ORIGINAL RESEARCH PAPER

KNOWLEDGE OF ALCOHOL AS A RISK FACTOR FOR LIVER DISEASE AMONG PATIENTS WITH CHRONIC HEPATITIS C

Public Health

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ABSTRACT

The objective of our study was to evaluate the knowledge of alcohol as a risk factor for liver disease among patients with chronic hepatitis C who have achieved a sustainable viral response (SVR) after receiving direct antiviral medication (DAA). **Methods:** The study cohort included patients from the Hepatitis C Elimination Program treated with direct antiviral drugs (DAA) in Tbilisi (Georgia). A total of 210 patients were studied. Data were processed in the statistical program SPSS26. The Student's t-test was used. P-value less than 0.05 was considered statistically significant. **Results:** The study was conducted in 2021. These data were collected before and during treatment. The majority had used alcohol during their lifetime. 12.5% of males think that taking more than 10 glasses of alcohol is normal for health. Older age and higher education were positively associated with respondents' awareness regarding outcomes of heavy alcohol drinking (p < 0.01).

INTRODUCTION

Alcohol is one of the major risk factors of liver disease. Excessive alcohol use exacerbates liver damage among patients with chronic hepatitis C and causes 3.3 million annual deaths worldwide (National Institute on Alcohol Abuse and Alcoholism, 2020).

Hepatitis C and excessive alcohol use are among major public health issues in Georgia. 2015 National sero survey estimated 5.4% chronic HCV prevalence among general adult population. Prevalence of liver diseases is 420.7 per 100000 inhabitants (Yearbook, 2019).

Due to the high burden of HCV in Georgia the national HCV elimination program was implemented in 2015 (Molsha & NCDC, 2017) with the support of company Gilead and US CDC. The program is still ongoing.

It is estimated that using 30 - 80 gr. alcohol increases liver damage more than 2- 3 times compared to the patients who do not use alcohol (McMahon et al., 2010). Data on the exact amount of alcohol that might be associated with high risk of liver disease in patients with HCV are limited.

East European region is one of the excessive alcohol drinking regions in the world (Jasilionis et al., 2020).

Georgia is one of the most famous wine-producing countries, where vineyard ownership and producing homemade wine is very common.

There are no data about alcohol use among patients with HCV infection in Georgia. Understanding the role of drinking behavior on liver health is extremely important to plan and implement targeted intervention among HCV patients to prevent progression of liver diseases.

METHODS

Study Design

A cross-sectional study was conducted. As a research tool, we defined a questionnaire consisting of 24 questions. Respondents involved in the elimination program were selected based on informed consent to participate in the study. Filling in the research questionnaire was done through face-to-face interviews in a separate allocated space. The following data was collected through the questionnaire: Socio-demographic data (age, gender, nationality, education,

employment status, marital status and place of residence),

knowledge about alcohol and behavioral characteristics related to alcohol consumption.

Patients over the age of 18 included in the hepatitis C elimination program were chosen for the study. In designing of the study questionnaire, we adhered to the guidelines of the US National Institute on Alcohol Abuse and Alcoholism (the US National Institute on Alcohol Abuse and Alcoholism (NIAAA)), according to which the standard amount of alcohol is determined by 14 grams of pure alcohol intake per drink (National Institute on Alcohol Abuse Alcoholism (US), 2007).

Study Measures

Awarenes of The Relationship Between Alcohol And Liver Disease

To assess the knowledge of respondents involved in research on the harmful effects of alcohol, in the questionnaire we offered, they had to answer the following question:*" Can excessive alcohol consumption cause liver damage among people with no hepatitis C infection?".* In addition, we offered them a list of possible harmful results, which are associated with alcohol consumption:*" Excess consumption of alcohol can lead to ?:"Chronic hepatitis C, to accelerate the process of liver damage, None, I don't know. "* It was important to find out how much alcohol considered the patients as the norm for per drink:*" 1-2 glasses, 3-5 glasses, 6-10 glasses, more than 10 glasses."* The questionnaire also included the following issues related to alcohol consumption, such as: types of alcohol, reason for drinking alcohol, etc.

