Alcohol consumption among adults in Bangladesh: results from STEPS 2010

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Abstract

Background—Alcohol use is a risk factor for the development of noncommunicable diseases. National data are needed to assess the prevalence of alcohol use in the Bangladeshi population. The objective of this study was to describe the prevalence and patterns of alcohol use among men and women of rural and urban areas of Bangladesh. Additionally, predictors of ever alcohol use were also identified.

Methods—A nationally representative cross-sectional survey (STEPS 2010) was conducted on 9275 adults between November 2009 and April 2010. Participants were selected using multi-stage random cluster sampling. Data on several risk factors for noncommunicable diseases, including alcohol use, were collected by an interviewer-administered questionnaire.

Results—Among the total population, 5.6% ($n = 519$) reported to have ever drunk alcohol and 94.4% (8756) were lifetime abstainers; 2.0% ($n = 190$) of participants reported to have drunk alcohol within the last 12 months. Of these, 94.7% ($n = 180$) were men. Only 0.9% ($n = 87$) of the total population had drunk alcohol within the last 30 days and were categorized as current drinkers. Among current drinkers, 77.0% ($n = 67$) were defined as binge drinkers, having had at least one episode of heavy drinking in this time period; 92.0% ($n = 80$) were current smokers and

59.8% ($n = 52$) had either no formal education or less than primary school education. Ever alcohol use was more common among men, those who live in urban areas and smokers.

Conclusion—Alcohol use is low in Bangladesh; however, those who do use alcohol frequently binge drink, which is a public health concern. Targeted efforts should be made on these specific groups, to control and prevent the continued use of alcohol in Bangladesh.

Keywords

Background

The global burden of noncommunicable diseases continues to be a significant public health issue and a priority of the World Health Organization (WHO).[1] Currently, noncommunicable diseases are the leading cause of death globally: in 2012, they were responsible for 38 million (68%) of the world's total of 56 million deaths.[1] Almost 75% of all deaths due to noncommunicable diseases, and the majority of premature deaths (82%), occur in low- and middle-income countries.[1]

In Bangladesh, the burden of noncommunicable diseases is also rising.[2] According to the Global Burden of Disease Study 2015, the four top causes of death in Bangladesh are noncommunicable diseases: cerebrovascular disease, ishaemic heart disease, chronic obstructive pulmonary disease and diabetes.[3] Alcohol use has been identified as a causal factor in more than 200 disease and injury conditions,[4] and has been associated with a risk of developing various health problems, including alcohol dependence, liver cirrhosis, cancers and injuries.[5] Additionally, alcohol use is estimated to contribute to 2.5 million deaths globally and 2.3% of all deaths in the WHO South-East Asia Region.[6] As such, recent international policy frameworks and action plans, such as the WHO *Global strategy to reduce the harmful use of alcohol*,[7] and the WHO *Global action plan for the prevention and control of noncommunicable disease 2013–2020*,[8] have encouraged nations to place an increased national focus to address the harmful use of alcohol and to develop appropriate policies to control alcohol use.

In Bangladesh, an alcoholic beverage is defined as any liquor with an alcohol content of 0.5%. These alcoholic beverages include beer (5% alcohol in volume), wine (12% alcohol in volume), spirits (40% alcohol in volume) and locally made alcoholic beverages, which have variable alcohol content. Locally produced alcoholic beverages are made from sorghum, maize, millet, rice, cider, fruit wine or fortified wine (*tari*, *bangle mod*, *haria*, *choani*, *do chuani*, *mohua*, etc.). In Bangladesh, the consumption of alcohol is strictly prohibited by law, for religious reasons. Despite this prohibition, alcohol is available across the country and is produced locally. There are government-approved alcohol-producing companies, which produce local brands of vodka, rum, whisky, gin and brandy. Additionally, Bangladesh is home to a privately licensed brewery, which uses imported malts and hops. Distilleries located in different areas of Bangladesh use molasses from local sugar mills as raw material for manufacturing spirits.[9,10] In rural areas of Bangladesh, crude forms of alcohol are also produced, by fermentation of boiled rice, sugar-cane and molasses.[11]

Harmful use of alcohol is increasingly becoming a national concern and very few people with alcohol problems in Bangladesh seek de-addiction treatment.12 Anecdotal information obtained from law-enforcement authorities and local health-care providers indicates that alcohol misuse is becoming a common problem in Bangladesh, particularly in urban areas. However, national data are needed to assess this burden. In order to assess the prevalence and patterns of alcohol use in Bangladesh, the national survey of risk factors for noncommunicable disease13 was developed to include questions on alcohol consumption. This paper reports the prevalence and patterns of alcohol use and predictive factors associated with alcohol use in the population, gathered from this nationally representative survey.

