

Alcohol Drinking Behaviours among Bus Drivers and Staffs of Banke District, Nepal

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ABSTRACT

Background: Alcohol consumption is a significant public health concern worldwide, contributing substantially to disease burden and fatalities, especially among drivers. In Nepal, alcohol use is culturally accepted and widely prevalent, with evidence suggesting high consumption rates among bus drivers. This study aims to investigate alcohol consumption and drinking behaviours among bus drivers and staff's in the Banke district of Nepal.

Methods: A cross-sectional survey was conducted among 195 drivers and staff of public passenger vehicles categorized as "Kha" in Banke district, Nepal. Systematic sampling was employed to select participants. Data were collected using a semi-structured questionnaire adapted from the Nepal STEPS Survey 2019.

Results: The study found that 64.6% of participants had ever consumed alcohol, with drivers reporting a higher prevalence (74.4%) compared to other staff (56.9%). Peer pressure (56.9%) was the most common reason for drinking, followed by family influence (20.8%) and curiosity (18.6%). A significant association was found between alcohol consumption and occupation ($p = 0.0177$), with drivers more likely to consume alcohol. No significant associations were found with age, marital status, education, or ethnicity.

Conclusions: The findings highlight the high prevalence of alcohol consumption among public vehicle operators, driven by peer pressure and influence from family members. The study emphasizes the critical need for public health interventions to prevent alcohol-related harm in Nepal, such as educational campaigns, stricter enforcement of drunken driving laws, and workplace-based activities.

Keywords: Alcohol consumption; Nepal; occupational group; transportation.

INTRODUCTION

Alcohol consumption is a significant global public health issue, linked to 3 million deaths annually and over 200 diseases, including liver disease, cancers, and road injuries. It is a leading risk factor for disease burden, especially among people aged 25-49.^{1,2} In Nepal, alcohol is deeply rooted in cultural and social traditions, often associated with celebrations and remedies for ailments.³⁻⁵ The WHO STEPS survey (2019) revealed that 20.8% of Nepalis consumed alcohol in the past 30 days, with 6.8% engaging in binge drinking.⁶

Occupational groups, including public passenger vehicle drivers, particularly those operating long-route night buses, face heightened risks of alcohol use due to stress, fatigue, and occupational boredom.^{3,7} Despite global

efforts to reduce alcohol-related harm, limited research exists on drivers in Nepal's western regions, including Banke district. This study explores alcohol consumption and drinking behaviours among Banke's bus drivers, highlighting a public health concern.

METHODS

A cross-sectional study design was applied for this research. The study was conducted among drivers and staff's working in public passenger vehicles registered under the "KHA" category in Banke district, Nepal. These vehicles operate as inter-city transport, linking Banke to major provincial capitals and other districts within and beyond Lumbini Province. Ethical approval was obtained from the Ethical Review Board (ERB) of the Nepal Health Research Council (NHRC) [Registration No:292/2022 P]. In addition, informed consent was obtained from all

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participants before data collection. The study included drivers and staffs of "Category KHA" public passenger vehicles employed in the transportation system for at least six months. Staff who refused participation or withheld necessary information and cars outside the "Category KHA" classification were excluded. There were 650 registered vehicles in the transportation management office operating from the Banke district, according to the documents. The formula $n = z^2pq/d^2$, where z = standard normal variate, with value 1.96 at 95% confidence interval, $p = 0.78$, and acceptable error, taken as 5%, was used to calculate the sample size.⁸ The sample size was 208, assuming a 10% non-response rate.

A systematic selection procedure was employed, with the first respondent chosen at random and subsequent respondents chosen using the formula $k = N/n$, ensuring that every third bus was sampled. Each responder was chosen at random, with one representing the bus from the selected vehicles, either a driver or another member of the vehicle's personnel, depending on their availability throughout the poll. A total of 195

samples were collected from the study site, yielding a 6% non-response rate. Data completeness was ensured immediately after collection. Data entry and analysis were conducted using IBM SPSS Statistics 20 software. Descriptive statistics, including frequencies and percentages, were used to summarize the data. The Chi-square test was employed to evaluate associations related to alcohol consumption, with statistical significance set at a p -value < 0.05 and a 95% confidence interval.

RESULTS

The socio-demographic characteristics of the sample show that 49.7% of participants were aged 18-32, and 50.3% were aged 33-52. Regarding education, 49.2% were educated up to the primary level, while 50.8% had completed high school or higher. Regarding ethnicity, 56.9% identified as belonging to the upper caste group, and 92.3% were Hindu, with 65.1% married, 55.9% working as drivers, and 50.8% working 12 or more hours shown in the Table 1.

Table 1. Sociodemographic Characteristics of the participants of the study.

