Original Article

National alcohol use prevalence survey in Sri Lanka

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Abstract

Background

Alcohol consumption is a risk factor for Non-Communicable Diseases (NCD). A national NCD risk factor survey conducted in Sri Lanka in 2008 estimated a prevalence of alcohol use of 26% among males aged between 17–64 years. It is important to assess the current situation, in order to determine trends in alcohol consumption in the country which will contribute to planning of comprehensive prevention programmes.

Objective

To determine the prevalence of alcohol use and the pattern of drinking of alcohol in Sri Lanka.

Methods

A descriptive cross sectional study was conducted in the 14 to 64 year age group. Sample size was 3750 comprising 750 participants in each 10 year age/sex stratum (250 males and 500 females). Out of this figure 3728 responded Multi stage cluster sampling technique was used and a Public Health Midwife (PHM) area was considered as a cluster. Data were collected using an interviewer administered questionnaire obtained from the "Alcohol" module of the WHO STEP wise approach. Core variables and some expanded variables were assessed in the data collection tool. Data collectors (n=36) were PHMs attached to the Medical Officer of Health office in the area where the cluster was selected. Analysis was done using SPSS version 16 and results in relation to prevalence of alcohol use were presented as percentages.

Results

Prevalence of current drinkers were 39.6% among males and 2.4% among females when adjusted to the population of the districts in which the sample was obtained. .The most consumed type, among those who have ever used alcohol is beer (76.9%) followed by spirits (51.5%), wine (25.8%), kasippu (22.2%), palmyrah toddy (16.9%), toddy (16.8%) and other types not detailed in the questionnaire (5.3%).

Conclusions

Alcohol consumption has increased since the last survey in 2008 (male: 26%, female: 1.2%). Preventative activities focusing on vulnerable groups should be implemented at the national as well as regional levels. At the same time non-drinkers must be routinely addressed to sustain their status. As prevalence is high among males a targeted cost effective rehabilitation programme should be prioritised. The increasing trend among female drinking indicates the need of primary preventive actions targeted at them.

Introduction

Research and studies on alcohol consumption are mostly available in developed countries. The average global alcohol consumption for individuals above 15 years of age is 6.2 litres of pure alcohol per year[1]. However, there is wide regional disparity. The highest total per capita consumption is in the European Region while the lowest consumption levels are in the South-

East Asian Region. Although the level of consumption is obviously much higher in the European region than in other regions, two regions, South East Asia and the Western Pacific show a recent and continuing increase in consumption. On a regional level, countries with the highest consumption rates are decreasing their intake while consumption in the lowest countries is increasing. With the increased level of economic development, many developing countries are reported to be increasing their alcohol consumption[1].

The average total per capita consumption in the South-East Asian Region for the periods 2003 – 2005 and 2008 – 2010 was 2.9 and 3.5 litres of pure alcohol, respectively. Per capita consumption of alcohol in India has been increasing over the past five decades, with the average total per capita consumption (recorded and unrecorded) for the period 2003–2005 being 3.6 litres of pure alcohol increasing to 4.3 litres for the period 2008–2010. Total per capita consumption in Bangladesh for the same time periods is a static figure of 0.2 litres of pure alcohol[1]. The average total consumption for the Western-Pacific Region is 5.4 and 6.8 litres for the same two periods. The average total per capita consumption in China is 4.9 and 6.7 of pure alcohol respectively for the periods 2003–2005 and 2008–2010[1].

A study in Harar town in Ethiopia reported the percentage of ever drinkers as 22.2% (males: 68.3% and females: 31.7%) with current drinkers at 10.4%.[2] A Nigerian study of 482 male undergraduates of four higher institutions in Owerri between October 2008 and March 2009 revealed that 78.4% were current drinkers[3].

Per capita consumption of alcohol in Sri Lanka has been increasing over the years. This has reflected in the increase in the annual consumption of arrack from year 2000 (50.3 million L) to 2006 (67.1 million L) as reported in the Administrative Report of the Commissioner General of Excise[4]. Because there are other types of illicit liquor consumed by unknown numbers in this country, this is only a rough estimate of the level of consumption in Sri Lanka.

In the late 1980's the incidence of alcoholism among males aged 25 yrs and over in the suburbs of Colombo was reported to be 29 per thousand[5]. In a study by de Silva, of 238 married males in the Divisional Secretariat area of Wattala, the prevalence of hazardous drinking had been 31.4% and that of alcohol use disorders 24.5%[6].

