Original Research Article Journal of National Heart & Lung Society Nepal

Vol-3. No. 1, Jan-Jun 2024 DOI:10.3126/jnhls.v3i1.66390 ISSN: 2091-0657 (Online & Print)

Prevalence of Alcohol Consumption and its Impact on Morbidity Among Patients Admitted to the Department of Medicine

Mani Prasad Gautam,[1] Prakash Khatiwada,[1] Narad Thapaliya,[2] Gobinda Kandel,[1] Pramod Paudel,[1] Mahendra Kumar Agrahari,[3] Sophiya Paudel[1]

[1]Department of Medicine, Bharatpur Hospital, Bharatpur, [2]Department of Surgery, Bharatpur Hospital, Bharatpur, [3]Department of Medicine, College of Medical Sciences, Bharatpur, Chitwan, Nepal.

Received: 23th April, 2024 Accepted: 18th May, 2024 Published: 10th June, 2024

ABSTRACT

Background: Alcohol consumption is a prevalent societal issue with significant implications for public health. This study aims to investigate the prevalence of alcohol consumption and its impact on morbidity and outcomes among patients admitted to medicine department.

Methods: A prospective observational study was conducted using a proforma containing demographic and clinical data. Data of four hundred subjects admitted to Bharatpur Hospital in the department of medicine over the year 2023 were randomly collected. Data on alcohol consumption, demographic characteristics, medical history, and morbidity outcomes were collected and analyzed using descriptive statistics and chi-square tests.

Results: Among the study subjects (n=400), 22% reported alcohol consumption. The prevalence of alcohol consumption varied across demographic groups, with higher rates (30.9% and 33.1%) observed among males and middle age groups (36 - 55 years) respectively. Patients with a history of alcohol consumption had a significantly higher incidence of morbidity outcomes, including longer hospital stays (8.2 vs 5.1 days, $p < 0.0001$)), increased need for intensive care or referrals (10.71% vs 5.2%, $p < 0.05$), and higher mortality rates (8.03% vs 3.1%, $p < 0.05$) compared to non-drinkers.

Conclusion: This study highlights the relatively high prevalence of alcohol consumption among patients admitted to medical wards and its association with adverse morbidity outcomes. These findings underscore the importance of targeted interventions and comprehensive healthcare strategies aimed at addressing alcohol-related morbidity in hospitalized patients.

Keywords: alcohol consumption; prevalence; impact on morbidity.

INTRODUCTION

Alcohol consumption is a widespread social phenomenon, with its effects extending beyond mere social interactions to profound impacts on health and well-being. In medical settings, the correlation between alcohol consumption and morbidity is an area of growing concern. Understanding the prevalence of alcohol consumption among patients admitted to medical wards and its associated morbidity is crucial for effective healthcare management and intervention strategies. Patients taking alcohol on regular basis tend to develop complications ranging from trivial clinical issues to severe form of alcohol related disorders such as acute respiratory distress syndrome, withdrawal seizures and alcohol dependent syndrome.[1,2] These alcohol related complications may prolong hospital stays and at times become major contributor of mortality and morbidity.[3] Alcohol is the most used and abused drugs in the world. It is a commonly prevalent social norm in Nepal too. In Nepal STEPS Survey 2019,[4] a community-based survey, 27.2% subjects had consumed alcohol, 23.9% had consumed in the past one year and 20.8% consumed in the past 30 days. Other community-based studies have shown higher prevalence of alcohol consumption.[5] Hospital-based data on alcohol consumption and its impact on mortality and morbidity among inpatients is a less studied issue. This article delves into the findings of a study aimed at shedding light on the prevalence of alcohol consumption among hospitalized patients and its consequential impact on morbidity within medical ward settings. By exploring this relationship, we aim to provide insights that can inform targeted interventions and enhance patient care outcomes in medical settings.

