Prevalence of Alcohol Consumption and Alcohol Use Disorders among Adult Outpatient Attendees in Urban Primary Care Clinics in Miri Sarawak, East Malaysia

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ABSTRACT

Background: In Malaysia, the prevalence of current adult alcohol drinker was 8.4%. However, there is no known published data on the prevalence of alcohol consumption and alcohol use disorder among adult outpatient attendees in primary care clinic in Miri Sarawak, East Malaysia. The aim of this study was to determine the prevalence of alcohol consumption and alcohol use disorder and its associated factors among adult outpatient attendees in urban primary care clinics in Miri Sarawak, Malaysia.

Methods: We conducteda cross sectional study in two urban primary care clinics in Miriusing simple random sampling method. The validated AUDIT-10 questionnaire was used to determine alcohol consumption, hazardous, dependence and harmful use.

Results: 404 subjects were selected into the study.46.3% were current alcohol drinkers,90.1% were low risk drinker,9.2% were hazardous drinker and 0.7% were harmful drinker. There was a statistically significant association between alcohol consumption and male, Iban ethnicity, Christianity, Buddhism and secondary school level. Hazardous and harmful drinking were significantly associated with male and Iban.

Conclusions: There is high prevalence of alcohol consumption but low prevalence of alcohol use disorder among adult outpatient attendees in the urban primary care clinics in Miri.Increase public awareness of existing policies and alcohol intervention programmed in the primary care clinic, residential areas particularly the Iban long houses, secondary schools and place of worship against hazardous drinking and alcohol use disorder is recommended.

Keywords: Alcohol; Primary care clinic; Miri sarawak; Malaysia

INTRODUCTION

The harmful use of alcohol is a worldwide problem resulting in millions of deaths, including hundreds of thousands of young lives lost. It is also a causal factor in many diseases and precursor to injury and violence. Furthermore, its negative impacts can spread throughout a community or a country, and beyond, by influencing levels and patterns of alcohol consumption across borders [1]. Worldwide consumption in 2005 was equal to 6.13 litres of pure alcohol consumed per person aged 15 years or older. A large portion of this consumption – 28.6% or 1.76 litres per person – was homemade, illegally produced or sold outside normal government controls [1].

Heavy episodic drinking is another important pattern of drinking because it leads to serious health problems, and is particularly associated with injury. About 11.5% of drinkers have heavy episodic drinking occasions [1]. Approximately 4.5% of the global burden of disease and injury is attributable to alcohol. Alcohol consumption is estimated to cause from 20% to 50% of cirrhosis of the liver, epilepsy, poisonings, road traffic accidents, violence and several types of cancer. It is the third highest risk for disease

Citation: Utap MS, Hamid D, Asrani NY, Sulaiman NA, Rahman SA, Ajeng RN, et al. (2020) Prevalence of Alcohol Consumption and Alcohol Use Disorders among Adult Outpatient Attendees in Urban Primary Care Clinics in Miri Sarawak, East Malaysia J Alcohol Drug Depend 8: 336. doi: 10.35248/2329-6488.20.8.336.

and disability, after childhood underweight and unsafe sex [1]. Global prevalence rates of alcohol use disorders among adults were estimated to range from 0% to 16% in 2004, with the highest prevalence rates to be found in Eastern Europe [1].

In Malaysia, according to the Malaysian National Health Morbidity Survey (NHMS) conducted in 2015, the prevalence of current alcohol drinker among 18 years and above was 8.4% and the prevalence of binge drinking among 18 years and above was 5% [2]. However, in Sarawak- the eastern state of Malaysia, based on the study by Drahman RR conducted in 2011, the prevalence of alcohol use disorders among long house Iban population at Pantu District Sri Aman was reported to be as high as 30% [3].

Due to the alcohol drinking culture among the natives of Sarawak, alcohol consumption is expected to be high among the adult outpatient attendees in Primary Care Clinic in Miri. However, little is known about the prevalence of alcohol consumption among adult outpatient attendees in the urban primary care clinic in Miri.

