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Original Article

Assessment of Knowledge Regarding Hepatitis C Transmission, Treatment, and Vaccination among Health Care Providers

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ABSTRACT

Hepatitis C virus (HCV) is a disease transmitted through contaminated blood and can also be transferred from mother to child during delivery. This inflammatory disease causes everlasting damage to the liver leading to death. **Objective:** To assess the knowledge regarding Hepatitis C transmission, treatment, and vaccination among health care providers. **Methods:** It is a cross-sectional descriptive study conducted in tehsil Wazirabad, district Gujranwala. The study included medical and paramedical staff of 2 health care setups: Iqra Medical Complex and Butt Eye Hospital. The 260 participants were included as per convenience after informed consent. Data were collected from January 2021 to August 2021 using a validated self-administered questionnaire. Data was entered and analyzed on SPSS version 21. The responses of the participants were recorded on 5 points Likert scale and frequencies and percentages were mentioned as a response. **Results:** The mean age of respondents was 28.3 ± 5.6 years with minimum and maximum ages as 20 and 45years. The participants included males 176 (67.7%) and females 84 (32.3%). The participants had sufficient knowledge about Hepatitis C transmission, symptoms, and effects on the liver. But respondents 30 (11.5%) strongly disagreed and 60 (23%) disagreed that Hepatitis C can be transferred from mother to child. The majority of the respondents 138 (53.1%) strongly disagreed with 50 (19.2%) that hepatitis can survive at room temperature. Moreover, the maximum number of respondents such as 160 (61.5%) strongly disagreed about proper updated knowledge of the treatment. **Conclusions:** In conclusion, the respondents have sufficient knowledge about Hepatitis C symptoms, transmission, and its long-term effects on the liver. They were unaware of HCV survival at room temperature and its transmission from mother to child at the time of birth. Moreover, the staff members also lack the knowledge of updated treatment plans.

INTRODUCTION

The hepatitis C Virus (HCV) causes a liver infection [1]. HCV infection is transmitted by blood contact with an infected individual [2]. The majority of people today contract HCV by sharing needles or other equipment used to prepare and inject drugs. Sometimes it may be transmitted by negligence by medical staff [3,4]. HCV is a global health concern that affects all countries including Pakistan [5]. In more developed nations, liver illness caused by chronic HCV infection has become a more common cause of illness and death among HIV-infected patients including transgender and others because they practice unsafe sex and transmit HIV and HCV [6,7]. HCV has chronically infected almost 130 million people worldwide and Pakistan is ranked 134th out of 174 countries [8-10]. HCV infection is a widespread disease in Asia, yet awareness about transmission, vaccination and treatment is uncommon among hospital staff. The incidence of infection from the HCV positive patients to the hospital staff is noted which is needed to be addressed [11,12]. The previous literature explains that HCV infection is also frequent in people who inject drugs and use contaminated syringes [13,14]. HCV infection happens at any age, although youngsters have the most severe cases of HCV and the largest incidence of anti-HCV [15,16]. HCV infection is an asymptomatic disease therefore, most people are not aware that they are suffering from it and may have chronic damage to the liver [17]. HCV is disseminated via puncturing the skin with diseased, polluted syringes and needles, or by injecting

