RESEARCH ARTICLE

A Population-based Analysis of the Influence of Religious Affiliation on Alcohol Consumption among Jamaicans

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Abstract

   Background: Religion sometimes shapes behaviours and experiences of its members including alcohol consumption. The aim of this study was to examine the possible influence of religious affiliation on alcohol consumption in Jamaica since they are predominantly Christians. **Methods:** Using a cross-sectional study design, we analysed data from National Household Survey 2,016 of 4,623 participants. Descriptive and inferential statistics were performed using SPSS. **Results:** Out of the 4,623 participants, majority 3,244 (70.2%) were above the age of 26 years and of Christian religion 3,737 (80.8%). Christian religious affiliation was significantly associated with past year and past month use of alcohol (AOR= 1.44, 95% CI=1.14-1.82 and AOR =1.34, 95% CI=1.03- 1.74 respectively). Being a male (AOR= 2.95, 95% CI=2.51- 3.47), and employed (AOR= 2.11, 95% CI= 1.49- 2.98) were significant risk factors for lifetime alcohol consumption. Age 12 – 17 years (AOR= 0.30, 95% CI=0.21- 0.43) and attaining primary education level (AOR=0.60, 95% CI=0.45-0.80) were protective factors against lifetime alcohol consumption. **Conclusion:** Being of Christian religion was significantly, positively associated with past year and past month alcohol consumption. Male gender and being employed were also risk factors for lifetime alcohol consumption.

Keywords: Religion- christianity- alcohol consumption- national household survey- Jamaica

Introduction

   Globally, drinking alcoholic beverages is a common feature of social gatherings and ceremonies and an integral part of many cultures (World Health Organisation [WHO], 2017; WHO, 2014). Alcohol affects every organ in the body and has been implicated to be one of the major causal factors of more than 200 acute and chronic diseases and injuries to individuals (WHO, 2014; Centers for Disease Control and Prevention [CDC], 2017). The most notable consequences including alcohol dependence, liver cirrhosis and cancers; however, currently, causal relationships have been established between alcohol consumption and incidence of infectious diseases including tuberculosis and HIV/AIDS (WHO, 2014). In 2012, alcohol accounted for about 5.9% of all global deaths, 7.6% of deaths among males and 4% of deaths among females (WHO, 2014).

   Jamaica is predominantly a religious country with 64% of its populace being of Christian religion (US Department of States, 2008). Religion often helps to shape values, behaviours and expectations of its members in relation to many life situations and experiences, including influencing their attitudes towards alcohol consumption.

Hence, religion serves as their reference group (Cochran et al., 1988).

   Researches have shown that religion is one of the major predictors and contributing factor to alcohol consumption over the past decades (Maes et al., 1999; Kendler et al., 2003). Studies have also shown that affiliation with a religion decreases alcohol use/abuse, excessive drinking, and lifetime use of alcohol and alcoholic beverages (Michalak et al., 2007; Menagi et al., 2008; Lucchetti et al., 2012).

   Globally, religious institutions have different standpoints on alcohol use, including from all-purpose proscriptions as it is deemed sinful, while others use it in their religious celebrations, rituals and practices although drunkenness is condemned (Oropeza, 2004). However, majority of the religions teaches against alcohol abuse, drunkenness and intoxication.

   Irrespective of the religious affiliations, alcohol consumption has been found to occur due to interaction of other factors including age, gender, and employment status, economic (Wilsnack and Wilsnack, 1995) and even the marital status. Men have been shown to have higher prevalence of alcohol consumption than women (Almeida-Filho et al., 2004). Alcohol consumption has

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been found to be high in people with high economic status and educational attainment (Grittner et al., 2012), but dangerous quantities are found with less educated men (Van Oers et al., 1999; Huckle et al., 2010). There are varied findings regarding employment/unemployment and alcohol consumption. Unemployment can increase financial challenges leading to stress, thus increased alcohol use (Catalano et al., 2011; Davalos et al., 2012). Conversely, unemployment can lead to a lesser amount of income to spend on alcohol, hence decreased alcohol consumption (Darrow et al., 1992; Harhay et al., 2014). Nonetheless, other studies revealed that being employed might increase alcohol consumption to relieve stress associated with work (Catalano et al., 2011).

There are sparse studies on the influence of religious affiliation on alcohol consumption among the Jamaican populace; hence, this study was undertaken to determine if there is any association of religion with alcohol consumption in Jamaica. The study is made even more imperative as Jamaica is predominantly Christians. The findings may help the policy makers to institute religious based educational and preventive measures to alcohol consumption.

Materials and Methods

This was a cross-sectional study based on data from the National Household Survey 2016. The data were collected by the National Drug Control and prevention Agency (NDCA), and funded by the Organisation of the American States (OAS) Inter-American Drug Abuse Control Commission (CIDAD). Data were collected from 4623 participants aged 12-65 years recruited from their homes over a four month period.

