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**SOCIO-DEMOGRAPHIC CHARACTERISTICS AND THE
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TRANSMITTED DISEASES WITH THE IMPRISONED
POPULATION OF THE PRISONS IN NORTHERN MOLDAVIA**

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Socio-Demographic Characteristics and the Frequency of Sexually-Transmitted or Blood-Transmitted Diseases with the Imprisoned Population of the Prisons in Northern Moldavia

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Abstract

The study aims at identifying the specific risk factors for chronic hepatitis in the prison environment in the area of Moldavia. The research took place in the medical offices from the prisons in Northern Moldavia and encompasses patients – individuals deprived of freedom that were newly-admitted in prison but also the already-imprisoned ones, with sentences of over 5 years, to whom a specific questionnaire was applied and biologically the presence of viral hepatitis B and C was identified. According with the presence of the infection with hepatitis virus B/C, the study group was divided in 2 lots: Lot VHB/C – 108 subjects to whom the B/C hepatic virus was negative as a result of testing; witness Lot - 425 subjects to whom the hepatic virus B/C proved negative as a result of testing. The epidemiologic profile of the imprisoned patient is that of a relatively young population, the studied lot has highlighted the age group 20-29 , 211 (39%) of the prisoners, and at the age-group between 30 to 39 148 prisoners (27%) with a challenging family situation, only 97 being married (18%) and 38.5% in non-marital relationships, with a low schooling level, more than 64% had dropped school without graduating secondary school, more than 40% being without occupation. The profile of the newly-admitted in prison shows that 58.34% of the studied prisoners have criminal antecedents and they are recidivists.

Keywords: B viral hepatitis; C viral hepatitis; population deprived of freedom; risk factors.

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Introduction

The system of penitentiary administration is a public service with a very special social role, with profound implications in forming a correct attitude toward work, toward the right order and toward the social living rules of the people deprived of freedom. The National Penitentiary Administration must permanently assess the social assistance, educational and therapeutic needs of the people deprived of freedom, this process constituting the basis of the strategy for their social reintegration (Report of the Maximum Safety Penitentiary Iași, 2012).

The hepatic viral infection is in most cases asymptomatic over a long period of time and a great part of those who are infected with the virus do not have any knowledge about their serological status. On the other hand, the chronic of the infection brings with it a severe morbidity, starting from cirrhosis to hepatic cancer and even to the deaths of the infected people (Martin *et al*, 2005). The great contagiousness of those viruses, especially in the case of parental blood infection, allows the virus to engender epidemics (UNODC 2004). Prisoners all over the world are known as a population with a risk of transmitting viral hepatic diseases (B and C hepatitis), HIV (Liping *et al.*, 2012), sexually transmitted diseases, the risky behaviour of this population which lives on the edge of society and includes a lot of risk factors, among which consumption of injectable drugs, homosexual relationships, prostitution, tattoos, determine that positivity for these diseases is significantly greater in their midst than in the case of the general population.

The main hepatic chronic disorders met in the penitentiary system are: chronic hepatitis with VHB, chronic hepatitis with VBC, alcoholic toxic chronic hepatitis and drug-generated toxic hepatitis. Hepatic chronic infection with VHC is an important health problem at world level (Miftode *et al*, 2009), strategies to prevent infection, by furnishing blood products under good safety conditions and which aim at the users of injectable drugs are essential and applied in most countries since 2000. Many people are not aware they transport the virus and they are identified in the chronic phase of the hepatic disorder or in stages where there are complications such as over-infection or becoming malign. The complications of the hepatic disease linked to hepatic infection C are expected to increase in the next 10 years (Nash *et al.*, 2009). The eradication and prevention of the disease progress is possible only by way of the viral therapy, the optimum treatment being peginterferon alpha and ribavirin adapted to the genotype and to the response to treatment (Almasio *et al.*, 2011).