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unintentionally tiny quantities of blood throughout dental and surgical procedures and most of time it is spread by negligence of medical staff [5]. HCV did not transmit through breastfeeding, wheezing, coughing, or snuggling [18]. Both mother and child are affected throughout pregnancy which may end in long-lasting contamination inside the newborn with an irreversible severe liver damage [19]. HCV can be transferred from mother to child during delivery. The directly acting antiviral (DAA) drug during pregnancy has the power to minor the threat of perinatal spread [20-22]. Sofosbuvir-containing protocols has been recommended for HCV infection in individuals infected with HIV [10]. It has been claimed that the best strategy to avert a viral hepatitis outbreak is to prevent it from happening in the first place [23]. The development of the Hepatitis C vaccine is still in its early stages. Many boosters are presently being developed [18]. The most effective way to prevent HCV infection is to avoid acts that might spread the disease, such as drug injection [24]. With the proper treatment majority of cases may be cured in 8 to 12 weeks [25]. With the release of innovative hepatitis C treatment regimens that have proven to be exceedingly popular and well-allowing in non-pregnant persons, these capsules will also be used in pregnant hepatitis C patients [8]. The primary goal of the study was to evaluate the knowledge of transmission, treatment, and vaccination of Hepatitis C. This study will address Hepatitis C in small tehsils like Wazirabad. It will clear its risk factors, transmission pathways, and symptoms. It will also highlight the epidemic of hepatitis C among health care workers of different ages and gender.

METHODS

It is a cross-sectional descriptive study conducted in tehsil Wazirabad, District Gujranwala. The study included medical and paramedical staff of 2 Health care setups i.e. Iqra Medical Complex & Butt eye Hospital. The 260 participants were included as per convenience after informed consent. The hospital participants included doctors, nurses, technologists, medical technicians and dispensers. The data were collected from January 2021 to August 2021 using a validated self-administered questionnaire. The questionnaire was validated by conducting a pilot study by 10 health experts from a medical background. Data was Entered and Analyzed on SPSS Version 22. The responses of the participants were recorded on 5 points Likert scale and frequencies and percentages were mentioned as a response to those questions.

RESULTS

In the current study, the assessment of knowledge regarding Hepatitis C transmission, treatment, and vaccination among health care providers was conducted using a self-administered survey-based questionnaire. The study included 260 health care workers to measure their understanding of several elements of Hepatitis C. The respondents' ages are listed in table 1, with the minimum age being 20 and the maximum of 45, with the mean age 28.3±5.6 years. Table 2 shows the gender of the respondents, with 84 females and 176 males out of a total of 260. The percentage of respondents by gender is 32.31% females and 67.69% males. The responses of the respondents are listed in table 3. According to the first question, 10(3.8%) people strongly disagreed that HCV can be transmitted sexually, 30(11.5%) people disagreed, 10(3.8%) people were indifferent, and 40(15.4%) people agreed, while 170(65.4) people strongly agreed about the transmission of HCV via sexual route. In a second question about the use of contaminated syringes, only 9(3.5%) participants disagreed, whereas 201(77.3%) agreed that HCV can be transmitted by identical contaminated syringes. In the third question respondents, 30(11.5%) disagreed that the HCV prevalence is high in Injecting drug users while 110(42.3%) agreed that hepatitis C is common among those who inject drugs. In the fourth question, 60(23.1%) disagreed and were neutral about HCV transmission from mother to child during delivery while one-third of respondents 70(26.9%) strongly agreed about its transmission via this route. In the fifth question, very few people 40(15.4%) agreed about transmission through the oral-fecal route while 80(30.8%) strongly disagreed about its transmission through the oral-fecal route. In the sixth question, 138(53.1%) strongly disagreed about HCV survival at room temperature. In the seventh question, 50(19.2%) disagreed that HCV can had no symptoms while 100(38.5%) agreed that hepatitis can be asymptomatic. In the eight-question majority, 120(46.2%) strongly agreed that HCV can cause Liver Cirrhosis while 30(11.5%) disagreed about the chronic effects. In the ninth question 160(61.5%) strongly disagreed about the knowledge of treatment of HCV and 60(23.1%) were neutral about the updated modern treatments. In the last and tenth questions, respondents were asked about the vaccination of HCV 211(81.2%) strongly agreed about the availability of vaccines

Variable	N	Minimum	Maximum	Mean	SD
Age of Respondents	260	20.00	45.00	28.3500	5.80927

Table 1: Descriptive Statistics of Age

Variable		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	84	32.3	32.3	32.3
	Male	176	67.7	67.7	100.0
	Total	260	100.0	100.0	