METHOD

A prospective observational study was designed to assess the prevalence of alcohol consumption and its impact on morbidity among patients admitted to medical wards. Data were collected from randomly selected patients admitted in the department of

Correspondence: Dr. Mani Prasad Gautam, Department of Medicine, Bharatpur Hospital, Bharatpur,Chitwan, Nepal. Email: manigautam@gmail.com Phone: +977-9851076043

medicine in 2023. The study was conducted in the department of Medicine, Bharatpur Hospital, a tertiary care hospital with a dedicated medical ward. Bharatpur hospital caters to a diverse patient population, including individuals from urban and rural areas. The study included 400 randomly selected patients aged 15 years and above who were admitted under the department of medicine in intensive care unit or medical ward during the study period. Patients with incomplete or missing data related to alcohol consumption were excluded from the final analysis. Data were collected by using a study proforma containing records including demographic information, medical history, laboratory results, diagnostic tests, and documentation of alcohol consumption. Alcohol consumption was assessed based on self-reported history, clinical notes, and relevant laboratory investigations. The primary variables of interest included the prevalence of alcohol consumption among admitted patients and its association with morbidity outcomes. Morbidity outcomes were assessed based on the severity of medical conditions, length of hospital stay, need for intensive care, and mortality rates. Morbidity outcomes also included data on clinical conditions in which alcohol was considered directly having causative role. Descriptive statistics were used to summarize the demographic characteristics of the study population and the prevalence of alcohol consumption. Regarding morbidity and mortality outcomes, data were compared between alcoholic and nonalcoholic subjects from the study samples. Chi-square tests or Fisher's exact tests were employed to assess the association between alcohol consumption and morbidity outcomes. Multivariate regression analysis was conducted to control for potential confounding variables. This study was conducted in accordance with the principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the Institutional Review Board, and patient confidentiality was strictly maintained throughout the study. The methods outlined in this study aimed to provide a comprehensive understanding of the prevalence of alcohol consumption among patients admitted to medical wards and its impact on morbidity outcomes.

RESULTS

A total of 400 patients were included in the study, with a mean age of 54.8 years (54.80 ± 20.4). The majority of patients were male (68%), while 32% were female. The distribution of patients across age groups was as follows: 26% were aged 15-35 years, 34% were aged 36-55 years, 30% were aged 51-70 years, and 10% were aged above 70 years (Table 1).

Table 1. Basic demographic findings of patients

Parameters	Number
Mean Age (Years±SD)	54.80±20.4
Male: Female ratio	2.125:1
Age Category (%) (Years)	
15-35	103 (25.75)
36 - 55	137 (34.25)
56 -75	121 (30.25)
>76	39 (9.75)

Among the admitted patients, 28% reported a history of alcohol consumption. The prevalence of alcohol consumption varied significantly across age groups, with the highest prevalence observed in the 36-55 years age group (33.57%) and the lowest in the above 70 years age group (7.69%). Males exhibited a higher prevalence of alcohol consumption (30.9%) compared to females (21.2%) (Table 2).

Table 2. Information of Alcohol consumption

Particulars	Frequency (%)
Alcohol consumption (%)	
Overall	112 (28)
Male	84 (30.9)
Female	28 (21.2)
Alcohol Consumption by Age Category	
15 – 35	31 (30.09)
36 – 55	46 (33.57)
56 – 75	32 (26.44)
>76	3 (7.69)
Smoking	162 (40.5)
Obesity and Overweight	28 (7)
Hypertension	80 (20)
Diabetes	32 (8)

Patients with a history of alcohol consumption demonstrated a higher incidence of morbidity

outcomes compared to non-drinkers. Specifically, alcohol-consuming patients had longer average hospital stays (8.2 days vs. 5.1 days, $p < 0.0001$), a greater need for intensive care unit (ICU) admission (10.71% vs. 5.2%, $p < 0.05$), and higher mortality rates (8.03% vs. 3.1%, $p < 0.05$) compared to non-drinkers. There was no significant difference in the rates of the subjects who had left against medical advice (LAMA) (Table 3).

Table 3. Morbidity outcomes among alcohol and non-alcohol drinkers.

