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Original Research Article

Hepatitis C infection awareness among dental practitioners and interns practicing in Maharashtra, India

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ABSTRACT

Aim: The aim of the study was to determine hepatitis C knowledge among dental practitioners and interns practicing in Maharashtra about its transmission, treatment, complication and prevention. A self-administered questionnaire made using Google forms based on questions on awareness of hepatitis C virus (HCV).

Materials and Methods: A total of 484 students participated, less than 30% of the participants had fair knowledge about Hepatitis C. The Modified Questionnaire was circulated among the participants of Maharashtra through electronic media. The responses were been kept confidential and participants were informed about the same. The data were coded, entered, and analysed using MS EXCEL the only option available Data software. Statistical analysis in the form of frequencies and percentages were used for qualitative and quantitative variables and percentage in their study.

Results: More than 90% of participants of survey had a view that they were aware about Hepatitis C. Generally the knowledge of Hepatitis C spread was good as only about 30%. The view that vaccines are available for Hepatitis C like Hepatitis B was more 55% of them answered this question wrong.

Conclusion: There are serious gaps for which modification and action was required. Since dental curriculum includes subjects like, general pathology, microbiology and virology, and public health dentistry and these aspects includes knowledge on Hepatitis C was expected to be better.

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1. Introduction

HCV being transmitted through blood and may lead to both acute and chronic infection.¹⁻⁴ Acute infections of HCV being mostly asymptomatic, and progressing to a life-threatening condition.^{2,4,5} Chronic HCV infection will occur in the 70% (55–85%) of people.³ Cirrhosis risk ranges from 15% to 30% in persons with persistent HCV infection over the course of 20 years.⁶ Hepatitis C virus (HCV) is regarded a worldwide health issue, The disease is highest in the Eastern Mediterranean and European Region, with 12 million population being infected chronically.⁶ About 10 million people are infected in south - East Asia and Western

Pacific region. The HCV is most commonly spreads by:

1. The improper sterilization of medical / dental instruments, especially contaminated syringes and needles in healthcare/ dental settings or its reuse;
2. The use of infected blood products;
3. The sharing of contaminated drug injection equipment.
4. Vertical transmission.
5. Sexually transmitted infection (disputed).⁶

Its incubation period is ranges from approximately 2 weeks to about 6 months. After initial infection, about 80% of them remain symptom free.⁶ Since recent infections are symptomless, diagnosis is difficult

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until decades after infection when clinical features of serious liver damage develops. Liver Cirrhosis, hepatic decompensation, and eventually hepatocellular carcinoma are some complications of chronic hepatitis C, causing approximately 5,00,000 mortality per year. World-wide around 58 million of population have HCV infection, with a incidence of approximately 1.5 million every year.⁶ According to a report by WHO 2019, approximately 2,90,000 people died from hepatitis C, because of complications like cirrhosis and hepatocellular carcinoma.⁶ According to WHO, treatment with direct-acting antivirals (DAAs) for individuals above 12 years of age.⁶ These drugs are effective in HCV infection, as vaccine for hepatitis C is unavailable, reduction of infection risk is thus important. Main preventive interventions suggested by WHO include:

1. Proper injections use;
2. Appropriate sharps usage and its disposal;
3. Testing donated blood for blood borne diseases
4. Training of health personnel;⁶

Dental interns and practitioners knowledge and attitude towards it are of clinical significant in its prevention due to high risk of being in contact with hepatitis C patients. The purpose of the study was to determine the knowledge of hepatitis C infection in dental practitioners and interns. **Materials and Methods**

This study was organized to check knowledge about hepatitis C infection.^{1,2,5} It comprised of dental practitioners and interns of Maharashtra. A total of 500 were approached 484 dental interns and practitioners completed the questionnaire.⁴ A organized, self-governed questionnaire was used for data collection which was created for data collection using Google Forms and its design was created using study objectives by the researchers based on analogous questionnaires and review of recent literature.⁴ It includes questions which included on modes of HCV transmission, symptoms and complications, and management of hepatitis C. The participants were requested to answer the questionnaire based on their own knowledge of the subject. Ten participants were included in pilot study which was different from the main participant group. The questionnaire was validated by the statistician and researcher and institute ethical committee registration number- ECR/684/INST/MH/2014/RR-17.

