



CODEN [USA] : IAJPBB

ISSN : 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<http://doi.org/10.5281/zenodo.4008446>Available online at: <http://www.iajps.com>

Research Article

**STUDY TO KNOW THE ENVIRONMENTAL INFLUENCE
FACTORS AND SOCIO-ECONOMIC PROFILE IN
INFECTIVE HEPATITIS**¹Dr Mansoor Ul Hassan Qureshi, ²Dr Dania Aijaz, ³Dr Hafiza Asma Riasat Ali¹Latin American School of Medicine Havana Cuba²Liaquat University of Medical and Health Sciences, Jamshoro³CMH Medical and Dental College Lahore

Article Received: June 2020

Accepted: July 2020

Published: August 2020

Abstract:

Background: Hepatitis can be defined as "Infection of the liver". Hepatitis may be caused by variety of etiological agents. The aim of study is to know the various epidemiological factors in patients with infective hepatitis Mayo hospital Lahore. To identify environmental factors, demographic and socio-economic profile of infective hepatitis.

Methods: The present study was conducted in Mayo Hospital, Lahore to determine the epidemiological aspects of the infective hepatitis cases. 220 cases were studied prospectively; they were interviewed for the history and physical examination.

Results: Out of 220 case males were 126 (57.2%) and female were 94 (42.8%). The age group 15-34 years had the cases 71 (32.27%) and 25-34 age group had the cases 73 (33.18%). The cases declined further with subsequent age groups 35 and above. The difference in child age and adult age was significant, Majority of patients presented with dark yellow urine 87.72%, loss of appetite 83.63% and icterus 96.36%, the patients having liver enlargement were 128 (58.2%) and was significant. The percentage of the patients taking meals outside was 60% and found to be highly significant, majority of the patients had municipal tap water supply (94.00%).

Conclusion: Health Education should be given to the community regarding the modes of transmission and method of prevention of infective hepatitis through simple and effective media.

Keywords: Environmental factors, socio-economic profile, infective hepatitis

Corresponding author:**Dr Mansoor Ul Hassan Qureshi,**

Latin American School of Medicine Havana Cuba

QR code



Please cite this article in press Mansoor Ul Hassan Qureshi et al, Study To Know The Environmental Influence Factors And Socio-Economic Profile In Infective Hepatitis., Indo Am. J. P. Sci, 2020; 07(08).

INTRODUCTION:

Hepatitis can be defined as "Infection of the liver", - Hepatitis may be caused by variety of etiological agents, which may be classified as follows. 1) Infective Agents: a) Virus - Hepatitis A,B,C,D,E,G, non A, non B virus, EBV, CMV, Herpes virus, b) Protozoa - *E histolytica*, *Plasmodium*, c) Spirochaetes - *Leptospira*, *Treponema*, d) Fungi - *Actinomyces*, 2) Toxic agents: a) Drugs- Antituberculous drugs, *Methyldopa*, *Ketoconazole*, b) Alcohol, c) Miscellaneous- Some poisonous mushroom, *Aflatoxins*, 3) Other causes: a) Auto immune hepatitis, b) Metabolic Disorders- Wilson's disease. ¹ Hepatitis A is known as Infective hepatitis, caused by water pollution due to fecal contamination and hepatitis B known as serum hepatitis, caused by virus, parenteral transmission, though the plasma remains infectious the virus has been detected in the stools. It appears more certain that hepatitis associated antigen occurs in serum hepatitis and not in the infectious hepatitis. Though the Pathophysiology of both diseases is identical, serum hepatitis has longer period than infective hepatitis. The period varies around 100 days in HAB and 30-60 days in hepatitis A.² This is not a constant feature and many cases overlap, further making it difficult to separate the two diseases. A larger amount of the information has now been accumulated from various studies. Though it is very difficult for separation of types of hepatitis, still all world cases of jaundice are grouped together with note indicating the source of contamination and mode of the transmission.³ The vehicle of infection is usually water, and pollution, can occur due to fecal contamination, whereas sewage is discharged into the sea, but not at great depth, sea food like clams and oysters when eaten can also transmit the disease. The study on human volunteers had dispel some confusions that previously existed and it appears that viral hepatitis can be caused by more than one viruses.⁴ The risk of transmission HAV is greatest from 2 weeks before to 1 week after the onset of jaundice. Infective Material is mainly by oral route, feces, blood, serum and other fluids are infective during viremia.²In typical cases, there is a pre-icteric and icteric stage but an icteric stage cases without jaundice are very common especially in children. The disease spectrum is characterized by the occurrence of the numerous subclinical or asymptomatic cases. The disease is benign with complete recovery in several weeks. The case fatality rate of icteric cases is less than 0.1 percent. Usually from acute liver failure and mainly affects older adults. Although the disease has in general, a low mortality (0.1%) patients may be incapacitated for many weeks.^[5-9] In India the disease tends to be associated with periods of heavy rainfall. Poor sanitation and over-crowding favors the spread of infections giving rise to waterborne and food borne