Parameters	Drinkers (112)	Non-drinkers (288)	p-values
Hospital Stay in days (Mean±SD)	8.2±2.5	5.1±2.2	<0.0001
ICU admission or referrals (%)	12 (10.71)	15 (5.2)	<0.05
Mortality (%)	9 (8.03)	9(3.1)	<0.05
Left Against Medical Advice (%)	4 (3.57)	4 (1.38)	>0.05 (NS)

Clinical conditions directly related to alcohol abuse was detected in 21.37% alcohol drinkers; 16.07% with chronic liver diseases and related complications and another and 5.3% with alcohol withdrawal syndrome as admitting diagnosis. Another 15.17% subjects had developed features suggestive of alcohol withdrawal syndrome. Nearly one-third (31.25%) alcohol users had alcohol abuse disorders as judged by self reported CAGE scoring 2 or more (Table 4).

Table 4. Morbidity pattern in subjects taking alcohol.

Diagnosis	Frequency (%)
Chronic Liver Disease and related complications (%)	18 (16.07)
Alcohol Withdrawal Syndrome on admission (%)	6 (5.3)
Alcohol Withdrawal Syndrome as complications (%)	17 (15.17)

DISCUSSION

The findings of this study shed light on the substantial prevalence of alcohol consumption among patients admitted to the department of medicine and its consequential impact on morbidity outcomes. The high prevalence of alcohol consumption observed in our study aligns with previous research highlighting alcohol as a pervasive societal issue with profound implications for public health. The prevalence rates varied across demographic groups, with higher rates observed among males and younger age groups, consistent with epidemiological trends consistent with previous studies.[4,5] Similarly as per the World Health Organization's (WHO) Global Status Report on Alcohol and Health 2018,[6] which presents alcohol consumption and disease burden by WHO regions and countries, the prevalence of alcohol consumption in Nepal was 23.1% with 46.9% among male and 20.9% among female. Our hospital-based study findings were also consistent with these findings too. Interestingly, this report also attributed 31.7% male cirrhotic cases, 20.6% male road traffic injuries and 3.2% male cancers to alcohol consumption, these figures were 20.7%, 10.6% and 0.4% among females. In our study, alcohol was the main cause for the clinical conditions of 21.37% drinkers and another 15.17% alcoholic subjects had alcohol related complications. Nearly one-third of drinkers in our study had alcohol use disorders as judged by CAGE scoring one or more. However, we were unable to calculate alcohol-attributable fractions in our study as reported in WHO Global Status Report. Importantly, our study elucidated the significant association between alcohol consumption and adverse morbidity outcomes among hospitalized patients. Patients with a history of alcohol consumption experienced longer hospital stays, a greater need for intensive care unit (ICU) admission, and higher mortality rates compared to non-drinkers. These findings underscore the detrimental effects of alcohol on health outcomes, particularly in the context of acute medical care. The observed association between alcohol consumption and morbidity outcomes remained significant even after controlling for potential confounding variables, highlighting the independent contribution of alcohol to adverse health outcomes among hospitalized patients. This emphasizes the need for targeted interventions and comprehensive healthcare

strategies aimed at addressing alcohol-related morbidity in medical settings. Similar observation of prolonged hospital stay due to complications including acute respiratory distress syndrome, septic shock, withdrawal siezures and alcohol dependency issues were encountered in studies by Moss et al and others.[3, 7,8] Several mechanisms may contribute to the adverse effects of alcohol on morbidity outcomes in hospitalized patients.[2] Chronic alcohol consumption can lead to a range of medical conditions, including liver disease, cardiovascular disorders, and immune dysfunction, predisposing individuals to increased susceptibility to infections and delayed wound healing. Moreover, acute alcohol intoxication can exacerbate underlying medical conditions and compromise respiratory function, contributing to the need for intensive care and higher mortality rates among alcohol-consuming patients.[9,10] Theobald et al had stiudied the long-term effects of the consumption of alcohol on mortality and morbidity in a large sample of alcoholic subjects in Sweden. They reported increased risk of mortality and morbidity from cardiovascular diseases, accidents or poisoning and gastrointestinal diseases in high-consumption men and increased risk of mortality morbidity from accidents or poisoning and gastrointestinal diseases in high-consumption women. In low-consumption men and women, similar observation was recorded regarding mortality, but for morbidity, there was one exception. For low consumption men, the morbidity from cardiovascular disease was not increased.[9] In our study also, we observed higher rate of mortality, ICU transfers and refferrals and longer hospital stay among drinkers, which were consistent with their observations. However, we were unable to explore differences in high and low level consumption of alcohol. The findings of this study have important clinical implications for healthcare providers in medical wards. Routine screening for alcohol consumption, coupled with brief interventions and referral to treatment programs, can facilitate early identification and management of alcohol-related issues among hospitalized patients. Furthermore, multidisciplinary approaches involving collaboration between medical teams, addiction specialists, and mental health professionals are essential for delivering comprehensive care to patients with alcohol-related morbidity. Limitations of this study include its design, reliance on medical records for data collection, and potential for underreporting of alcohol consumption.