Statistical Analysis

The data were analyzed in a statistical program IBM SPSS (version 26.0) In the first stage of variables analysis, we used the method of descriptive statistics. In order to determine the relationship between categorical variables we applied Pearson's correlation coefficient (Pearson's chi-square) and Fisher's test (Fisher's exact test). As statistically significant indicator was defined P value less than 0.05 (P < 0.05).

RESULTS

Most study participants 94.5%, had used alcohol during their lifetime, of which only 9.5% (n=18) considered themselves as heavy drinkers. Wine (68.9%), Vodka (12.6%), and Beer (5.2%,) were the most preferable types of alcohol beverage among the respondents. 4.5% of patients (n=9) consumed alcohol nearly every day. For 23 patients (10.8% of the participants) more than 10 drinks on one occasion were a normal amount of alcohol intake. In response to the question *"What is the reason for drinking alcohol?"* 36.4% of

respondents (n= 76) declared *"to have fun"* and almost one-fifth (18.2%) said *"My social environment makes me have to drink against my will"*.

Older age and higher educational level were positively associated with respondents' awareness regarding outcomes of heavy drinking. 197 patients (93.7% of the respondents) aged > 35 years correctly named *"progressing liver diseases"* as the heavy alcohol consumption outcome, as opposed to the participants ≤35 years old - 91.7% (n=192) (p<0.01).

Proportion of people who were drinking alcohol nearly every day, or 2-3 times a week, was 15.8% among patients older than 35 years with none of young people drinking frequently.

The study showed that unmarried individuals consider themselves as heavy drinkers more than those being in a marriage or having another marital status (13.3% vs 9.2% and 0.0%, respectively, p<0.05).

Female respondents were more aware of the harmful effects of alcohol, compared to men. Women noted that 1 -2 glasses of alcoholic beverages are the norm per drink. While 22 men (12.5%) thought, that intake of more than 10 glasses of alcohol is normal for health (p<0.001). It was found that after confirmation of HCV diagnosis, only half of the male patients - 51.3% significantly reduced their alcohol intake. Whereas in the case of female patients this rate is 83.3% (30 patients) (p<0.001).

Our findings showed that people who had higher educational level were more likely to show higher knowledge level regarding heavy drinking outcomes.

51 patients (97.9% of respondents) with high education were correctly indicating the negative effects of excessive alcohol consumption. Unlike those participants who had received Professional 95.5% (n =32) and College 89.7% (n=97) education (p<0.01).

Table – 1
Study participants' characteristics by education level

Characteristics	Had you ever drunk alcohol before HCV diagnosis?		Total	P value
Education	Yes	No		
Vocational	81.8%	18.2%	16.1%	<0.05
High school	92.6%	7.4%	49.6%	
University	91.5%	8.5%	34.3%	
Total	90.5%	9.5%	100%	

CONCLUSIONS
Our study found low knowledge level of alcohol related liver complication risk among HCV infected patients enrolled in HCV elimination program. The interesting finding was that many people are taking alcohol just because others are pushing to drink.

Counseling of HCV patients on the role of alcohol on the progression of liver disease is very important to maintain their liver health after cure from HCV infection.

DISCUSSION
Georgia is one of the countries with a high prevalence of hepatitis C virus, as well as a high prevalence of excessive alcohol consumption. Alcohol consumption among the patients with hepatitis C is an important risk factor in terms of liver disease progression.

It is important that for 10.8% of study participants, the consumption of more than 10 glasses of alcohol per drink is the norm, which, considering that the study subjects were diagnosed with chronic hepatitis C is very problematic in terms of progression of their liver disease.

One third of those surveyed cited the entertainment as a reason for drinking, however, the social pressure is noteworthy: about one-fifth of them used alcohol against their will. Such cases were associated with being forced by others or not being able to deny.

A large majority of patients involved in the hepatitis C elimination program are alcohol consumers. The findings highlight the need for target group-oriented information campaigns and education in direct action during treatment with antiviral medications. This allow us to maintain and improve the results achieved by the HCV Elimination Program in terms of liver disease prevention.

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