Characteristics	Frequency	Percent
Age		
18-32	97	49.7
33-52	98	50.3
Education		
Educated up to primary level	96	49.2
High School Completed (10, +2, intermediate, PCL)	99	50.8
Ethnicity		
Upper caste Group	111	56.9
Other caste Group	84	43.1
Religion		
Hindu	180	92.3
Other religion	15	7.7
Marital Status		
Unmarried	68	34.9
Married	127	65.1
Occupation		
Driver	109	55.9
Non-drivers (Staff's)	86	44.1
Working Hours		
< 12 hrs	96	49.2
≥ 12 hrs	99	50.8

64.62% reported ever consuming alcoholic drinks, with a higher prevalence among drivers (74.42%) compared to other bus staff (56.88%). Of those who consumed alcohol, 96.03% had done so in the last 12 months, with nearly equal rates for drivers (96.88%) and staff's (95.16%). Among the recent consumers, alcohol consumption frequency varied, with 27.27% drinking daily and 28.93% drinking 1-2 days per week, while 9.09% consumed less than once a month, indicating diverse drinking patterns across both groups represented in table 2.

Table 2. Lifestyle characteristics of the respondents.

Characteristics	Total	Driver	Non-drivers (Staff's)
Ever consumed Alcoholic Drinks (N=195)			
Yes	126 (64.62%)	64 (74.42%)	62 (56.88%)
No	69 (35.39%)	22 (25.58%)	47 (43.12%)
Consumed in last 12 months (n=126)			
Yes	121 (96.03%)	62 (96.88%)	59 (95.16%)
No	5 (3.97%)	2 (3.13%)	3 (4.84%)
Last 12 months, at least one standard alcoholic drink (n=121)			
Daily	33 (27.27%)	13 (20.97%)	20 (33.89%)
5-6 days per week	15 (12.39%)	8 (12.90%)	7 (11.86%)
3-4 days per week	27 (22.31%)	12 (19.36%)	15 (25.42%)
1-2 days per week	35 (28.93%)	22 (35.48%)	13 (22.03%)
Less than once a month	11 (9.09%)	7 (11.29%)	4 (6.78%)

The multiple response in table 3 Highlights the reasons behind participants' behaviors, with peer pressure being the most common factor, reported by 56.9% of respondents, accounting for 82.6% of the cases. Other factors include curiosity (18.6%, 27.0%), influence from family members (20.8%, 31.3%), and cultural practices (6.6%, 9.6%).

Table 3. Influencing factors of alcohol consumption (Multiple responses).

Characteristics	Responses		Percent of Cases
	Frequency	Percent	
Peer pressure	95	56.9%	82.6%
Curiosity	31	18.6%	27.0%
Influence from family members	36	20.8%	31.3%
Cultural Practice	11	6.6%	9.6%

Table 4 shows the prevalence of alcohol-drinking behaviors of bus drivers. When examining alcohol consumption by occupation, a significant association was found, with drivers showing a higher prevalence of alcohol consumption (62.7%) compared to staff's (37.3%) and a p-value of 0.017666, suggesting a noteworthy difference. However, other factors such as age group, marital status, religion, education, ethnicity, and working hours did not demonstrate statistically significant associations with alcohol consumption, as indicated by their p-values greater than 0.05.

Table 4. Prevalence of alcohol-drinking behaviours of bus driver.

Characteristics	Total	Consumed alcoholic drink		Chi-square	p
		Yes	No		
Age Group					
18-32	97 (49.7%)	63 (53.4%)	34 (44.2%)	1.589	0.207
ss33-52	98 (50.3%)	55 (46.6%)	43 (55.8%)		
Marital Status					
Unmarried	37 (19.1%)	21 (17.9%)	16 (20.8%)	0.24105	.623
Married	157 (80.9%)	96 (82.1%)	61 (79.2%)		
Religion					
Hindus	180 (92.3%)	107 (90.7%)	73 (94.8%)	1.11779	.290
Non-Hindus	15 (7.7%)	11 (9.3%)	4 (5.2%)		
Education					
Primary school and below	96 (49.2%)	60 (50.8%)	36 (46.8%)	0.31249	0.57615
Secondary School (SLC, +2, PCL, Inter)	99 (50.8%)	58 (49.2%)	41 (53.2%)		
Ethnicity					
Upper caste group	111 (56.9%)	72 (61.0%)	39 (50.6%)	2.0425	0.15296
Other caste	84 (43.1%)	46 (39.0%)	38 (49.4%)		
Working Hours					
< 12 hrs	96 (49.2%)	63 (53.4%)	33 (42.9%)	2.06814	0.15041
≥ 12 hrs	99 (50.8%)	55 (46.6%)	44 (57.1%)		
Occupation					
Drivers	109 (55.9%)	74 (62.7%)	35 (45.5%)	5.62897	0.01767
Staff's	86 (44.1%)	44 (37.3%)	42 (54.5%)		