The Public Health Department from Great Britain estimates the number of chronic infection with the virus of the C hepatitis to 200,000 only in the UK, out of whom only 50% know about the presence of the virus and the virus prevalence varies to the risk groups from 50% of the users of injectable drugs to 0.04% in

blood donors, 1% in the medical staff from the urology hospital departments. If in Great Britain studies show that the main infection way with VHC and VHB is the use of inter-vein drugs (Viswanathan *et al.*, 2010), in the developing countries the blood products (Nishioka & Gyorkos, 2001) and the exposure to unsterilized objects remains an important contamination way. In Romania there are few evaluations at national level on the risk of B and C hepatitis and in the prison system only the acute cases which are newly-appeared and which are reported statistically towards the Public Health Division, without identifying with certainty the source of infection because of the lack of trust of the prison population in the health system. If at world level the introduction of vaccination in the penitentiary system has managed to keep under control this form of hepatitis, in Romania, because of the very precarious situation of the system of public health this prophylactic method does not exist.

The aggressive behaviour of some individuals deprived of freedom, the scarcity of the hygienic and sanitary education in their midst, the elevated risk of transmitting sexual diseases, the precarious state of the detention conditions in some penitentiaries are all factors which condition the maintaining and protection of the health of people deprived of freedom from the existence of a medical system adapted to the penitentiary environment. The conditions specific to the environment full of scarcities impose the existence of some health policies adapted to this system. The prisoners from all over the world are known as a population with a risk of transmission of viral hepatic diseases (B and C), HIV, BTS, the behaviour of this population which lives on the border of society and includes consuming injectable drugs, homosexual relations, tattoos, etc. make seropositivity for these diseases be much greater for these than for the general population (Miller, Bi & Ryan 2009).

A complex study made in the penitentiaries in Southern Australia estimate the presence of C hepatitis around 35% to 50% of the total (Allwright *et al.*, 2000) and up to 67% of the female prisoners (Babudieri *et al.*, 2005). The prison was identified as being an independent risk factor for VHC infection (Crofts *et al.*, 1996; Dolan, 2000). According to Emma Ruth Miller the risk is attributed to the exposures which take place during the imprisonment, the acquisition of the disease being fully linked to the specific disease conditions. The consumption of injectable drugs, fighting (Haber *et al.*, 1999), tattoos (Jafari *et al.*, 2010) being associated to the infections (Post *et al.*, 2001) while sexual contact and the sexual orientation had no significance in the transmission of HVC (Butler *et al.*, 2004). The study made in the Australian prisons (Teutsch *et al.*, 2010) highlighted clearly that the seroprevalence VHC is very big among women and especially women with a decreased prevalent rate at the admission into the penitentiary, moreover, according to Emma Ruth Miller the prisoners who were negative at the admission date in the prison have a high risk to start injecting and it is probable that every needle found

in circulation in the penitentiary is contaminated with HVC, producing serious implications for the prisoners and the penitentiary personnel (Miller *et al.*, 2009).

The studies do not show a uniformity of this problem at world level, as opposed to USA, UK (Kirwan *et al.*, 2011) and Australia the studies made in Egypt, country which does not have a programme to identify HVB and HVC neither among the general population nor among the prisoners highlighted the prevalence of C-virus hepatitis antibodies anti-virus C of 15.8% (79/500), whereas the virus was confirmed through PCR with 77.2% (61/79) of the antibody-positive prisoners, while the prevalence of antibodies for the virus of B hepatitis was of 9.8% (49/500), whereas 1.2% (6/500) of the prisoners had double infection with VHB and VHC. Antibodies of the virus of human immunodeficiency were not detected in this category of prisoners. The most frequent risk factor for C hepatitis and B hepatitis was a history of consumption of intra-venous drugs ($P < 0.011$ for VHB and $P < 0,001$ for VHC), the second factor was the detention period > 10 years spent in prison ($P < 0.052$ for VHB and $P < 0.021$ for VHC) and then the usage of common toilets ($P < 0.059$ for VHB and $P < 0,002$ for VHC (Mohameda *et al.*, 2013).