Methods

The national survey of risk factors for noncommunicable disease was a cross-sectional study conducted by the Bangladesh Society of Medicine, under the guidance of the Directorate General of Health Services, and with technical assistance from the WHO Country Office for Bangladesh. This survey was carried out in Bangladesh from November 2009 to April 2010, utilizing the WHO STEPwise Surveillance (STEPS) approach.13 The survey used a multistage geographically clustered sample design to produce nationally representative data for Bangladesh. Data were collected from 200 *mahalla* (urban areas) and 200 *mauza* (rural areas) from 62 districts of Bangladesh, using digital technology. Targeted households (11 200) were marked as sites to recruit either male (5600) or female (5600) respondents, to ensure a gender balance. One person per household was randomly selected to be included in this study. A total of 9947 individuals from 10 991 households were approached to participate in the survey. A total of 9275 (4312 men and 4963 women) non-institutionalized adults aged 25 years agreed to participate, leading to a response rate of 93.2%. The sampling frame was updated by the Bangladesh Bureau of Statistics in 2009. Further details of the survey implementation and methodology have been previously reported.13

Survey questionnaires

The WHO STEPwise questionnaire was utilized,14 with minor adaptations. Data on sociodemographic and behavioural risk factors were collected during STEP 1. The household component of the questionnaire included a 20-item index to assess assets and wealth. Information on alcohol use was collected from all participants, in privacy. Relevant information on age, area of residence, education, current occupation and tobacco use was collected.

As per the WHO STEPwise core questions on alcohol, participants were asked whether they had ever consumed alcohol and whether they had consumed alcohol in the past 12 months and in the past 30 days. "Current alcohol users" were defined as those who had consumed alcohol in the past 30 days. Data on the number of standard drinks consumed and at what frequency over the past 12 months were also collected. One standard drink was defined as 10 g of ethanol. Interviewers utilized showcards, which included depictions of various types of standard drinks to improve the accuracy of participants' responses. The types of standard drinks depicted included: one standard bottle of regular beer; one single measure of spirits;

one medium-sized glass of wine; and one measure of aperitif. Participants were asked about the frequency of consuming alcohol and the number of standard drinks consumed during individual drinking sessions over the past 30 days. For the purposes of this study, "binge drinking" was defined as at least one occasion of "heavy" consumption, which was more than or equal to five standard drinks for a man and four for a woman (as defined by the National Institute on Alcohol Abuse and Alcoholism)15 during the past 30 days. The questionnaire was implemented in standard Bangla, and was field-tested before deployment of the professional field-team for data collection.

Data management and analysis

Data collected during survey administration were entered into handheld personal devices (iPAQ [iPAQ Windows Mobile 5.0 Operating System] by Hewlett-Packard Company, Palo Alto, California, United States of America [USA]) by interviewers. Data were transferred from the field to a file-transfer server on a daily basis, according to the standard protocol of the study. Data were standardized and cleaned by a professional data manager at central level. Univariate analyses of data were conducted to calculate proportions and identify patterns of alcohol use across the following subgroups: lifetime abstainers, ever alcohol users, alcohol use in the last 12 months, current alcohol users, and binge drinkers. Data on tobacco use (smoked and smokeless) were also collected.

The proportions of the population in each group were described and 95% confidence intervals calculated. Additionally, multivariable logistic regression was conducted to identify predictors of ever alcohol consumption. Initially, unadjusted logistic regression was conducted and later an adjusted model was developed to include demographic variables that were significant ($P < 0.05$) during univariate analyses. These variables included sex, area of residence, marital status, age, education, occupation and tobacco use. All analyses were conducted using Stata/SE 12.0 (StataCorp LP, Texas, USA) software package.

