Hepatitis C Screening in Selected Social Reintegration Facilities in Eastern Slovakia

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Original Article

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Abstract:

Introduction: The World Health Organization has adopted a global strategy to eliminate viral hepatitis as a serious public health threat by 2030. Worldwide, intravenous drug users are the most risky group with a high prevalence of viral hepatitis C. Often they concurrently suffer from alcoholic liver disease.

Study participants: Hepatitis C screening took place between July and October 2018. We tested a total of 410 clients (298 males, 112 females). The average age of tested men was 44.2 years: the average age of women was 40.1 years.

Methods: To determinate the hepatitis C antibodies (antiHCV), we used a test for rapid diagnostics of Hepatitis C (Liver HCV disease test – Voyage). At the same time, we gave the clients a questionnaire of our own design with questions that focused on the risk factors of viral hepatitis as well as on the reasons for their arrival to the social reintegration facility.

Results: Out of the total of 410 tested clients, 394 clients were antiHCV negative; 16 (4.1%) were antiHCV positive. Due to the positive antiHCV results, we performed an additional examination - a determination of HCV RNA. HCV RNA positivity was confirmed in 4 clients (0.9%). A total of 46 clients (11.2%) confirmed intravenous drug use, 119 clients (29%) had a tattoo. In the questionnaire, clients often mentioned several risk factors that had been the reason for their arrival at the social reintegration facility, alcohol being the most commonly mentioned: 183/410 (44.6%).

Conclusions: Our screening project is prospective (2018-2019). The benefit of the project lies in: continuous education of social reintegration facilities clients; capturing specific persons suffering from CHC infection and in implementing secondary prevention.

Curriculum vitae of the first author

I graduated from the Comenius University Faculty of Medicine in Bratislava in 1999. From 1999 to 2010 I worked in Bratislava as a doctor and a senior assistant at the Slovak Medical University. I earned a PhD. title in 2004, in 2010 I received a title of Associate Professor in Public Health. Since 2010 I have been acting as an expert

guarantor of the outpatients clinic Remedium s.r.o. in Bardejov Spa and I teach at St. Elizabeth University of Health and Social Sciences. In Bardejov Spa, I have created a place for non-pharmacological treatment of obesity in adults and an ambulance for non-invasive diagnosis of liver diseases. I am the President of the Slovak Society of Practical Obesitology. I attended several study stays abroad, organized 5 interdisciplinary conferences with international participation and I regularly give lectures at domestic and foreign specialized events.

Introduction

Hepatic diseases are the sixth most common cause of death in the European Union (data of Eurostat). ***Along with metabolic diseases*** (NAFLD - non-alcoholic fatty liver disease, NASH - non-alcoholic steatohepatitis), ***viral liver diseases are considered to be the most frequently occurring liver diseases*** (1, 2).

Worldwide prevalence of HCV infection (hepatitis C) is about 2% in the normal population. Worldwide, **about 150 million people** are infected with hepatitis C virus. Every year, approximately 350-700,000 people die of causes related with the HCV infection (3).

The World Health Organization has adopted a global strategy to eliminate viral hepatitis as a serious public health threat by 2030. This strategy covers both, hepatitis B (HBV) and hepatitis C (HCV). Its goals include a 90% reduction of consequences and a 65% reduction of mortality due to HBV/HCV by the year 2030.

Chronic hepatitis C (CHC) is a precancerosis with a high risk of developing hepatocellular carcinoma. In Slovakia, an epidemiological study has found that the prevalence of anti-HCV antibodies in adults over 15 years was 1.52%, with chronic infection confirmed by evidence of virus replication in 0.67% (4). It accounts for over 30,000 chronically infected patients, out of which, according to the number of reported diseases, only a minor part was diagnosed. Similar data on underdiagnoses of viral hepatitis have also been reported in other countries which highlights the need for active screening of this infection.

Vulnerable groups are specific groups of people from the wider population. They are more susceptible to a wide variety of problems (e.g. poor health, substance abuse, poor eating habits, worse study results). **Vulnerability in relation to drug addiction** is defined on the basis of whether a particular group, based on the socio-demographic profile and the relevant risk factors has an increased susceptibility to drug use. **Identification of vulnerable groups - an important tool for directing the drug policy measures in the EU.**

Intravenous drug users (IDUs) – are worldwide the most risky group with a high prevalence of viral hepatitis C. In addition to hepatitis C, they may **concurrently be co-infected with hepatitis A, B and HIV**. They often suffer from alcoholic liver disease, medication addiction, or non-alcoholic fatty liver disease. Any associated liver disease worsens the course of CHC. **The result of each untreated liver disease is formation of fibrosis or even liver cirrhosis** (5).