In a cross sectional study among males 18 years and above, conducted in two districts (rural and urban) in Sri Lanka, the overall prevalence of current drinkers was 27.8% and the 45-54 year age group had the highest rate[7]. Pathmeswaran (1997) in a cross-sectional community based study conducted in the Gampaha District in Sri Lanka involving 1200 persons found that the proportion of regular heavy drinkers who consumed alcohol more than six days during the reference period of two weeks was 15.5%. This study gave the highest prevalence figure to date of occasional drinkers (33.3%). Regular light drinkers who consumed alcohol six days or less during the reference period comprised 22.2%[8].

A national NCD risk factor survey estimated the prevalence of alcohol use as 26% among males between 17 – 64 years. In spite of all measures taken by successive governments, the production of illicit alcohol is yet to be controlled. Illicit alcohol causes more harm than legal alcohol.[9]Although alcohol use was not a household phenomenon in the past it has now become a social norm among both the rich and the poor.

Alcohol is linked to many harmful consequences for the individual drinker, the drinker's immediate environment and society as a whole, thus making alcohol use a socio-economic problem. Heavy drinking has been linked to increased risk of hypertension[10]. Djoussé et al.,

20044 found that alcohol increased high density lipoprotein cholesterol which has cardio protective effects[11]. However, the WHO Global Status Report on alcohol and health (2014) has stated that harmful use of alcohol is a leading risk factor for morbidity, disability and mortality. It is one of the four most common modifiable risk factors for major non communicable diseases and a component cause for more than 200 disease and injury conditions. Alcohol consumption results in approximately 3.3 million deaths each year. Therefore it is clearly evident that the harmful effects of alcohol use outweigh any possible benefits[1,12].

A 'risk factor' refers to any attribute, characteristic or exposure of an individual, which increases the likelihood of developing a non communicable disease. Out of the key risk factors which have a major impact on almost all the important NCD's, alcohol consumption is the subject of this study. Alcohol abuse has become a public health problem, given the disastrous effects on the health and financial aspects of the family. Preventive strategies should be in the form of community awareness and legislative measures. Proper planning of alcohol control strategies requires knowledge of the true nature of the problem. Alcohol consumption patterns are not static and vary from one period to another. As illicit alcohol contributes immensely to the alcohol problem, official figures do not reflect the authentic burden of the problem. Therefore, methodically sound research is the need of the day. However, at present there is no ongoing programme to assess the gravity of the problem.

This study incorporated the existing primary health care system in the country by using PHM as data collectors. Thereby the sustainability of any future programme to assess trends in alcohol consumption across time has been enhanced. The use of the STEPS instrument, which is the tool recommended by WHO for prevalence studies of risk factors for non-communicable diseases, in this study enables us to assess trends within the country and to compare data between South East Asian Region countries. The study presented in this paper is an important one due to the lack of up to date data in this area in Sri Lanka and the urgent need to monitor changes over time and identify demographic patterns. The present study was carried out with the objectives of determining the prevalence of alcohol use and describing prevailing drinking patterns in Sri Lanka.

Methods

Study setting

A descriptive cross sectional study was conducted in all nine provinces of Sri Lanka. The country is divided into nine provinces and each province is further subdivided into 2–5 administrative districts. Health in each district is the responsibility of the Regional Director of Health Services (RDHS). An area of RDHS has several divisional health units called Medical Officers of Health (MOH) areas, depending on the population and the extent of the geographical area. The Public Health Midwife (PHM) is the grass root level officer under the MOH and is responsible for the preventive and promotional health activities for the population of her area.

Study population

WHO recommends surveillance on risk factors for the age group 25–64 years, as chronic disease generally occurs following prolonged exposure to risk factors. However, in the national interest, this study included the 15–24 year age group as well, for the purpose of assessing risk factors at a younger age. Thus, the study participants included males and females aged 15 to 64 years who were permanent residents of the study area and could speak either Sinhalese or Tamil, the two main languages in the country. Those who were not citizens of Sri Lanka or who were terminally ill were excluded from the study.

Sample size

The study sample was stratified by sex and 10 year age groups to ensure adequate representation in each stratum. The WHO recommends selecting 250 persons from each sex and 10 year age group, as adequate to estimate the means of the variables in Step 1 and Step 2 provided that the sample is homogenous and the analysis is by subgroups, age and sex[13].