The main preoccupation of the Egyptian researchers was that the prisons could become reservoirs of VHB HIV HVC viruses, thus enhancing the transmission of the disease to the entire community once the prisoners are released (Rodriguez *et al.*, 1998). The effects of disease transmission within the prison are not limited to the people who are imprisoned; the transmission risk is extended to the general community to which the ex-convict returns (Macalino *et al.*, 2004). The main risk factors in the Egypt prisons were the intra-vein drug consumption, sentences of over 10 years, previous criminal records with imprisonment, tattooing (Gough *et al.*, 2010) and the common use of personal objects – like toothbrushes, whereas the main preoccupation of the study has subsequently aimed at vaccination measures against HVB and the distribution, along with syringes, of toothbrushes in order to prevent the transmission of the infection with VHC for prisoners with gingivitis (Farghaly *et al.*, 1998). The Italian Association for the study of Liver and the Italian Society of Infectious and Tropical Diseases along with prestigious medical Universities and the medical system in Italian Prison published in 2010 a study on the „specific population” represented by the vulnerable groups from penitentiaries, thus recommending at the end of the study both research programmes and intervention programmes for special groups of population, with a view to assessing the risk of infection, prevention and control of risk factors and preferential antiviral treatment of these groups along with therapeutic education.

More studies are presently focused on imprisoned females because at global level female prisoners come to a percentage of around 5% of the total prison population, but this percentage is growing rapidly, especially in the countries where the consumption level of illicit substances is high (International Centre for Prison Studies, 2006). In 2005, more than half a million women and girls were

detained in the prisons from all over the world, either for awaiting trial or executing the punishment (International Centre for Prison Studies, 2006). Most of the women in prison come from socially marginalized groups and are more susceptible for having practiced prostitution and/or of drug consumption (UNODC 2008). Nevertheless, in many developed countries there are a greater proportion of imprisoned women than men for drug-related crime (Fazel *et al.*, 2006). Many of these women will continue to use the injection of drugs in prison, while women who did not consume drugs could begin this habit in prison. In the absence of sterile equipment for injection, women, just as men, will inject themselves with needles and syringes used (Martin *et al.*, 2005). Women who inject drugs are much more susceptible of being infected with infectious diseases transmitted by blood, such as HIV, B or C hepatitis than men who inject drugs, because they have limited access to information, health services and surety of injection (UNODC, 2004; UNODC, 2008). The assessment of the impact of educational campaigns made for women prisoners shows that education is an efficient measure to reduce contracting VHC and also efficient in controlling the spread of the disease. The number of new cases of sexually-transmissible disease or blood-transmissible disease (ITSS) is under constant progress in the last ten years at global level (Spaulding *et al.*, 2011), with the exception of B hepatitis cases for which there exists an immunization programme. The hepatic viral infection has represented a major public health problem for over a decade, both at European level and in other parts of the world.

The aim of the study

The current study has the aim of characterizing the VHC and HVB infected people or of those with other forms of chronic hepatitis, upon the imprisoned population and the transmission modalities of this infection, but also the evolution of hepatic disorders in the special situation of this type of population. To date, the information about the transmission ways of viral hepatitis among the imprisoned population comes from some international studies, but statistic data regarding the Moldova area is not known. The current study aims at quantifying the prevalence and incidence of chronic hepatitis in prison environment. Currently it is only the acute cases of viral hepatitis that are reported through the territorial Health Authorities, that means the tip of the iceberg, but the bottom of the matter is much greater. We also aim at uncovering the risk factors associated to the transmission of the hepatic infection in the imprisonment environment in the context of a totally special quality of life of this type of population.

Material and method

The research was performed in the medical offices of the penitentiaries of Northern Moldavia and encompasses patients – individuals deprived of freedom who were newly-admitted in prison but also the already-existing ones, with sentences of over 5 years, and who can come under the selection criteria of the lot: age over 18; decision-making abilities; newly-admitted prisoners or who were transferred in order to execute the sentence. *Exclusion criteria*: age under 18; no decision-making abilities; pregnancy. 533 subjects were admitted in the study, who was imprisoned between October 2010 – October 2012: 479 people (89.9%) imprisoned in the Iasi Penitentiary, 49 subjects (4.5%) from the Tg. Ocna Penitentiary and 30 women (5.6%) from the Bacau Women's Penitentiary. Through sampling methods it is demonstrated that, based on the imprisoned population in Romania (n=31,720), with a sampling error range of $\pm 4,2\%$, the study group is statistically representative. Depending on the presence of the infection with the B/C hepatic virus, the study group was divided in 2 lots: *Lot VHB/C* – 108 subjects found positive with the B/C hepatic virus upon testing; *Witness Lot*– 425 subjects found negative with the B/C hepatic virus. The study protocol consisted in obtaining the informed consent, applying a questionnaire to every person deprived of freedom - (ppl) of the penitentiary, with the identification of the demographic and social risk factors, testing for the hepatic virus B, C, HIV, lues.

