

Study of Socio-Economic and Cultural Factors among Hospitalized Patients with Alcoholic Liver Disease in Tertiary Care Centre of Eastern Odisha

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ABSTRACT

Background: Alcohol has long been a global social and medical issue. According to W.H.O report. Total 3.3 million people die from alcohol abuse annually. Alcoholic liver disease (A.L.D.) ranges from steatosis to liver cirrhosis. Chronic heavy drinkers get hepatitis or cirrhosis 15-20% of the time.

Methods: This study was conducted in the general medicine inpatient department at PGIMER & C.H. in Bhubaneswar, Odisha, India. All hospitalized patients with liver illness who had previously taken alcohol were screened. Each patient's alcohol consumption, including native alcoholic beverages, was recorded. To support the diagnosis, all standard and extra examinations were carried out. The modified Kuppuswamy scale was used to determine socioeconomic class.

Results: The study comprised 186 participants with a median age of 46. The gender ratio was 3:1, with 139 (74.7%) men. Urban populations have a greater prevalence of alcoholic liver disease (60.75%) than rural populations (39.24%). The lower socioeconomic class (50.53%) has the highest rate of alcoholic liver disease. Men drink more (>700 gm/wk) and married people drink more. A woman who drinks 140–280 grams per week for 10–15 years is more likely to develop alcoholic liver disease than a man who drinks >700 grams per week for 15 years.

Conclusions: In this study, we concluded that the prevalence of A.L.D. about S.E.S. is of utmost importance in developing population-based strategies that effectively educate individuals on the need to modify their drinking habits. This is crucial to mitigate the occurrence of alcohol consumption and its associated repercussions.

Key-words: Socioeconomic status, Hospitalized Patients, Alcoholic Liver Disease

INTRODUCTION

Alcohol use has long been a significant social and health issue on a global scale.

A WHO estimate from January 2015 states that alcohol addiction kills 3.3 million people annually. Numerous factors, including region, religion, social status, educational attainment, cultural background, physical and mental health, and other environmental factors, have been found to have an impact on alcohol consumption behaviours. A.L.D. comprises a spectrum of manifestations from steatosis to liver cirrhosis. Only 15-20% of chronic heavy alcohol drinkers develop hepatitis or cirrhosis. ^[1] The COVID-19 pandemic has been associated with increased consumption of alcohol, and

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there was a 54% increase in alcohol consumption due to home quarantine in the week ending March 2020 compared to the year before. [2] The amount and type of alcohol consumed varies greatly across the country; the North-East, Chhattisgarh, Telangana, Himachal Pradesh, Punjab, and Jharkhand have the highest intakes. [3] The relationship between alcohol use and domestic violence highlights the social issues associated with alcohol use patterns. [4]

Socioeconomic status (S.E.S.) is a term used to describe a person's social position and is influenced by various financial, professional, and educational criteria. S.E.S. and marital status have a major impact on cirrhosis mortality. Unemployed patients, who had lower incomes and had less education died at a higher rate than those who were working or in better circumstances, according to a U.S. study on liver illness with an emphasis on alcoholic aetiology [5]. Research that looked at 85% of Danish cirrhosis patients found that retired, impaired people had a 1.35 times higher chance of dying than working people. Compared to married persons, divorced people died 1.22 times faster [6]. A Swedish study on cirrhosis found that alcohol use contributed to 51% of cases and that the death rate for professionals was 1.85 times greater than that of workers with low and intermediate skill levels [7].

The Public Assistance (P.A.) Seikatsu-Hogo program in Japan offers low-income individuals essential living expenditures. The PA system provides benefits to sick or disabled individuals who do not get premium payments and to seniors who do not receive enough pensions, acting as the safety net for the Japanese welfare system [8] In addition to guaranteed income and job aid, P.A. offers medical and long-term care in kind. Thus, just like any other Japanese citizen, those who receive public assistance are entitled to free medical care. Previous U.S. studies [9,10] have shown that Medicaid and other health insurance programs have improved health and quality of life and the accessibility of healthcare services for low-income communities. As far as we know, no earlier studies have examined the prognostic effects of getting P.A. in Japan.

MATERIALS AND METHODS

Study design- Hospital based Observational Questionnaire study.

Place of study- Inpatients Department of General Medicine at PGIMER & C.H., Bhubaneswar, Odisha, India.