Ethical considerations

Ethical clearance was obtained from Bangladesh Medical Research Council (BMRC). Before the interview was conducted, written (or thumb-print) consent was obtained from each participant in Bangla, as per BMRC guidelines.

Results

Background characteristics

Sociodemographic details of this cohort have been presented and published previously.13 Of the 9275 respondents, 4312 (46.5%) were male and the total population's mean age was 42.4 years, with a standard deviation of 13.5 years. Half of the participants resided in urban areas, as ensured through the recruitment method and study design. The median duration of schooling was 4.4 years (5.1 years in men and 3.8 years in women). About 10% were salaried government and nongovernment employees, 10.9% businessmen, 10.8% farmers, 10.4% labourers, 3.6% self-employed, 5.3% retired or unemployed, 44.9% homemakers and 4.6% in other occupations. Almost 90% were Muslims, which is consistent with Bangladesh census data.13

Alcohol consumption overall

Overall, 94.4% ($n = 8756$) of the total population reported they were lifetime abstainers from alcohol. Five hundred and nineteen (5.6%) participants reported they had ever drunk alcohol in their lifetime. Among men, this proportion was elevated at 11.7% ($n = 504$); however, very few ($n = 15$, 0.3%) women reported to have ever drunk alcohol; 2.0% ($n = 190$) of the population reported they had drunk alcohol in the last 12 months and 0.9% ($n = 87$) were categorized as current alcohol users, i.e. had consumed alcohol in the past 30 days. The majority of current alcohol users were male ($n = 81$) (see Table 1).

Current alcohol users

The mean age of current alcohol users was 39.4 years and their median duration of schooling was 5 years. The proportion of overall, male and female current drinkers was 0.9% ($n = 87$), 1.9% ($n = 81$) and 0.1% ($n = 6$) respectively. The prevalence of current alcohol users among all respondents was similar across all age groups; however, it was highest among the age group 35–44 years (1.1%) and lowest in the oldest age group (65 years; 0.1%). Of note, the highest absolute number of current drinkers was in the youngest age category of 25–34 years ($n = 33$) (see Table 1). The majority of current drinkers resided in urban areas (64.3%); 92.0% ($n = 80$) were current smokers; and 59.8% ($n = 52$) had either no formal education or less than primary school education. In the past 30 days, current drinkers had consumed at least one drink, an average of 5.8 (95% confidence interval [CI]: 4.2–7.4) times. The average number of standard drinks consumed per drinking occasion was 3.6 (95% CI: 2.7–4.4) (see Table 2).

Binge drinkers

Binge drinkers had a mean age of 39.7 years and a median duration of schooling of 5 years (data not shown). The prevalence of binge drinking ($n = 67$; 77.0%) among current drinkers ($n = 87$) was 77.0% (see Table 3). Binge drinkers had experienced an average of 3.9 (95% CI: 2.6–5.1) episodes of heavy drinking in the past 30 days and consumed an average of 3.9 (95% CI: 2.9–5.0) standard drinks per drinking occasion (see Table 2).

Predictors of ever alcohol use

In the study population, the adjusted odds of a user of alcohol being male were 11.6 (95% CI: 6.0–22.5) times those of being female (see Table 4). Additionally, the adjusted odds of alcohol use among those who resided in an urban area were 2.91 (95% CI: 2.35–3.59) times those of individuals residing in a rural area. Compared with those aged 25–39 years, there was a 13% decrease in odds (adjusted OR: 0.87; 95% CI: 0.69–1.08) of alcohol use among those aged 40–54 years, although this was not statistically significant. When compared with those aged 55 years, there was a 39% relative decrease in the odds of alcohol use and this decrease was statistically significant (adjusted OR: 0.62; 95% CI: 0.47–0.83).The odds of alcohol use among tobacco users were 3.38 (95% CI: 2.58–4.32) times the odds among non-tobacco users.

Discussion

To the authors' knowledge, this study presents the first national survey data on alcohol use and predictors of alcohol use among Bangladeshi adults. Through this assessment, it was found that the prevalence of alcohol use was generally very low in the population. The prevalence of lifetime abstainers among the total population was 94.4%. Among current alcohol users (0.9%), a large proportion reported to be binge drinkers (77.0%). This is of particular concern, as, although alcohol use is low, those who do drink alcohol in Bangladesh consume it in high proportions. Such misuse of alcohol may lead to chronic health conditions among this subpopulation and should be examined closely. Additionally, it was found that alcohol users in Bangladesh are generally male, live in urban areas, and are likely to be smokers. Future interventions to reduce the burden of alcohol use and binge drinking should be targeted at these populations.

