

## “A Study on Types of Liver Disorder, Prevalence, Co-Morbidities, and Its Co-Relation with Alcohol Consumption in Patients at a Tertiary Care Teaching Hospital”

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### ABSTRACT

**Background:** The liver is the largest solid organ in the body. Liver maintains healthy blood sugar levels, regulates blood clotting, and performs hundreds of other vital functions. There are many types of diseases that can affect the liver and its functions.

**Aim:** To find out types of liver disorder, prevalence, co-morbidities, and its co-relation with alcohol consumption.

**Materials and Methods:** A Prospective Study was planned to be conducted for a period of three months in Navodaya Medical College, Hospital & Research Centre, Raichur, with a sample size of 100. Data was collected from the case sheets using specially designed data entry form.

**Result:** This study includes 100 cases of liver diseases patients with or without alcohol consumption in various wards. The sex wise distribution of prevalence of liver disease cases males (74%) as compare to females, prevalence rate is 26 cases (26%). According to age wise, prevalence of liver disease it is highest in age group of 31-40 years. Hepatitis A was found most common type of liver disease patients i.e., 20%. In general medicine ward more liver disease cases was reported i.e., 61 cases (61%)

**Conclusion:** Liver diseases can have serious consequences on overall health, but many cases can be prevented through various measures. It is crucial to seek professional medical advice for personalized prevention strategies based on individual risk factors.

**Keyword:** Liver diseases, Alcoholic liver disease, co- morbidity, liver cirrhosis

### I. INTRODUCTION:

The liver is a vital organ of the human body that performs over 500 vital functions. These include removing waste products and foreign substances from the bloodstream, regulating blood sugar levels, and creating essential nutrients, fighting infections and illness.<sup>[1]</sup> There are many types of diseases that can affect the liver and its functions. Some have successful treatments while

others do not. Liver disorders can range from mild and reversible conditions to deliver and life-threatening diseases.<sup>[2]</sup> Here are some common liver disorders:

1. **Hepatitis:** Hepatitis is inflammation of the liver, and it can be caused by viruses (hepatitis A, B, C, D, and E)
2. **Cirrhosis:** Cirrhosis is a late stage of scarring of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcoholism.
3. **Fatty Liver Disease:** Fatty liver disease occurs when there is an abnormal accumulation of fat in the liver. The two main types are non-alcoholic fatty liver disease (NAFLD) and alcoholic fatty liver disease (AFLD).
4. **Liver Cancer:** Liver cancer can either originate in the liver (primary liver cancer) or spread from other organs (metastatic liver cancer).
5. **Liver Abscess:** A liver abscess is a pus-filled cavity within the liver, caused by bacterial infections that spread to the liver from other parts of the body, such as the abdomen.
6. **Hemochromatosis:** Hemochromatosis is a genetic disorder that leads to the accumulation of iron in the liver and other organs.
7. **Wilson's Disease:** Wilson's disease is a genetic disorder that causes copper to accumulate in various organs, including the liver.

Comorbidity is defined as the co-occurrence of more than one disorder in the same individual. Comorbidity is often referred to as multimorbidity even though the two are considered distinct clinical scenarios.<sup>[3]</sup> Alcohol-related liver disease (ALD) refers to the liver damage occurring due to excessive alcohol consumption and involves a broad spectrum of diseases that includes liver steatosis, steatohepatitis, hepatitis, cirrhosis, and hepatocellular carcinoma (HCC).<sup>[4]</sup> Alcoholic liver disease (ALD) and its complications are major causes of mortality and morbidity worldwide.<sup>[5]</sup>

## II. METHODOLOGY

A prospective observational study was carried out for a period of three months from May 2023 to July 2023. A total of 100 liver disorder patients' data was collected from different ward in hospital. The data was tallied using excel sheets and this data was later used in preparing the necessary graphs and tables. Data were collected from patient's case sheet using specially designed data form.

**Study Site:** Navodaya Medical College Hospital and Research Centre, Raichur, Karnataka, India

### Inclusion criteria

- All aged patients who are admitted in hospital during study period
- Both males and females
- Patients with Liver disorders

### Exclusion criteria

- Patients admitted in hospital with other diseases
- Illegible and incomplete data

**Statistical Analyses:** Data from all the patients who fulfilled the inclusion and exclusion criteria. Data was collected and analyzed using Microsoft excel. Descriptive statistics was used and results were presented as tables or expressed as percentages and frequency distribution according to type of information collected.

