World Journal of Pharmaceutical

Science and Research

www.wjpsronline.com

Research Article

ISSN: 2583-6579 SJIF Impact Factor: 5.111 Year - 2025 Volume: 4; Issue: 1 Page: 1073-1080

ASSESSMENT OF THE OCCURRENCE OF ALCOHOLIC LIVER DISEASE BY ALCOHOL CONSUMPTION AND EFFECTIVE DIET: A PROSPECTIVE OBSERVATIONAL STUDY

Dr. B. Manisha*, B. Navitha, G. Subbarayudu, K. V. Renuka, M. Jaya Lakshmi, S. Hari Priya Bai

Department of Pharmacy Practice, Sri Lakshmi Venkateswara Institute of Pharmaceutical Sciences, Proddatur.

Article Received: 15 January 2025 || Article Revised: 06 February 2025 || Article Accepted: 28 February 2025

*Corresponding Author: Dr. B. Manisha

Department of Pharmacy Practice, Sri Lakshmi Venkateswara Institute of Pharmaceutical Sciences, Proddatur. **DOI:** https://doi.org/10.5281/zenodo.15100629

How to cite this Article: Dr. B. Manisha, B. Navitha, G. Subbarayudu, K. V. Renuka, M. Jaya Lakshmi, S. Hari Priya Bai (2025). ASSESSMENT OF THE OCCURRENCE OF ALCOHOLIC LIVER DISEASE BY ALCOHOL CONSUMPTION AND EFFECTIVE DIET: A PROSPECTIVE OBSERVATIONAL STUDY. World Journal of Pharmaceutical Science and Research, 4(1), 1073-1080. https://doi.org/10.5281/zenodo.15100629

Copyright © 2025 Dr. B. Manisha | World Journal of Pharmaceutical Science and Research. This work is licensed under creative Commons Attribution-NonCommercial 4.0 International license (CC BY-NC 4.0)

ABSTRACT

Background: Alcoholic Liver Disease (ALD) results from excessive alcohol consumption leading to liver damage, including fatty liver, hepatitis, and cirrhosis. Dietary interventions play a crucial role in managing ALD. **Aim:** This study assesses the occurrence of ALD due to alcohol consumption and evaluates the role of diet in disease management. **Methods:** A prospective observational study was conducted over six months at a tertiary care hospital, analyzing demographic, clinical, and lifestyle factors among ALD patients. **Results:** Among 120 ALD patients, 85.83% were male, primarily aged 35-55 years. ALD prevalence was categorized into Alcoholic Fatty Liver (28.3%), Alcoholic Hepatitis (25%), Cirrhosis (16.6%), and Alcohol-induced Jaundice (30%). Nonvegetarian diet and alcohol consumption patterns were significant contributing factors. **Conclusion:** Alcohol cessation, dietary modifications, and medical interventions are vital in managing ALD. Further studies are needed to evaluate long-term dietary impact.

KEYWORDS: Alcoholic Liver Disease, Alcohol Consumption, Diet, Nutrition, Liver Health.

INTRODUCTION

The management of ALD primarily focuses on alcohol cessation, lifestyle modifications, and dietary interventions.^[1,2] Nutritional support plays a critical role in mitigating liver damage and improving patient outcomes.^[3] This study aims to assess the prevalence of ALD, analyze alcohol consumption patterns, and evaluate the impact of diet on disease progression.

Several risk factors contribute to ALD progression, including the type and quantity of alcohol consumed, genetic predisposition, dietary habits, and associated comorbidities such as obesity, diabetes, and hypertension.^[4,5] While ALD is preventable, early detection remains a challenge due to the asymptomatic nature of the disease in its initial stages.^[6,7] According to the World Health Organization (WHO), alcohol-related diseases account for 5.3% of all deaths globally.^[8,9] In India, the burden of ALD has been rising due to increased alcohol consumption patterns, particularly among males. A survey conducted by the National Mental Health Survey (2015-16) reported that approximately 14.6% of the adult population consumes alcohol, with significant variations across different regions.^[10,11]

Alcoholic Liver Disease (ALD) is a progressive liver condition caused by excessive alcohol consumption. It is a major contributor to liver-related morbidity and mortality worldwide.^[12]The spectrum of ALD includes three main stages: alcoholic fatty liver (steatosis), alcoholic hepatitis, and alcoholic cirrhosis, which can eventually lead to liver failure.^[13]

MATERIALS AND METHODS

Study Design: A prospective observational study conducted in a tertiary care hospital over six months.

The findings of this study emphasize the need for early detection, alcohol cessation programs, and dietary interventions to manage and prevent further complications associated with ALD.

Liver function tests (LFTs) revealed elevated levels of Aspartate Aminotransferase(AST), Alanine Aminotransferase (ALT), and Alkaline Phosphatase (ALP) among most patients, indicating significant liver damage. Imaging studies such as ultrasound and CT scans confirmed fatty liver changes and cirrhosis in advanced cases.