Additionally, the study was conducted in a single tertiary care hospital, limiting the generalizability of the findings to other healthcare settings. Future research should explore longitudinal outcomes and interventions aimed at mitigating alcohol-related morbidity among hospitalized patients. This study underscores the critical importance of addressing alcohol consumption in the management of hospitalized patients. By elucidating the prevalence of alcohol consumption and its impact on morbidity outcomes, our findings contribute to the growing body of evidence supporting the implementation of targeted interventions and comprehensive healthcare strategies to improve patient care and outcomes in medical wards. By addressing these research questions, we seek to contribute valuable insights to the field of healthcare and guide evidence-based interventions for improving patient care in medical settings.

CONCLUSION

In conclusion, our study provides valuable insights into the prevalence of alcohol consumption among patients admitted to the department of medicine and its significant impact on morbidity outcomes. The findings underscore the pervasive nature of alcohol consumption as a public health concern and highlight its detrimental effects on health outcomes, particularly in the acute care setting. The high prevalence of alcohol consumption observed in our study emphasizes the need for proactive screening and intervention strategies to address alcohol-related issues among hospitalized patients. Routine alcohol screening protocols, coupled with brief interventions and referral to treatment programs, can facilitate early identification and management of alcohol-related morbidity, thereby improving patient care

and outcomes in medical wards. Multidisciplinary approaches involving collaboration between medical teams, addiction specialists, and mental health professionals are essential for delivering holistic care to patients with alcohol-related morbidity. Despite the study's limitations, including its design and reliance on medical records, the findings contribute to the growing body of evidence supporting the implementation of targeted interventions and comprehensive healthcare strategies to mitigate the adverse effects of alcohol on patient outcomes in medical wards. Moving forward, future research should focus on longitudinal outcomes and the effectiveness of interventions aimed at reducing alcohol-related morbidity among hospitalized patients. By addressing alcohol consumption in the management of hospitalized patients, healthcare providers can enhance patient care and improve health outcomes in medical settings.

ACKNOWLEDGEMENT

We would like to express sincere gratitude to all the medical officers, healthcare professionals and staff members of the department of medicine at Bharatpur Hospital for their support and cooperation throughout the duration of this study. We are specially thankful to the medical officers for direct involvement and facilitating the data collection process. We also extend our appreciation to the Institutional Review Board for their ethical oversight and guidance. This study would not have been possible without their approval. Additionally, we acknowledge the patients whose medical records were included in this study. Their participation and contribution to medical research are invaluable. Finally, we would like to thank all the researchers and scholars whose work has laid the foundation for our study. Their insights and findings have informed our research endeavors and contributed to the advancement of knowledge in the field of alcohol-related morbidity. This study was supported by Bharatpur Hospital Development Committee with a limited grant of fixed amount. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Conflict of interest: None

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Citation: Gautam MP, Khatiwada P, Thapaliya N, Kandel G, Paudel P, Agrahari MK, Paudel S. Prevalence of Alcohol Consumption and Its Impact on Morbidity Among Patients Admitted in The Department of Medicine. JNHLS. 2024; 3(1):12-17.