



# Knowledge, attitude and practice about Hepatitis C Infection among the medical students of Avicenna Medical College, Lahore.

<sup>1</sup>Dr.Muhammad Rashid; <sup>2</sup>Dr.Ghulam Abbas& <sup>3</sup>Dr.Faizah Iftikhar

## ABSTRACT

Hepatitis is a general term that means inflammation of liver. The ancient Greek word Hepa refers to the liver and the Latin word. Itis means inflammation. Hepatitis C is a curable disease caused by a virus that can infect the liver. The virus called hepatitis C can cause lifelong infection; fibrosis, cirrhosis, liver cancer and death. There are two phases of hepatitis c infection-acute and chronic. Acute means a new HCV infection that is less than six months old. More than six months infection is chronic infection.

### Objectives:

1. To determine the level of Knowledge attitude and practice about Hepatitis C infection among medical students of Avicenna Medical College Lahore.
2. To encourage medical students to take part in awareness related activities, seminars, and camps related to hepatitis C infection.

### Material and Methods:

A descriptive cross sectional study was done. 100 people were interviewed through simple random sampling technique. Closed ended questionnaire was used as data collection tool after getting their consent. Data was collected by 5 team members. Data was analyzed and compiled through SPSS software version-22.

### Results:

100 people were questioned about the knowledge and awareness of Hepatitis C. Among those 20% people were not aware of

Hepatitis C. 80% people were aware of Hepatitis C.

### Conclusion:

Results show that majority of people knows what Hepatitis C is and they are aware of Hepatitis C.

**Key words:** Awareness, Hepatitis C, medical Student, Lahore.

## INTRODUCTION

Hepatitis C is a chronic liver disease that results from infection with the Hepatitis C virus. It can range in severity from a mild illness lasting a few weeks to a serious lifelong disease it is among the most common virus that can effects the liver and it has been shown to be a major cause of parentally transmitted hepatitis. Hepatitis C is found worldwide. The most affected regions are Africa and Central and East Asia. Depending on the country, hepatitis C infection can be concentrated in certain populations (for example, among people who inject drugs) or in general populations. There are multiple strains (or genotypes) of the HCV virus and their distribution varies by region. There is no vaccine for hepatitis C, therefore prevention of HCV infection depends upon reducing the risk of exposure to the virus in health-care settings, in higher risk populations, for example, people who inject drugs, and through sexual contact (Wright, 2014).

Hepatitis is a general term that means inflammation of liver. The ancient Greek word Hepa refers to the liver and the Latin word It is means inflammation. Inflammation is the local



reaction of the body in this case the liver in response to a damaging agent. Hepatitis C is a curable disease caused by a virus that infects the liver. The virus called hepatitis C can cause lifelong infection, fibrosis, cirrhosis, liver cancer and death. There are two phases of hepatitis c infection-acute and chronic. Acute means a new HCV infection that is less than six months old. More than six months infection is chronic infection. A number of different agents can cause hepatitis C, including infective agents (virus, bacteria), chemical poisons, drugs and alcohol or an immune response towards organ itself (autoimmune hepatitis). Hepatitis C leads to a serious permanent liver damage, and sometimes acute liver failure and death. Chronic persistence of the virus is major cause of cirrhosis death, as well as liver failure or liver cell cancer. Viral hepatitis caused by the hepatitis B and C may leads to long term persistent infections and chronic liver disease with potentially lethal consequences (**Dr.Koop, 2016**).

The preliminary results demonstrate cognitive impairment that is unaccounted for by depression, fatigue or a history of IVDU in patients with histologically mild HCV infection. The findings on MRS suggest that a biological cause underlies this abnormality. Patients with chronic hepatitis c virus infection frequently report fatigue lassitude, depression and a perceived inability to function effectively. Patients exhibit low quality of life scores that are independent of disease severity so HCV has direct effect on the central nervous system resulting in cognitive cerebral metabolite abnormalities. 27 viremic patients with biopsy have proven it as a mild hepatitis according to the HCV (**Fonton et al., 2002**).

Research data suggest a moderate to high prevalence of hepatitis B and C (Jan 1994-Sep 2007) to estimate the prevalence of active

hepatitis and chronic hepatitis C in Pakistan, analyzing data separately for the general and high risk populations and for each of the four provinces. Pakistan carries one of the world's highest burdens of chronic hepatitis and mortality due to the liver failure and hepatocellular carcinomas. However national level estimates of the prevalence of and risk factors for hepatitis are currently not available (**Asad et al., 2009**).