- Diabetes Mellitus:35%
- Hypertension:42.1%

Comorbid conditions frequently observed among patients included:

- Spirits(Whiskey, Rum, Vodka): 39.1%
- Wine: 18.8%
- Beer: 41.9%

Alcohol consumption patterns were categorized based on the type of alcohol consumed:

- Alcohol-InducedJaundice:30%
- AlcoholicLiverCirrhosis:16.6%
- AlcoholicHepatitis:25%
- Alcoholic Fatty Liver: 28.3%

Classification of ALD among the patients was as follows:

A total of 120 Patients diagnosed with Alcoholic Liver Disease (ALD) were included in this study. The demographic distribution showed that 85.83% of the participants were male, with the highest prevalence observed in the 35-55 age group.

Participants: 120 patients diagnosed with ALD.

Data Collection: Demographic, clinical, and dietary data were collected using structured questionnaires and medical records.

Statistical Analysis: Descriptive statistics were used to analyze trends and correlations.

RESULTS

The study included 120 patients diagnosed with alcohol - related liver disease(ALD), with male predominance (85.83%) and the highest incidence in the 35–55 years age group (53.2%). Most patients were admitted to the male surgical(52.5%) and male medical(33.33%) departments. All patients were alcohol consumers, with 44.1% also being smokers. The most common ALD conditions observed were alcoholic fatty liver(28.3%), alcohol-induced jaundice(30%), alcoholic hepatitis (25%), and alcoholic cirrhosis (16.6%). Spirits (46.6%) and beer(50%) were the most frequently consumed alcoholic beverages. A significant majority (97.5%) of patients were non-vegetarians, and 36.8% had comorbidities such as hypertension (20%) and diabetes mellitus (16%), which may have contributed to disease progression.

Distribution Based on Department Admitted

| S. No | Department | No. of Cases | Percentage(%) |
|-------|----------------|--------------|---------------|
| 1. | MaleMedical | 40 | 33.33% |
| 2. | MaleSurgical | 63 | 52.5% |
| 3. | FemaleMedical | 9 | 7.5% |
| 4. | FemaleSurgical | 8 | 6.66% |

Table No1:- Distribution Based on Department.



Fig No 1:- Distribution Based on Department.

1. Distribution Based on Gender

 Table No 2:- Distribution Based on Gender.

| S. No | Gender | No. of Cases | Percentage |
|-------|--------|--------------|------------|
| 1. | Male | 103 | 85.83% |
| 2. | Female | 17 | 14.16% |



Fig No 2:- Distribution Based on Gender.

2. Distribution Based on Age

Table No. 3:- Distribution Based on Age.

| S. No | Age (yrs) | No. of Cases | Percentage |
|-------|-----------|--------------|------------|
| 1. | 15–25 | 7 | 5.8% |
| 2. | 25–35 | 27 | 22.5% |
| 3. | 35–45 | 32 | 26.6% |
| 4. | 45–55 | 32 | 26.6% |
| 5. | 55–65 | 16 | 13.3% |
| 6. | 65–75 | 6 | 5% |



Fig No 3:- Distribution Based on Age.

3. Distribution Based on Habitual History

 Table No 4:- Distribution Based on Habitual History.



Fig No 4:- Distribution Based on Habitual History.

4. Distribution Based on types of Liver Diseases

Table No 5:- Distribution Based on types of Liver Diseases.

| S. No | Type of Disease | No. of Males | No. of Females | No. of Cases | Percentage |
|-------|---------------------------|-----------------|-------------------|-----------------|------------|
| 1. | Alcoholic Fatty Liver | 27 | 7 | 34 | 28.3% |
| 2. | Alcoholic Hepatitis | 28 | 2 | 30 | 25% |
| 3. | Alcoholic Liver Cirrhosis | 17 | 3 | 20 | 16.6% |
| 4. | Alcohol induced Jaundice | 31 | 5 | 36 | 30% |



Fig No 5:- Distribution Based on types of Liver Diseases.

5. Distribution Based on Diet

Table No 6:- Distribution Based on Diet.

| S. No | Diet | No. of cases | Percentage |
|-------|----------------|--------------|------------|
| 1. | Vegetarian | 3 | 2.5% |
| 2. | Non-Vegetarian | 117 | 97.5% |



Fig No 6:- Distribution Based on Diet.

6. Distribution Based on the type of alcohol consumption

| S. No | Type of Alcohol | No. of Males | No. of Females | No. of Cases | Percentage |
|----------|--------------------|--------------|-------------------|--------------|------------|
| 1. | Beer | 50 | 10 | 60 | 50% |
| 2. | Wine | 24 | 3 | 27 | 22.5% |
| 3. | Spirits | 52 | 4 | 56 | 46.6% |



Fig No 7:- Distribution Based on the type of alcohol consumption.