DISCUSSION

The findings of this study reveal a concerning prevalence of alcohol consumption among bus drivers and staff in Banke District, Nepal, with 64.6% reporting ever consuming alcohol and 65.1% identified as current drinkers. This prevalence is higher than the global average of lifetime abstainers (44.5%) and the Southeast Asia average (56.6%) but lower compared to a previous study in the region where 72.2% had never consumed alcohol.^{2,3,8} The high rate of alcohol use among drivers (74.4%) compared to other bus staff (56.9%) is alarming, considering its implications for public health and road safety.³ Recent retrospective studies indicated alcohol consumption accounted for approximately 5.26% of road traffic accidents (RTAs) attributed to driver alcohol use.¹⁰

Peer pressure emerged as the most significant factor influencing alcohol consumption (56.9%), followed by influence from family members (20.8%) and curiosity

(18.6%), consistent with prior research. Drivers and staff also cited cultural practices and family influences as contributing factors. Alcohol use habits, such as drinking daily or nearly daily by 30% of participants and heavy drinking by 21.7%, indicate patterns of excessive consumption that increase risks for non-communicable diseases (NCDs) and road traffic injuries (RTIs).¹¹⁻¹⁴

Research indicates that individuals who start drinking at a younger age are more likely to face alcohol-related issues later in life, including driving under the influence.^{15,16} However, the current study found no significant association between age and alcohol consumption despite involving an active and relatively young group. Interestingly, recent trends challenge traditional beliefs by showing a rise in alcohol consumption among older adults (aged 65 and above), with many men in this age group drinking frequently, up to 6-7 times a week, highlighting a shift in drinking patterns among older people.¹⁵

Alcohol consumption is heavily influenced by cultural and historical factors, with many Indigenous communities in Nepal, Thailand, and Vietnam incorporating it into social rituals.^{5,16,17} The current study shows alcohol consumption among upper-caste groups, although no significant association was found. In contrast, upper caste groups typically hold restrictive views on alcohol, resulting in lower consumption rates within these communities.¹⁶ However, some ethnicities, like Muslim communities, abstain due to religious beliefs. Studies show that Native Americans have the highest prevalence of heavy drinking, followed by Whites and Hispanics.^{18,19}

Studies indicate that marital transitions such as marriage, divorce, or widowhood can influence alcohol consumption patterns, particularly among drivers. Research shows that married or cohabitating individuals drink less frequently and in smaller quantities than their single or divorced counterparts.²⁰⁻²² However, the current study reports a high prevalence of alcohol consumption among married individuals, consistent with findings from a survey conducted among long-route bus drivers in Dharan, though no significant association with marital status was observed.³

Lower education levels are linked to higher rates of alcohol dependency, with individuals facing more social stressors and lower health literacy, leading to increased alcohol consumption.^{23,24} Although the study found a high prevalence of alcohol consumption among those with primary school education or less, no significant association with alcohol dependency was observed.

The current study shows a significant association between alcohol consumption and occupation, with drivers exhibiting higher rates ($p = 0.0177$). Research indicates that drivers in high-stress environments, including those in skilled trade occupations like construction and industrial cleaning, are likelier to engage in heavy drinking.^{3,25-27} While specific data on bus drivers is limited, transport workers, particularly truck drivers, are known for high rates of binge drinking due to long hours and job-related stress.

These findings emphasize the influence of social and occupational contexts on drinking behaviours of staff, particularly among drivers who may face work-related boredom or social norms that encourage alcohol consumption. The study highlights the urgent need to address alcohol use among public vehicle operators. Overall, it underscores the necessity of targeted interventions to reduce occupational boredom and peer pressure while promoting awareness and healthier

coping mechanisms, with public health programs focusing on minimizing familial and peer influence while encouraging alternative coping strategies. Future research should explore the effectiveness of interventions tailored to occupational groups and consider broader societal factors influencing alcohol use in Nepal. These measures are vital for reducing alcohol-related harm and improving road safety in the region.

Due to the small sample size, limited to public passenger buses in the "Kha" category, these findings cannot be generalized to the entire public transportation workforce. Future research could include other transportation groups to gain a more comprehensive understanding of alcohol consumption across occupations. Additionally, while self-reported responses were considered accurate for assessing alcohol use, the absence of biomarkers leaves room for future studies to incorporate biological validation for greater accuracy.

CONCLUSIONS

In conclusion, this study reveals a high prevalence of alcohol consumption among public passenger bus drivers and staffs in Banke district, Nepal, with significant occupational and demographic variations. Peer pressure was the most influential factor, followed by influence from family members and curiosity. The study found a higher prevalence of alcohol use among drivers compared to other bus staff, highlighting the potential public health and road safety risks. Given the association between alcohol consumption and occupation, targeted interventions, such as awareness campaigns and stricter enforcement of drinking laws, are crucial. Further research should explore the effectiveness of these interventions and include broader transportation sectors for a more comprehensive understanding of alcohol consumption patterns.

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CONFLICT OF INTEREST

Authors declare there are no any conflicts of Interest.

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