Time of study- From January 2023 to December 2023

Inclusion criteria

- Hospitalized Patients due to Alcoholic Liver Disease
- Adult age group patients

Exclusion criteria

- Outdoor and I.C.U. patients
- Patients unwillingly to give consent

Method of study- Every inpatient patient at this centre who had been diagnosed with liver disease and had a history of alcohol consumption was screened. The patients were questioned following the acquisition of informed permission. Comprehensive accounts of the personal and family histories of the patients and their families were acquired. The researchers recorded the quantity and variety of alcohol consumed by each participant; including alcohol made locally, and converted this information into an average measurement reported in grams per week. An extensive variety of standard and supplementary investigations were conducted to bolster the diagnosis. A pre-designed survey was utilised to gather the patient's demographic data. Age, gender, marital status, employment, yearly income, food habits, drinking patterns, age at which drinking started and length of drinking were among the issues included in this study. The modified Kuppuswamy scale was used to ascertain each person's socioeconomic position.

Education of head of family		Score	
Profession or honours		7	
Graduate or postgraduate		6	
Intermediate or post high school diploma		5	
High school certificate		4	
Middle school certificate		3	
Primary school certificate		2	
Literate		1	
Occupation of head of family			
Profession		10	
Semi-profession		6	
Clerical, Shop-owner		5	
Skilled owner		4	
Semi-skilled worker		3	
Unskilled worker		2	
Unemployed		1	
Monthly income of family (2017)			
>41430		12	
20715-41429		10	
15536-20714		6	
10357-15535		4	
6214-10356		3	
2092-6213		2	
<2091		1	
		Socioeconomic status	Total Score
		I Upper	26-29
		II Upper Middle	16-25
		III Lower Middle	11-15
		IV Upper Lower	5-10
		V Lower	<5

Fig. 1: Modified Kuppuswamy Scale

Statistical Analysis- Statistical data analysis using the Statistical Software SPSS v.26 and appropriate parameters.

Ethical approval- The study procedure was explained to each patient, and consent was obtained from each. The hospital's Ethical Committee has authorized the research protocol.

RESULTS

The study included 186 patients with a median age of 46 years. Of these, 139 (74.7%) were men, and the male-to-female ratio was 3:1 (Table 1).

Table 1: Sociodemographic characteristics of Alcoholic Liver Disease

Gender	Total (n=186)
Male	139 (74.7%)
Female	47 (25.2%)

The average intake of alcohol per week was much higher (>700gm/wk) as compared to females (140-279 gm/wk) (Table 2).

Table 2: Average intake of alcohol

Gender	Average
Male	>700 gm/week
Female	140-279 gm/week

Table 3 shows that the age of presenting as A.L.D. is highest among middle-aged 30-50 years (50%), followed by 40.32% in >50 years and 9.6% in 15-30 years individual.

Table 3: Age on presenting as Alcoholic Liver Disease

Age	Total (n=186)	Percentage (%)
15-30 years	18	9.6
30-50 years	93	50
>50 years	75	40.32

Table 4 shows that Alcohol-related Liver Diseases are more common in Rural areas (39.24%), followed by Urban Slums (32.79%) and Urban area (27.95%).

Table 4: Distribution of area

Area	Frequency (%)
Urban	52(27.95)
Urban Slums	61 (32.79)
Rural	73 (39.24)

Table 5 shows that 41.72% of males and 70.21% of females with Alcoholic Liver Diseases were found to have never gone to school. Total 33.8% of males and 14.89% of females attended primary school while 15.8% of male sales and 8.5% female's male passed high school. A total of 8.6% of males and 6.38% of female graduated.

Table 5: Educational Level

	Male (%) (Total=139)	Female (%) (Total=47)
Illiterate	58 (41.72)	33 (70.21)
Primary School	47 (33.81)	7 (14.89)
High School	22 (15.82)	4 (8.51)
Graduates	12 (8.63)	3 (6.38)

Table 6 shows that alcoholic liver diseases are found more in the lower socioeconomic class (50.53%) socio-economic followed by the upper lower class (20.43%), upper class (13.4%), upper middle (9.67%) and lower middle (5.9%).

Table 6: Distribution of Socioeconomic class

Socioeconomic class	Total (%) (n = 186)
Upper Class	25(13.44)
Upper Middle Class	18 (9.67)
Lower Middle Class	11 (5.91)
Upper Lower Class	38 (20.43)
Lower	94 (50.53)

Table 7 shows that 80.5% males and 65.9% of females in the study were married. Total 15.1% males and 23.4% of female were unmarried, while 4.3% males and 10.63% of female were divorced.

