



## **Awareness and Attitude Appraisal toward Hepatitis-C among North West Population of India- A Cross Sectional Study**

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### **Authors' contributions**

*This work was carried out in collaboration between all authors. Authors RG and SA designed the study, wrote the protocol, and author PB wrote the first draft of the manuscript. Authors PB and SK managed the literature searches and analysis of the study performed, author AB managed the filling of forms. All authors read and approved the final manuscript.*

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### **ABSTRACT**

**Background:** Hepatitis C is increasingly found to be a significant etiological agent causing liver disease in India. Prevention is the best safeguard against this silent killer but a major obstacle has been the low awareness. Attitudes and awareness of general population can play a key role in prevention of spread of infection.

**Aims:** The objectives of the present survey were to assess the knowledge and attitudes of general population vis a vis risk factors, route of transmission, vaccination and treatment of Hepatitis-C virus (HCV).

**Study Design:** Cross-sectional questionnaire based study.

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**Place and Duration of Study:** South west border region of Northern Indian State of Punjab from 2012-2014.

**Methodology:** This random survey was conducted in south west border region population of northern Indian state of Punjab.

**Results:** Overall, 24.2%, 29.2% and 46.6% respondents had good, fair and poor awareness levels respectively.

**Conclusion:** The study highlights and calls for a targeted and effective HCV awareness, by innovative means and on an emergency basis, to control the spread of this silent killer.

*Keywords: Hepatitis C awareness; Farmer; HCV prevention; HCV transmission; Punjab.*

## 1. INTRODUCTION

Hepatitis B and C viruses (HBV and HCV) are the major causes of liver diseases worldwide and can lead to permanent liver damage including liver cirrhosis or hepatocellular carcinoma, and even death [1,2]. Globally, 240 and 150 million people are chronically infected with HBV and HCV, respectively [3].

Hepatitis viruses are estimated to be among the top 10 causes of death in India [4]. India has intermediate endemicity of hepatitis B, with hepatitis B surface antigen prevalence between 2% and 10% among the health care professionals [5]. Hepatitis C virus infection affects about 20 million people in India, and a quarter of them expected to develop chronic liver disease in the next 10-15 years [6].

Hepatitis C is increasingly found to be a significant etiological agent causing liver disease in India [7]. One out of every hundred persons in India is likely to be chronically infected by the virus and most of these 12 million persons are unaware of their infection [4]. The risk factors for HCV include: Intravenous drug use, blood transfusions, sexual activity, hemodialysis and special population (occupationally prone population); and clinical manifestations comprise acute and chronic hepatitis, cirrhosis and hepatocellular carcinoma [7,8].

It has been recommended that prevention is a safeguard against epidemic of viral hepatitis. By knowing the facts, having proper awareness and attitudes the threat of this disease can be prevented to a great extent [9]. However, as with other major public health problems, the mere existence of effective tools and strategies for prevention and treatment are not enough to stop the progress of viral hepatitis.

A major obstacle has been the low awareness of viral hepatitis, both in the general and among key populations. Lack of knowledge and awareness

about HCV in the community often leads to misinformation, missing of opportunities for prevention and treatment, and stigmatization of infected patients. Since knowledge about the various risk factors and transmission routes is fundamental in preventing the spread of viral hepatitis, increasing awareness among general population is an important component of the public health response.

Knowledge and attitudes of the general population can play a key role in prevention of spread of infection. Missing the prevention related opportunities may be detrimental in prevention of infection to additional population.

The objectives of the present survey were to assess knowledge, and attitudes of general population vis-à-vis risk factors, route of transmission, vaccination and treatment of HCV. Survey was conducted in Faridkot division, south west border region in northern Indian state of Punjab; a state where prevalence of HCV infection is reported to be 5.2%, with the highest prevalence noticed in the 41–60 years age group [10].

## 2. SUBJECTS AND METHODS

An interviewer questionnaire based random survey was conducted by department of Medicine, Guru Gobind Singh Medical College, amongst population visiting Kisan Mela organized by Punjab Agriculture University, at Faridkot. This institute is one of the major health care facility in the Punjab state and caters the medical needs of a large population including Punjab and its neighboring states of Haryana and Rajasthan.

The survey conducted was not preannounced in order to avoid population, who have already tested positive for HCV. A close ended questionnaire was distributed amongst the specific group of people i.e. farmers, visiting the Kisan Mela. The questionnaire was pretested for

validity and reliability with a group of participants similar to the target population for assessment of ambiguity, questionnaire ease of use, competence of response choices, and time to completion. The questionnaire was given in vernacular language (Punjabi), by the third author. The questions pertained to information regarding test and vaccination history, risk factors and awareness of disease. Demographic data including sex and age were also collected. Confidentiality of identity was assured to all the participants and a written consent was obtained prior to filling up the questionnaire.

Four questions with subparts were used to explore awareness levels. These questions included a question on general knowledge, route of transmission, knowledge of vaccination and treatment, of HCV. Sixteen questions were used for risk factor assessment in participants. All the questions were close ended questions. The grading as excellent, good, fair and poor was done on the basis of questions correctly answered in the questionnaire. (20 or >20 as excellent, 12 to 19 as good, 5 to 11 as fair and 0 to 4 as poor).

This was followed by an informative lecture pertaining to the causes, risk factors, prevention and treatment of hepatitis C infection. Educational material, in vernacular language pertaining to all the aspects of hepatitis was also distributed to the participants.

Data was analyzed using SPSS version 18.0 and presented by the way of frequency distribution both in percentage and absolute number.