Results from this survey indicate the large majority of Bangladeshi adults are lifetime abstainers of alcohol. The *Global status report on alcohol and health 2014* reported a similar prevalence of lifetime abstinence from alcohol among men and women in Bangladesh (90.7% and 99.7% respectively), based on 2010 data.[6] As Bangladesh is a predominantly Muslim country and alcohol consumption is illegal, it is not surprising that lifetime abstainers were identified at a higher proportion than in studies conducted in other countries in South Asia. Between 2005 and 2006, a nationally representative sample of 5000 adults was assessed in Sri Lanka for alcohol use among the general population.[16] It was found that 51.9% of men and 1.2% of women were categorized as current drinkers, indicating that less than half of men are lifetime abstainers; however, women appear to have similar drinking patterns. In India, the prevalence of lifetime abstainers among the overall population, men and women is 74.2%, 90.0% and 59.3% respectively.[6]

Current alcohol consumption in Bangladesh is very similar to that in some other predominantly Muslim countries such as Pakistan (1.2%).[5,6] In contrast, high-income countries have a much higher prevalence of alcohol use in men and women.[17] However, it should be noted that current proportions of drinking may be significantly underreported, owing to social stigma and prohibition of alcohol use within both Bangladesh and the broader subcontinent.[18] According to the present study, current alcohol drinkers were most likely to be aged 25–44 years. This finding is similar to many other regional studies.[19–21] The majority of the current drinkers reported binge drinking (77.0%). Similar to previous studies done elsewhere,[22–24] the majority of binge drinkers were men, from urban areas, and reported that they smoked.

In this study, the mean age of the current alcohol consumers was 39.4 years and for binge drinkers it was 39.7 years. Previous studies have found that the mean age of alcohol consumers in Kolkata, India was 31.4 years, and all hazardous or harmful consumers (i.e. binge drinkers) were aged 20–39 years.[25] Data from Sri Lanka, collected between 2005 and 2006, estimated that the mean age of current drinkers was 46.1 years and the overall prevalence of current alcohol users was 23.7%,[16] a prevalence that was higher than in neighbouring countries in the subcontinent. These patterns have been linked to cultural

differences among these subpopulations, which may be present in the current study population as well.

Previous studies have shown a strong association between current smoking and both current and binge drinking.26 In this study, a similar association was found: 92.0% of current drinkers and 94.0% of binge drinkers were current smokers. Therefore, a combined intervention may have an added benefit in the population to reduce the prevalence of both smoking and alcohol use.20,27 This has not been previously published in any studies in Bangladesh, but has been shown to be effective in studies from other countries.20,27 Future preventive programmes should be developed utilizing data provided from this survey to inform priority areas, and need to combat this public health concern.

In 1990, the Ministry of Home Affairs in Bangladesh published the Narcotic Control Act (NCA), which outlines national policies on alcohol tax rates, selling and serving of alcohol, alcohol advertisements, legal blood alcohol concentration when driving, and alcohol licensures. However, the non-Muslims residing in the country and foreigners visiting the country are not subject to such restrictions, as long as they confine their alcohol consumption to their private spaces. Some restaurants, night-clubs, hotels and bars in the country, especially those in tourist destinations, are allowed to sell alcohol. Although the NCA provides clear restrictions on alcohol use for the citizens of Bangladesh, enforcement of these policies is minimal, which has led to the continued use of alcohol within the population. Additionally, as alcohol is both produced and available in Bangladesh, it is necessary to recognize the pressing need for data-supported development of alcohol policy, 18 as alcohol consumption within the population is inevitable. Furthermore, despite these strict policies, there is clear evidence that alcohol is still consumed in both urban and rural areas of Bangladesh. As such, policies should be updated to address these gaps in the guidelines. Emphasis should be placed on raising public awareness of alcohol misuse within the country. Additionally, national action plans and regular monitoring systems for alcohol use and associated risk factors in Bangladesh should be enacted.