According to the previous NCD survey, the prevalence of current male and female drinkers was 26.0% and 1.2% respectively[9]. As the female current drinker prevalence was at a very low level, it was decided to increase the female sample by two fold of that of males. Therefore, each 10 year age group consists of 250 males and 500 females. This is a larger sample size than is recommended by the WHO. The total sample was 3750 (1250 males and 2500 females). There were 36 clusters and a PHM area was considered as a cluster. In order to have a male: female ratio of 1: 2 in each age range in a cluster, each 10 year age-sex group was allocated seven male and 14 female participants resulting in 105 participants in each cluster. Therefore, the final sample size was increased to 3780.

Sampling technique

A multistage cluster sampling method was used to identify the sample. Two districts were selected randomly from each province and two MOH areas from each selected district. One PHM area was selected randomly from each selected MOH area. Therefore, there were 18 districts, 36 MOH areas and 36 PHM areas selected. The roads in each selected PHM area were listed and one road was randomly selected. A significant landmark in the road was demarcated as the starting point for collection of data in a cluster. One side of the road was randomly selected and data collection commenced in a direction selected based on the toss of a coin. At the end of the road the data collector continued along the opposite side of the road, ending at the starting point. If the required sample size was not achieved along the selected road, another road was selected randomly and the process continued until the required sample was gathered. Within the cluster, the unit of enumeration was a housing unit. A housing unit was defined as "any building or part of a building or any structure whether permanent or temporary, which are in fact used as places of residence"[14]. A household was defined as "a person or a group of persons who usually live in the same housing unit and have a common arrangement for preparation and consumption of food"[14]. Only one eligible person was selected from each household in accordance with the 'Kish' method[13]. One hundred and five eligible persons were selected from each cluster in order to have a male: female ratio of 1:2 at the end of the survey. If a house was closed on the day the survey was conducted, it would be visited on another day (week end or public holiday) and was regarded as non-respondent if still found to be inaccessible on the second visit.

Instruments

The WHO recommends the STEP wise approach (Core and Expanded version 1.4) to survey key risk factors for non-communicable diseases[13]. This consists of three steps with core and expanded components. In addition, there are optional components which countries can adopt. The present study incorporated all the "core" items as recommended by the WHO as well as the 'expanded' items relevant to alcohol under step 1. The core questions in Step 1 provide basic demographic information and measures of alcohol consumption. The expanded questions assess details of demographic breakdown and binge drinking. Step 2 and 3 include physical and biochemical measurements respectively and were not included in study.

Adaptation of the STEPS instrument was done to suit the objectives of the study without affecting the original meaning. Firstly, the selected items in the STEPS instrument were translated into two languages, namely Sinhalese and Tamil, by an expert in the field of Community Medicine. Then a bilingual expert translated it back to English to assess whether the original meaning had been retained. Expert opinion was sought with regard to content and face validity and modifications were made. All questions were structured with close ended responses. The questions were simple and short and phrased carefully in order to avoid ambiguity. No technical terms were included to ensure easy comprehension. No leading questions were asked. These measures were expected to contribute to the accuracy and reliability of the responses. The main components of this interviewer administered questionnaire were personal identification, basic socio-demographic data and data pertaining to alcohol consumption.

Pre-testing of instruments
Pre-testing was done in four MOH areas representing urban, rural and estate areas and in all ethnic groups. Time taken to complete the questionnaire, sequence and the comprehensiveness of questions were noted. It took nearly one hour to complete a questionnaire. At the end of each interview, the participant was asked by data collectors to comment on factors such as any feeling of uneasiness, understanding, and clarity of intent of the questions and encouraged to suggest improvements to the questions. Consequently, a few alterations were made to the questionnaire.

Selection of data collectors
PHMs belonging to the selected PHM areas comprised the data collectors. This made the study more acceptable to the participants as PHMs have a good rapport with the community.

Data collection
A two day training workshop was conducted for all data collectors. Data collection was done with the least disturbance to the routine work of PHMs. When the questions on alcohol consumption were administered, a show card containing the types of alcoholic drinks with volumes of commonly used containers for drinking was used by the data collectors to determine the number of standard drinks. Some examples of locally brewed liquor, and the most commonly used containers and their volume were added to the WHO show card. Informed consent was obtained from all respondents and confidentiality of data was assured by concealing their identity using a coding system. Ethics clearance was obtained from the Ethics Review Committee of the Medical Research Institute, Ministry of Health, Sri Lanka.