Statistical Methods applied

In order to assess the health state and establish the risk factors, an observational epidemiologic investigation was performed, based on analytical enquiries of case-control type, which prove the relationship between the risk factors and the incidence of the disease with the studied population. The analytical technique which confirms/invalidates the hypothesis is the quota fraction (OR). The data was uploaded and processed with the statistic functions of the *SPSS 13.0 software*, univariate, bivariate and multivariate analysis. Employed techniques: ANOVA test, t-Student, χ^2 test, Pearson correlation coefficient, determining coefficient (R^2), relative risk (RR).

Results

The social and epidemiologic characteristics of the imprisoned population with chronic viral infection as compared to the witness population.

Table 1. *Epidemiological characteristics on the study lots*

Profile	VHB/C Lot (n=108)		Witness Lot (n=425)		Significance		RR	IC95%
	n	%	N	%	χ^2	p		
Demographic Characteristics								
Male	99	91.7	404	95.1	1.28	0.258	1.69	0.80÷3.58
Age under 35	61	56.5	267	62.8	1.21	0.272	0.90	0.75÷1.08
Rural Area	71	65.7	234	55.1	4.01	0.045	2.19	1.02÷3.49
Institutionalised	15	13.9	49	11.5	0.26	0.612	1.20	0.20÷2.06
Married/in a relationship	58	53.7	240	56.5	0.17	0.683	0.95	0.78÷1.15
Low Educational Level	93	86.1	347	81.6	0.90	0.342	1.05	0.97÷1.15
Unemployed	46	42.6	165	38.8	0.37	0.545	1.10	0.85÷1.41
Profession with blood risk	3	2.8	27	6.4	1.45	0.228	0.44	0.14÷1.41
Mediu toxic	15	13.9	36	8.5	2.33	0.127	1.64	0.93÷2.88
Detention								
Detention period over 5 years	44	40.7	24	5.6	92.16	0.001	7.21	4.60÷11.32
Over 2 previous entries for criminal records	90	83.3	200	47.1	44.23	0.001	1.77	1.55÷2.02
Over 15 individuals in the room	53	49.1	62	14.6	58.51	0.001	3.36	2.49÷4.54
Personal Records								
Vaccine Antecedents	-	-	17	4.0	3.26	0.035	-	-
VHB/C Infections	28	25.9	14	3.3	57.69	0.001	7.87	4.29÷14.42
Heredocollateral Antecedents								
VHB/C Contact	10	9.3	11	2.6	8.44	0.004	3.58	1.56÷8.20
AgHBs Contact	6	5.6	3	0.7	9.45	0.002	7.87	2.0÷30.96
Intra-family Contact	14	13.0	14	3.3	14.29	0.001	3.94	1.93÷8.00
Mother with VHB/C	8	7.4	9	2.1	6.18	0.013	3.50	1.38÷8.85

On the studied cases we can observe the homogeneity of the sex-distributed lots, the frequency distributions do not present with significant differences from a statistical viewpoint ($p=0.258$). 8.3% of the subjects of the VHB/C lot and 4.9% of the subjects of the witness lot were females. As for the age group spread, most subjects were found to be in the age group of 20-29 for both investigated lots: 38% of the VHB/C lot and 40% of the witness lot. The weight of the cases per age groups present significant differences between the lots ($p=0,026$): in the VHB/C lot there were no patients aged under 19 or over 70; in the 20-29 and 40-49 age groups, the fraction of quota between the study lots were of approximately 20%, approximately 22% of the subjects of the 30-39 age group presented with B/C

hepatic virus infection; approximately 35% of the subjects from the 50-59 age group presented an infection with B/C hepatic virus.

The medium age of the investigated patients, compared on study lots, presents the following particularities: with the witness lot the medium age was 33.19, with a wide variance (34.14%) for the 18-72 age group; for the VHB/C lot the medium age was 35.41, with boundaries between 21-60 with an ample variance coefficient (28.8159, but it was more reduced as compared to the witness lot.