## III. RESULTS

A prospective observational study was carried out by collecting data from 100 liver disorder patients from different ward. Socio-demographics of these patients are shown in Table 1

### Demographic Data

The distribution of participants responses and percentages on Socio-Demographic Variables of Study Population. Majority age of the participants were 31-40 years. In category of gender wise males were slightly higher (74%) than were female (26%). This is representing **Table 1**

**Table :1 Demographic Variables on Age and Sex of the liver disease patients**

Sl.no		No. of Cases	Percentage	
1	Age	11-20 years	04	04%
		21-30 years	10	10%
		31-40 years	30	30%
		41-50 years	28	28%
		51-60 years	16	16%
		61-70 years	8	8%
		71-80 years	4	4%
		<b>Total</b>	<b>100</b>	<b>100%</b>
2	Sex	Female	26	26%
		Male	74	74%
		<b>Total</b>	<b>100</b>	<b>100%</b>

According to alcohol consumption of the liver disorder patients showed that alcoholic patients were more 67% than non- alcoholic patients 33%. This is denoted **Table 2**

**Table :2 Demographic Variables on alcohol consumption in liver disease patients**

Sl.no	Alcohol consumption	No. of cases	Percentage
1	Yes	67	67%
2	No	33	33%
<b>Total</b>		<b>100</b>	<b>100%</b>

**Different ward in liver disease patients**

In general medicine ward were found more liver disorder patients i.e., 61% followed by respiratory

medicine ward i.e., 22%, OBG 14%, pediatrics 3%.

This is represented in **Table 3**

**Table :3 Different wards involved in liver disorders cases**

Sl.no	Wards	No. of cases	Percentage
1	General medicine	61	61%
2	Respiratory medicine	22	22%
3	OBG	14	14%
4	Pediatrics	3	3%
<b>Total</b>		<b>100</b>	<b>100%</b>

**Types of liver disorder**

Different types of liver disorder patients admitted in different wards and in that chronic liver

disease patients were more reported (20%) followed by hepatitis- A (16%) and hepatitis- B (16%). This is denoted in **Table 4**

**Table :4 Types of liver disorder patients**

Sl.no	Liver diseases	No. of cases	Percentage
1	Hepatitis- A	20	20%
2	Hepatitis - B	16	16%
3	Chronic liver disease	16	16%
4	Alcoholic liver disease	15	15%
5	Cirrhosis of liver	15	15%
6	Hepatitis - C	12	12%
7	Acute liver disease	6	6%
<b>Total</b>		<b>100</b>	<b>100%</b>

**Co- morbidity of the patients**

Co- morbidity of the patients in liver disease cases who are admitted in hospital during

study period hypertension (25.81%) were found more followed by diabetes mellitus (22.58%) etc. this is denoted **Table 5**

**Table :5 Co - morbidity of liver disorder patients**

Sl.no	Co- morbidity	No. of cases	Percentage
1	HTN	16	25.81%
2	DM	14	22.58%
3	Asthma	11	17.75%
4	COPD	9	14.51%
5	Anxiety	7	11.29%
6	Gout	5	8.06%
<b>Total</b>		<b>62</b>	<b>100%</b>

#### IV. DISCUSSION:

Liver disorders are a significant health concern worldwide, affecting millions of people and posing various challenges to healthcare systems.<sup>[6]</sup> Liver disorders have a substantial global prevalence due to factors such as viral infections (hepatitis B and C), excessive alcohol consumption, obesity, unhealthy diets, and exposure to certain toxins.<sup>[7]</sup> The prevalence of non-alcoholic fatty liver disease (NAFLD) has also been on the rise due to the increasing prevalence of obesity and metabolic syndrome.<sup>[8]</sup> on Socio-Demographic Variables of Study Population. majority age of the participants was 41-50 years. In category of gender wise and males were slightly higher (74%) than were female 26%. This is denoted in **Table 1**. In alcohol consumption of the liver disorder patients and alcoholic patients were more 67% than non-alcoholic patients 33%. This is denoted in **Table 2**. In general medicine ward were found more liver disorder patients i.e., 61% followed by respiratory medicine ward i.e., 22%, OBG 14%, pediatrics 3%. This is represented in **Table 3**. Chronic liver disease patients were more 20% followed by hepatitis A 16% and hepatitis B 16%. This is denoted in **Table 4**. In co- morbidity of liver disease patient's hypertension (25.81%) were found more followed by diabetes mellitus (22.58%). This is denoted in **Table 5**.

#### V. CONCLUSION:

In conclusion, liver disorders encompass a broad spectrum of conditions with varying causes, symptoms, and treatments.<sup>[9]</sup> Their impact on individuals and healthcare systems underscores the need for increased awareness, prevention, and early detection. By promoting healthy lifestyles and investing in research, we can make significant

strides in addressing liver disorders and improving the lives of those affected.<sup>[10]</sup>

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**CONFLICT OF INTREST:** There is no conflict of interest.

#### ABBREVIATIONS

**HTN-** Hypertension, **DM-** Diabetes Mellitus, **COPD-** Coronary Obstructive Pulmonary Disease

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