The primary objective of this study was to determine the prevalence of alcohol consumption and alcohol use disorderamong adult outpatient attendees in urban primary care clinic in Miri. The secondary objective was to determine the association between alcohol consumption, drinking behaviour and demographic characteristic. The result of this study would provide framework for local policies for early alcohol intervention programme.

METHODS

Design

This was a cross sectional study conducted from 1st April until 15th May 2017 in two urban primary care clinics in Miri which were Miri Health Clinic and Tudan Health Clinic. These two health clinics were selected based on their location within 25 kilometers in the city of Miri.

Sample selection

Simple random sampling was used to randomly select the study subject. A computer generated "Research Randomizer" software was used to generate random numbers for selection of study subject. Subject who fulfilled the inclusion criteria and consented to the study was selected into the study.

Outcome measurement

Data was collected uniquely for each subject via investigator aided questionnaire. The validated AUDIT-10 questionnaire in Malay or English was used to determine alcohol consumption, the level of alcohol hazardous use, dependence level & harmful use. Subject was informed of the result of the questionnaire [4,5]. AUDIT-10 score of 0-7 as low risk, 8-15 as hazardous drinking, 16-19 as harmful drinking and 20-40 as high risk or dependence. Subject with low risk and hazardous drinking was given counseling by a trained medical officer, while harmful drinking and high risk or dependence was referred to a family medicine specialist or a psychiatrist. Alcohol consumption was defined as consuming any drink that contained 2% or more of alcohol in the past 12 months. Alcohol use disorder was defined as harmful drinking or alcohol dependence or AUDIT-10 score of more than 15.

Data collection and analysis

Data was compiled using hard copy and store in the file. Statistical Package for Social Sciences (SPSS) version 21 software was used for data entry and analysis. Descriptive statistics were calculated for background variables and the prevalence of the alcohol consumption. Chi-square test and p-value were calculated to see the association between alcohol consumption and its associated factors.

Sample size

Sample size was calculated using the openepi calculator (www.openepi.com). The population of adult in Miri was estimated as 200,000 based on the 2010 population census.The hypothesized percentage of alcohol consumption in Miri was 30% (estimated based on the study done by Drahman RR). Based on the 95% confidence interval, the sample size was calculated as 323. To

Table 1. Demographic data of subjects selected into the study.

	Number (%); N = 404
Age Group	
18-29	33 (8.2)
30-39	40 (9.9)
40-49	87 (21.5)
50-59	112 (27.7)
60-69	42 (10.4)
Gender	
Male	218 (54.0)
Female	186 (46.0)
Ethnicity	
Malay	61 (15.1)
Chinese	85 (21.0)
Iban	181 (44.8)
Others	77 (19.1)
Religion	
Islam	87 (21.5)
Christianity	254 (62.9)
Buddhism	40 (9.9)
Others	23 (5.7)
Education Level	
None	53 (13.1)
Primary	122 (30.2)
Secondary	183 (45.3)
Tertiary	46 (11.4)
Marital Status	
Married	335 (82.9)
Divorce/Widow	27 (6.7)
Single	42 (10.4)
Employment Status	
Public Sector	24 (5.9)
Private/Self employed	176 (43.6)
Unemployed/Retiree	204 (50.5)
Income Status	
< RM1000	248 (61.4)
RM1000 – 1999	76 (18.8)
RM2000 – 3999	56 (13.9)
≥ RM4000	24 (5.9)

compensate the drop-out rate of 20%, a sample size of 404was chosen. Of the 404 subjects selected for this study, 202 came from Klinik Kesihatan Bandar Miri and 202 from Klinik Kesihatan Tudan Miri.

Inclusion /Exclusion criteria

The inclusion criteria were male and female aged 18 years old and above and Malaysian citizen. The exclusion critetia were non-Malaysian citizen and pregnancy. Subjects who refused to participate in the study at any time were withdrawn from the study.

