to the health care system of Hungary, the Hungarian Defence Forces' health care system is bipolar, namely it consists of primary health care and professional medical provision (out-and in-patient care).

The health care system is built around the institution system which is responsible for patients in different states of health in need of differentiated medical attention and gradualism. Troop unit medical centre that are liable for basic medical

attention are positioned at the lowest level of this system, also serving as a “gate keeper”, preventing higher level medical care.

The basic tasks of troop unit medical centre during peacetime[1]:

1) healing, preventing and nursing care (e.g.: first aid, general medical attention, medicine supply, hospitalisation, screening tests);
2) sanitarian and epidemiological activities (reporting infectious diseases)[2,3]
3) battle drill, military preparedness, mobilization orders and their medical support
4) participation in the training of medical corps’ personal ranks and taking part in healthy lifestyle education

In a particular population there are four basic methods to monitor morbidity and estimate the disease burden:[4]

1) Based on date from registry of in-patient institutes (e.g.: cancer registry)
2) Residential health surveys (e.g.: Országos Lakossági Egészségfelmérés-OLEF)
3) Registry of mandatory reported infectious diseases (e.g.: Epidemiológiai Felügyeleti Rendszer és Informatikai Rendszer-EFRIR)
4) General Practitioner or general morbidity monitoring system (e.g.: Háziorvosi Morbiditási Adatgyűjtő Program-HMAP)

In terms of my study the 4th groups’ data collecting method proved to be relevant, that can operate in two different versions. One of these is the so-called case-based data collecting method, which records each and every doctor-patient encounter. The other one is referred to as the “sentinel” type of data-collection, in the course of which appointed health care services are collecting data related only to a certain class of diseases (e.g.: bout of influenza).[5]

The troop unit medical centre services introduce yearly reports on the personal and material infrastructure of consulting rooms, and the patient turnover data (medical care requisition data, hospitalized to special medical care, in-patient care, incapacity for work, morbidity data) to the Hungarian Defence Forces Health Centre who is the professional operator according to the regulations of the Information Relation System (38/2012. (HK 10) HM KÁT-HVKF).[6]

This supplying of data is connected to the so-called case-based data collecting method, thus each doctor-patient encounter is recorded. The so-termed patient turnover report’s data provides valuable information on planning the capacity of the medical supply system, organising the supplies, calculating and estimating the expected disease burden, force health protection (e.g.: preventative program organisation) and tracking down the capability of military duties.

In my article the requisition data on basic medical attention is being presented, along with the conformation of the disease burden within different personnel categories, and the most significant problems and challenges of the current medical care, all based on the Troop unit medical centre’s reports from the year 2012.

METHODS AND TOOLS

For carrying out the research I was using data from is the patient turnover report of the Hungarian Defence forces. After synchronizing these figures I generated a database. I had been using Microsoft Excel 2007 for analysing the given data and creating the charts.

[1] Csapathadtáp szakutasítás az állandó harckészültség időszakára (htp/16), IV. rész: A személyi állomány egészségügyi ellátása, Magyar Honvédség kiadványa, 1990.
[2] 18/1998. (VI. 3.) NM rendelet a fertőző betegségek és járványok megelőzése érdekében szükséges járványügyi intézkedésekről
[3] 63/1997. (XII. 21.) NM rendelet a fertőző betegségek jelentésének rendjéről
[4] Donaldson RJ, Donaldson LJ.: Assesing the health of the population: Information and its uses. In.: Essential Public Health Medicine. Kluwer Academic, London, 1993.
[5] SZÉLES György, K.FÜLÖP Ildikó, BORDÁS István, ÁDÁNY Róza: A krónikus nem fertőző betegségek okozta morbiditás alakulása Magyarországon a HMAP és a GYOGYINFOK adatai tükrében In: Ádány R. (szerk): A magyar lakosság egészségi állapota az ezredfordulón, Medicina Könyvkiadó Rt., Budapest, 2003. p:43-73.
[6] Honvédelmi Minisztérium Információ Kapcsolati Rendszer (HM IKR) IX. fejezet 1. 10. szám alatti feladat: Jelentés az alapellátás ellátottsági és betegforgalmi adatairól (Honvédelmi Minisztérium kiadványa, fnyt. sz.: 1385/254. 2011.)