The environment of the subjects was rural for both study lots, but the frequency distribution (OR=1.57) is significantly higher for the viral hepatitis group ($p=0.045$). Originating in an institutionalized environment was highlighted to 13.9% of the subjects in the VHB/C lot and to 11.5% of the witness lot, without registering frequency differences which are statistically important ($p=0.612$).

There were no significant differences between the study lots from the point of view of the marital status ($p=0.683$), unofficial relationships are predominant (32.4% vs. 39.1%). The weight of the single, divorced or widowed subjects reaches a value of 46.3 & of the VHB/C lot and 43.5% in the witness lot, which is an insignificant difference (*Table 2*).

Table 2. The Structure of the Lots based on the marital status

Marital Status	VHB/C Lot		Witness Lot	
	N	%	n	%
Married	23	21.3%	74	17.4%
In a relationship	35	32.4%	166	39.1%
Single	31	28.7%	130	30.6%
Divorced	13	12.0%	40	9.4%
Widowed	6	5.6%	15	3.5%

The distribution according to the *educational level*, comparatively on study lots brings forth the following aspects: the weight of subjects without any studies was of approximately 8-9% in both groups; the reduced educational level weighs 76.8% in the VHB/C lot and 73.6% in the witness lot; there were no subjects with upper education infected with the hepatic virus B/C (*Table 3*).

Table 3. *The structure of the lots according to the educational level*

Studies	VHB/C Lot		Witness Lot	
	n	%	n	%
Without Studies	10	9.3%	34	8.0%
Primary school	26	24.1%	105	24.7%
Secondary School	40	37.0%	127	29.9%
Vocational School	17	15.7%	81	19.1%
High school	15	13.9%	42	9.9%
Post high-school	-	-	8	1.9%
Graduate studies	-	-	28	6.6%

The distribution according to the socio-economic level highlights a slightly higher weight for people with a reduced socio-economic status (OR=1.17), for the weight of the individuals without a job (30.6% vs. 24.3%) the household people are added (11.1% vs. 12.3%) and the unemployed (0.9% vs. 2.4%). We must, therefore, acknowledge the fact that approximately 60±2% of the subjects in both lots are employed in an active socio-economic form (p=0.545), although the great majority are individuals who work on a daily basis without having the security of a full-time job, with numerous changes of the permanent residence and of the job (Table 4).

Table 4. *The structure of the lots according to the socio-economic status*

Socio-economic status	VHB/C Lot		Witness Lot	
	N	%	n	%
Pupil/student	1	0.9%	12	2.8%
Employed	58	53.7%	235	55.4%
Unemployed	1	0.9%	10	2.4%
Household Minder	12	11.1%	52	12.3%
Retired	3	2.8%	12	2.8%
Without an occupation	33	30.6%	103	24.3%

The professions with contact risk for biological products, medical staff or laboratory staff, policemen, firefighters, presented a weight of 2.8% of the subjects from the VHB/C lot and of 6.4% of the witness lot (p=0.228), an insignificant difference. On the cases studied the exposure to a toxic environment did not present itself with significant differences (p=0.127), the weight of subjects exposed from the VHB/C lot was of 13.9%, whereas in the witness lot of 8.5%.

The detention period was significantly higher in the lot of patients with VHB/C infection (5.18±2.18 years) as compared to the medium period registered with the witness lot (1.17±1.14 years) (p=0,001) (Table 5).

Table 5. *Statistic indicators of the detention period (years) on study lots*

Lot	N	Average	Standard Deviation	Standard Error	Trust Interval		Min	Max	Variant (%)	P
					- 95% CI	+ 95% CI				
Witness	425	1.17	1.14	0.10	0.96	1.37	0	17	97.4	0.001
VHB/C	108	5.18	2.18	0.50	4.19	6.17	0	28	42.1	
Total	533	1.98	1.41	0.15	1.69	2.27	0	28	71.2	

After the analysis of *the number of penitentiary admissions* it is observed that 52.8% of the witness lot and only 16.7% of the subjects of the VHB/C lot are witnessing their first admission in the penitentiary ($p=0.001$), which means that 83.3% of the individuals infected with VHB/C have criminal antecedents and have been jailed. The previous admissions to the penitentiary have varied up to 12, with an average value significantly higher for the patient lot with VHB/C infection (2.41 ± 1.24) as compared to the average number registered with the witness lot (1.46 ± 1.24) ($p=0.001$) (*Figure 1*).