Social reintegration facilities are one of the final stages of a comprehensive care for drug addicts. They are intended for adults and children who completed treatment in a health care facility and have been recommended for a social reintegration by a psychiatrist or addictologist. The purpose of a stay in the facility is social reintegration of drug addicts and their integration into the majority society, into their natural environment (6).

Aim of the project

The aim of the project was: **a)** to determine the prevalence and risks of hepatitis C occurrence in selected social reintegration facilities; **(b)** to initiate the necessary measures for prevention and reduction of the occurrence of these diseases; **c)** to identify the most prevalent primary drug in social reintegration facilities in Eastern Slovakia.

Group of tested patients

Hepatitis C screening took place between July and October 2018. We tested a total of 410 clients (298 males, 112 females). The average age of tested men was 44.2 years; the average age of women was 40.1 years. We examined a total of: 214 clients of the Institute of Christ the King Sovereign Priest in Zakovce; 63 clients of the Greek Catholic Charity in Prešov; 91 clients of the Oasis facility in Koksova-Baksa (near Kosice); 42 clients of the society of abstinent drug users in Moldava nad Bodvou and Humenne. In addition, we examined employees of the social reintegration facilities (32) and children living with the clients in these facilities (18).

Methodology

To determinate the hepatitis C antibodies (antiHCV), we used a test for rapid diagnostics of Hepatitis C (Liver HCV disease test – Voyage). At the same time, we gave the clients a questionnaire of our own design with questions that focused on the risk factors of viral hepatitis as well as on the reasons for their arrival at the social reintegration facility. From the grant funds, we purchased single use rapid tests for detection of antiHCV antibodies and disposable needles. To determine the antibodies to hepatitis C, we used a drop of capillary blood that we placed on the diagnostic set. A positive or negative result of antiHCV antibody was recorded after 15 minutes. The teachers of St. Elizabeth University of Health and Social Sciences in Bratislava, and the teachers of its workplaces in Michalovce and Presov travelled in their free time to the individual social reintegration facilities. In collaboration with social workers, we performed anti-HCV antibody testing in clients and completed questionnaires with them for detecting risk factors for viral hepatitis as the cause of clients' arrival in the social reintegration facility. In case of positivity of antiHCV antibodies, we performed a blood test, examination of biochemical parameters (glucose, creatinine, bilirubin, liver function tests, lipid profile, albumin, additional methodology for determination of the possible presence of chronic hepatitis C virus - HCV RNA). In case of positive HCV RNA results, we sent the client to a specialized hepatology clinic to initiate a treatment of chronic hepatitis C.

Results

Out of the total of **410 tested clients**, 394 clients were antiHCV negative, 16 (4.1%) were antiHCV positive. Due to the positive antiHCV results, we performed an additional examination - a determination of HCV RNA. HCV RNA positivity was confirmed in 4 clients (0.9%). A total of 46 clients (11.2%) confirmed intravenous drug use; 119 clients (29%) had a tattoo (which they obtained during their stay in a prison or in a military service, eventually in tattoo studio).

Clients who inject drugs intravenously often have experience with other drugs: marijuana, benzodiazepines, methamphetamine, heroin, cocaine, other hallucinogens, hypnotics, amphetamines.

In the questionnaire, we asked our clients questions about the risk factors that were the reason for their arrival into the social reintegration facility. The most frequent reasons were: alcohol – mentioned 183x in the

questionnaire (44.6%); family loss - 115x; poor financial situation - 83x, unemployment - 64x; other reasons - 49x, home loss - 47x. Some reported several risk factors at the same time. The most risky factor seems to be the consumption of alcohol, which subsequently led to a poor financial situation, loss of family, unemployment, loss of home.

Discussion

Chronic viral hepatitis B and C (CHB / CHC) are serious medical, public health, social and economic problems on a global scale, in Europe as a whole, in Central and Eastern Europe in particular. Chronic hepatitis C is considered to be the most common disease transmitted by blood in intravenous drug users. A prevalence of hepatitis C infection higher than 50% has been confirmed in IDUs in 49 countries of the world. Studies by the European Monitoring Center for Drugs and Drug Addiction (EMCDDA) confirmed a high prevalence of hepatitis C in IDUs under 25 years of age and in those taking drugs for less than 2 years. This highlights the fact that many IDUs get infected very quickly and there is only a relatively short period of time for implementing effective preventive measures (7).