Accessible and affordable treatment for binge drinkers should be implemented and made a priority by the Ministry of Health and Welfare of Bangladesh, as this analysis reveals the majority of current drinkers are in fact binge drinkers. As depicted in Table 2, there is an average of 4.0 episodes of heavy drinking per month among men, and the average number of standard drinks consumed during these episodes is 5.3. This pattern of drinking typically does not lead to alcohol dependence. Accordingly, the present results support the need for introduction of low-cost evidence-based brief intervention treatment. Such treatment can be delivered by primary health-care workers to individuals whose alcohol consumption has become hazardous or harmful to their health.28 The present study does not reveal any data on the prevalence of alcohol dependence/severe alcohol-use disorders in Bangladesh and more research is needed in this area. Currently, there are four drug-treatment centres run by the government, with a total a capacity of only 55 beds for patients; the Ministry of Home Affairs reported that in 2014, only 1.21% of patients at their facilities received treatment for alcohol dependence.11 For alcohol dependence, these centres provide 2-week detoxification and 6-month rehabilitation programmes, coupled with regular psychiatric assessments.11 The efficacy and success rates of alcohol treatment in Bangladesh have not been assessed.

Additionally, the impact of alcohol on injury and disabilities has not been assessed in Bangladesh; however, it has been recognized as an important public health issue in other low-income countries, specifically in the context of road traffic accidents.29

The majority of disabilities in Bangladesh are caused by injuries resulting from different types of accidents, including road traffic injuries.30 A study conducted in 2001, based on discharge records of primary (16 district hospitals) and secondary (45 subdistrict hospitals) hospitals, found that 19% of patients were injured in incidents related to road traffic.31 More recently, in 2012, based on national police records, it was estimated that 2538 deaths occurred as a result of road traffic injuries.32 However, this has been recognized as an underestimate. WHO has estimated 21 316 (95% CI: 17 349–25 283) road traffic fatalities annually in Bangladesh, at a rate of 13.6 per 100 000 population.32 On an annual basis, road traffic injuries alone cause a loss of about 2% of gross domestic product in Bangladesh. Currently, there are no national data available on the percentage of road traffic deaths involving alcohol; however, WHO rates the enforcement of national drinking and driving laws at a low level of two, on a 10-point scale.2

Several limitations should be taken into consideration when interpreting the results of this study. The results are subject to recall bias, as respondents were asked to report alcohol consumption within the past 30 days and past 12 months, as well as lifetime use of alcohol. Additionally, as Bangladesh is a Muslim country where alcohol consumption is legally prohibited, social desirability bias among respondents may cause participants to be reluctant to share their true habits of alcohol consumption, leading to an underestimate of the prevalence of alcohol use and binge drinking.33 Of note, previous reports published by the Department of Narcotics Control of Bangladesh have consistently described the disproportionately high prevalence of alcohol consumption among tribal communities, owing to regional cultural variations.11 However, these marginalized communities are found in the rural areas of Chittagong, Mymensingh and the tea gardens of Sylhet. As such, the generalizability of these results may be limited, as these populations were not included in this survey and future efforts should be made to address patterns of alcohol use among these communities.

Conclusion

Alcohol use in Bangladesh is low. However, there is concern about binge drinking among alcohol drinkers. Alcohol use is prevalent among men, younger age groups, labourers, salaried government and nongovernment employees and businessmen, current smokers, and those with a low educational background. Effective integrated interventions among these groups can be targeted to reduce the prevalence of alcohol use and other risk factors for noncommunicable disease, such as smoking, to improve the control of noncommunicable diseases in Bangladesh.

Acknowledgements

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Table 1

Prevalence of alcohol use by selected sociodemographic factors among 9275 adults in the noncommunicable disease risk-factor survey of Bangladesh, 201013

