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## Analysis of the knowledge of hepatitis C virus among the patients

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### Abstract

**Background** Hepatitis C is currently one of the most serious epidemiological problems worldwide. Due to no specific method of prevention, prophylactic measures focus on spreading the knowledge about the routes of infection with the virus and risk factors for contracting the disease as well as the situations which increase the probability of virus transmission.

**Objective** To evaluate of the knowledge of the patients about hepatitis C.

**Material and Methods** The study was conducted in 2014 with the use of an original questionnaire among 200 patients of the Department of Infectious Diseases at the Medical University of Lublin and the members of support groups for HCV patients in Lublin and Warsaw. The questionnaire included some questions about the risk factors for HCV infection, the course and symptoms of hepatitis C and the sources of information about the disease.

**Results** Most of the respondents associate the risk of HCV infection with the provision of health services whereas they know much less about other routes of transmission. More than 25% of the subjects describe their level of knowledge about the disease as insufficient.

**Conclusions** The level of knowledge of the study group is good but it needs to be upgraded as it was pointed out by the respondents themselves. The main sources of knowledge about hepatitis C are doctors and the Internet. Few respondents obtained their knowledge from other media, which may mean that the problem of HCV infection received little publicity, which in turn translates into poor awareness of the general population.

**Key words: hepatitis C, HCV, prevention, knowledge**

## **Background**

Hepatitis C virus (HCV) is an etiological factor of acute and chronic hepatitis C. In most of the cases infection with HCV transforms into chronic hepatitis, which results in such consequences as cirrhosis and primary hepatic carcinoma [1]. The risk of HCV infection may occur in the case of skin or mucous membrane abrasion usually through penetration and also via sexual contact or vertical transmission [2]. Hepatitis C is called “a silent killer” as its course is either asymptomatic or scarce in symptoms [3]. What is more, no active preventive method is yet another reason to recognize hepatitis C as a serious threat to the public health. The World Health Organization estimates that the overall number of HCV patients is from 170 to 300 million people [4]. Whereas the European Centre for Disease Control and Prevention (ECDC) estimates the number of such patients at almost 9 million (7.3-8.8 million) [5]. In Poland, cross-sectional studies show that the number of people with anti-HCV antibodies is 0.86% i.e. 270,000 adults with 0.6% i.e. 188,000 HCV-positive patients [6]. According to the Polish Group of HCV Experts over 95% of the infected patients do not know about their infection [3]. The data indicate a great need to educate the public about HCV and take actions with regard to diagnostic tests.

## **Objective**

The aim of the study was to evaluate the knowledge of the patients about hepatitis C and learning about the sources of information about the disease.

## **Material and Methods**

The study group included 200 patients of the Department of Infectious Diseases at the Medical University of Lublin and the members of support groups for HCV patients in Lublin and Warsaw who suffered from chronic hepatitis C. Our study method included an interview in form of a survey. The study tool was an original questionnaire designed for the purpose of a bigger study with the aim to evaluate the lifestyle and health behavior of HCV patients. Ten

out of 51 questions tested the knowledge of the study group about hepatitis C. These questions related to: infection routes, risk groups, symptoms and health consequences of hepatitis C and whether there was a vaccine against the virus. The last three questions concerned the sources of knowledge about hepatitis C, assessment of one's own level of knowledge about the disease and the opinion about informing the public about the disorder. The questions about the routes of HCV infection, risk groups and sources of knowledge about hepatitis C were multiple-dichotomy questions.

The survey was conducted in 2014 after obtaining a consent from the Bioethical Commission at the Medical University of Lublin. The study group was randomized. The participation was anonymous and voluntary. The data were collected and analyzed with the use of the Statistica 9.1 software. The distribution of answers to particular questions was presented with absolute numbers and percentage. Measurable traits were described with the use of descriptive statistics parameters: the average and median.

## **Results**

When analyzing the knowledge of the respondents about infection routes the two answers given most often were: via infected medical and non-medical tools – 99.5% (N=199) and sexual contact – 62% (N=124). Other respondents also pointed at possible HCV infection via food intake – 5.5% (N=11), using the same cutlery as an HCV patient – 5.5% (N=11) and kissing – 1.5% (N=3).

The study group believed that the places where a person is most susceptible to HCV infection are hospitals, outpatient clinics and blood-donations centers – 91.5% (N=183). The second most often given answer was a dental visit – 71.5% (N=143), followed by intravenous drug use – 61.5% (N=123), hair or cosmetic services – 51.5% (N=103) and sexual contact – 46.6% (N=93).

When it came to the risk groups, the respondents pointed at hospitalized patients – 73.5% (N=147), drug-addicts – 71% (N=142) and patients who underwent blood transfusion – 68.5% (N=137). Less than a half of the respondents indicated health sector workers as belonging to a risk group – 49% (N=98), people who had numerous sex partners – 45.5% (N=91) and people using services provided by beauticians and hairdressers – 42% (N=84).

The study group was also asked about the course, symptoms and effective prevention against HCV. The results are shown in Table I.

Almost all respondents gave the right answers with respect to chronic consequences of the disease i.e. cirrhosis and primary hepatic carcinoma – 98% (N=198). However, not all

respondents knew the answer to the question about an effective vaccine against HCV. Thirteen percent (N=26) did not know if such vaccine existed, whereas 5% (N=10) answered *YES*.

Similar answers were given to the question about jaundice – the main symptom of hepatitis C. Twenty-four percent (N=48) did not know the answer, whereas 12% (N=24) pointed at jaundice as the main symptom. Substantial majority of the respondents i.e. 83% (N=166) answered that hepatitis C is most often asymptomatic, whereas 10.5% (N=21) could not answer either *YES* or *NO*.

