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Evaluation of Knowledge and Awareness on Hepatitis C Infection among Pharmacy and Nursing Students of Chitradurga- A Descriptive Cross Sectional Study

Riya Reji Thomas[1], Rosbin P D[1], Abubaker Siddiq[2]*

1 Department of Pharmacy Practice, S J M College of Pharmacy, Chitradurga-577502, Karnataka, India.
2 Department of Pharmacology, S J M College of Pharmacy, Chitradurga-577502, Karnataka, India.

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***Corresponding author:**

Email : siddiq.pharma@rediffmail.com
Phone : +91-9916327271

ABSTRACT

Hepatitis C is an infection caused by virus that attacks liver and leads to inflammation. It is a blood borne infection i.e. the virus is spread by contact with contaminated blood. Most people are asymptomatic. Around 170 million people are chronically infected and 3-4 million are newly affected every year. The objectives of the study were to assess the knowledge, awareness and practices among the students for the prevention of Hepatitis C Infection and to compare the knowledge on the same among pharmacy and nursing students. This is a descriptive cross-sectional study conducted among the pharmacy and nursing students of Chitradurga, carried out for a period of six months. Statistical Analysis was done using descriptive methods to obtain the frequency and percentage, paired T-test (2 tailed) & Pearson correlation was applied to determine any significant difference between quantitative variables. A total of 200 participants were enrolled in the study among which 100 were pharmacy students and 100 were nursing students. The analysed results of knowledge assessment depicted that, the mean score of Pharmacy students were higher than Nursing students. Practice assessment disclosed that higher mean scores were present in pharmacy students compared to nursing students. The study revealed that Pharmacy students had better level of knowledge and practices compared to nursing students. But knowledge and awareness needs to be improved as these professions play a very important role in health service. Awareness and education about Hepatitis C should be conducted to enhance the knowledge of students.

INTRODUCTION

Hepatitis C virus (HCV) is considered as a worldwide health problem which can affect both acute and chronic hepatitis. The infection of most acutely infected people eventually becomes chronic [1]. Hepatitis is an inflammatory disease of the liver. In severe cases it may lead to permanent liver damage including cirrhosis/ hepatocellular carcinoma [2].

HCV infection is now being recognized as a global health problem, around 170 million people are chronically infected and 3-4 million are newly affected every year. An estimated 15-18 million people live with acute or chronic HCV infection in India [3]. Hepatitis is a contagious disease caused by Hepatitis C virus. The illness due to hepatitis may be mild, lasting for a few weeks or may be severe, serious and life threatening. Acute phase hepatitis C infection can occur during the first six months of exposure to the Hepatitis C virus. The chronic hepatitis infection occurs after a long latent period in already exposed persons [4].

The routes of infection with HCV are associated with the disruption of the tissue continuity, associated with blood transfusion and other contacts with blood such as during organ transplantation, the IV route, during delivery, during treatments at hairdresser, in association with use of narcotics via IV route, infected donor via medical equipment infected with HCV and through sexual contact with an infected partner [5]. About 70 to 80% of people have no symptoms when they first get HCV infection. Over time people with chronic HCV infection may develop signs of liver inflammation that may suggest that the infection may be present [6]. Testing for HCV is based on previous

or current exposure to risk factors [7]. Acute and chronic Hepatitis C is diagnosed by anti HCV antibody and HCV RNA detection with sensitive molecular biology techniques [8]. Early identification and treatment of acute HCV infection is important. It was shown that interferon alpha treatment is effective in treatment of acute HCV infection [9]. Chronic HCV treatment consisted of pegelated interferon alpha and a nucleoside analogue ribavirin for 3-18 months. However several side effects are associated with this treatment [10].

Good knowledge and proper attitude of Pharmacy and Nursing students towards HCV infection are very important in preventing the spread of the disease among them and patients, since they are having close contact with Hepatitis C patients during their course of study and as future healthcare workers. Keeping all these aspects in mind the present study was conducted among Pharmacy and Nursing students of Chitradurga to assess their knowledge and awareness about Hepatitis C infection.