epidemics, when standards of hygiene, and sanitation are improved, morbidity from infection with enteric viruses may increase. The vehicle of infection is usually water and pollution can occur due to fecal contamination, whereas sewage is discharged into the sea, sea foods when eaten can transmit the disease.⁶ The WHO study shows that countries of the southeast Asia region have a high prevalence of viral hepatitis it is a disease known through the ages both the sporadic and epidemic forms of jaundice have been described in ancient medical literature. But it was only in 1976 that the WHO south-east Asia region took up the challenge to deal with it. That year, the south-east Asia regional advisory committee on medical research as its second meeting decided that liver diseases were a priority area of research, since then it has vigorously supported research on liver disease in the countries of the region as a result the wealth of information has been amazed on the epidemiology transmission and the nature of the infections.^[7-8] The aim of study is to know the various epidemiological factors in patients with infective hepatitis admitted in the Kasturba hospital. To identify environmental factors, demographic and socioeconomic profile of infective hepatitis.

MATERIALS AND METHODS:

This study was conducted in Mayo hospital, Lahore determine the epidemiological aspects of the infective hepatitis cases, between the periods of 'October 2019 to April 2020. 220 cases were studied prospectively, they were interviewed for the history and physical examination and the investigations for serum bilirubin (direct and total), routine blood count, and antigen were carried out at admission and before discharging the patients. The collection of the data from the sample was carried out for features like socio economic factors, environmental factors, demographic profile, habits and customs etc. A suitable questionnaire cum clinical examination type proforma was designed. 1) History taking: A careful history was elicited from the patients. A careful note was taken about the patient's diet, about the personal habits of drinking alcohol, smoking, tobacco chewing, history of contact, previous history of similar attack, visit to the hotels, type of water supply and sanitary facilities. Special emphasis was given on demographic profile, socio economic factors, risk factors, habits and customs and environmental factors. 2) Physical Examination: A careful general and systemic examination was done. Built and nutrition, Pyrexia, Icterus, Feter hepaticas, Palmar erythema, Flapping tremors, Ascites, Odema in feet, Spider naevi. Thorough physical examination was carried out on the patients on admission, on discharge and in between and when felt necessary. Systemic examination especially per abdominal for liver and spleen was done.

RESULTS:

According to the age, the age group of (25-34 yrs) had the highest number of cases 73 (33.18%) in which male cases were 40 (31.7%) and female cases were 33 (35.10%). There was no appreciable difference in age group of (15-24 yrs) and (25-34 yrs). The cases were 71 (32.27%) and 73 (33.18%) respectively. There were four pregnant women, 3 in first trimester and 1 in third trimester. The number of cases of infective hepatitis declined in subsequent age groups of increasing age as, (7.27%), (3.63%) in age groups of 45 to 54 and 55 and above respectively. The difference between the age of adults and child was found to be significant. The total mean in adult was 30.83 and SD 10.64, the total mean in children was 45.6, SD 2.64. Out 220 patients, most of patient presented with loss of Appetite, dark yellow urine, vomiting, lassitude & fatigue. Out of these, 96.36% patients had icterus 87.72% showed dark yellow urine 83.63% showed loss of appetite. 70.90% showed nausea. Most of the patients presented other symptoms like abdominal pain, cough, muscle & joint pains fever, URI, headache etc [Table 1].