Within Slovakia, the first prospective monitoring (2004-2008) aimed at detection of the prevalence of hepatitis C in clients of social reintegration facilities (a total of 10) was conducted by doc. MUDr. F. Gazdik, CSc. with his team. **341** clients were evaluated (8). The nature of the addictions differed according to the geographical affiliation of the social reintegration center: while Eastern Slovakia reported almost exclusively clients addicted to alcohol and in a lesser extent to solvents, in other parts of Slovakia a polytoxicomania, with dominance of methamphetamine: methamphetamine - alcohol – heroin, was frequent (8).

In 2008-2009, within The National Reference Center for Diagnosis and Treatment of Chronic Hepatitis at the Slovak Medical University (SMU) in Bratislava (Holoman J, Glasa J, Belovicova M *et al.*), we implemented a research project (supported by a grant from the Ministry of Health of the Slovak Republic no. 2007/12-SZU-08.), in which we examined **397** persons from social reintegration facilities in relative geographical proximity of Bratislava (9). Following the protocol, in addition to patient's anamnesis (questionnaire of our own design) with a special focus on the risk factors of transmission of selected blood-born diseases and targeted physical examination, within the screening, we tested selected serum markers of the following infections from venous blood**:** HBsAg antigen (hepatitis B surface antigen) and antiHBc antibodies (total) (antibodies against hepatitis B core antigen); antiHCV and antiHIV1,2 (antibodies to HIV)

Identified risk factors for acquiring HBV/HCV infection included: intravenous drug use (68.2%); needles and other tools sharing (56.8%); dental treatment (52.2%); close contact with HBV/HCV infected persons (50%); bleeding injuries (29.5%); tattoos (26.8%); piercing (20.45%); unprotected sex (18.18%); participation in paid sex (13.6%). **The most common primary drug among drug addicts from this group from Western Slovakia was heroin (54.8%) and methamphetamine (32.3%)** (9, 10). Out of the total of 397 clients, 56 clients (14.1%) were antiHCV positive.

Detection, diagnosis and treatment of CHC among intravenous drug users is associated with specific problems: a) compliance, **b)** an increased incidence of depression, **c)** drug abuse relapse, **d)** a need for multidisciplinary care, **e)** organizational and financial problems and limits.

The basic drug policy document of the Slovak Republic in line with the level of current knowledge of the drug phenomenon is the **National Drug Strategy (valid for period 2013-2020)**. The Government of the Slovak Republic approved it by a resolution no. 380 of 10 July 2013. One of the objectives is also the creation of effective tools for searching for people and groups living on the margins of society, providing adequate care and assistance to these groups and tools to prevent spreading of drug-related diseases, in particular HIV and hepatitis (especially of chronic hepatitis B and C).

According to the results of our pilot screening project, the most common primary drug in social reintegration facilities in Eastern Slovakia was **alcohol**.

Alcohol is a major cause of more than 200 diseases and damages (diseases of liver, other organs of the digestive system, CNS, serious mental and social disorders), early work disability and mortality. ***In fact, there is no such organ system of a human body that alcohol would not have a harmful effect on.*** Alcohol and its excessive consumption impairs the peripheral nervous system and cause polyneuropathies. It also damages the cardiovascular system and causes ischemic heart disease, high blood pressure, cardiomyopathy (11, 12).

Alcoholic liver disease - the most common cause of advanced liver disease in Europe. Removing alcohol dependence would greatly contribute to a decrease in preventable hepatic diseases around the world. **Annually, alcohol causes 2.5 million deaths, which is more deaths than HIV, violence and tuberculosis together.** In Europe, the social costs associated with alcohol are estimated at €155.8 billion per year (13, 14). Harmful use of alcohol has a serious impact on public health and is worldwide considered to be one of the main risk factors for health damage and morbid condition. Solving this issue requires an interdisciplinary approach (15).

Within our Hepatitis C screening, 4 patients have been diagnosed with chronic hepatitis C. We sent them to a hepatological outpatient clinic in order to initiate antiviral treatment.

Conclusion

In 2018, the EMCDDA supported a new initiative, objective of which is to raise awareness and promote access to hepatitis C testing and its treatment and thus, more effectively tackle one of the major drug-related issues. Chronic hepatitis C is currently the only chronic viral infection that can be definitively cured (5).

The most important factor in preventing the outbreak of viral hepatitis in IDUs is the adoption of basic measures which is to end the risk behavior – to terminate the drug use. **Social reintegration facilities** help to fulfil this objective and enable clients to find a life purpose – to set life goals without drugs. The ultimate goal of the social reintegration process is to reintegrate drug addicts into the natural (or alternative) social environment and to help them gain their independence from institutional social support (8).

