

# ABSTRACT

## **Background**

Alcohol consumption is linked to a variety of diseases and socioeconomic consequences. There is a rising trend in the overall per capita consumption and associated economic and disease burden in South-East Asian countries, including Sri Lanka.

## **Objectives**

To describe the prevalence, factors associated with alcohol consumption, burden due to alcohol-related unintentional injuries among adult males in Colombo district and the household financial burden of alcohol consumption and related unintentional injuries

## **Methods**

A community-based analytical cross-sectional study was conducted among a sample of 1160 adult males in the Colombo district, selected using multi-stage cluster sampling to represent all 13 Divisional secretary areas in the district. Data were collected by pre-intern medical officers, using a pre-tested interviewer-administered questionnaire. PRECEDE-PROCEED model was adopted to identify predisposing, enabling and reinforcing factors associated with alcohol consumption, and the factors associated with alcohol consumption were determined by a multivariate analysis using logistic regression. Disease burden due to alcohol-associated unintentional injuries was calculated using Disability Adjusted Life Years (DALY). The impact of alcohol consumption on household expenditure was estimated by comparing the median spending on alcohol among daily and non-daily current drinkers. The expenses on other household commodities among current and non-current alcohol users were also compared to the never-drinkers.

## **Results**

A total of 1106 adult males (with a mean age of 45.7 (SD=17.4) years) participated, of which the majority (n=859, 77.7%) were urban residents, while 228 (20.6%) were from rural areas. The majority of the population (52.4%, n=579) had an average monthly household income of Rs. 45000 – 65000.

The prevalence of ever drinkers among adult males in the Colombo district was 53.4% (n=591, 95% CI, 50.5%-56.4%). The prevalence of drinkers who consumed alcohol within last 30 days was 29.3% (n=324, 95% CI, 26.7%- 32.0%) while those who consumed alcohol within last year was 38.2 % (n=423, 95% CI, 35.4%-41.1%). There were 6.1% (n=68, 95% CI, 4.8%-7.7%) current daily drinkers in the population.

Non-modifiable socio-demographic factors found to be associated with ever drinking were, being Sinhalese (AOR=11.27; 95% CI= 4.31–29.37), being currently married (AOR=3.97; 95% CI= 2.61-6.04), belong to the “Social Class (I-Va)” (AOR=2.28; 95% CI= 1.55-3.36) and being less than 45 years (AOR=0.30; 95% CI= 0.19-0.50). Modifiable personal factors associated with ever drinking were being a current smoker (AOR=2.97; 95% CI= 1.93–4.56), having unfavourable attitudes on alcohol consumption (AOR=5.14; 95% CI= 3.51–7.54) and having unsatisfactory knowledge on alcohol consumption (AOR=1.54; 95% CI= 1.11-2.16).

Modifiable childhood, family and peer-related factors associated with ever drinking were family members consuming alcohol in front of the participant when young (AOR=1.71; 95% CI= 1.05-2.77), availability of stout beer when young (AOR=1.66; 95% CI= 1.12-2.46), availability of “Strong Wine” when young (AOR=0.35; 95% CI= 0.14-0.87), being forced to consume alcohol by close friends when young (AOR=1.67; 95% CI= 1.16-2.39) and being invited for alcohol parties when young (AOR=0.47; 95% CI= 0.28-0.79).

The proportion of participants ever having an alcohol-associated unintentional injury in their lifetime was 7.1% (n=78, 95% CI, 5.69%- 8.71%). The proportion of participants having alcohol-associated unintentional injuries among the current alcohol users during the last year was 4.49 % (n=19, 95% CI, 2.89%- 6.91%), and the highest proportion was seen among the 15-29-year group with 75.5 cases per 1000 alcohol consumers. Falls and road injuries were the commonest injury categories reported. The highest DALY value for alcohol-associated unintentional injuries was observed among the 30-44-year age group (992.8 DALYs per 1000 population), while the lowest was observed among the 60-69-year group (1.7 DALYs per 1000 population).

Per capita cost for medicine due to unintentional injuries for outpatient care was similar for OPD and inpatient categories. The total per capita inpatient care cost was nearly ten times more than the outpatient cost. There is a significant difference between monthly expenditure for alcohol in lower ( $p<0.0001$ ), middle ( $p<0.0001$ ), and high ( $p<0.0001$ ) income categories among current daily drinkers compared to current non-daily drinkers. A significant difference was observed for food and non-alcoholic beverages ( $p=0.003$ ), household items ( $p=0.03$ ) and medical care ( $p=0.006$ ) in lower-income categories among current drinkers compared to the never drinkers.

### **Conclusions and recommendations**

The prevalence of ever-drinkers among adult males in the Colombo district is high. Future prevention programs on alcohol should strengthen awareness of alcohol-related issues among alcohol consumers. Modifiable personal, childhood, family and peer-related factors should be considered in designing future prevention programs and developing and reforming policies. Alcohol-associated unintentional injury burden was high among young and middle-age groups. Household expenditure in all income categories was significantly affected by daily alcohol consumers. Households with lower income were significantly affected in their expenditure related to household commodities when there was a current drinker in the household compared to a never drinker. Alcohol prevention programs should target these groups as they are more likely to end up with economic hardships.

### **Keywords**

Alcohol, unintentional injuries, household expenditure, PRECEDE-PROCEED model, DALY