Table 7: Marital Status

	Male (%) (Total=139)	Female (%) (Total=47)
Married	112 (80.57%)	31 (65.9%)
Unmarried	21 (15.10%)	11 (23.4%)
Divorced	6 (4.31%)	5 (10.63%)

Table 8 shows the duration of drinking is less than 10 years in 5% Male and 17% female. The time is 10-15 years in 16% of males and 44% of female while it is more than 15 years in 78% of males and 38% of female.

Table 8: Duration of Drinking

	Male (%)	Female (%)
<10 years	7 (5.03)	8 (17.02)
10–15 years	23 (16.54)	21 (44.68)
>15 years	109 (78.41)	18 (38.29)

DISCUSSION

This study discussed that the highest prevalence of A.L.D. is found in individuals between the ages of 30 and 50. This contrasts with findings from other countries, where the highest prevalence of A.L.D. is frequently found in those between the ages of 18 and 34. The highest prevalence of excessive episodic drinking is found in persons between the ages of 18 and 24 and 25 and 34, according to a recent report from the U.S. Centres for Disease Control and Prevention. ^[11]

For patients in the U.S., a comprehensive analysis of the connections between S.E.S. and survival in alcoholic liver disease patients has been provided ^[12]. However, only a few studies have provided a brief discussion of the connections between S.E.S. and the survival of alcoholic liver disease in European populations ^[13]. As part of a state-wide Danish investigation, 1765 people with cirrhosis who were diagnosed between 1999 and 2001 were monitored until December 31, 2003^[14]. The main conclusion was that in terms of survival time, patients who were married or single fared better than those who were divorced ^[15]. Disability retirees have worse survival rates than working and unemployed individuals ^[16]. Personal income did not correlate with overall survival ^[17]. This study did not look at the connections between occupation and survival.

We found that A.L.D. is more common in low socioeconomic strata when comparing our findings with Swedish statistics ^[18], which are mainly based on taxation and aim to offer universal access to healthcare. The general population's access to healthcare in Sweden does not seem to be much impacted by personal income level ^[19]. Economic disparities remain the most significant indication of socioeconomic status (S.E.S.), according to research on health inequalities among older adults ^[20]. Occupation has also been identified as a S.E.S. indicator, similar socioeconomic status or amount of education ^[21].

In this study, married people had a higher incidence of A.L.D. than single people. On the other hand, a Chinese study found that unmarried people had greater access to alcohol, better economic circumstances, and more social chances than married people ^[22]. On the other hand, stress, financial hardship, and domestic problems may contribute to a greater post-marriage alcohol consumption rate in India. Our data confirmed the results of Chavan et al.'s study, showing that rural areas had the greatest rate of alcohol consumption, closely followed by urban poor areas. For most substance users in Chandigarh's rural communities (91.5%) and urban slums (93.08%), alcohol was the primary substance of dependency ^[23].

Incorporating SES-related variables in the current score systems, such as Child-Pugh or MELD, is challenging, so more research is necessary. Nonetheless, our results and further observations imply that doctors should consider the socioeconomic status of their patients when using the existing score systems to estimate mortality risk, especially in cases of decompensated cirrhosis. Note that whereas personal wealth and/or educational attainment are probably related to occupational skill level, our results do not support nor refute the associations between these factors and alcoholic liver disease that other researchers have reported. We cannot get exact information about each person's salary and educational history. Similarly, we were unable to find out the income or educational background of a patient's first-degree relatives. When a patient's S.E.S. is low, first-degree relatives with high S.E.S. may operate as a protective factor.

CONCLUSIONS

The findings of our recent study indicate that the incidence of ALD is highest in the eastern region of Odisha. These include being male, middle-aged, married, uneducated, and residing in an urban or rural slum. It is essential to determine the distinct characteristics of alcohol consumption and the corresponding prevalence of ALD with SES to effectively develop a population-based approach that educates people on changing their drinking habits to reduce the risks and effects of alcohol use.

The employed in this study should be repeated in future research, focusing on analyzing various. Subsequent studies should incorporate a diverse range of health indicators in addition to those currently utilized to do an exhaustive analysis of the relationship between SES and many facets of health. Investigating the underlying reasons for the varying degrees of connection between SES and various health-related indicators is also crucial.

CONTRIBUTION OF AUTHORS

Research concept- Dr. Suvam Saswat Rout, Dr. Surabhi Mishra, Dr. Premakanta Mohanty

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