Dependent Variable

The main dependent variable was alcohol consumption. This was operationalized as lifetime, past year and past month use of alcohol. (i) Lifetime use of alcohol, which was assessed using the question 'Have you ever drunk alcoholic beverages? The response options were: 1 = Yes, 2 = No. (ii) Past year: Have you drunk alcoholic beverages in the past 12 months? The response options were: 1 = Yes, 2 = No. (iii) Past month: Have you drunk alcoholic beverages in the past 30 days? The response options were: 1 = Yes, 2 = No.

Independent Variables

The key independent variable was religious affiliation. This was assessed using the question "what religion or belief do you identify with? Twenty-three (23) different denominations were listed as response options as well as "None", "other: specify" and "Not stated". The response options were regrouped as (a) Christian, (b) Rastafarian (c) Non-Christian and (d) Not Stated/ None, for ease of analysis.

The covariates for the analysis are sociodemographic characteristics including: sex, age, educational attainment, marital status, residential area and employment status.

Ethical Consideration

The National Household Survey received approval from the Ministry of National Security, Jamaica. The objectives of the study were explained to the participants as well as all risks and benefits associated with their participation in the study. A written informed consent was obtained from them to participate in the study. For participants below the age of 17 years, informed consent was obtained from the parent/ guardian while assent was obtained from the minor. Confidentiality and anonymity were ensured through non-retention of names, addresses or aliases associated with the individual responses. The data gathered were retained in a secured data base that was accessible to the research team only.

Data Analysis

Descriptive analysis was done for sociodemographic characteristics. Bivariate analysis was done using Pearson's Chi Square to determine differences in dependent variables among groups. P values < 0.05 were considered statistically significant. Logistic regression analyses were carried out to determine the risk and

Table 1. key Sociodemographic Characteristics of the Participants

Variables	Total (N=4632)	n (%)
Gender	4,623 (100%)	
Male		2088(45.2)
Female		2535(54.8)
Age	4,623 (100%)	
12 - 17years		544 (11.8)
18 - 25years		835 (18.1)
26 – above		3244 (70.2)
Marital status*	4,613 (99.8%)	
Single		3120 (67.5)
Married/common Law		1386 (30.0)
Divorced/Separated		107 (2.3)
Religion	4,633 (100%)	
Christian		3737 (80.8)
Rastafarian		70 (1.5)
Non-Christian		8 (0.2)
Not stated/None		808 (17.5)
Residential area	4,623 (100%)	
Rural		2709 (58.6)
Urban		1914 (41.4)
Employment status	4,623 (100%)	
Employed		2536 (54.9)
Unemployed		1437 (31.1)
Student		650 (14.1)
Educational level*	4,613 (99.8%)	
Primary and Lower		584 (12.6)
Secondary		3492(75.5)
Post-secondary		537 (11.6)

*, Some data were missing for the variable and so values may; add up to total and percentages may not add up to 100

protective factors associated with alcohol consumption. Adjusted odds ratio (AOR) and 95% confidence intervals (95% CI) were reported. Data were analysed using Statistical Package for the Social Sciences (SPSS) version 20 (IBM Inc. Armonk, New York).

Results

A total of 4,623 respondents participated in the study. The mean age of the respondents was 36.16 [SD: 14.82]. Majority of the respondents 3,244 (70.2%) were above the age of 26 years, followed by 18- 25 years (18.1%) and 12 – 17 years (11.8%). By gender disaggregation, 2,535 (54.8%) of the respondents were females. Majority of the respondents live in the rural area (58.6%), were employed (54.9%), and of Christian religion (80.8%). Out of the total of 4623, 3120 (67.5%) were single with secondary education being the highest educational attainment (75.5%) (Table 1).

As shown on Table 2, there were significant associations between the respondents' gender (P= 0.000), age (P=0.000), employment status (P=0.000), religion (P=0.000) and lifetime alcohol consumption, over the past year and past month. There were also significant associations between marital status and lifetime alcohol consumption (P=0.000) and over the past year (P=0.004) but not for the past month (P=0.825) (Table 2).

Table 3 showed the factors associated with alcohol consumption (lifetime, past year and past month). After adjusting for all the demographic variables, Christian religion was significantly associated with past year (AOR= 1.44, 95%CI= 1.14-1.82) and past month (AOR= 1.34, 95% CI=1.03-1.74) alcohol consumption.

Being a male (AOR= 2.95, 95% CI= 2.51-3.47), and employed (AOR= 2.11, 95% CI=1.49-2.98) were risk factors for life time alcohol consumption. Age (12-17 years) and having primary education were significantly, inversely associated with lifetime alcohol consumption. Belonging to Christian religion (AOR = 1.44, 95% CI=1.14-1.82) and having primary education (AOR = 1.95, 95% CI=1.41- 2.70) were significantly, positively associated with past year alcohol use. Conversely, being employed (AOR = 0.56, 95% CI 0.37-0.86), age 18-25 years (AOR = 0. 52, 95%CI= 0.41- 0.66), male gender (AOR= 0.37, 95%CI= 0.31- 0.43) had negative inverse associations with past year alcohol use.