### 3. RESULTS

Approximately 950 people visited the camp, out of which, 496 people with mean (SD) age of 38.3

(13.1) years, consented to participate in this survey. Majority of participant (87.5%) were male. Out of this 10.1% respondents had/have viral hepatitis and only 3.8% were vaccinated against HBV.

Population screened belonged to Malwa region of Punjab hence region wise data could not be produced. Data for relationship between participants/visitors was not intended to be captured nor was it a part of the survey form.

#### 3.1 General Knowledge Regarding HCV

Results showed that 91.7% respondents were aware that liver is the organ affected by hepatitis and 45.2% were aware that hepatitis can cause death. In addition to this only 33.3% respondents were aware that hepatitis is a preventable disease.

#### 3.2 Awareness Regarding Route of Transmission of HCV

Results are presented in Table 1 and Fig. 1. As it is clear from results, awareness regarding routes of transmission was way below the desired levels; as majority of respondents were not aware or not sure about the routes of transmission of HCV, which showed a lack of awareness among respondents.

#### 3.3 Awareness Regarding Availability of Hepatitis B and C Vaccine

About 47.2% respondents were aware about the availability of vaccine against HBV, whereas 31.2% were not sure about the availability of HCV vaccine, however 23.6% respondents answered that the vaccine against HCV is available, although no such vaccine is available at present.

**Table 1. Awareness regarding route of transmission of HCV**

	Yes	No	Not sure
From water, food products & utensils	31.3%	45.2%	23.6%
From blood & blood products	45.6%	28.0%	26.4%
From haemodialysis	30.8%	35.5%	33.7%
From reuse of syringes & needles	47.4%	23.6%	29.0%
From hand shaking hugging & kissing	24.2%	45.2%	30.6%
By living or playing together	21.85	46.6%	31.7%
From organ transplantation & from major surgery	25.8%	35.3%	38.9%
From dental procedures	28.4%	31.5%	40.1%
By sharing of tooth brush & razors	33.1%	26.0%	40.9%
By sexual transmission	44.6%	21.2%	34.3%
From mother to foetus	37.7%	25.8%	36.5%
From Tattooing	32.9%	28.6%	38.5%

### 3.4 Treatment Knowledge

As per results obtained, 42.7% and 40.5% respondents respectively were aware about availability of treatment for HBV and HCV. In addition to this only 26.2% respondents were aware that the patients can do their routine work during treatment.

### 3.5 Overall Awareness Level

Based on overall response to questionnaire, 24.2% respondent had good to excellent awareness levels about HCV, while 29.2% and 46.6% respondent had fair and poor awareness levels, respectively about the disease.

## 4. DISCUSSION AND CONCLUSIONS

Chronic hepatitis C is a potentially life-threatening liver disease that receives little public attention and frequently goes undiagnosed. It is also called "silent killer", as it gradually damages the liver, causing cirrhosis, liver cancer and other serious liver diseases, without noticeable symptoms.

The incidence of HCV is increasing in most part of the world, especially in undeveloped and developing countries, and India is no exception. According to government figures, prevalence of HCV has been observed to be relatively higher in Punjab, Andhra Pradesh, Puducherry, Arunachal Pradesh and Mizoram [4]. Lack of education, reuse of syringes and needles, unchecked blood transfusion and sexual activity are the major factors contributing to spread of the disease.

Awareness and attitude study/survey is a practical step to assess level to which a community is in a position to adopt a disease risk-free behaviour, for HCV. In present survey we studied knowledge and attitude of people in Faridkot division of Punjab. An area where 15% of the people are actively infected with HCV [11]. The respondents were farmers, their family members and/or people associated with farming activities.

In this survey majority of participants were aware about body organ affected by HCV, but they did not had adequate knowledge about prevention and complications of disease. The awareness level regarding route of HCV transmission was considerably lower in cohort surveyed (Table 1). Though a sizeable proportion of the population

was aware that HCV can be transmitted through blood transfusions (45.6%), reuse of syringes & needles (47.4%) and sexual transmission of disease (44.6%), majority were not able to recognize sharing of razors, tattooing, surgical/dental procedures and mother-to-child transmission as potential modes of HCV transmission. Others also had misconceptions regarding HCV transmission.

In this study knowledge about treatment availability for HBV and HCV can be termed as satisfactory among the participants. However, overall awareness levels about HCV were fair to poor in majority of respondents. While, awareness of the infection allows people to seek the health care they need and to take precautions against spreading the infection to others. Misconceptions and lack of awareness about this infection can lead to missed opportunities for diagnosis, prevention, and appropriate care. Limitation of the study: The present study was directed to a specific group of population i.e. farmers, so a more elaborative study directed to other occupational groups as well as general population is needed in the future.

In the middle of rampant spread of HCV in state of Punjab, the results of survey highlight the need for all the stakeholders to work on raising HCV awareness among the general public in order to reinforce knowledge related to the modes of transmission. However, awareness programs alone cannot be sufficient to prevent the spread of disease in the state, this has to be accompanied with vigorous prevention programs to promote and strengthen infection control.

Innovative ways and means are required to be adopted to prevent spread of disease on emergency basis. This can include educating population regarding factors leading to spread of disease, through print mediums, radio and television which are currently most important source of knowledge/information among educated and uneducated population. In addition to these lectures, talks can be arranged at school, college and public places.

Probably health authorities can initiate and organize a program same way as Pulse Polio campaign, which has lead to eradication of polio from country. Hepatitis C is an emerging infection in India whose long-term consequence will be felt in the years to come, a targeted and effective HCV awareness approach, can help in

substantial reduction of HCV incidence in the country.

### ETHICAL APPROVAL

It is not applicable.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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