In the course of the analysis I defined the below listed indexes:

1) Measuring the disease burden:
   a) Calculating the distributional ratio of morbidity, with which I analysed the conformation of diseases in different rank categories.
   b) Analysis of the special care requisition that concerning general medical care is showing the definitive medical care, besides it gives information about the frequency of cases which are beyond the competence of general medical attention.
   c) Analysis of hospitalized and incapacitated days in different personnel categories that allows concluding to the severity of particular cases.
2) Measuring the encumbrance of the troop unit medical centre system:
   a) Organisation of the personal infrastructure, patient and case number per physician

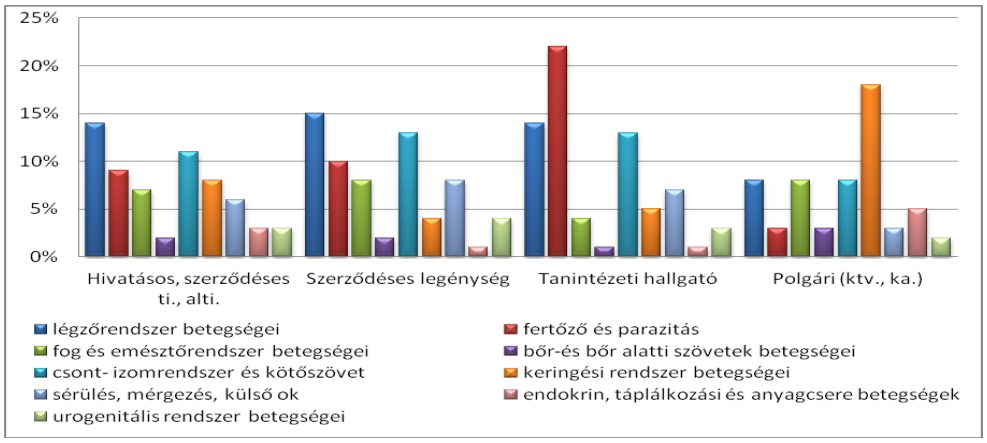
RESULTS

REQUISITION DATA OF THE TROOP UNIT MEDICAL CENTRES

In the year of 2012 the troop unit medical centre of obligation of medical care are 21919 people. Most of the patients (80%) were coming from the professional ranks, 16% was the rate of civilian servants and 4% came of military students. The actual patient turnover covered 88733 cases, from which 75% was registered as a new case (the number of patients who are seeking medical attention due to a particular illness in a given year). The average number of requisitions a year was four occasions, the requisition's division between the personnel categories showed the same figures concerning the patients in the obligation of medical care.

MORBIDITY DATA

The International Classification of Diseases (also known by the abbreviation ICD)[7] provides data about the causes of requisition of the primary health care, along with the conformation of diseases in different rank categories.
The 1st figure and chart I. sum up the relating data about the structure of morbidity.



1. Figure: Structure of morbidity among different personnel categories in the light of the most common diseases (2012.)

[7] Betegségek Nemzetközi Osztályozása: osztályozási rendszer, amelyet az Egészségügyi Világszervezet (WHO) jóváhagyásával különböző kórformák, betegségek, fizikai és pszichikai zavarok meghatározására használnak osztályozási (klasszifikációs) és dokumentációs céllal, elsősorban az orvosi gyakorlatban.