Statistical analysis
Data entry was carried out using EPI INFO 6. Double entry was performed to check reliability of data entry. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 16 statistical software package. A probability level of <0.05 was considered significant. Calculation of frequencies, percentages, means and cross tabulations were carried out.

Results
Demographic data

Analysis was performed on data from 3728 participants out of the total number of 3780 giving a response rate of 98.6%.The mean age of the study population was 39.3 years (SD=13.9) with a range of 15-64 yrs. The demographics of the study group are shown in Table 1.

Table 1: Distribution of participants by socio-demographic factors

Variable	Frequency (%) (N = 3728)
Sex	
Male	1377 (36.9%)
Female	2351 (63.1%)
Age*	
≤ 30 yrs	1168 (31.3%)
> 30 yrs	2560 (68.7%)
Ethnicity	
Sinhalese	2361 (63.3%)
Tamils	925 (24.8%)
Moors	442 (11.9%)
Marital Status	
Married (legal /customary)	3058 (82.0%)
Single (not married)	506 (13.6%)
Separated	35 (0.9%)
Divorced	14 (0.4%)
Widowed	115 (3.1%)
Education	
≤ Grade 10	2109 (56.6%)
≥ Grade 11	1619 (43.4%)
Income	
≤ Rs. 10 000	1712 (45.9%)
>Rs. 10 000	1856 (49.8%)
Missing	160 (4.3%)

* Mean age = 39.3 (SD=13.9)

Table 2 shows the distribution of participants of the study by use of alcohol. Among the participants more males (69.6%) than females (26.5%) have consumed alcohol any day during their life time (ever use of alcohol). Majority of males (54.5%) have used alcohol during the past 12 months versus only 7.6% of females. After standardizing according to the population structure of the country the percentages were 51.5% and 7.4% for males and females respectively. Prevalence of current drinkers, defined as those consuming one or more drinks of alcohol during the past 30 days, among males was 37.5% (95% CI: 34.9-40.2) whereas that of females was 2.4% (95% CI: 1.8-3.1). When weighted to the population of the districts in which the sample was obtained the prevalence for the country is 39.6%. Nearly sixty nine percent (68.8%) of males and 31.8% of females who drank during the past 12 months were current drinkers.

Table 2: Distribution of participants by period of use of alcohol

Alcohol use pattern	Male (n (%) (N=959)	Female (n (%) (N=622)	Total (n (%) (N=3728)
Ever use			
Yes	959 (69.6%)	622 (26.5%)	1581 (42.4%)
No	418 (30.4%)	1729 (73.5%)	2147 (57.6%)
Within past 12 months			
Yes	750 (54.5%)	179 (7.6%)	929 (24.9%)
No	627 (45.5%)	2172 (92.4%)	2799 (75.1%)
Within past 30 days			
Yes	517 (37.5%)	57 (2.4%)	574 (15.4%)
No	860 (62.5%)	2294 (97.6%)	3154 (84.6%)

Table 3 gives the type of alcoholic drink consumed among ever drinkers. Some have consumed more than one type alcoholic drinks and therefore, calculations have been done separately for each type. The three most consumed types of alcohol among ever drinkers for both sexes were beer, spirits and wine.

Table 3: Distribution of type of alcoholic drink among ever drinkers

Type of alcohol drink	Male (n (%) (N=959)	Female (n (%) (N=622)
Beer	737 (76.8%)	385 (61.9%)
Spirits	494 (51.5%)	175 (28.1%)
Wine	247 (25.8%)	157 (25.2%)
Kasippu	213 (22.2%)	24 (3.9%)
Palmyrah toddy	162 (16.9%)	16 (2.6%)
Toddy	161 (16.8%)	29 (4.7%)
Others	51 (5.3%)	2 (0.3%)

When ten year age groups among male ever drinkers were analysed for the four most widely used alcoholic drinks beer was followed by spirits, wine and palmyrah toddy in the15-24 yrs and 25-34 years groups. In the 35-44 year and 45-54 year age groups kasippu, a locally brewed alcoholic drink, took fourth place and in the 55-64 year age group kasippu and toddy took third and fourth place respectively. With regard to females all ten year age groups had the same pattern (beer followed by spirit, wine and toddy) except for the 35-44 year group where the order was beer, wine, spirit and toddy. In all age groups of females, kasippu took fifth place.