The objective of this study is to measure the knowledge and awareness regarding Hepatitis C among the medical students. The findings from various studies indicates that the patient delayed may be influenced by several factors, namely lack of knowledge, lack of awareness of significance of symptoms, negative social attitudes or combination of these factors. This study will help to describe the problems regarding Hepatitis C in Pakistan and there effects on medical students. It will help to increase the knowledge and apprehension of medical students and increase their awareness regarding this matter. This study will help to take measures to decrease the Hepatitis C and regarding problems in Pakistan and help to educate the medical students of Avicenna Medical College regarding this disease. There have no such study been done in this region.

### LITERATURE REVIEW

Since the discovery of hepatitis C virus (HCV) in 1989 as the causative agent of post-transfusion non-A non-B hepatitis. The Centers for Disease Control and Prevention and Chiron came together to identify the hepatitis C (HCV) virus. There isn't a vaccine for HCV at this time. HCV Infection occurs throughout the world, and up until the introduction of anti-HCV screening tests for blood donors, introduced in 1990/1991 in Europe and the United States, it has represented the major cause of transfusion-associated hepatitis. The incidence of HCV on a global scale is not well known, because acute



infection is generally asymptomatic (**Khalid et al, 2008**).

An estimated 130–200 million people worldwide are infected with hepatitis C. In 2013 about 11 million new cases occurred. It occurs most commonly in Africa and Central and East Asia. About 343,000 deaths due to liver cancer and 358,000 deaths due to cirrhosis occurred in 2013 due to hepatitis C. The existence of hepatitis C – originally identifiable only as a type of non-A non-B hepatitis – was suggested in the 1970s and proven in 1989. Hepatitis C infects only humans and chimpanzees (**Franciscus, 2015**).

HCV is parenteral transmitted and has been found in every part of the world where it has been sought. Prior to donor screening for anti-HCV (1992), HCV was the most common cause of post-transfusion hepatitis worldwide, accounting for about 90% of this disease in the USA. Studies carried out in the 1970s suggested that about 7% of transfusion recipients developed NANB Hepatitis, and that up to 1% of blood units might contain the responsible virus. The introduction of anti HCV screening has reduced the transmission by up to almost 100%. Currently in the USA, HCV accounts for about 20% of acute viral hepatitis cases, of which less than 5% are associated with blood transfusion.

The prevalence of anti-HCV is highest in injecting drug users and hemophiliac patients (up to 98%), highly variable in hemodialysis patients (<10%-90%), low in heterosexuals with multiple sexual partners, homosexual men, healthcare workers and family contacts of HCV infected persons (1%-5%), and lowest in volunteer blood donors (0.3%-0.5%).

In the general population it varies (0.2%-18%). Areas of higher prevalence include countries in the Far East, Mediterranean countries and certain areas in Africa and Eastern Europe. WHO estimates that about 3% of the world's population has been infected with HCV and that some 170 million are chronic carriers at risk of developing liver cirrhosis and/or liver cancer. These chronic

carriers represent a reservoir sufficiently large for HCV to persist.

Globally, 2.2% of the world's population is suffering from hepatitis C virus (HCV). The disease is becoming a major health problem of developing countries, including Pakistan that has the second highest prevalence rate of hepatitis C ranging from 4.5% to 8%. All five hepatitis viruses are present in Pakistan. It is estimated that nearly eight million people in the country have been exposed to hepatitis C virus. Hepatitis C virus is prevalent in certain districts of Baluchistan, Punjab and Sindh due to the existing hepatitis C cases and low coverage of hepatitis C treatment in this high risk population. Several studies indicate that the rate of positivity for HCV is much higher in rural areas than the peri-urban areas of Pakistan (**Janjua, 2006**).

The increasing HCV epidemic is likely to progress to a considerable increase in disease burden over the coming years. A multidisciplinary approach will be needed to adopt suitable technical methods, increase awareness in both lay and medical communities, and produce more effective identification and treatment of HCV patients. The medical community needs to continue research aimed at improving understanding of predisposing factors, the clinical course of the disease, and the best strategies for management, so that in future outbreaks, novel therapy can be targeted to high-risk population (**Nadeem et.al, 2008**).

HCV Infection occurs throughout the world, and up until the introduction of anti-HCV screening tests for blood donors, introduced in 1990/1991 in Europe and the United States, it has represented the major cause of transfusion-associated hepatitis. The incidence of HCV on a global scale is not well known, because acute infection is generally asymptomatic. 100As many as 2 to 4 million persons may be chronically infected in the United States, 5 to 10 million in Europe, and about 12 million in India, and most do not know they are infected. About 150 000 new cases occur annually in the US and



in Western Europe, and about 350 000 in Japan. Of these, about 25% are symptomatic, but 60 to 80% may progress to chronic liver disease, and 20% of these develop cirrhosis. Most European countries report a prevalence of HCV in the general population of between 0.5 and 2%. WHO estimates that about 3% of the world's population has been infected with HCV and that there are more than 170 million chronic carriers who are at risk of developing liver cirrhosis and/or liver cancer (**Fujimura et.al., 1996**).