Disease (ICD)	Commissioned- and non-commissioned officers	Rank and file	Students	Government officials and public servants
Respiratory diseases (J00-J99)	**(1.) 14%**	**(1.) 15%**	**(2.) 14%**	**(2.) 8%**
□ Acute (J00-J22)	76%	63%	24%	76%
Musculoskeletal and connective tissue related diseases (M00-M99)	**(2.) 11%**	**(2.) 13%**	**(3.) 13%**	**(2.) 8%**
Infectious and parasite- caused diseases (A00-B99)	**(3.) 9%**	**(3.) 10%**	**(1.) 22%**	**(4.) 3%**
Cardiovascular diseases (I00-I99)	**(4.) 8%**	**(5.) 4%**	**(5.) 5%**	**(1.) 18%**
□ Blood pressure related (I10-I15)	50%	36%	52%	51%
Dental and digestive system related diseases (K00-K99)	**(5.) 7%**	**(4.) 8%**	4%	**(2.) 8%**
Endocrine, dietetic and digestive diseases (E00-E90)	3%	1%	1%	**(3.) 5%**
□ Diabetes (E10-E14)	17%	10%	8%	15%
Injuries, veneration and external causes (S00-T98)	6%	**(4.) 8%**	**(4.) 7%**	**(4.) 3%**
□ Injuries (S00-T19)	54%	48%	24%	49%
Dermatological diseases (L00-L99)	2%	2%	1%	**(4.) 3%**
Diseases related to the urogential system (N-00-N99)	3%	4%	3%	**(5.) 2%**

I. Chart: Structure of morbidity among different personnel categories in the light of the most common diseases (2012.)

Note: the order within structure of morbidity in given rank categories

There is no difference between the most frequent classes of diseases in the military ranks, as it can be seen in the 1st figure and chart I.

1) respiratory diseases
2) musculoskeletal and connective tissue related diseases
3) infectious and parasite- caused diseases

Concerning commissioned and non-commissioned officer ranks the cardiovascular diseases stand on the fourth place of the list (8%) from which 50% results in high blood pressure diseases, whereas the fifth most common type, the dental and digestive system related diseases represent 7% altogether.

In the case of rank and file the order is reversed; on the fourth place of the list stand the dental and digestive system related diseases along with the category of injuries, veneration and external causes. Cardiovascular diseases only came fifth here.

In the case of students the structure of morbidity shows the following order:

1) infectious and parasite- caused diseases
2) respiratory diseases
3) musculoskeletal and connective tissue related diseases
4) category of injuries, veneration and external causes
5) cardiovascular diseases

The structure of morbidity among the civil ranks (government officers, public servants):

1) cardiovascular diseases
2) respiratory diseases, musculoskeletal and connective tissue related diseases and dental and digestive system related diseases
3) endocrine, dietetic and digestive diseases, of which 15% is diabetes
4) infectious and parasite- caused diseases, dermatological diseases and the category of injuries, veneration and external causes
5) diseases related to the urogenital system

After analysing the structure of morbidity we can conclude that among the military ranks (commissioned officers with a contract, non-commissioned offices, rank and file and students), concerning the five most common diseases, the most frequent are the acute medical attention required cases (respiratory diseases, infectious and parasite- caused diseases, musculoskeletal and connective tissue related diseases), but the cardiovascular diseases also appear (high blood pressure caused diseases).

Among the civil ranks infectious diseases can also appear, but presumably because of the older age lingering, non-infectious illnesses are more common, such as cardiovascular diseases (mostly high blood pressure caused diseases), endocrine, dietetic and digestive diseases (of which 15% is diabetes) and diseases related to the urogential system.

Looking at the morbidity data, it is obvious that ageing has a negative effect on disease burden. It also increases the likelihood of lingering, non-infectious diseases, which principally lead to cardiovascular diseases.