**Table I. Knowledge of the study group about the course and symptoms of hepatitis C**

<b>Variable</b>		<b>N</b>	<b>%</b>
<b>Can chronic hepatitis lead to cirrhosis and hepatic carcinoma?</b>	Yes	196	98
	No	0	0
	I don't know	4	2
<b>Is there an effective vaccine against HCV?</b>	Yes	10	5
	No	164	82
	I don't know	26	13
<b>Is jaundice the main symptom of hepatitis C?</b>	Yes	24	12
	No	128	64
	I don't know	48	24
<b>Is hepatitis C most often asymptomatic?</b>	Yes	166	83
	No	13	6.5
	I don't know	21	10.5
<b>Total</b>		200	100

Next, the respondents were asked to indicate the main sources of their knowledge about their disease – it was a multiple-dichotomy question (Table II). The most often chosen source of information was a doctor – 89% (N=178), followed by the Internet – 45% (N=90) and other patients – 31.5% (N=63). The fewest respondents pointed to press – 7% (N=14).

**Table II. Sources of knowledge about HCV infection**

Answers	N	%
Doctor	178	89
Nurse	23	11.5
Specialist literature	34	17
Press	14	7
TV	21	10.5
Internet	90	45
Other patients	63	31.5
Other	0	0

The last two questions of the original questionnaire concerned the level of the respondents' knowledge about their own disease and the level of informing the public about the risk of HCV infections (Table III and Table IV).

Most respondents believed their level of knowledge about hepatitis C was sufficient – 66% (N=132). Whereas as many as 27% (N=54) said it was insufficient and only 1.5% (N=3) claimed they had no knowledge whatsoever.

**Table III. Evaluation of one's own knowledge about hepatitis C**

Answers	N	%
Advanced	11	5.5
Sufficient	132	66
Insufficient	54	27
I have no knowledge on the subject	3	1.5
Total	200	100

With regard to the level of informing the public about the risk of HCV infection only 14% (N=28) answered *Rather YES*. Almost half of the respondents i.e. 45.5% (N=91) thought that the public was informed properly whereas 35.5% (N=71) believed that the public was not informed at all. No respondent gave the answer to the question *Definitely YES*.

**Table IV. Evaluation of the level of informing the public about the risk of HCV infection**

Answers	N	%
<b>Definitely YES</b>	0	0
<b>Rather YES</b>	28	14
<b>Rather NO</b>	91	45.5
<b>No</b>	71	35.5
<b>I don't know</b>	10	5
Total	200	100

## **Discussion**

Scientific studies conducted around the world about the knowledge of hepatitis C include two population groups – general and HCV patients.

Norton *et al.* studied the knowledge about HCV in industrial areas. They showed that 95% heard about the virus, whereas as many as 90% of the respondents believed that intravenous drug use increased the risk of HCV infection [10]. The same percentage of respondents believed that when getting a tattoo done you can also become infected. As many as 56% of the subjects knew that you can become HCV infected via a sexual intercourse. Almost two-thirds indicated that hepatitis C could lead to hepatic carcinoma. Substantial majority (81%) knew that hepatitis C could lead to cirrhosis [10].

In 2012, Gfk Polonia – a Polish research institute – published a survey conducted on 1,000 people about the knowledge of HCV and hepatitis C. The study showed that 32.1% of the respondents never heard about HCV/hepatitis C and only 6% associated the HCV abbreviation with the virus and hepatic disease [11].

No or scarce knowledge about one's own disease in HCV patients can be observed worldwide. Balfour *et al.* found a sufficient level of knowledge in 77% of the respondents [12]. However, Hassan *et al.* showed a low level of knowledge about hepatitis C in half of HCV patients [13]. In their work, the authors found incorrect answers in relation to the symptoms; what is more some people believed that there was an effective vaccine against HCV. The study of Barański *et al.* also found insufficient knowledge about the routes of infection among HCV patients [14]. As the reason the authors gave no motivation to actively search for information about the disease and its treatment. In the cited study by Hassan *et al.*, the authors also drew attention to the fact that no knowledge about the possibility of HCV infection from other patients and the fear associated with that largely limited social contact of the study group with HCV patients.

It should be emphasized that a doctor plays a significant role in educating patients suffering from hepatitis C, which can also be observed in other countries [14,15]. Nonetheless, the second source most often indicated was the Internet, which was also corroborated in our study. On the one hand, the Web as a collection of various information may not be as an accurate and up-to-date source of knowledge as a doctor. On the other hand, easy and quick access to information makes the Internet a common source of knowledge about one's own disease. We may conclude that the potential of the Internet may be used in educating the patients provided that the information is accurate and up-to-date, which could be possible if an appropriate website presenting the knowledge was created for the patients, their families and general population.

### **Conclusions**

Our results show that some patients find their level of knowledge about HCV infection routes and risk groups as insufficient, however, the level of knowledge about the health consequences, symptoms and efficient prevention of hepatitis C was sufficient. Various levels of knowledge in the study group may have their source in poor education of the general public. We can conclude that the patients obtain or search for information only after they have been diagnosed with hepatitis C.

Some respondents declared an insufficient level of knowledge about the disease which may stem from the lack of access to accurate and current information about hepatitis C, lack of research skills and low motivation.

### **Summary**

Taking into consideration our results, we may list some factors that should be accounted for in planning education about hepatitis C:

- 1) informing the general public and HCV patients about all potential infection routes, prevention and treatment,
- 2) educating HCV patients about chronic disease management,
- 3) increasing the efficacy of using the Internet as a reliable source of health information,
- 4) educating the general public in order to fight HCV-related stigma and discrimination.

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