As shown in Table 4 the least affected age range for current drinkers among both sexes is 15 - 24 years.

Table 4: Distribution of current drinkers in the 10 year age range

| Age range | Males Current drinking | | Females Current drinking | |
	Yes N (%)	No N (%)	Yes N (%)	No N (%)
15 - 24	35 (14.5%)	206 (85.5%)	5 (1.0%)	474 (99.0%)
25 - 34	127 (40.1%)	188 (59.9%)	18 (3.4%)	485 (96.6%)
35 - 44	137 (45.2%)	165 (54.8%)	11 (2.3%)	461 (97.7%)
45 - 54	127 (47.7%)	139 (52.3%)	15 (3.2%)	453 (96.8%)
55 - 64	92 (36.5%)	160 (63.5%)	8 (1.9%)	421 (98.1%)

Among drinkers during past 12 months most males (46.6%) had a drinking frequency of 1-3 days a month while the majority of females (51.1%) drank less than once a month (Table 5).

Table 5: Distribution of frequency of drinking among those who drank alcohol during the past 12 months

Frequency of drinking during past 12 months	Male (n (%)	Female (n (%)
≥ 5 days a week	74 (9.8%)	13 (7.3%)
1 - 4 days a week	119 (15.8%)	3 (1.5%)
1 - 3 days a month	349 (46.6%)	72 (40.1%)
< once a month	208 (27.8%)	91 (51.1%)

The largest number of drinks consumed on a single occasion in the past 12 months varied between one to 30 standard drinks with a mean of 4.9 drinks (SD=5.4). However, only 705 participants (75.9%) responded to this question.

The number of days of drinking five or more standard drinks in a single day (during the past 12 months) for males varied from 0 - 300 days with a median value of 2 days. In the case of females the range was from 0 - 60 days with a median of one day. The average consumption of alcohol by those who drank during the last week was 23.5 units per week.

As shown in Table 6, there is a statistically significant association between drinking alcohol and those who are currently employed compared to those who are not employed. Another statistically significant association is between current drinking among males and those with an education level equal or less than Grade 10.

Table 6: Association between current drinkers and occupation and education

Variable	Males Current drinking		Females Current drinking	
	Yes N=517 N (%)	No N=860 N (%)	Yes N=57 N (%)	No N=2294 N (%)
Current Employment Status				
Employed	456 (41.5%)	644 (58.5%)	36 (5.7%)	595 (94.3%)
Unemployed	44 (17.3%)	211 (82.7%)	21 (1.2%)	1699 (98.8%)
	OR=3.4(95% CI: 2.4-4.8) p<0.0001		OR=4.7 (95% CI:2.75-7.94) p<0.0001	
Education				
≤ Grade 10	333 (43.7%)	429 (56.3%)	39 (2.9%)	1308 (97.1%)
≥ Grade 11	184 (29.9%)	431 (70.1%)	18 (1.8%)	986 (98.2%)
	OR=1.83 (95% CI: 1.46-2.29) p<0.0001		OR=1.63 (95% CI:0.93-2.87) p=0.09	

Discussion

In this study, the prevalence of current drinkers among males is 39.6% whereas that of females is 2.4%. When drinkers of both sexes were considered, frequency of drinking per week among males was higher than females. The three most consumed types of alcohol among ever drinkers for both sexes were beer, spirit and wine. Among the current drinkers the least affected age range was 15-24 yrs for both sexes. Those who are currently employed and with an educational level less than Grade 10 have a higher chance of being current drinkers compared to the unemployed and those with a higher educational level. When comparing this study to the NCD survey in 2008 we note that PHMs were the data collectors in both studies. Unlike the present study, the NCD survey selected five districts and one MOH area from each district randomly. From each MOH area 10 PHM areas (clusters) were selected. Each cluster had 250 participants with an equal number of males and females.

Drinking alcohol can cause damage to physical, mental, psychological and spiritual wellbeing of a person. The prevalence of alcohol consumption in different countries varies. It has been pointed out by the WHO that drinking in the South Asian Region is on the rise.

The percentage of more frequent drinking (≥5 days per week) in our study is at a slightly lower level (Table 5) than that of the NCD study (12.2%). Less frequent drinking (<once a month) is also at a lower level than the NCD study (56.2%). Although the prevalence for females has remained low, the trend shows a twofold rise within a period of five years. Easy access to alcohol in all parts of the country and some myths and beliefs regarding alcohol use may have contributed to this upward trend. It is also noted that some types of alcoholic drinks, for example beer, have become easily accessible and available at super market chains when compared to the past.