Table 1: Incidence of symptoms and signs occurring in the cases of infective hepatitis

Symptoms	No of Cases	Percentage
Dark Yellow urine	193	87.72%
Loss of Appetite	184	83.63%
Icterus	212	96.36%
Nausea	156	70.90%
Vomiting	72	32.72%
Abdominal Pain	58	26.36%
Fever	137	62.27%
Headache	46	20.90%
URI	12	5.45%
Cough	4	1.81%
Lassitude & Fatigue	144	65.45%
Constipation	57	25.90%
Musles & Join Pain	10	4.54%
Urticaria	1	0.45%
Fetor hepaticus	16	7.27%

Out of 220 cases, liver enlargement (mild) was present in 128 cases (58.2%). Out of these male cases were 84 (66.6%) and female cases were 44 (46.80%). The difference was significant ($P < 0.01$) [Table 2].

Table 2: Distribution of the cases of infective hepatitis according to the hepatic enlargement.

Liver	Male	Female	Total
Palpable	84 (66.6%)	44 (46.80%)	128 (58.2%)
Non Palpable	42 (33.4%)	50 (53.2%)	92 (4.8%)
Total	126	94	220
$X^2 = 6.56$	$df = 1$	$p < 0.01$	

It was observed that in patients of infective Hepatitis history was given of consumption of food from outside by 132 patients where males cases were 85 and female cases were 47, and patients taken their meals from home were, males 41 and females 47, total was 88. The percentage was high in patients taken food outside home (viz. hotels, restaurant, and roadside). The percentage was (67.40%) in males and 50% in females with total 60% from outside of both males and females. The percentage of meals taken at home were, male cases (32.6%) and female (50%) with total of 40%. The difference occurring between the number of cases of infective hepatitis taking meals outside and at home was highly significant [Figure 2]. Out of 220 patients 207 (94.00%) patients had water supply from taps, 2 (0.9%) patients had supply from tanks, and 11 (5.1%) patients had water supply from other sources likes (wells, Bores, etc.). The percentage was 94.0% from tap water which was from municipal supply.

Out of 220 cases the calories taken by the patients less than 1600 were 60 (27.2%) out of which male and female cases were 32 (26.98%) and 26 (27.60%) respectively. The difference between the cases according to caloric intake was found to be statistically significant [Table 4]. It was observed that out of 220 case, male cases unskilled were 76 (60.1%) and female cases 37 (39.4%), total 113 (51.4%). In the skilled work the males cases were 35 (27.7%) and female cases 15 (16.1%), total were 50 (22.6%). In self employee the male cases were 8 (6.7%) and females' cases were 22 (23.40%) and total cases were 30 (13.6%). The total cases of unemployed were 27 (12.4%) out of which males were 7 (5.5%) and females were 20 (21.1%). The difference between occupations of the cases was found to be statistically significant.

DISCUSSION:

The aim of present study was to find out epidemiological factors in the Infective hepatitis, and to find out the proportion of Infective hepatitis with other infectious diseases. 220 patients of Infective hepatitis were studied, examined and analysed. The patients presented with symptoms like Anorexia, dark yellow urine fever, vomiting, lassitude and fatigue, icterus, clubbing etc. Most of the patients had dark yellow urine (87.72%), and 83.63% showed anorexia, 70.90% showed nausea, 96.36% cases had icterus.¹⁰ The patients presented with symptoms like abdominal pain, cough muscle and joint pain and urticaria etc. In most of the patients pre-icteric stage was characterized by lassitude and fatigue, fever, nausea, and anorexia.¹¹ Though viral hepatitis in its typical acute form is readily recognizable, there are many variations in the clinical picture and many in apparent infections occurs. Diagnosis of the sporadic cases may be

difficult especially in the older patients, however the abrupt onset that frequently occurs in the later with severe generalised constitutional symptoms, with or without evidence of involvement of the respiratory or gastrointestinal tract, may make the distinction from a member of other acute infections difficult.¹² Recognition of the possibility of hepatitis is often delayed for three to four days until the major are oriented around the gastrointestinal tract. In another study conducted by Manns et al¹⁶ showed that 90% of the patients had icterus and 92% had nausea! Liver findings and Liver function Test in the present study showed that patient had abdominal pain and tenderness more on the right side. Liver enlargement was termed minimal when the liver edge was palpable 2 to 3 cm, moderate when 4 to 8 cm and marked when over 8 cms, below the costal margins 36.¹³ Liver enlargement was present on admission (58.2%) in the males (65%) and females were (46.80%). The difference between the palpable liver and non-palpable liver in male and females was found to be statistically significant. ($p < 0.01$)