Depending on the results, several changes were done to make it understandable. This questionnaires were made prior to reviewer confirmation.

The Modified Questionnaire was circulated among the participants of Maharashtra through electronic media. They were assured about their confidentiality. The filled questionnaires were checked and incomplete ones were not included, resulting a sample of 484. The data coding, entry, and analysis using MS EXCEL the only option available Data software. Different tools were using descriptive

statistics in the form of frequencies and percentages for qualitative and quantitative variables and percentage. More than 90% of participants of survey had a view that they were aware about Hepatitis C. Generally the knowledge of spread of Hepatitis C was only about 30% of the participants had misconceptions regarding it. The participants were of the view that vaccines are available for Hepatitis C like Hepatitis B as more 55% of them could not answer this question correctly.

2. Results

484 participants were included in the survey. More than 90% of participants of survey had a view that they were aware about Hepatitis C. However, from these less than 30% of participants could answer all the questions correctly. The questions were based on transmission, prevention and vaccine availability, treatment and complications of Hepatitis C. Generally the knowledge of spread of Hepatitis C was not good as only about 30% of the participants had misconceptions regarding it. The participants were of the view that vaccines are available for Hepatitis C like Hepatitis B as more 55% of them could not answer this question correctly. Around 20% of them had a concept that Hepatitis C is not treatable and no medicines are available for the same. Most of participants were unaware about the complications of the disease. More than 70% of them got the answer on it wrong, and they thought that chances of chronicity of Hepatitis C was quite less as compared to Hepatitis B which was not true.

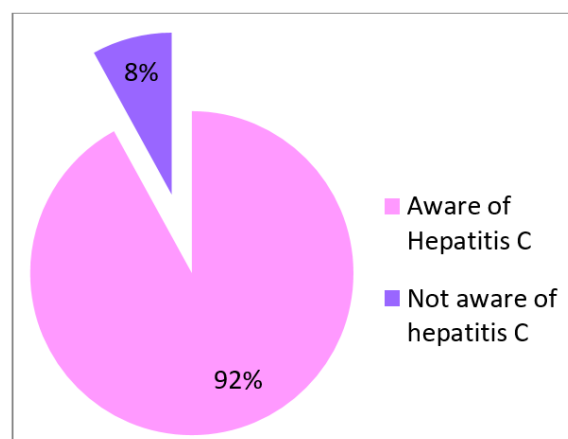


Fig. 1: Awareness of Hepatitis C

3. Discussion

This study was carried out in a group of dental practitioners and interns practicing in Maharashtra about its transmission, treatment, complication and prevention who were thought to have proper understanding and viewpoint towards Hepatitis C.^{1-3,5}