Sociodemographic factor	Number of subjects	Lifetime abstainers, n (%)			Ever alcohol users, n (%)			Alcohol use in last 12 months, n (%)			Current alcohol users[a], n (%)		
		Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Age group, years													
25–34	3164	2995 (94.7)	1009 (86.1)	1986 (99.7)	169 (5.3)	163 (13.9)	6 (0.3)	85 (2.7)	83 (7.1)	2 (0.1)	33 (1.0)	32 (2.7)	1 (0.1)
35–44	2531	2389 (94.4)	939 (87.3)	1450 (99.7)	142 (5.6)	137 (12.7)	5 (0.3)	60 (2.4)	56 (5.2)	4 (0.3)	28 (1.1)	26 (2.4)	2 (0.1)
45–54	1847	1731 (93.7)	858 (88.4)	873 (99.7)	116 (6.3)	113 (11.6)	3 (0.3)	26 (1.4)	23 (2.4)	3 (0.3)	16 (0.9)	14 (1.4)	2 (0.2)
55–64	1015	949 (93.5)	520 (88.9)	429 (99.7)	66 (6.5)	65 (11.1)	1 (0.2)	15 (1.5)	14 (2.4)	1 (0.2)	9 (0.9)	8 (1.4)	1 (0.2)
65	718	692 (96.4)	482 (94.9)	210 (100)	26 (3.6)	26 (5.1)	0 (0.0)	4 (0.6)	4 (0.8)	0 (0.0)	1 (0.1)	1 (0.2)	0 (0.0)
Area of residence													
Rural	4646	4502 (96.9)	2002 (93.7)	2500 (99.6)	144 (3.1)	135 (6.3)	9 (0.4)	55 (1.2)	47 (2.2)	8 (0.3)	31 (0.7)	26 (1.2)	5 (0.2)
Urban	4629	4254 (91.9)	1806 (83.0)	2448 (99.7)	375 (8.1)	369 (16.9)	6 (0.2)	135 (2.9)	133 (6.1)	2 (0.1)	56 (1.2)	55 (2.5)	1 (0.0)
Education													
No education	3888	3728 (95.9)	1480 (90.9)	2248 (99.5)	160 (4.1)	149 (9.2)	11 (0.5)	59 (1.5)	50 (3.1)	9 (0.4)	27 (0.7)	21 (1.3)	6 (0.3)
Primary or less	2476	2351 (95.0)	983 (88.8)	1368 (99.9)	125 (5.0)	124 (11.2)	1 (0.1)	45 (1.8)	45 (4.1)	0 (0.0)	25 (1.0)	25 (2.3)	0 (0.0)
Secondary school	2053	1890 (92.1)	863 (84.2)	1027 (99.9)	163 (7.9)	162 (15.8)	1 (0.1)	59 (2.9)	59 (5.8)	0 (0.0)	24 (1.2)	24 (2.3)	0 (0.0)
College or postgraduate	858	787 (91.7)	482 (87.5)	305 (99.6)	71 (8.3)	69 (12.5)	2 (0.7)	27 (3.1)	26 (4.7)	1 (0.3)	11 (1.3)	11 (2.0)	0 (0.0)
Occupation													
Unemployed/retired	530	487 (91.9)	411 (90.5)	76 (100)	43 (8.1)	43 (9.5)	0 (0.0)	13 (2.5)	13 (2.9)	0 (0.0)	5 (0.9)	5 (1.1)	0 (0.0)
Professional employment[b]	3516	3140 (89.3)	2780 (88.2)	360 (98.9)	376 (10.7)	372 (11.8)	4 (1.1)	138 (3.9)	134 (4.6)	4 (1.1)	70 (2.0)	67 (2.1)	3 (0.8)
Industrial worker/day labourer	678	621 (91.6)	520 (90.4)	101 (98.1)	57 (8.4)	55 (9.6)	2 (1.9)	22 (3.2)	20 (3.5)	2 (1.9)	9 (1.3)	7 (1.2)	2 (1.9)
Housemaker	4161	4156 (99.9)	22 (100)	4134 (99.9)	5 (0.1)	0 (0.0)	5 (0.1)	2 (0.0)	0 (0.0)	2 (0.1)	0 (0)	0 (0.0)	0 (0.0)
Other[c]	390	352 (90.3)	75 (68.8)	277 (98.6)	38 (9.7)	34 (31.2)	4 (1.4)	15 (3.8)	13 (11.9)	2 (0.7)	3 (0.8)	2 (1.8)	1 (0.4)
Tobacco use[d]													
Non-tobacco user	4546	4457 (98.0)	1209 (93.6)	3248 (99.8)	89 (2.0)	83 (6.4)	6 (0.2)	26 (0.6)	22 (1.7)	4 (0.1)	7 (0.2)	6 (0.5)	1 (0.0)
Tobacco user	4729	4299 (90.9)	2599 (86.1)	1700 (99.5)	430 (9.1)	421 (13.9)	9 (0.5)	164 (3.5)	158 (5.2)	6 (0.4)	80 (1.7)	75 (2.5)	5 (0.3)