Table 2: Gender of Respondents

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Questions	Variables	Frequency	Percent	Valid Percent	Cumulative Percent
1. Do you know that Hepatitis C is a sexually transmitted disease?	Strongly Disagree	10	3.8	3.8	3.8
	Disagree	30	11.5	11.5	15.4
	Neutral	10	3.8	3.8	19.2
	Agree	40	15.4	15.4	34.6
	Strongly Agree	170	65.4	65.4	100.0
	Total	260	100.0	100.0	
2. Do you agree that mostly Hepatitis C is transmitted through the use of similar syringes?	Strongly Disagree	9	3.5	3.5	3.5
	Disagree	10	3.8	3.8	7.3
	Neutral	10	3.8	3.8	11.2
	Agree	30	11.5	11.5	22.7
	Strongly Agree	201	77.3	77.3	100.0
	Total	260	100.0	100.0	
3. Do you agree that Hepatitis C is generally high in people who inject drugs?	Strongly Disagree	7	2.7	2.7	2.7
	Disagree	30	11.5	11.5	14.2
	Neutral	40	15.4	15.4	29.6
	Agree	110	42.3	42.3	71.9
	Strongly Agree	73	28.1	28.1	100.0
	Total	260	100.0	100.0	
4. Do you agree that infected mothers can lead Hepatitis C to their infant during delivery?	Strongly Disagree	30	11.5	11.5	11.5
	Disagree	60	23.1	23.1	34.6
	Neutral	60	23.1	23.1	57.7
	Agree	40	15.4	15.4	73.1
	Strongly Agree	70	26.9	26.9	100.0
	Total	260	100.0	100.0	
5. Can Hepatitis C be transmitted through the oral-fecal route?	Strongly Disagree	80	30.8	30.8	30.8
	Disagree	80	30.8	30.8	61.5
	Neutral	50	19.2	19.2	80.8
	Agree	40	15.4	15.4	96.2
	Strongly Agree	10	3.8	3.8	100.0
	Total	260	100.0	100.0	
6. Do you know that the Hepatitis C virus can survive at room temperature?	Strongly Disagree	138	53.1	53.1	53.1
	Disagree	50	19.2	19.2	72.3
	Neutral	21	8.1	8.1	80.4
	Agree	25	9.6	9.6	90.0
	Strongly Agree	26	10.0	10.0	100.0
	Total	260	100.0	100.0	
7. Do you know that Hepatitis C is asymptomatic?	Strongly Disagree	50	19.2	19.2	19.2
	Disagree	20	7.7	7.7	26.9
	Neutral	10	3.8	3.8	30.8
	Agree	100	38.5	38.5	69.2
	Strongly Agree	80	30.8	30.8	100.0

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8. Do you agree that Hepatitis C can cause liver cirrhosis?	Strongly Disagree	10	3.8	3.8	3.8
	Disagree	30	11.5	11.5	15.4
	Neutral	20	7.7	7.7	23.1
	Agree	80	30.8	30.8	53.8
	Strongly Agree	120	46.2	46.2	100.0
	Total	260	100.0	100.0	
9. Do you know about the treatment of Hepatitis C?	Strongly Disagree	160	61.5	61.5	61.5
	Disagree	20	7.7	7.7	69.2
	Neutral	60	23.1	23.1	92.3
	Agree	10	3.8	3.8	96.2
	Strongly Agree	10	3.8	3.8	100.0
	Total	260	100.0	100.0	
10. Do you agree that there is vaccination of Hepatitis C?	Strongly Disagree	8	3.1	3.1	3.1
	Disagree	11	4.2	4.2	7.3
	Neutral	9	3.5	3.5	10.8
	Agree	21	8.1	8.1	18.8
	Strongly Agree	211	81.2	81.2	100.0
	Total	260	100.0	100.0	

Table 3: Response of Health Care Providers Regarding Hepatitis C Transmission, Treatment, and Vaccination