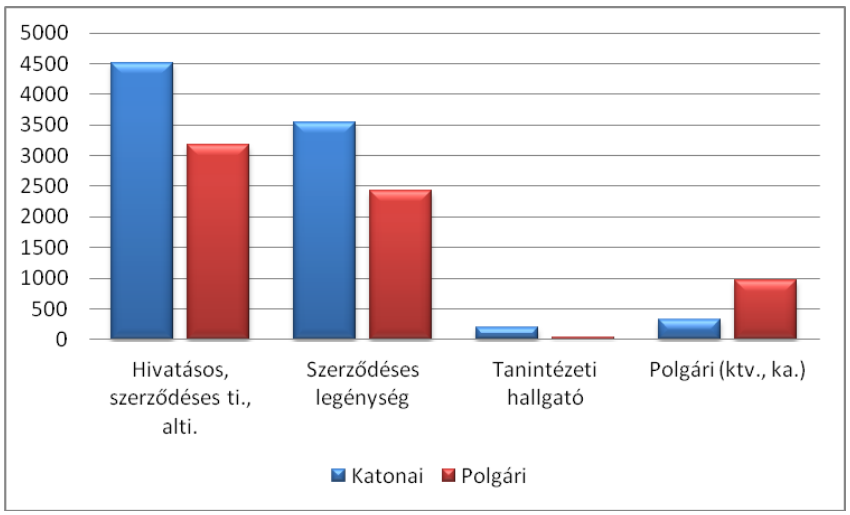
REQUISITION DATA OF PROFESSIONAL MEDICAL PROVISION

If the treatment of patients seeking for primary health care needs higher competence, or the exact diagnosis cannot be set, the patients are being sent to take part in higher level of specialist in- or out-patient care.
From the total 88733 the number of patients sent to out-patient care was 15169 in 2012.

56% (8561 persons) took part in military special medical care, another 44% had to be sent to civil special medical care. There is definitely a need for the primary health cares, as only 17% of the cases had been sent to further special care, patients have been cured during their treatment.[8]

Only in 1% of the cases did it occur that a patient was incorrectly diagnosed previously in the course of general medical care. The 2nd figure illustrates the division of patients sent to take part in professional medical provision among the different personnel categories.

[8] Definitív ellátás alatt „befejezett ellátást” értünk, olyan gyógykezelési folyamatot, amely a beteg gyógyulásával - és nem tovább utalásával - zárul.



2. Figure: Number of patients referred to professional medical provision divided between personnel categories and different types of institutions (2012.)

In 2012 altogether 2185 people from the personnel ranks of the Hungarian Defence Forces (2.5%) needed to resort to in-patient care institutes, from which 65% got to the Hospital of Hungarian Defence Forces (Honvédkórház) and 35% to civil hospitals.

411 (19%) of them were being admitted to the Hospital of Hungarian Defence Forces (Honvédkórház) compared to the 795 (36%) persons being admitted to civil hospitals.

From the ratio of referrals and admissions it can be concluded that two-thirds of the military ranks (student ranks as well) got to be treated in civil in-patient institutes.

The duration of treatments can inform about the severity of the in-patient care referrals (number of hospital treatment days).

The total number of hospital treatment days was 6879. Concluding from the average duration of hospitalized days divided between the personnel categories, military students on average spent 6 days in hospital, the file and rank 11 days, commissioned and non-commissioned officer ranks 12 days, whereas government officers and public servants stayed for 21. The longer time of civil employees' treatment is possibly due to the factor of older age, more serious disease burden or the need for treating lingering diseases.