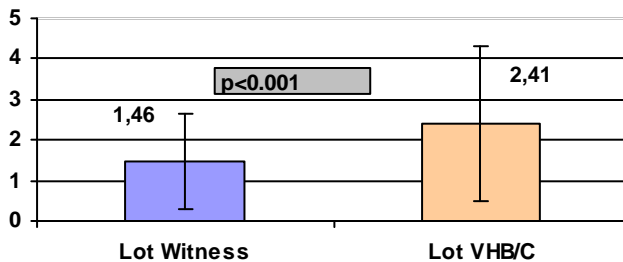


Figure 1. *Medium Values of the number of admissions to the penitentiary*

The medium number of individuals in a room was significantly higher for the lot of patients with VHB/C infection (15.73 ± 8.94) as compared to the medium number registered with the Witness lot (10.06 ± 5.98) ($p=0.001$) (*see Table 6*)

Table 6. *Statistic indicators of the number of individuals per room on study lots*

Lot	N	Average	Standard Deviation	Standard Error	Trust Interval		Min	Max	Variance (%)	p
					- 95%CI	+95%CI				
Witness	425	10.06	5.98	0.29	9.49	10.63	2	35	59.4	0.001
VHB/C	108	15.73	8.94	0.86	14.03	17.44	2	35	56.8	
Total	533	11.21	7.05	0.31	10.61	11.81	2	35	62.9	

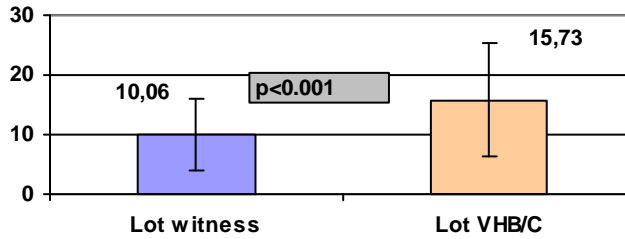


Figure 2. Medium values of the number of individuals per room

Vaccine antecedents have only been highlighted for 4% of the witness lot. The positive viral infection with VHB/C in the pathological personal antecedents was discovered with approximately 26% of the subjects of the VHB/C lot, for whom the relative re-infection calculated risk was of 7.87 (see Table 7).

Table 7. The Structure of the lots according to the personal antecedents

Antecedents	VHB/C Lot		Witness Lot	
	N	%	n	%
Vaccine	-	-	17	4.0%

Contact with people from the questioned subject's immediate environment was identified in a proportion of 9.3% for the VHB/C lot and only 2.6% of the witness lot. For the VHB/C lot most of the subjects (53.7%) do not know if they have been in contact with VHB or VHC, while for the witness lot, upon declaring, 75.8% of the subjects have not been in contact with infected individuals with hepatic viruses ($p=0.004$). With 5.6% of the subjects of the lot VHB/C and only with 0.7% of the witness lot contact with AgHBs positive was identified. With lot HVB/C most of the subjects (57.4%) do not know if they have been in contact with AgHB positive, whereas in the witness lot 76.9% of the subjects have not been in contact with individuals with positive antigen ($p=0.002$). On a declarative level, the intra-family contact was more frequent in the VHB/C lot (13% vs 3.3%). One must also note that 55.6% of the subjects from the lot VHB/C do not know if the contact was intra-family, and 74.4% of the subjects from the witness lot did not have intra-family contact ($p=0.001$). In heredocollateral antecedents, the infection of the mother with B or C hepatic viruses was highlighted with 7.4% of the subjects in the VHB/C lot and 2.1% with the witness lot ($p=0.013$).