The hepatitis C virus is a blood borne virus. It is most commonly transmitted through:

Injecting drug use through the sharing of injection equipment. The reuse or inadequate sterilization of medical equipment especially syringes and needles in healthcare settings; and the transfusion of unscreened blood and blood products. HCV can also be transmitted sexually and can be passed from an infected mother to her baby; however these modes of transmission are much less common. Hepatitis C is not spread through breast milk, food, water or by casual contact such as hugging, kissing and sharing food or drinks with an infected person (**John et al, 2009**).

According to WHO, many people (70-80%) with Hepatitis have no symptoms. But we can notice these: Jaundice (a condition that causes yellow eyes and skin, as well as dark urine), stomach pain, Loss of appetite, Nausea, Fatigue. Diagnosed by PCR and ELISA tests.

Early and appropriate medical management including antiviral. There is no vaccine for hepatitis C, therefore prevention of HCV infection depends upon reducing the risk of exposure to the virus in health-care settings and in higher risk populations, for example, people who inject drugs, and through sexual contact. The following list provides a limited example of primary prevention interventions recommended by WHO : Hand hygiene: including surgical hand preparation, hand washing and use of gloves. Safe handling and disposal of sharps and waste. Provision of

comprehensive harm-reduction services to people who inject drugs. Testing of donated blood for hepatitis B and C (as well as HIV and syphilis). Training of health personnel. Promotion of correct and consistent use of condoms (**WHO, 2015**).

Hepatitis C treatments have changed a lot in recent years. In January 2016, the FDA gave approval to a once-daily pill combination of elbasvir and grazoprevir called Zepatier. It has been shown to have the ability to cure the disease in almost 100% of those treated. It follows the success of another once-daily treatment called Harvoni that cures the disease in most people in 8-12 weeks. Harvoni combines two drugs: sofosbuvir (Sovaldi) and ledipasvir. In clinical trials, the most common side effects in both drugs were fatigue and headache (**FDA, 2016**).

## OBJECTIVES

The objectives of this study were to;

1. To determine the level of Knowledge attitude and practice about Hepatitis C infection among medical students of Avicenna Medical College Lahore.
2. To encourage medical students to take part in awareness related activities, (seminars, and camps) related to hepatitis C infection.

## Material and Methods

### Study Variables:

a) **Dependent variable:** Hepatitis C

b) **Independent variable:** Blood

transfusion, needle prick

**Study Design:** Descriptive Cross Sectional study

**Study Universe:** Lahore

**Study population:** Medical students

**Study setting:** Avicenna Medical College



**Duration of Study:**

Commencement time: 7 August, 2016

Completion time: 19 September, 2016.

**Sample size:** Study size had been estimated using WHO software S size and by using formula of estimating a population proportion with specified relative precision. At confidence level of 95% with anticipated population proportion of 70% and relative precision of 10%. The minimum sample size taken was 100.

**Sampling Technique:** Random sampling

**Sample Selection:**

**a. Inclusion Criterion:**

1. Medical students of Avicenna Medical College.
2. Medical students who gave consent.
3. Medical students having age 19-24 years

**b. Exclusion Criterion:**

1. Medical students of all other medical colleges.
2. Medical students who did not give the consent
3. Ill medical students

**Social and Ethical Considerations:**

1. Observed cultural & religious ethics.
2. Written consent was obtained for interview from the principle.

3. Secrecy and confidentiality was maintained.

4. The information about the names addresses etc. was not disclosed to any one and will not be used for unethical purpose.

5. The procedures were explained to the subjects clearly and were kept sterile and painless.

6. Consent was taken from the subject +

7. Data was not disclosed to electronic or print media.

**Data Collection Procedure:** Questionnaires were handed out to the participants and their answers were then sorted out to analyze the different variables under study, the data were collected by research team.

**Data Analysis and Compilation Plan:** The data were compiled and analyzed by using SPSS software version-22 and appropriate statistical techniques. Data were presented by means of tables, charts and diagrams.

**Data Collection Tool:** A semi structured questionnaire (pre-designed closed ended with few open ended questionnaire) was used to collect information from patients.