Out of 220 patients 90.09% patients had water supply from taps, from the tanks 0.9% and others 5.1%. Patients believed that there was no need to boil, filter the water as the water supply was from municipal taps which is thou necessary to filter to remove any obvious chlorinated.¹⁴ They used cloth as a filter, and filtered occasionally. Very few patients knew the need of the boiling the water, but they did not do this as they could not afford fuel. As a result they were naturally not protected from Water borne infection. The results of WHO supported research and studies have confirmed that acute viral hepatitis is widely prevalent throughout the region.¹⁵ It has been estimated that the average incidence of acute viral hepatitis according to hospital admission is about 100 per 100,000 population. Considering that in many countries hepatitis is not a notifiable disease and also taking into account apparent hepatitis cases not reporting to hospitals and non-apparent cases in the community, it is estimated that the number of acute viral hepatitis cases would be about 900 per 100,000 populations. This means that about 10.5 million cases occur sporadically every year in the countries of the region. The figure would be greatly increased by the frequent epidemic out breaks in different parts of the region. These results indicate the magnitude of the problem of viral hepatitis in the region

CONCLUSION:

Health Education should be given to the community regarding the modes of transmission and method of prevention of infective hepatitis through simple and effective media.

REFERENCES:

1. Ray KW, Brown RS, Terrault NA, Hashem ES. Burden of liver disease in the United States: of a Workshop. *Hepatology*. 2002;36:227–242.
2. Lee S, Woojin C, Kyung-Rae H. Socioeconomic costs of liver disease in Korea. *Korean J Hepatol*. 2011;17:274–291.
3. Iacobucci G. Liver disease rises in England while falling elsewhere in Europe, report says. *BMJ*. 2012;345:e7931.
4. Adam R, Karam V, Delvart V, et al. Evolution of indications and results of liver transplantation in Europe. A report from the European liver transplant registry (ELTR) *J Hepatol*. 2012;57:675–688.
5. Marinho RT, Gíria J, Moura MC. Rising costs and hospital admissions for hepatocellular carcinoma in Portugal (1993– 2005) *World J Gastroentero*. 2007;13:1522–1527.
6. Cortez-Pinto H, Gouveia M, dos Santos Pinheiro L, et al. The burden of disease and the cost of illness attributable to alcohol drinking-results of a national study. *Alcohol Clin Exp Res*. 2010;34:1442–1449.
7. Cortez-Pinto H, Marques-Vidal P, Monteiro E. Liver diseaserelated admissions in Portugal: clinical and demographic pattern. *Eur J Hepatol*. 2004;16:873–877.
8. John RM, Sung HY, Max W. Economic cost of tobacco use in India, 2004. *Tob Control*. 2009;18:138–143.
9. Fenoglio P, Parel V, Kopp P. The social cost of alcohol, tobacco and illicit drugs in France, 1997. *Eur Addict Res*. 2003;9:18–28.
10. Colagiuri S, Lee CM, Colagiuri R, et al. The cost of overweight and obesity in Australia. *Med J Aust*. 2010;192:260–264.
11. Zhang W, Bansback N, Anis AH. Measuring and valuing productivity loss due to poor health: a critical review. *Soc Sci Med*. 2011;72:185–192.
12. Rehm J, Dawson D, Frick U, et al. Burden of disease associated with alcohol use disorders in the United States. *Alcohol Clin Exp Res*. 2012;38:1068–1077.
13. Anderson P, Chisholm D, Fuhr DC. Effectiveness and costeffectiveness of policies and programmes to reduce the harm caused by alcohol. *Lancet*. 2009;373(9682):2234–2246.
14. Chisholm D, Rehm J, Van Ommeren M, Monteiro M. Reducing the global burden of hazardous alcohol use: a comparative cost-effectiveness analysis. *J Stud Alcohol*. 2004;65(6):782–793.
15. Bruix J, Barrera JM, Calvet X, et al. Prevalence of antibodies to hepatitis C virus in Spanish patients with hepatocellular carcinoma and hepatic cirrhosis. *Lancet*. 1989;2:1004–1006.