DISCUSSION

HCV is spread by blood contact with someone who has been afflicted. Today, the majority of persons develop HCV infection by sharing needles or other injecting equipment. It may be spread due to medical personnel's negligence. A questionnaire was used to measure the knowledge of health care professionals about HCV. One third 60(23.1%) of respondents were unaware and disagreed or were undecided about HCV transfer from mother to child during delivery, whereas 70(26.9%) majority strongly agreed to its transmission. HCV persistence at room temperature was strongly disagreed by 138(53.1%). Hepatitis can have no symptoms, according to 50(19.2%), but it can also be asymptomatic, according to 100(38.5%). The majority of 120(46.2%) strongly agreed that HCV can lead to liver cirrhosis, whereas 30(11.5%) disagreed. HCV is spread through sexual contact and similar syringes, according to the majority of the medical team. They feel that people who inject narcotics are the most contaminated. Only a small fraction of them realized, however, that an infected woman can have an infected child. They were also unaware that HCV can survive for over three weeks outside of the body, which contributed to the disease's extensive spread. Even if the sample contains the HCV, which can cause infection and hepatitis C, it is common for a laboratory boy not to take it seriously when collecting a sample. Many of them had no idea they were being mistreated. Although there is no vaccine for Hepatitis C, the majority of them believed that it might be prevented. In a multi-center cross-sectional study published in 2017, Farahnaz Joukar discovered a total of 1004 nurses from various hospitals. The majority of them (93.7 percent) were females, with the remaining males averaging 39.2 years of age (8.1 percent). However, males outnumber girls in current study. They previous study state that 90% of healthcare workers are aware of the disease and how it spreads, they are uninformed of the disease's cure, preventive, or vaccine, which matches my findings. As in current research 10(3.8%) people strongly disagree that hepatitis C can be transmitted sexually, 30(11.5%) disagree, 10(3.8%) people are neutral, and 40(15.4%) people agree, with 170(65.4%) people strongly agreeing. Infected syringes are a source of concern. Only 9(3.5%) of those asked disagreed, whereas 201(77.3%) felt that HCV can be spread by identically infected syringes. 30(11.5%) people disagreed that the prevalence of hepatitis C is high among injecting drug users, whereas 110(42.3%) said it is. In short, my respondents knew about HCV transmission methods, but they didn't know much about the disease's treatment, prognosis, or vaccine. The majority of people who answer learn about transmission via books [4]. Another study published in 2013 by Setia [3] used a closed-ended questionnaire with questions to measure HCWs' knowledge of the mode of transmission, treatment, and

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immunization. Their study had the same goal as ours. The questionnaire was completed by 255 participants, including 100 dental, 100 medical, and 55 nursing interns, whereas we only had 260 health care workers to complete our research. The findings of this study were comparable to those of a recent study, which found that medical professionals have a basic understanding of hepatitis C transmission but little knowledge of vaccine or therapy. According to the current research, only 40(14.4%) respondents felt that oral-fecal transmission is the route to spread the disease, whereas 80(31.8%) strongly disagreed. On the subject of Hepatitis C therapy, 160(61.5%) strongly opposed, whereas 60(23.1%) were neutral. When it comes to Hepatitis C vaccination 81.2% percent agreed that it was easy to obtain. It indicates that most individuals are aware of Hepatitis C, they are unaware of its treatment or immunization. The current and previous studies conclude that there is a need to teach and educate our healthcare staff about Hepatitis C treatment and immunization.

CONCLUSIONS

In conclusion, the majority of healthcare providers are uninformed of the hepatitis C virus. The respondents between the ages of 20 and 30 have slightly greater knowledge than those who are older. The respondents were unaware of HCV survival at room temperature and its transmission from mother to child during birth. Moreover, the hospital staff has no knowledge about the updated treatment. This study recommends reducing the rate of occurrence and mortality of Hepatitis C by critically enhancing knowledge of the disease among health care professionals by awareness campaigns specifically about modern treatment methods.

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