Ethics approval

This study was approved by the Ministry of Health Malaysia Medical Research Ethics Committee no. NMRR-16-2213-32597

(IIR), (7)KKM/NIHSEC/P17-102.

RESULTS

A total of 404 subjects were selected into the study. 187/404 (46.3%) were current alcohol drinkers. Among the 404 subjects, 364/404 (90.1%) were low risk (AUDIT-10 score 0-7), 37/404 (9.2%) were hazardous drinker (AUDIT-10 score 8-15), 3/404 (0.7%) were harmful drinker (AUDIT-10 score 16-19) and 0/404 (0.0%) were alcohol dependence (AUDIT-10 score 20-40).

There were significant association between male gender, Iban ethnic group, Christianity, Buddhism and secondary school education level with alcohol consumption (Table 2). There were significant association between male gender and Iban ethnic group with harmful and hazardous drinking (Table 3).

Table 2. Association between alcohol consumption and demographic characteristic.

	OR	P	AOR (95% CI)	P
Age Group				
18-29	3.85	0.03	1.57 (0.34-7.29)	0.569
30-39	3.75		1.83 (0.50-6.61)	0.359
40-49	2.44		1.21 (0.40-3.68)	0.739
50-59	2.09		1.26 (0.46-3.44)	0.658
60-69	1.75		1.01 (0.40-2.59)	0.977
≥70	1.00		ref	
Gender				
Male	2.81	<0.001	3.10 (1.65-5.81)	<0.001
Female	1.00		ref	
Ethnicity				
Malay	1.00		ref	
Chinese	6.24		2.28 (0.50-10.38)	0.288
Iban	12.52	<0.001	7.19 (1.71-30.11)	0.007
Others	4.92		2.77 (0.68-11.38)	0.156
Religion				
Islam	1.00		ref	
Christianity	8.73	<0.001	4.92 (1.59-15.21)	0.007
Buddhism	4.62		4.47 (1.08-18.56)	0.039
Others	4.81		3.50 (0.80-15.40)	0.098
Education Level				
None	1.00		ref	
Primary	2.54		2.15 (0.92-5.01)	0.076
Secondary	3.77	<0.001	3.00 (1.22-7.42)	0.017
Tertiary	4.86		2.37 (0.72-7.77)	0.154
Marital Status				
Married	1.00	0.028	ref	
Divorce/Widow	0.50		0.82 (0.31-2.20)	0.697
Single	1.93		1.48 (0.53-4.15)	0.455
Employment Status				
Public Sector	1.00	<0.001	ref	
Private/				
Self employed	1.51		.77 (0.24-2.50)	0.662
Unemployed/				
Retiree	0.51		63 (0.16-2.46)	0.509
Income Status				
< RM1000	1.00	<0.001	ref	
RM1000 – 1999	2.91		1.69 (0.75-3.79)	0.207
RM2000 – 3999	2.43		1.28 (0.50-3.26)	0.607
≥ RM4000	2.37		1.50 (0.38-5.85)	0.564

Table 3. Association between harmful and hazardous drinking and demographic characteristic.

	OR	P	AOR (95% CI)	P
Age Group				
< 40 years	3.59	<0.001	2.95 (0.97-9.01)	0.057
≥ 40 years			ref	
Gender				
Male	6.92	<0.001	4.60 (1.53-13.77)	0.006
Female			ref	
Ethnicity				
Iban	3.22	0.001	3.14 (1.27-7.80)	0.014
Others			ref	
Religion				
Islam			ref	
Christianity	4.33	0.009	4.03 (0.93-17.56)	0.063
Others	1.40		2.08 (0.33-13.01)	0.435
Education Level				
None/Primary	0.30	0.018	1.20 (0.30-4.81)	0.796
Secondary	0.84		1.66 (0.54-5.10)	0.373
Tertiary			ref	
Marital Status				
Married/ Ever married	1.00	0.004*	ref	
Single/ Never married	3.46		1.57 (0.46-5.36)	0.472
Employment Status				
Public Sector	1.00		ref	
Private/ Self employed	1.07	<0.001	0.71 (0.18-2.83)	0.627
Unemployed/ Retiree	0.13		0.30 (0.05-1.89)	0.200
Income Status				
< RM1000	1.00		ref	
RM1000 – 1999	6.86	<0.001	2.55 (0.85-7.65)	0.096
> RM2000	4.62		2.10 (0.56-7.94)	0.275