MATERIALS AND METHODS

This is a descriptive cross sectional study conducted among pharmacy and nursing students of colleges in Chitradurga, for a period of 6 months. A total of 200 students from two nursing colleges and one Pharmacy College who satisfied the study criteria and consent to participate in this study were included in the study. The inclusion criteria includes pharmacy and nursing students, both male and female students, students who gave consent to be a part of this study. The exclusion criteria was students who were drop out from the study. The study was done after obtaining the approval by the Institutional Ethical Committee of SJM College of Pharmacy, Chitradurga, Vide Ref: No. SJMCP/694/2021-2022.

After obtaining informed consent, a self-administered questionnaire on knowledge and awareness regarding Hepatitis C was distributed among pharmacy and nursing students using Google forms. Data was collected by the investigators and confidentiality was maintained during the data collection process. For each correct answer of Knowledge and Practice questionnaire was scored '1' and for each wrong answer '0'. The knowledge and practice based questionnaire was assessed and mean knowledge and practice scores were determined.

Statistical Analysis

The data was entered in Microsoft Excel-2010 version and the results were analyzed using Statistical Package for Social Services (SPSS 16.0). Descriptive methods was applied to obtain the frequency and percentage, paired T-test (2 tailed) & Pearson correlation was applied to determine any significant difference between quantitative variables.

RESULTS

A total of 200 students were screened from one pharmacy and two nursing colleges in Chitradurga, out of which majority of the participants were females (n=150) (75%), gender wise distribution is represented in table no 1. The respondents were categorized into two age groups, 18-22 years old and 23-27 years old. The highest percentage of respondents, 65% were from 18-22 years old age group. Equal numbers of participants were selected from both courses due to different syllabus.

Knowledge based Questionnaire assessment

The scores of the test were analyzed using suitable statistical parameters such as mean, standard deviation, paired t test. In this study the result shows that the mean values of knowledge are 12.9 for nursing and 13.3 for pharmacy. Standard deviation values are ± 4.791 for nursing and ± 3.621 for pharmacy. Paired t test values are -0.146 for nursing and -0.139 for pharmacy. P value was 0.041 (highly significant) for nursing and 0.032 (highly significant) for pharmacy. The results indicate that Pharmacy students are having comparatively high knowledge (13.3) than nursing students (12.9). The results are depicted in table no 2.

The results depicts that mean value of knowledge are 12.71 for age group 18-22 years and 14.92 for age group 23-27 years. The results are presented in table no 3.

Practice based questionnaire assessment

The participant's responses regarding practice based

Table 1 : Details of Gender wise distribution (n=200)

Sl. No	Gender	Frequency	Percent
1	Males	50	25.0
2	Females	150	75.0
TOTAL		**200**	**100**

Table 2 : Distribution of mean scores of knowledge assessment

Course	Scores Mean (± SD)	df	T Value	P value, Sig
Nursing	12.9 (± 4.791)	93	-0.146	0.041, (H.Sig)
Pharmacy	13.3 (± 3.621)	97	-0.139	0.032, (H.Sig)

Table 3 : Distribution of Age group V/s Mean knowledge scores.

Age group	Scores Mean (± SD)	T Value	P value, Sig
18-22 Years	12.71 (± 1.717)	11.207	0.001, Sig
23-27 Years	14.92 (± 1.315)	12.622	0.000, Sig

Table 4 : Response given by subjects to practice based questions

Questions	Nursing (%)		Pharmacy (%)	
	YES	NO	YES	NO
Do you ask for or use sterilized syringes when required?	86	14	91	9
Do you use others used tooth brush/ razor?	8	92	8	92
Do you ask for screening of blood before blood transfusion?	90	10	83	17
Do you cover open wounds and sores?	88	12	92	8
Do you report needle and blade injuries?	89	11	76	24

questions exhibited that most of the students follow good practices for preventing Hepatitis C Infection. Each question response was marked as 'yes' and 'no'. Responses are shown in table no 4.

In this study the results revealed that the mean practice scores are 4.79 for nursing and 4.85 for pharmacy. Standard deviation values are ± 1.154 for nursing and ± 1.361 for pharmacy. Paired t test values are -0.361 for nursing and -0.154 for pharmacy. P value was 0.000 (significant) for nursing and 0.000 (significant) for pharmacy. Study results represents that Nursing (≈4.79) and Pharmacy (≈4.85) follows best practices almost but comparatively Pharmacy is having better results (≈4.85) in terms of Practice because pharmacy students had higher level of knowledge regarding HCV when compared to nursing students. The results are presented in table no 5.