Sociodemographic factor	Number of subjects	Lifetime abstainers, n (%)			Ever alcohol users, n (%)			Alcohol use in last 12 months, n (%)			Current alcohol users[a], n (%)		
		Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Total (unadjusted)	9275	8756 (94.4)	3808 (88.3)	4948 (99.7)	519 (5.6)	504 (11.7)	15 (0.3)	190 (2.0)	180 (4.2)	10 (0.2)	87 (0.9)	81 (1.9)	6 (0.1)
Total (adjusted)[e]	9275	8728 (94.1)	3816 (88.5)	4948 (99.7)	510 (5.5)	496 (11.5)	10 (0.2)	176 (1.9)	177 (4.1)	10 (0.2)	87 (0.9)	78 (1.8)	6 (0.1)

[a]Drank alcohol in the last 30 days.

[b]Professional includes: government employees, nongovernment employees, business owners, farmers, agricultural workers and other self-employed individuals.

[c]Other includes: beggars, rickshaw pullers, cooks, carpenters, tailors, security guards, migrant workers and fishermen.

[d]Tobacco use includes smokeless and smoked tobacco.

[e]Total age-specific prevalence standardized to WHO-recommended global age distribution.

Table 2

Drinking patterns among current drinkers in the noncommunicable disease risk-factor survey of Bangladesh, 201013

Drinking pattern	Current drinkers, % (95% CI)			Binge drinkers[a,b], % (95% CI)		
	Total (*n* = 87)	Men (*n* = 81)	Women (*n* = 6)	Total (*n* = 67)	Men (*n* = 62)	Women (*n* = 5)
Average number of occasions with at least one drink	5.8 (4.2 to 7.4)	5.6 (4.0 to 7.23)	8 (–3.0 to 19.0)	6 (4.2 to 7.8)	5.7 (3.9 to 7.5)	9.4 (–4.4 to 23.2)
Average number of standard drinks[c] consumed on one occasion	3.6 (2.7 to 4.4)	3.7 (2.7 to 4.6)	2 (1.1 to 2.9)	3.9 (2.9 to 5.0)	4.1 (2.9 to 5.2)	2 (0.7 to 3.3)
Average of largest number of standard drinks consumed on one occasion	4.5 (3.0 to 5.9)	4.7 (3.1 to 6.3)	2.3 (1.2 to 3.4)	5.1 (3.2 to 6.9)	5.3 (3.3 to 7.4)	2.4 (0.9 to 3.8)
Average number of episodes of heavy drinking	3.1 (2.0 to 4.1)	3.2 (2.0 to 4.3)	1.6 (0.5 to 2.7)	3.9 (2.6 to 5.1)	4 (2.6 to 5.4)	—

CI: confidence interval.

[a] Prevalence among current users.

[b] Defined as consumption of 50 g of ethanol in men and 40 g in women on at least one occasion in the past 30 days.

[c] Standard drink = 10 g of ethanol.

Table 3

Prevalence of binge drinking among current alcohol users in the noncommunicable disease risk-factor survey of Bangladesh, 201013