Our screening project is prospective (2018-2019). The benefit of the project lies in: **a)** continuous education of social reintegration facilities clients; **b)** capturing specific persons suffering from CHC infection; **c)** in implementing secondary prevention.

Successful detection and treatment of viral hepatitis in drug addicts unconditionally requires effective collaboration and functional interconnection of not only the healthcare specialists and experts, but also of the wide range of professionals and institutions involved in the care of these patients - social workers, volunteers from governmental and non-governmental organizations, self-help groups and foundations, family members and friends of drug addicts

(16, 17). A comprehensive care for clients in social reintegration facilities should include screening for and subsequent treatment of chronic hepatitis C.

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References

1. BLACHIER M, LELEU H, PECK-RADOSAVLJEVIC M, VALLA D-Ch, ROUDOT-THORAVAL F (2013) *The Burden of liver disease in Europe 2013. A review of available epidemiological data.* J Hepatol 58: 593-608.
2. BELOVICOVA M, BALAZOVA I (2018) *Chronic hepatitis C - a serious public health problem. Experience from eastern Slovakia.* J Health Inaqual; 4(1): 36-38. http://www.euro.who.int/en/health-topics/communicable-diseases/hepatitis/data-and-statistics 30.07.2018.
3. SCHRETER I. (2016) *Viral hepatitis C screening.* New Pharmaceuticals - a magazine about pharmaceuticals. Bratislava, Vol. III (separate attachment): 6-8. ISSN 1339-8091
4. BELOVICOVA M (2016) *Diseases of the liver in ordinary life - Casuistry.* New Pharmaceuticals - A magazine about pharmaceuticals. Bratislava, 2016. Volume III (separate attachment): 10-11. ISSN 1339-8091.
5. SOCIAL REINTEGRATION FACILITIES (2018) www.infodrogy.sk. 1.08.2018.
6. HOLOMAN J (2012) *Hepatitis C in the Drug Environment - Editorial.* Trends in hepatol. 4(2): 3-4.
7. GAZDIKOVA K, GAZDIK F, HUCKOVA D, KAJABA I, MIKOVA Z (2010) *Prevalence of viral hepatitis C and B in clients of social reintegration facilities in Slovakia.* Psychiatric practice 11 (4): 136-138.
8. BELOVICOVA M, CYMBALOVA D, JASKOVA A, CHYLOVA K, GLASA J, ZIMA M, LOVRANTOVA E, WEISS M, GASPAROVIC J, CIPKOVA J, MAJERCIKOVA D, MIKOVA Z, GRANO F, HOLOMAN J (2009) *Prevalence and risks of chronic Hepatitis C / B and HIV occurrence in social reintegration facilities of the Slovak Republic.* Czech and Slovak gastroenterology and hepatology 63(3):143.
9. GLASA J, CERNAK M, HOLOMAN J (2012) *Epidemiology of chronic hepatitis B / C in selected risk environment.* Trends in hepatol. 4(2): 5 – 10.
10. SZANTOVA, M (2008) *Diagnosis and treatment of alcoholic liver disease.* Via pract. 5 (4/5): 170 -172 ISSN 1336-4790.
11. BELOVICOVA M (2013) *Liver cirrhosis*. In: Kiňová S, Hulín I *et al.:* Internal medicine. Bratislava, Slovakia: Pro Litera; 2013: 699-710. ISBN 978-80-970253-9-7.
12. HERETIK A (2013) *Risky alcohol consumption and its consequences*. In: Humanita plus - a specialized attachment for disabled and disadvantaged people. No. 2, p. 1-2.
13. TURCEK M (2013) *Risky alcohol consumption and damage caused by it.* In: Humanita plus – a specialized attachment for disabled and disadvantaged people. No. 2, p. 11-12.
14. BELOVICOVA M *Alcoholic liver disease as a socio-medical problem.* 16-26. In: Schavel M, Gallova A. *The role of health care and social work in today's society*. 2. ed. p. 340 ISBN 978-80-90071-00-8.
15. LASOVA H, CYMBALOVA D, HOLOMAN (2012) *Active screening for viral hepatitis, education and multidisciplinary collaboration in the care of drug addicts.* Trends in hepatology 4(2): 11 – 17.
16. BELOVICOVA M (2018) *Selected liver diseases and their impact on public health.* Svidnicka Press, p. 159 ISBN 978-80-971460-6-1.