Discussions

At the level of penitentiary administration, the activities regarding the right to medical assistance for individuals deprived of freedom are organized and monitored. In order to achieve this goal the penitentiary administration system uses specialized staff, an own equipment and procedures similar to the public sanitary system, but the access of individuals deprived of freedom to clinical studies is cumbersome enough. The medical staff with graduate studies is insufficient for the number of individuals deprived of freedom, given the fact that the medical standards recommend 30 examinations per day, whereas in the penitentiary system there are situations in which a graduate medical employee is responsible for 500 prisoners, with over 100 examinations per day for one medical staff. The budgetary funds allotted to the penitentiary medical system do not cover the necessity regarding the endowment of medical offices according to the standards imposed by the Ministry of Health and the penitentiary medical system does not have an explicit policy in this matter, developed on a medium period of time and with system indicators which should measure the results and fundament the necessary interventions.

The life environment of the penitentiary system is acknowledged to be one with specific medical necessities. The aggressive behaviour of some detainees, the scarcity of hygienic and sanitary education among them, the increased risk of transmission of sexual diseases, the precarious state of detention conditions in some penitentiaries, all are factors which condition the maintenance and protection of the prisoners' health of the existence of a medical system which is adapted to the penitentiary environment. The conditions specific to the detention environment impose the existence of some health policies adapted to the system. Future interventions in the field must have a strategic character, and this field must be considered one of the four priority fields of the penitentiary administration system. The interventions must be based on clinical studies which should highlight the specific pathology, the most efficient treatment modality, but under the conditions of a permanently negative financial report the studies must highlight efficient solutions with a minimum of funds and resources – an efficient management of diagnosis and treatment.

We must therefore underline that the old conception according to which individuals deprived of freedom represent an isolated environment from the rest of the society is false. There is permanent contact to civilians. The fact is also proved by the migration from one penitentiary to another of detainees but also by admission to clinics, presentation to courts, intimate visits, working with or without the presence of guardians, the existence of community activities. From the statistic data of the Detainee Evidence Office of the Iasi Penitentiary we can infer that there are a great number of individuals who are transferred to other penitentiaries. For judicial affairs, the so-called penitentiary tourism, this fact encompasses a

much extended area of contacts all over the country. We identify the growing number of escorted detainees to community activities, 59 individuals in 2012, but also of those who take leaves, 64. Individuals deprived of freedom are released for work both inside the penitentiary and outside, where they work and interact with civilians. The number of detainees who worked in 2012 was 354. The growing number of individuals deprived of freedom who were entitled to an intimate visit with a risk of contamination and transmission of a sexually-transmitted disease for the partner, in 2012, was 322 (out of which 15 visits of 48 hours occasioned by marriages within the penitentiary and 307 visits of 2 hours). In the penitentiary administration system there are currently 12,500 employees who ensure the good progress of the activities applicable to the detention regime for over 27,000 individuals sentenced to freedom deprivation. The study of risk factors regarding the appearance of hepatic diseases will have an impact for both categories, but more for the society in which the 27,000 detainees will subsequently be reintegrated.

The expected impact through the realization of this objective is the reduction of mortality with individuals deprived of freedom, under conditions specific to the penitentiary system and in agreement with the evolution of these indicators for the general population.

Conclusions

The medium age of patients from lot VHB/C was slightly higher (35.41 vs. 33.19), with a greater weight of subjects with ages under 35, of 56.5% ($p=0.272$). For subjects from the VHB/C lot the rural background induced a relative risk of over 2 of viral hepatic infection ($p=0.045$). The reduced educational level occurs with over 86% for the lot infected with B/C hepatic virus, but the frequency was not significantly higher as compared to the witness lot ($p=0.342$). The detention period greater than 5 years triggers the relative risk of infection with B/C hepatic virus of over 7 ($RR=7.21$). The number of 15 individuals in a room presents a relative risk of $RR=3.36$ of infection with B/C hepatic virus. With the VHB/C lot, the contact with infected individuals with B or C hepatic viruses represented a relative risk of infection with VHB/C of 3.58. The contact with individuals with positive AgHB represented a relative risk of over 7 of infection with B or C hepatic virus for subjects from the VHB/C lot, as compared to the witness lot ($RR=7.87$). For subjects infected with B or C hepatic virus, the intra-family contact represented a relative risk of approximately 4 ($RR=3.94$).

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