Sociodemographic factor	Total number of current drinkers[c]	Binge drinkers[a,b], *n* (%)		
		Total	Men	Women
Age group, years				
25–34	33	23 (69.7)	22 (66.7)	1 (3.0)
35–44	28	25 (89.3)	23 (82.1)	2 (7.1)
45–54	16	12 (75.0)	10 (62.5)	2 (12.5)
55–64	9	6 (66.7)	6 (66.7)	0 (0.0)
65	1	1 (100.0)	1 (100.0)	0 (0.0)
Area of residence				
Rural	31	23 (74.2)	19 (61.3)	4 (12.9)
Urban	56	44 (78.6)	43 (76.8)	1 (1.8)
Education				
No education	27	22 (81.5)	17 (63.0)	5 (18.5)
Primary or less	25	16 (64.0)	16 (64.0)	0 (0.0)
Secondary school	24	19 (79.2)	19 (79.2)	0 (0.0)
College or postgraduate	11	10 (90.9)	10 (90.9)	0 (0.0)
Occupation				
Unemployed/retired	5	4 (80.0)	4 (80.0)	0 (0.0)
Professional employment[d]	70	53 (75.7)	51 (72.9)	2 (2.9)
Industrial worker/day labourer	9	8 (88.9)	6 (66.7)	2 (22.2)
Housemaker	0	0 (0.0)	0 (0.0)	0 (0.0)
Other[e]	3	2 (66.7)	1 (33.3)	1 (33.3)
Tobacco use[f]				
Non-tobacco user	7	4 (57.1)	4 (57.1)	0 (0.0)
Tobacco user	80	63 (78.8)	58 (72.5)	5 (6.3)
Total (unadjusted)	87	67 (77.0)	62 (71.3)	5 (5.7)
Total (adjusted)[g]	87	69 (79.3)	65 (74.3)	4 (5.0)

[a] Percentages were calculated using the total number of current alcohol users as the denominator for each subgroup.

[b] Defined as consumption of 50 g of ethanol in men and 40 g in women on at least one occasion in the past 30 days.

[c] Drank alcohol in the last 30 days.

[d] Professional includes: government employees, nongovernment employees, business owners, farmers, agricultural workers and other self-employed individuals.

[e] Other includes: beggars, rickshaw pullers, cooks, carpenters, tailors, security guards, migrant workers and fishermen.

[f] Tobacco use includes smokeless and smoked tobacco.

^{g}Total age-specific prevalence standardized to WHO-recommended global age distribution.

Table 4

Predictors of ever alcohol use among 9275 adults in the noncommunicable disease risk-factor survey of Bangladesh, 201013

Sociodemographic factor	Ever alcohol consumption, *n* (%)	Prevalence	
		Crude OR (95% CI)	Adjusted OR (95% CI)
Sex			
Female	15 (0.30)	Ref	Ref
Male	504 (11.7)	43.6 (26.1–73.1)	11.6 (6.0–22.5)
Area of residence			
Rural	144 (3.1)	Ref	Ref
Urban	375 (8.1)	2.76 (2.26–3.35)	2.91 (2.35–3.59)
Marital status			
Married	478 (5.7)	Ref	Ref
Unmarried[a]	41 (11.6)	2.18 (1.55–3.06)	1.76 (1.19–2.59)
Age, years			
25–39	249 (5.5)	Ref	Ref
40–54	178 (5.9)	1.10 (0.91–1.35)	0.87 (0.69–1.08)
55	92 (5.3)	0.97 (0.76–1.24)	0.62 (0.47–0.83)
Education			
No education	160 (4.1)	Ref	Ref
Primary or less	125 (5.1)	1.24 (0.97–1.57)	1.11 (0.86–1.43)
Secondary school	163 (7.9)	2.01 (1.60–2.51)	1.61 (1.25–2.08)
College or postgraduate	71 (8.3)	2.10 (1.57–2.80)	1.25 (0.89–1.74)
Occupation			
Unemployed/retired	40 (8.1)	Ref	Ref
Professional employment[b]	376 (10.7)	1.36 (0.98–1.89)	1.10 (0.76–1.59)
Industrial worker/day labourer	57 (8.4)	1.04 (0.69–1.57)	0.76 (0.47–1.22)
Housemaker	5 (0.1)	0.01 (0.01–0.03)	0.17 (0.05–0.52)
Other[c]	41 (9.7)	1.22 (0.77–1.93)	3.20 (1.87–5.48)
Tobacco use[d]			
Non-tobacco user	89 (1.9)	Ref	Ref
Tobacco user	430 (9.1)	5.01 (3.97–6.32)	3.38 (2.58–4.32)

CI: confidence intervals; OR: odds ratio; Ref: reference category.

[a]Unmarried includes: never married, divorced, widowed and separated

[b]Professional includes: government employees, nongovernment employees, business owners, farmers, agricultural workers and other self-employed individuals.

[c]Other includes: beggars, rickshaw pullers, cooks, carpenters, tailors, security guards, migrant workers and fishermen.

dTobacco use includes smokeless and smoked tobacco.