* Fisher's Exact Test

DISCUSSION AND CONCLUSION

This study has shown that the prevalence of alcohol consumption for the past twelve months among the adult outpatient attendees in the urban primary care clinic in Miri city was 46.7% which was five times higher than the Malaysian NHMS conducted in 2015 which showed the prevalence of alcohol consumption among the adult aged 18 years and above as 8.4% [2]. The reason for the higher prevalence of alcohol consumption among adult outpatient attendees in primary care clinic in Miri city could be due to the local population in Sarawak in perceiving drinking alcohol as a cultural norm [6].

In this study, the prevalence of alcohol use disorder in the past twelve months was 0.7% which was lower compared to the Malaysian NHMS conducted in 2015 which showed 28.4% practiced risky drinking and 1.8% were alcohol dependence [2]. Our result was also lower compared to the study by Drahman which showed the prevalence of alcohol use disorder among the long house Iban population at Pantu District in Sri Aman Sarawak was reported to be as high as 30% [3]. However, a study by M.Carrington Reid et al reported that the prevalence of harmful drinking seen at primary care settings to be less than 1% to 10 % [7]. J Foulds et al concluded that harmful or hazardous drinking is common but largely not detected in primary care [8].

We also found that significant factors associated with alcohol consumption in this study were male gender, Iban ethnic group, Christianity and Buddhismfaith and those with secondary education level. This finding is similar to a study conducted by Noh Amit et al. in which Christian participants among young men in Sarawak were more likely to drink with Iban participants reporting the highest alcohol use [9]. In this study, the secondary school leavers significantly consume alcohol compared to other educational level is different with other study that showed those with lowest level of education and tertiary education level were more likely to be alcohol drinkers [2,10]. However, Chhoa KH in a study found a high prevalence which was 42.2% of the secondary school students in Miri had problematic alcohol use [11]. Our study has demonstrated that being male and Iban were significantly associated with hazardous and harmful drinking.

The strength of this study was that it was conducted at the local primary care level in Miri city, Northern Sarawak, East Malaysia which has identified the significant factors associated with alcohol consumption and drinking behaviour among outpatient attendees. The study questionnaires used were simple, investigator aided and in bilingual language which is Malay and English. The limitations identified in this study were recall bias by the subjects and time constraint in a busy clinic.

A larger, multicentre study should be conducted to give a better understanding of the current trend of alcohol consumption and drinking behavior among adult outpatient attendees in primary care clinic both in government and private practice in Sarawak in the future. Other than that, further study among alcohol consumption and drinking behavior among pregnant lady who attend maternity clinic in the local primary care setting and qualitative studies should also be carried out to explore reasons and contributing factors of alcohol consumption and alcohol use disorders among the local population.

There is high prevalence of alcohol consumption but low prevalence of alcohol use disorder among adult outpatient attendees in the urban primary care clinics in Miri. Increase public awareness of existing policies and alcohol intervention programmed in the primary care clinic, residential areas particularly the Iban long houses, secondary schools and place of worship against hazardous drinking and alcohol use disorder is recommended.

ACKNOWLEDGMENTS

We would like to thank the Director General of Health Malaysia for His permission to publish this article. We also would like to thank the Miri Divisional Health Officer and all the staffs at Miri and Tudan Health Clinics for the permission to use their facilities to conduct this study.

COMPETING INTERESTS

The authors declared that they do not have any conflict of interest.

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