The results states that mean practice scores are 4.71 for age group 18-22 years and 4.86 for age group 23-27 years. The results are tabulated in table no 6.

Table 5 : Distribution of mean scores of practice assessment

Course	Scores Mean (± SD)	df	T Value	P value, Sig
Nursing	4.79 (± 1.154)	98	-0.361	0.000, Sig
Pharmacy	4.85 (± 1.361)	99	-0.154	0.000, Sig

Table 6 : Distribution of Age group V/s Mean practice scores.

Age group	Scores Mean (± SD)	T Value	P value, Sig
18-22 Years	4.71 (± 1.342)	14.104	0.001, Sig
23-27 Years	4.86 (± 1.219)	11.513	0.000, Sig

DISCUSSION

The study was intended to assess the knowledge, awareness, and practices followed by students for the prevention of Hepatitis C Infection. Basic knowledge of a particular disease, like the central cause of the disease is a very important aspect in diagnosis and prevention of that disease. The knowledge regarding the causative organism of Hepatitis C was found to be very good, as 92% of the pharmacy and 87% of nursing students knew that Hepatitis C was caused by a virus. A similar study conducted by Sapna B *et al.,* showed that almost all participants (97.3%) were aware that Hepatitis C is a viral infection and also revealed that only 83% of the participants were aware that practicing sharing of needles and operation tools can spread Hepatitis C, these results are quite similar to the current study where 86-91% of the participants ask for a sterilized or a new syringe whenever necessary [11].

The current study showed that, when the question was about the availability of vaccine for Hepatitis C only 52% of Nursing and 46% of Pharmacy students knew that there is no vaccine available. A Similar study conducted by Gambhir S R *et al.,* also showed that only 53% of both graduates and post graduates were aware regarding the availability of vaccine against HCV [12]. Therefore inadequate knowledge and false belief of the existence of vaccine against HCV among the paramedical students who play an important role in health service should be taken seriously.

Knowing the complication relating to a disease can improve the rate of prevention. In the present study it was noticed that most of the students, both Pharmacy and Nursing, knew that chronic hepatitis could lead to hepatocellular carcinoma, a similar study was also conducted by Althawab A E *et al.,* among the dental students. A total of 140 students had participated in that study which showed that only half of the students knew the complication of chronic Hepatitis C [13].

The awareness regarding the transmission and its possible routes are very important in young adults to prevent the spread of the disease. This study also brings into notice that the students who took part in the research were having a good understanding about the transmission of Hepatitis C during blood transmission i.e. about 71% of the Nursing and 78% of the Pharmacy students. A study similar to this, was conducted by Mallick *et al.,* it had better results (95.20%) regarding the awareness of the students [14].

The practice plays a key role in the prevention of any disease, when asked if the participants would cover up their wounds it was seen that almost 88-92% participants involved in the current study covered their wounds, in a study conducted by Menghal MH *et al.,* it was noted that 73% of their urban participants did cover their wounds. Hepatitis C is a blood borne disease, it can easily get transmitted through the contaminated needles and blades, therefore reporting of these injuries will help in preventing or identification of a large number of Hepatitis C cases which may otherwise go unnoticed. The study by Menghal MH also revealed that only 67% of their urban participants reported needle and blade injuries but whereas the 76-89% of the participants in the present study reported needle and blade injuries [15].

The current study also gives an idea about the correlation of the age with corresponding level of knowledge. Students in age group of 23-27 years old had higher levels of knowledge regarding Hepatitis C. Overall this study gives an outline of the amounts of improvements that has to be made in the knowledge, awareness and practice of Pharmacy and Nursing students of Chitradurga.

CONCLUSION

This study imparted that Pharmacy students were having higher knowledge than nursing students. The study also disclosed that students who came under the age group of 23-27 years old were having higher knowledge compared to 18-22 years age group. Nursing (≈4.79) and Pharmacy (≈4.85) both students followed best practices but comparatively Pharmacy students were having better results (≈4.85) in terms of Practice. Students within the age group of 23-27 years followed better practices compared to students under age group of 18-22 years. Study results indicated knowledge gaps among the students, so there is a need to expose the students for continuous educational programs to enhance the knowledge regarding HCV infection.

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