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KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS HEPATITIS C PREVENTION AMONG MEDICAL STUDENTS

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სოფიკო გურამიშვილი, ელენე ფაღავა, ირაკლი მჭედლიშვილი

C ჰეპატიტის პრევენციის ცოდნის, დამოკიდებულების და პრაქტიკის შეფასება მედიცინის ფაკულტეტის სტუდენტებს შორის

თსსუ ეპიდემიოლოგიისა და ბიოსტატისტიკის დეპარტამენტი, საქართველო

რეზიუმე

კვლევის მიზანი: თბილისის სახელმწიფო სამედიცინო უნივერსიტეტის სტუდენტებს შორის C ჰეპატიტის პრევენციის ცოდნის, დამოკიდებულების და პრაქტიკის შეფასება.

მასალა და მეთოდები: კვლევის განსახორციელებლად შერჩეულ იქნა ერთმომენტიანი ჯვარედინ-სექციური კვლევის დიზაინი თვითადმინისტრირებადი სტრუქტურირებული კითხვარის გამოყენებით. კვლევაში ჩართულ იქნა 136 რესპონდენტი. მონაცემები შეგროვდა მონაწილეთა სოციო-დემოგრაფიული, C ჰეპატიტის ცოდნის, დამოკიდებულების და პრაქტიკის შესახებ და პროგრამულად დამუშავდა SPSS 21 ვერსიის გამოყენებით.

მიღებული შედეგები: გამოკითხულ სტუდენტთა 92%-მა იცოდა, რომ სამედიცინო პერსონალი მიეკუთვნება C ჰეპატიტის მაღალი რისკის ჯგუფს, თუმცა უმრავლესობას (66,4%) წარმოდგენა არ ჰქონდა დაავადების პოსტ-ექსპოზიციური მართვის შესახებ. მონაწილეთა 36,7% დასაქმებული იყო სამედიცინო დაწესებულებაში. დასაქმებულთა აბსოლუტური უმრავლესობა (94%) მიუთითებდა კლინიკებში სხვადასხვა ტიპის ინვაზიური მანიპულაციების განხორციელების შესახებ, რომელთა 72%-მა აღნიშნა საქმიანობის დროს პაციენტთან გამოყენებული ნემსით თითის გაჩხვლეტის პრაქტიკა.

დასკვნები და რეკომენდაციები: კვლევამ აჩვენა სამედიცინო უნივერსიტეტის პრეკლინიკურ სტუდენტებს შორის C ჰეპატიტის პრევენციის და პოსტ-ექსპოზიციური მართვის საკითხების ცოდნის და პრაქტიკის დაბალი დონე. უნდა აღინიშნოს, რომ კვლევაში მონაწილეებს ჯერ არ ჰქონდათ გავლილი ეპიდემიოლოგიის ან ინფექციურ სნეულებათა სასწავლო კურსები, ამიტომ მნიშვნელოვანია სტუდენტთა პრაქტიკული საქმიანობის მოთხოვნები არ აღემატებოდეს მათი თეორიული ცოდნის დონეს. ამავე დროს, აუცილებელია მათი (სხვა სამედიცინო პერსონალის მსგავსად) უწყვეტი გადამზადება როგორც ზემოთაღნიშნულ, ისე ინფექციის კონტროლის სხვა საკითხებთან დაკავშირებით.

Introduction. Hepatitis C is a global public health problem. It is characterized by the inflammation of the liver and in many cases can lead to permanent liver damage including liver cirrhosis or hepatocellular carcinoma and even death [11,12]. The World Health Organization (WHO) estimates that up to 2 billion people in the world have been infected with HBV, about 350 million people live with chronic HBV infection, an estimated 170 million persons are chronically infected with hepatitis C virus (HCV) and 3-4 million persons are newly infected each year, about 800,000 people die from HBV- related liver disease or HCV each year [4,10]. The prevalence of chronic HCV infection varies geographically, from high (> 8%), intermediate (2 - 7%) to low (< 2%) prevalence. HCV infection appears to be endemic in most parts of the world with prevalence of 3%, 2 which ranges from 0.4% in the adult general population of Japan to 14.4% in the healthy individuals from southern Italy. No vaccine is currently available to prevent hepatitis C [8] and treatment for chronic hepatitis C is too costly for most persons in developing countries to afford. Thus, from a global perspective, the greatest impact on hepatitis C disease burden will likely be achieved by focusing efforts on reducing the risk of HCV transmission from

nosocomial exposures (e.g., blood transfusions, unsafe injection practices) and high-risk behaviors (e.g., injection drug use) [1,3,5].

