

# A study of clinical features and factors associated with patients of liver failure at tertiary health care center

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## Abstract

**Background:** Chronic liver diseases (CLD) cause significant morbidity and mortality worldwide. Multiple etiological factors lead to a similar clinico-pathological syndrome in CLDs, although the rates of progression and clinical course may be different. **Aims and Objectives:** To Study Clinical features and factors associated with Patients of Liver failure at tertiary health care center. **Methodology:** After approval from institutional ethical committee a cross-sectional study was carried out in the department of tertiary health care center during two-year period i.e. January 2008 to January 2010 in the patients who were diagnosed as patients of Liver. All the details of the patients like clinical features and Associated factors was retrieved from patients. All the serological investigations like HBS, HCV, HEV, USG for fatty liver cirrhosis, LFT for liver function was done. The statistical analysis done by Linear correlation by SPSS version 19 software. **Result:** In our study we have seen that the majority of the patients were in the age group of 60-70 were 38.03%, followed by 50-60 were 29.58%, 40-50 were 23.94%, 30-40 were 7.04% and 20-30 were 1.41%. The increase in the trend of the patients as per age was statistically significant ( $P < 0.002$ ,  $r = 0.98$ ). The majority of the patients were Male i.e. 66.20% followed by Female 33.80%. The most common clinical features were Decreased appetite were 90%; followed by Jaundice in 85%, Gastrointestinal bleeding in 68%, Peripheral edema in 56%, Encephalopathy in 45%. The most common Clinical signs were Loss of body hair in 85% followed by Spider angioma in 70% Gynecomastia in 60%. Parotid enlargement in 55%, Splenomegaly in 40%. The most common associated factors were Alcoholic Liver Disease - 56%, HBV-40%, HCV - 29%, NAFLD- 21%, Diabetes -17%, Chronic NSAID use-12%. **Conclusion:** It can be concluded from our study that the most common associated factors in our study were Alcoholic Liver Disease, HBV, HCV, NAFLD, Diabetes, Chronic NSAID use and increasing age. These associated factors is useful for the prevention and treatment of patents of Liver failure

**Key Words:** Liver failure, HBS, HCV, HEV, Chronic Liver disease.

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## INTRODUCTION

Chronic liver diseases (CLD) cause significant morbidity and mortality worldwide. Multiple etiological factors lead to a similar clinico-pathological syndrome in CLDs,

although the rates of progression and clinical course may be different<sup>1,2</sup>. Mortality data is most often used to assess the disease burden and there had been a 46% increase in CLD mortality in the world between 1980 to 2013, underscoring the emerging public health importance of CLD. Most of this increase in CLD mortality has been reported from the low and low-middle income (LMIC) countries of Asia and Africa<sup>3</sup>. It is intriguing to note that most countries in these region have very poor vital events reporting systems, indicating that the current data could underestimate the existing situation and complimentary approaches are needed to assess the overall impact of CLDs on health systems<sup>4,5,6,7</sup>. Low and middle income countries (LMIC) are experiencing demographic and

epidemiologic transition in disease burden. India is one of the epicenters of this change<sup>8,9,10</sup>.

### MATERIAL AND METHODS

After approval from institutional ethical committee a cross-sectional study was carried out in the department of tertiary health care center during two-year period i.e. January 2008 to January 2010 in the patients who were diagnosed as patients of Liver. All the details of the patients like clinical features and Associated factors was retrieved from patients. All the serological investigations like HBS, HCV, HEV, USG for fatty liver cirrhosis, LFT for liver function was done. The statistical analysis done by Linear correlation by SPSS version 19 software.

### RESULTS

**Table 1:** Distribution of the patients as per the age

Age	No.	Percentage (%)
20-30	1	1.41
30-40	5	7.04
40-50	17	23.94
50-60	21	29.58
60-70	27	38.03
<b>Total</b>	<b>71</b>	<b>100.00</b>

(P<0.002, r=0.98)

The majority of the patients were in the age group of 60-70 were 38.03%, followed by 50-60 were 29.58%, 40-50 were 23.94%, 30-40 were 7.04% and 20-30 were 1.41%. The increase in the trend of the patients as per age was statistically significant (P<0.002, r=0.98).

**Table 2:** Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Male	47	66.20
Female	24	33.80
<b>Total</b>	<b>71</b>	<b>100.00</b>

The majority of the patients were Male i.e. 66.20% followed by Female 33.80%.