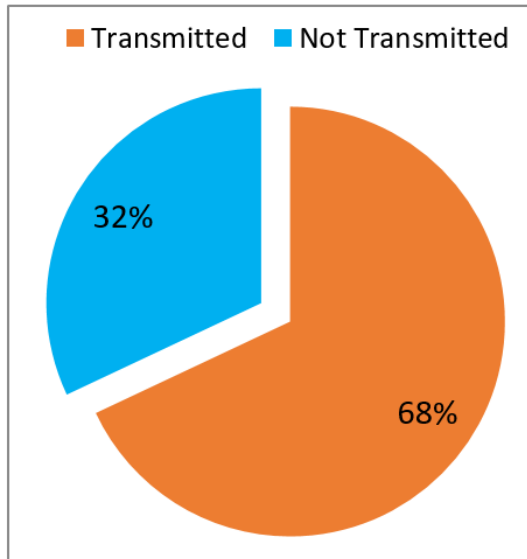


Fig. 2: Transmission of Hepatitis C while working

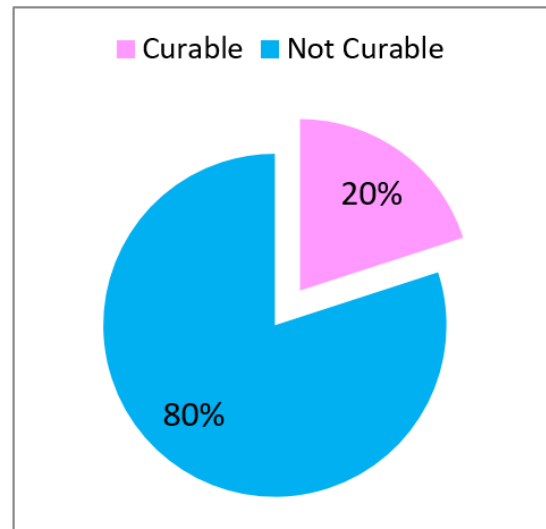


Fig. 4: Curability of Hepatitis C

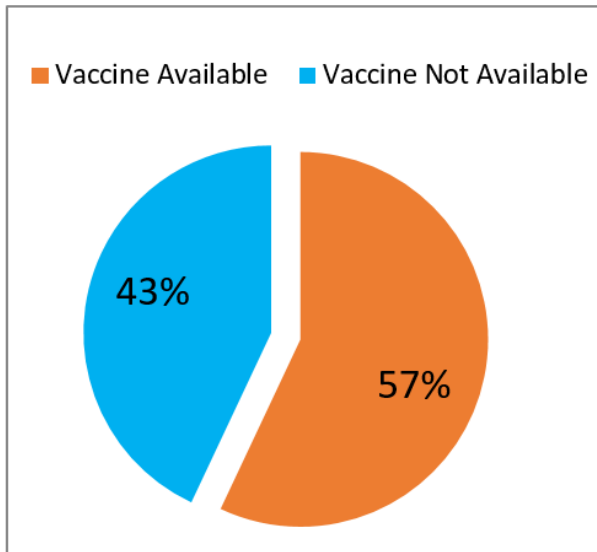


Fig. 3: Vaccine availability

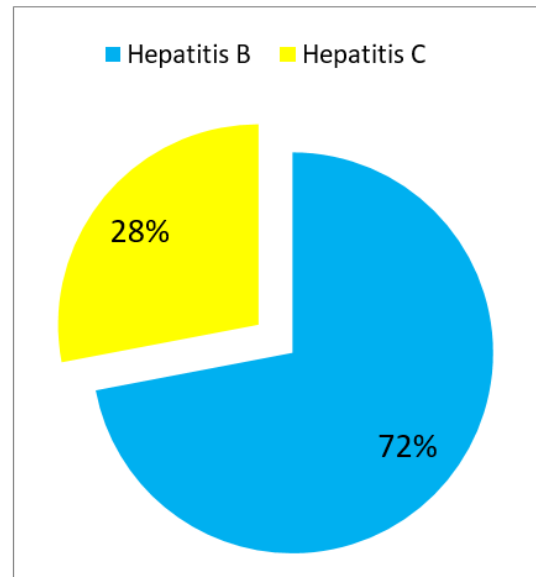


Fig. 5: More likely to become chronic

As per the study, the knowledge of the transmission of Hepatitis C was just enough. Many of them were unaware that it could be transmitted while treating a hepatitis C carrier.²

The knowledge on Hepatitis C prevention and unavailability of vaccine was very low. Research for vaccine is going on. Six different genotype of virus have been found and approximately 50 variant subtypes thus challenging to create a appropriate vaccine for it.⁶

A few of them had a misconception that it is not treatable however according to WHO – Access to Hepatitis C treatment 2016, with a 3-month treatment, over 95% of

people infected with chronic Hepatitis C can be cured.⁶

Most of them thought that Hepatitis B is more likely to be chronic and the chances of Hepatitis C to be chronic are quite less. The study thus reported that more than two third of the participants had poor knowledge about Hepatitis C.⁷

The participant's knowledge was poor, There are serious gaps for which modification and action was required.^{8,9} The understanding of participants with regard to transmission was not that appropriate. Since dental curriculum includes subjects like, general pathology, microbiology and virology, and public health dentistry and these aspects includes knowledge on Hepatitis C was expected to be better.² The

Dental interns and Practitioners have a high chances of transmission, which means that they need to prevent its spread.¹⁰ Also, as hepatitis C infection has no postexposure prophylaxis and vaccination and its high chances of developing into chronic disease, infection prevention is very important and the only viable option.²

4. Source of Funding

None.

5. Conflict of Interest


None.

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