KAP surveys are representative of a specific population to collect information on what is known, believed and done about a particular topic, and are the most often used study tool in health-seeking behavior research. Knowledge is usually assessed how far community knowledge corresponds to biomedical concepts. Practices in KAP surveys usually inquire about preventive measures or different health care options. Medical science students, being part of the health care delivery system, are exposed to the same size of risk as other health care workers when they come in contact with patients and contaminated instruments [2,6,9]. Hence, this study aims to assess the knowledge, attitude and practice of medical students towards hepatitis C transmission and prevention.

Materials and Methods. A cross-sectional study was conducted from March to November 2024. A predesigned self-administered pretested questionnaire concerning hepatitis C knowledge and awareness was distributed to all the participants. The questionnaire (26 questions) was composed of four sections including participants' sociodemographic characteristics, assessment of knowledge, attitudes scale and assessment of practices about HCV. 136 participants from the Faculty of Medicine of the Tbilisi State Medical University were selected by convenience sampling. The results were expressed percentages. Students were asked questions regarding Epidemiological characteristics, modes of transmission, symptoms, complications, risk factors and prevention of HCV infection. The questionnaire asked about the respondent's likelihood of becoming infected after percutaneous injury with a needle. Students were also asked about the frequency of percutaneous exposure to patient's blood. The data were collected, tabulated and analyzed by Microsoft Excel, descriptive statistics was performed in Statistical Package for the Social Sciences (SPSS) software, version 21. The results were expressed in percentages. Knowledge score for each individual was calculated by assigning a score of 1 for each correct answer. Mean knowledge score was calculated by dividing the total knowledge scores of all individuals by the number of individuals. Student's t-test was used to determine any significant differences by the gender. Spearman rank correlations was used to identified correlations between knowledge, attitudes and practice scores.

Results and Discussion. The socio-demographic characteristics of the studied participants showed that 64% of them were 22 years old. Out of 136 students 40 (29,4%) were male and 96 (70,6%) were females. Mean age of respondents was 22±2.3 years. 50 (36,7%) indicated working for clinics.

Table 1 illustrates knowledge about HCV infection. All of the participants know about hepatitis C. 66% indicated that the vaccine is not available for hepatitis C and 34% wasn't sure. 93,4% heard about screening, 66,4% had no idea about post-exposure prophylaxis. 92% believed that medical personnel are at high risk to get infected by HCV and indicated invasive procedures as one of the common routs of transmission of hepatitis C in the clinics. More than half knew that it could be transmitted by direct contact with patients' items (66.5%), 84.1% - by sharing same needle and 95.9% - by blood transfusion. 73.1%, 66.9%, 62.8% respectively knew about the causes, factors, signs and symptoms of hepatitis. 94% participants' mentioned liver cirrhosis and liver cancer as complication of hepatitis C. 75% reported that it is curable at present, meanwhile 25% weren't sure

Table 2 shows the respondents' attitude towards hepatitis C related items. The majority of the participants (93,4%) agreed to screening campaign of HCV among health care workers. 66,4% weren't sure whether the post-exposure management was necessary or not in case of injury. All participants agreed that detailed information regarding hepatitis C was very important for medical personnel.

Table 3 reflects the respondents' knowledge of practice on HCV infection. The majority of the respondents (81%) never screened for hepatitis C. 66,2% weren't confident and only 33,8 % knew their

HCV status. Out of 50 participants who worked for clinics 47 (94%) indicated performing injections, transfusions or other invasive procedures and 36 (72%) reported needle-stick injuries in their practice. 95,6% of respondents never participated in any educational program on hepatitis.

Table 4 shows the comparison of mean knowledge scores by gender using Student's t-test. There was no significant difference in knowledge between the genders.

Spearman rank correlations revealed significant weak to moderate positive linear correlations between knowledge–attitudes ($r = 0.26$, $p < 0.05$), knowledge–practice ($r = 0.13$, $p < 0.05$), and attitudes–practice ($r = 0.17$, $p < 0.05$). This result reaffirms the relationships between knowledge, attitudes, and practices toward HCV infection, as shown in **Table 5**.