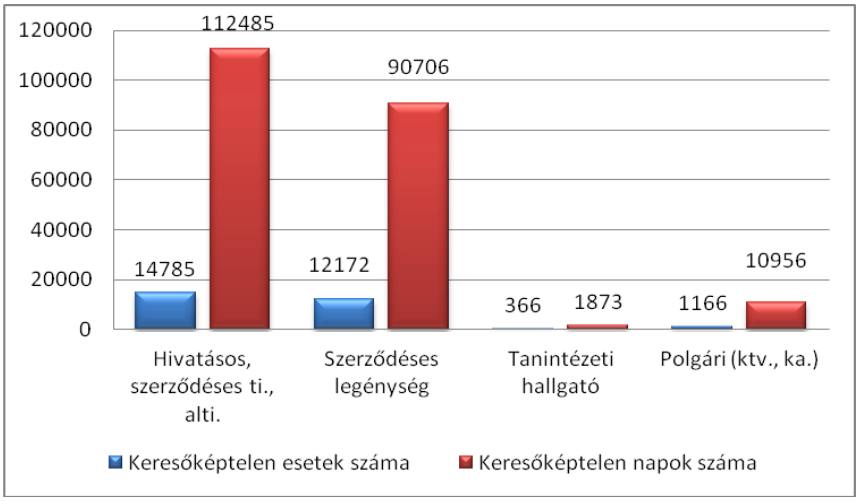
DATA OF INCAPACITY FOR WORK

An important index of the disease burden are the days of incapacity for work, which in the case of the military rank means the sick leave, in the case of the civil rank it is the sickness benefit. 17485 was the number of the incapacity for work cases, the number of days that were spent on sick leave were 112485. 95% of the incapacity for work cases and 94 % of the days of incapacity for work concerning the military rank (commissioned officer with a contract, non-commissioned officer, commissioned rank and file). If the average length of incapacity for work is examined, we get the following order (3rd Figure):

1) Student (average: 5.5 days)
2) Commissioned rank and file (average: 7.5 days)
3) Commissioned officer with a contract, non-commissioned officer (average 7.6 days)

4) Civil employee (government official, public servant) average: 9.4 days)

It can be well seen on the basis of the category analysis of the incapacity for work that later in life disease burden shows an increasing trend.



3rd Figure: Number of cases days of incapacity for work in different personnel categories (2012)

PERSONAL INFRASTRUCTURE OF THE TROOP UNIT MEDICAL CENTRE

Personal service of the troop unit medical centre has been inadequate for years. In the year 2012 military places are filled up to 72 % formally, but the exact number did not reach 63%; nearly 10 % was permanently on leave (e.g.: external service, maternity benefits and for other reason). This negative trend has been a problem for ages. With regard to the officer rank the case is particularly bad, the actual number is under 50% (43.6%). It is a problem in the case of almost every unit, that the medical position cannot be filled with a military physician for years, therefore the position is filled with public servants or with an employee with a contractual relation. In 2012 there were 5 units (MH 25. KGYLD, MH VEK, MH 64. BSZJLE, MH PBRT, MH 37 MŰE) that of which none of the physicians were military and there were two units (MH 25/88 KVZ, MH 34. BLKMZ), where no military physicians were at all. In 2012 thirty-five physicians served at troop unit medical centre altogether. On the basis of the turnover of patients' data this means that on the average a physician got 626 patients and 2535 cases per year, which means a severe congestion, that is, medical attendance is just a part of the team physician's scope of duties beside other military duties.

Troop unit medical centres subject to continuous loss of facility and capacity now have a professional, highly qualified, and selected ranks experienced in missions, which are capable of attending medical armed forces protection activities and protecting them beyond their strength and possibilities. However, the difficulty of filling the empty positions and having no replacements weakened the position the force health protection which is clearly shown by negative indicators.

SUMMARY

Continuously collecting and monitoring the morbidity data give health professionals the opportunity to plan the capacity of the medical service, to organize the service, to measure disease burden and to evaluate further developments. Firstly, in my essay I analyzed the 2012 reports of the patient turnover data in the troop unit medical centres and I discussed two important topics. On the basis of the data regarding the use of primary health care and professional medical care I drew

conclusions on the development of disease burden concerning all personnel categories. Secondly, I drew attention to the congestion of the personal infrastructure of the troop unit medical centres. The two topics are related to each other. On the basis of the use of primary health care and professional medical care's data and of the morbidity rates it can be verified that as years gone by, disease burden shows an increasing trend. This, in the near future –dedicated to the unfavourable changes in the pension system- will be a problem for the troop unit medical centre unless a development in personal infrastructure takes place. Troop unit medical centres subject to continuous loss of facility and capacity yet have all ranks which can do the medical service beyond their strength and capacity, but the system should not be overloaded. The problem should not remain unsolved, improving the troop unit medical centre's personal infrastructure became again a main problematic issue of military healthcare. In the end, I would like to quote Ortega y Gasset, spanish philosopher: "The best way to discuss a topic is to reform it, because the issue is indispensable and eligible for a new life." – Now, the troop unit primary health care has to be improved.

Keywords: troop unit medical centre, patient turnover data, morbidity

Kulcsszavak: csapat-egészségügyi szolgálat, betegforgalmi adatok, morbiditás

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