**Table 3:** Distribution of the patients as per the various Symptoms and Signs

Clinical Features	No.	Percentage (%)
<b>Symptoms</b>		
Decreased appetite	64	90%
Jaundice	60	85%
Gastrointestinal bleeding	48	68%
Peripheral edema	40	56%
Encephalopathy	32	45%
<b>Clinical signs</b>		
Loss of body hair	60	85%
Spider angioma	50	70%
Gynecomastia	43	60%
Parotid enlargement	39	55%
Splenomegaly	28	40%

The most common clinical features were Decreased appetite were 90%; followed by Jaundice in 85%, Gastrointestinal bleeding in 68%, Peripheral edema in 56%, Encephalopathy in 45%. The most common Clinical signs were Loss of body hair in 85% followed by Spider angioma in 70% Gynecomastia in 60%. Parotid enlargement in 55%, Splenomegaly in 40%.

**Table 4:** Distribution of the patients as per the associated factors

Associated factors	No.	Percentage (%)
Alcoholic Liver Disease	40	56%
HBV	28	40%
HCV	21	29%
NAFLD	15	21%
Diabetes	12	17%
Chronic NSAID use	9	12%

The most common associated factors were Alcoholic Liver Disease-56%, HBV-40% HCV-29%, NAFLD-21%, Diabetes-17%, Chronic NSAID use-12%.

### DISCUSSION

Liver disease has a worldwide distribution.<sup>12</sup> Very often; affected individuals are asymptomatic for a long period of time, making it very difficult to generate accurate incidence and prevalence data in the general population. The pattern of liver disease varies in different geographical locations. In the United States, cirrhosis is the twelfth leading cause of hospitalization and death.<sup>13</sup> The prevalence of major causes of chronic liver disease (CLD) remained stable in the United States between 1988 and 2008, except non-alcoholic fatty liver disease (NAFLD), which increased steadily and is expected to continue to contribute substantially to the burden of CLD because of increasing rates of obesity.<sup>14</sup> Viral hepatitis remains a leading cause of morbidity and mortality affecting millions of individuals worldwide. According to the World Health Organization (WHO), 2 billion people have been infected with the hepatitis B virus (HBV), and more than 350 million have chronic HBV infection.<sup>15</sup> In addition, it has been estimated that up to 3% of the world's population have been infected with hepatitis C virus (HCV) of which 170 million people are chronically infected.<sup>16</sup> In our study we have seen that the majority of the patients were in the age group of 60-70 were 38.03%, followed by 50-60 were 29.58%, 40-50 were 23.94%, 30-40 were 7.04% and 20-30 were 1.41%. The increase in the trend of the patients as per age was statistically significant (P<0.002, r=0.98). The majority of the patients were Male i.e. 66.20% followed by Female 33.80%. The most common clinical features were Decreased appetite were 90%; followed by Jaundice in 85%, Gastrointestinal bleeding in 68%, Peripheral edema in 56%, Encephalopathy in 45%. The most common Clinical signs were Loss of body hair in 85% followed by Spider

angioma in 70% Gynecomastia in 60% Parotid enlargement in 55%, Splenomegaly in 40%. The most common associated factors were Alcoholic Liver Disease-56%, HBV-40%, HCV -29%, NAFLD- 21%, Diabetes -17%, Chronic NSAID use-12%. This was consistent with the data by Partha S. Mukherjee *et al*<sup>11</sup>, they found in Eleven hospitals from different parts of India participated. Data were uploaded into a web based proforma and monitored by a single centre according to a standardized protocol. 1.28% (n = 266621) of all patients (n = 20701383) attending the eleven participating hospitals of India had liver disease. 65807 (24-68%) were diagnosed for the first time (new cases). Of these, 13014 (19-77%, median age 43 years, 73% males) cases of chronic liver disease were finally analyzed. 33.9% presented with decompensated cirrhosis. Alcoholism (34-3% of 4413) was the commonest cause of cirrhosis while Hepatitis B (33-3%) was predominant cause of chronic liver disease in general and noncirrhotic chronic liver disease (40-8% out of 8163). There was significant interregional differences (hepatitis C in North, hepatitis B in East and South, alcohol in North-east, Non-alcoholic Fatty Liver Disease in West) in the predominant cause of chronic liver disease. Hepatitis B (46-8% of 438 cases) was the commonest cause of hepatocellular Cancer. 11-7% had diabetes.

## CONCLUSION

It can be concluded from our study that the most common associated factors in our study were Alcoholic Liver Disease, HBV, HCV, NAFLD, Diabetes, Chronic NSAID use and increasing age. These associated factors is useful for the prevention and treatment of patents of Liver failure.

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