**Pre-Testing:** Before carrying out the actual exercise of data collection, questionnaire was tested on some subjects on experimental basis to observe any deficiency in questionnaire and ensure its Ethical and social acceptability.

**RESULTS**

**Table 1:**

**Age of Population Selected For the Research**

Respondents Age				
	Frequency	Percent	Valid Percent	Cumulative Percent
Age between	35	35.0	35.0	35.0

19-20				
Age between 21-22	29	29.0	29.0	64.0
Age between 23-24	36	36.0	36.0	100.0
Total	100	100.0	100.0	

## RESULTS:

It says that:

- 35% students belong to 19-20 years age group.
- 29% students belong to 21-22 years age group.
- 36% students belong to 23-24 years age group.

**Table 2:**

Awareness of Hepatitis C					
		Frequency	Percent	Valid Percent	Cumulative Percent
	No	20	20.0	20.0	57.0
	Yes	80	80.0	80.0	100.0
	Total	100	100.0	100.0	

**Percentage of people who were aware of Hepatitis C**

## RESULTS:

It shows that:

- 20% are those who have no knowledge about Hepatitis C.
- 80% are those who have awareness & knowledge about Hepatitis C.

## DISCUSSION

The study was conducted on the topic of Knowledge, attitude & practice about Hepatitis

C infection among the medical students of Avicenna Medical College, Lahore. For this research we selected the group of 100 people which were further divided into 3 groups on the



basis of their age, group 1 includes 19-20yrs, group 2 includes 21-22yrs, group 3 includes 23-24yrs. Gender selection for this research was includes 69% males & 39% females. After data analysis we came to know that 80% of the selected people were aware of Hepatitis C infection & 20% were not aware. In this study the prevalence is higher among males than females. Majority of the students in this study were lacking awareness about causes and symptoms of Hepatitis C. Almost all students know that blood transfusion was an important source of transmitting this disease. Medical students frequently sustained needle sticks and sharp objects injuries during clinical training and are most prone to develop this disease. In clinical settings students should be well educated about the availability of post exposure (needle prick management). It should be responsibility of medical college or medical university to have 24 hours counseling services for accidental needle prick.

Among 80% aware students 66% were male so it includes that the males are more aware than the female. Knowledge about hepatotoxic virus is crucial for health care professionals because of the increasing prevalence of these infections. Occupational risk of this infection is well known in medical students especially during the professional training period. This accounts for one of the major reason for delivering knowledge about preventive measures and universal precautions. Students regarded blood transfusion, syringes and needles to be an important factor for transmission of these deadly infections in this study. Still 48% students claimed the availability of a vaccine that can protect against hepatitis C infection. The unawareness about such vaccine was more profound among the pre-clinical students. Today's medical students work as colleagues with physicians in caring for patients. They deserve to be trained in an environment where personal safety is stressed. We found a significant difference between knowledge of pre-

clinical and clinical students. In the light of our study there is a lack of awareness among the medical students entering in to the profession. It is the need of the hour to emphasize on practicing universal precautions.

This study indicates an urgent need to initially provide knowledge and training to handle patients with different medical conditions starting in the 3rd year and further on compulsorily upgrade this knowledge every year with recent information by conducting continuing medical education programs.

## CONCLUSIONS

- In this study 35% students were in between ages 19-20yrs, 29% were between 21-22yrs and 36% were between 23-24yrs.
- In this study 31% were females & 69% were males. 80% students were aware of the cause of infection.
- From this study it is evident that most students knew the main spreading cause is blood products infections, drugs users and reuse of syringes as compared to other risks.
- In this study the prevalence is higher among males than females. Majority of the students in this study were lacking awareness about causes and symptoms of Hepatitis C.
- Almost all students know that blood transfusion was an important source of transmitting this disease.
- Medical students frequently sustained needle sticks and sharp objects injuries during clinical training and are most prone to develop this disease.
- In clinical settings students should be well educated about the availability of post exposure (needle prick management).



- It should be responsibility of medical college or medical university to have 24 hours counseling services for accidental needle prick.

### RECOMMENDATIONS

In the light of above-mentioned conclusions, following recommendations are made:

1. The level of knowledge and awareness about Hepatitis C among medical student should be improved.
2. Health staff needs to be aware of the importance of disseminating information and should take a major role to advocate the problem among medical students.
3. Short training courses for health staff should be held in a regular basis to make the health staff more familiar with the use of health education aids, materials and guidelines, and give them more confidence in implementing health education.
4. Management of the hospital and medical college should properly train or educate the students about Hepatitis C protection.
5. Medical staff should use gloves to avoid needle prick.
6. Early diagnose and treatment should be made possible.

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