Table 1. Awareness of HCV infection

Items	Yes (n (%))	No (n (%))	Not sure (n (%))
Have you ever heard about Hepatitis C (HCV infection)?	136 (100%)	-	-
Is HCV transmitted via invasive medical procedures?	125 (92%)	5 (4%)	6 (4%)
Are health care workers at high risk to get infected?	125 (92%)	4 (3%)	7 (5%)
Is vaccine against HCV available at present?	-	90 (66%)	46 (34%)
Is post-exposure prophylaxis possible?	45 (33%)	1 (0,6%)	90 (66,4%)
Is screening against HCV available in Georgia?	127 (93,4%)	-	9 (6,6%)
Is it possible to identify HCV by lab testing?	134 (98,5%)	-	2 (1,5%)
Does HCV cause liver cirrhosis and liver cancer?	128 (94%)	3 (2%)	5 (4%)
Is hepatitis C curable disease?	102 (75%)	-	34 (25%)

Table 2. Students attitude towards hepatitis C

Items	Yes (n (%))	No (n (%))	Not sure (n (%))
Is HCV screening campaign important for health care workers?	127 (93,4%)	-	9 (6,6%)
Is post-exposure prophylaxis necessary?	45 (33%)	1 (0,6%)	90 (66,4%)
Is it important for medical personnel to be provided detailed information regarding to HCV infection?	136 (100%)	-	-

Table 3. Students knowledge about practice on hepatitis C

Items	Yes (n (%))	No (n (%))	Not sure (n (%))
Are you screened for hepatitis C?	26 (19%)	110 (81%)	-
Are you HCV positive?	-	46 (33,8%)	90 (66,2%)
Do you perform injections, transfusions or other invasive procedures in your clinic?	47 (34,5%)	89 (65,5%)	-
Have you ever incurred needle- stick injury?	36 (26,5%)	100 (73,5%)	-
Have you ever participated in any educational program on hepatitis?	4 (3%)	130 (95,6%)	2 (1,4%)

Table 4. Comparison of mean knowledge scores by gender

Gender	Mean ± SD	t-test	p-value*
Male	7,1 ± 1,62	0,72	0,65
Female	7,2 ± 1,28		

p-value<0,05, significant

Table 5. Correlations between knowledge, attitudes, and practice scores

Variable	Correlation Coefficient
Knowledge-attitude	0,26
Knowledge-practice	0,13
Attitude-practice	0,17

Conclusions and Recommendations: More than a third of the surveyed students were employed in different types of clinics. The vast majority of them perform various invasive manipulations and have extensive experience with needle-stick injuries. The study showed that students who were employed in clinics weren't well aware of prevention and post-exposure management of HCV infection. They were unable to manage this disease effectively, which increases the risks of infection for them and their patients. It should be also noted that the students participating in the study had not yet completed courses in epidemiology or infectious diseases, where they would study the disease in detail. Based on the above, we consider it logical to plan well-structured education program to create complete awareness among medical students regarding to hepatitis C. Continuous and repeated health education guide on viral hepatitis as well as frequent workshops and seminars should be organized in order to provide up-to-date knowledge about prevention of HCV infection among medical students in Georgia. Therefore, public health efforts should modify the knowledge and attitude gaps to reinforce awareness and minimize the risk of infection.

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SUMMARY

Background: Hepatitis C is a global public health problem. HCV infection is an occupational health hazard to health-care workers. The World Health Organization has estimated thousands of HCV cases caused by needle stick injuries annually. Healthcare students should be aware of HCV transmission routes and preventive measures to decrease the risks of disease. The complete knowledge of hepatitis C virus transmission and prevention is indispensable for medical students as an effective measure for controlling Hepatitis infection.

Goal: This study was aimed to assess the knowledge, attitudes and practices (KAP) of hepatitis C among Tbilisi State Medical University students.

Materials and Methods: A cross-sectional study was conducted from March to November 2024. A predesigned self-administered pretested questionnaire concerning hepatitis C knowledge and awareness was distributed to all the participants. The questionnaire was composed of four sections (21 questions): participants' sociodemographic, knowledge, attitudes, and practices towards HCV. 136 participants were enrolled. The data were collected, tabulated and analyzed by Microsoft Excel and Statistical Package for the Social Sciences (SPSS) software, version 21.

Results: Out of 136 participants 96 (70,6%) were females and 40 (29,4%) males commonly 21-22 years old. 36,7% were already work for different clinics. The majority of the students were aware of HCV infection and knew that invasive procedures contain high risk to spread disease. Out of 50 employed respondents 47 (94%) indicated conducting invasive procedures and 36 (72% of them) needle stick injuries in their clinical practice.

Conclusion: This study revealed lack of complete knowledge regarding hepatitis C among preclinical year medical students. They are at high risk of acquiring HCV infection during their clinical practice. Hence, implementation of well-structured education program is needed to create complete awareness among medical students about hepatitis C. Therefore, public health efforts should modify the knowledge and attitude gaps to reinforce awareness and minimize the risk of infection.

Keywords: Hepatitis C, prevention, knowledge, attitude, practices