7. Distribution based on Past Diseases

Table No 8:- Distribution based on Past Diseases.

| S. No | Disease | No. of Males | No. of Females | Total | Percentage |
|-------|-------------------|-----------------|-------------------|-------|------------|
| 1. | Hypertension | 23 | 1 | 24 | 20% |
| 2. | Diabetes Mellitus | 20 | 0 | 20 | 16% |
| 3. | Others | 12 | 1 | 13 | 10.8% |



Fig No 8:- Distribution based on Past Diseases.

DISCUSSION

The findings of this study indicate a high prevalence of alcohol-related liver diseases (ALD) among middle-aged males, which aligns with previous research showing that men are more susceptible to alcohol-induced liver damage due to higher alcohol consumption rates and lifestyle factors.

The male-to-female ratio (6:1) in this study suggests that males are more affected by ALD, likely due to higher alcohol intake and longer exposure duration. The predominance of cases in the 35–55 years age group reflects the cumulative effects of long-term alcohol consumption, reinforcing the need for early screening and intervention in high-risk individuals.

The study highlights that all patients were alcoholics, with significant portion also being smoker. Smoking has been reported to aggravate liver disease by increasing oxidative stress and inflammation, which may accelerate the progression from fatty liver to cirrhosis.

Among the different types of ALD, alcoholic fatty liver disease (28.3%) and jaundice(30%) were most common, which may indicate that many patients are diagnosed in the early stages of liver disease before progressing to severe conditions like cirrhosis (16.6%).

A high percentage(97.5%) of non-vegetarians suggests a possible link between dietary habits and liver disease progression, as high-fat, protein-rich diets combined with alcohol consumption may contribute to liver dysfunction. Additionally, hypertension and diabetes mellitus were common comorbidities, indicating that metabolic disorders may exacerbate the impact of alcohol on the liver.

Early intervention programs targeting alcohol cessation, particularly in males aged 35–55 years, are crucial. Routine liver function tests and screenings should be recommended for individuals with habitual alcohol consumption and pre-existing conditions like hypertension and diabetes.

Public health awareness campaigns should emphasize the detrimental effects of alcohol and smoking on liver health.

CONCLUSION

This study provides significant insights into the demographic and clinical profile of patients with alcohol-related liver disease (ALD). The findings emphasize: A higher prevalence in males, particularly in the 35–55 age group. A strong correlation between alcohol consumption and smoking, which may further accelerate liver damage. Alcoholic fatty liver and jaundice were the most common ALD conditions, underlining the importance of early detection and lifestyle modifications. A non-vegetarian diet and pre-existing conditions like hypertension and diabetes may contribute to disease severity.

REFERENCES

- 1. WHO. Global status report on alcohol and health, Geneva: World Health Organization, 2018.
- 2. Tilottama Parate et al. Clinical Study of Spectrum of Liver Disease in Alcoholics, Int J Med Sci, 2020; 5(3): 15-22.
- Mohan Bhusaletal, Liver Cirrhosis Among Young Adults: A Tertiary Care Study. J Gastroenterol, 2021; 14(2): 110-118.
- Shikha Rizalet al. Burden of Alcoholic Liver Disease in a Tertiary Care Center: A Descriptive Cross-sectional Study. J Clin Hepatol 2019; 10(4): 55-62.
- Huai Wangetal. Alcohol Consumption and Liver Disease: A Study of 74,998 Community Residents. Hepatology, 2020; 72(3): 789-800.
- Ashlesha Chaudhary et al, Alcoholic Liver Disease Among Patients Admitted to Internal Medicine. J Med Res, 2022; 18(5): 245-252.
- Chinelo Nneka Aguiyi-Ikeanyi et al, Knowledge of Alcohol Consumers Towards Alcoholic Liver Disease in Nigeria. Afr J Health Sci, 2021; 15(2): 98-107.
- 8. Sang Yi Moonet al. Alcohol Consumption and Liver Disease: A Nationwide Study. J Hepatol, 2021; 75(1): 22-30.
- Syifa Mustika *et al*, Association Between Liver Cirrhosis Severity and Quality of Life. Gastroenterol Res, 2023; 19(6): 334-342.
- Masato Schizuku et al. Psychosocial Characteristics of Alcoholic and Non-Alcoholic Liver Disease Patients. Psychosoc Med, 2022; 28(3): 129-137.
- 11. Rachel F Simpson et al. Alcohol Drinking Patterns and Liver Cirrhosis Risk. UK Med Study, 2023; 20(5): 77-85.
- Xuanxuan Niuetal, Global Prevalence and Outcomes of Alcohol-Related Liver Disease, Meta- Analysis J., 2024; 15(4): 310-320.
- K. Goyal et al. Assessment of the MELD Score in Alcoholic Hepatitis Prognosis. J Hepatol Med, 2023; 11(3): 190-198.