The prevalence of alcohol use among males increased with age to the highest level in the 45-54 yr age group and decreased thereafter. This pattern is similar to the results of the study done in 2009[7]. The most consumed alcoholic beverage among males and females was found to be beer. The reason for this might be that beer is regarded as not being a strong alcoholic

drink and due to its wide availability. However, the most consumed alcohol for the South East Asian Region is spirits.

The prevalence data in the present study is almost similar to that found in the "spot survey", which is a biannual survey conducted by Alcohol and Drug Information Centre (ADIC) in 10 out of 25 administrative districts of Sri Lanka[15]. In the spot survey an interviewer administered questionnaire was used by research assistants (volunteers engaged in alcohol related activities connected with ADIC and university students) to identify trends and attitudes in relation to alcohol use. According to ADIC, current users of alcohol were 36.5% among males 15 years and above. Similar to this study the age range, 15-24 years, was found as the group with the lowest consumption with a prevalence of current consumers of 26.7%, although this prevalence was higher than that found in the present study. The most frequently used alcohol brew was different from the present study as it was spirits followed by beer, kasippu and other products. The prevalence of current users found in the 2012 July spot survey was slightly lower (35.6%) than the 2013 July figure. One of the strengths of current survey is the use of health care providers who are already in the health system as data collectors contributing to capacity building in order to sustain periodic alcohol consumption surveys in the country.

The average consumption of alcohol in the present study for those drinking during last week (23.5 units/week) is less than the prevalence for urban (33.1 units/week) and rural (29.9 units/week) areas among men in a study conducted in two districts of Sri Lanka[7]. The present study only assessed the overall prevalence but did not differentiate according to the area of residence.

Limitations

Use of public health midwives as data collectors could have led to an underestimation of female consumption of alcohol due to social desirability bias. As 'kasippu' is an illicit alcohol people are reluctant to reveal its use to another person and instead tend to claim that they drink spirits giving rise to underestimation of 'kasippu' and overestimation of spirits consumption.

Conclusions and recommendations

The prevalence of current drinkers among males was 39.6% whereas that of females was2.4%. Among drinkers of both sexes, frequency of drinking among males was higher than females. The three most consumed types of alcohol among ever drinkers for both sexes were beer, spirit and wine. Among the current drinkers the least affected age range was 15-24 yrs for both sexes. Those who are currently employed and with an educational level less than Grade 10 have a higher chance of being current drinkers compared to the unemployed and those with a higher educational level

As alcohol consumption has increased since the last survey in 2008 (male: 26%, female: 1.2%) preventative activities focusing on vulnerable groups should be implemented at the national as well as regional levels. At the same time non-drinkers must be routinely addressed to sustain their status. As prevalence is high among males a targeted cost effective, comprehensive rehabilitation programme should be prioritized to address the already affected people. In this regard the socioecological approach[16] which is appropriate for a low resource setting is worth a pilot study. This method which addresses the family as a whole unit affected by drinking is culturally and socially acceptable to Sri Lanka and is already practiced in some parts of the country in an ad hoc manner. The increasing trend among female drinking indicate the need of primary preventive actions targeted at them. Work place education is also imperative as there is an association between drinking and employment.

This can be incorporated in to the duties of Medical Officers of Mental Health. Occasional drinking too needs to be discouraged as there is higher chance of ending as current drinkers.

The fact that the age range of 15–24 years is the least affected sends a message that current strategies should focus on sustaining this group from being vulnerable to inducement. At the same time, qualitative studies in relation to the reasons for drinking should be conducted and preventive actions implemented based on the results. Sri Lanka needs a strong Alcohol Act and an action plan to implement it. The many groups of people who work hard towards alcohol control should have a common platform to work. Both the Directorate of Mental Health of the Ministry of Health and the National Authority on Tobacco and Alcohol (NATA) should collaborate to serve the purpose. Surveillance activities should be strengthened with periodic research. Medical professionals engaged in alcohol prevention and control need proper training and exposure to successful programmes conducted elsewhere, with provision of infrastructure facilities. The Directorate of Mental Health of the Ministry of Health is responsible for this task.

Ministry of Health should incorporate with Ministry of Education and national youth services programmes to address the issue of drinking among adolescents and youth and get them involved in campaign against alcohol.

Acknowledgements

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