Table 2. Association between Lifetime Past 12 Months and Past 30 Days Alcohol Consumption and Sociodemographic Factors

N=4,623	Lifetime Users			Past 12months Users			Past 30 days Users		
	Never	Used in Past		Yes	No		Yes	No	
Variables	n (%)	n (%)	X² (Pvalue)	n (%)	n (%)	X² (Pvalue)	n (%)	n (%)	X² (Pvalue)
Gender			164.34 (0.000)			197.441 (0.000)			141.6 (0.000)
Male	337 (16.1)	1751 (83.9)		1460 (83.4)	291 (16.6)		1215 (83.2)	245 (16.8)	
Female	826 (32.6)	1709 (67.4)		1062 (62.1)	647 (37.9)		664 (62.3)	402 (37.7)	
Age			313.32 (0.000)			36.631 (0.000)			6.153 (0.000)
12 - 17years	305 (56.1)	239 (43.3)		167 (69.9)	72 (30.1)		82 (49.1)	85 (50.9)	
18 - 25years	168 (20.1)	667 (79.9)		545 (81.7)	122 (18.3)		393 (72.1)	152 (27.9)	
26 - above	690 (21.3)	2554 (78.7)		1810 (70.9)	744 (29.1)		1404 (77.4)	410 (22.6)	
Marital Status*			17.194 (0.000)			11.215 (0.004)			0.385 (0.825)
Single	841 (27.0)	2279 (73.0)		1702 (74.3)	577 (25.3)		1262 (74.0)	443 (26.0)	
Married/common Law	299 (21.6)	1087 (78.4)		757 (69.6)	330 (30.4)		570 (75.2)	188 (24.8)	
Divorced/ Seperated	20 (18.7)	87 (81.3)		58 (66.7)	29 (33.3)		43 (74.1)	646 (25.6)	
Residential Area			0.863 (0.353)			4.062 (0.044)			5.030 (0.025)
Rural	695 (25.7)	2014 (74.3)		1494 (74.2)	520 (25.8)		1137 (76.0)	359 (24.0)	
Urban	468 (24.5)	1446 (75.5)		1028 (71.1)	418 (28.9)		742 (72.6)	288 (28.0	
Educational Level			19.790 (0.000)			11.331 (0.003)			25.55 (0.000)
Primary or Lower	190 (32.5)	394 (67.5)		259 (65.7)	135 (34.3)		220 (84.9)	39 (15.1)	
Secondary	850 (24.3)	2642 (75.7)		1950 (73.8)	692 (26.2)		1448 (74.2)	504 (25.8)	
Post secondary	122 (22.7)	415 (77.3)		304 (72.8)	111 (26.7)		203 (66.3)	103 (33.7)	
Employment Status			304.75 (0.000)			47.173 (0.000)			102.363 (0.000)
Employed	450 (17.7)	2086 (82.3)		1604 (76.9)	482 (23.1)		1268 (78.9)	340 (21.1)	
Unemployed	382 (26.6)	1055 (73.4)		690 (65.4)	365 (34.6)		502 (72.8)	188 (27.2)	
Student	331 (50.9)	319 (49.1)		225 (75.1)	91 (28.5)		109 (47.8)	119 (52.2)	
Religion			20.827 (0.000)			46.808 (0.000)			35.378 (0.000)
Christian	986 (26.4)	2751 (73.6)		1935 (70.3)	816 (29.7)		1394 (71.9)	545 (28.1)	
Rastafarian	7 (10)	63 (90.0)		56 (88.9)	7 (11.1)		53 (94.6)	3 (5.4)	
Non-Christian	3 (37.5)	5 (62.5)		3 (60.0)	2 (40.0)		1 (33.3)	2 (66.7)	
None/Not stated	167 (20.7)	641 (79.3)		528 (82.4)	113 (17.6)		431 (81.6)	97 (18.4)	

*, some data were missing for the variable and so values may add up to total and percentages may not add up 100

Table 3. Factors Associated with Lifetime, Past Year and Past Month Alcohol Use among Jamaicans, 2016 N= 4,623

Variables	Lifetime		Past Year		Past Month	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Gender						
Female	1		1		1	
Male	2.95	2.51-3.47	0.37	0.31-0.43	0.36	0.30-0.44
Age						
26 – above	1		1		1	
12 – 17 years	0.3	0.21-0.43	0.9	0.37-0.87	1.8	1.08-2.99
18 – 25 years	1.14	0.92-1.42	0.52	0.41-0.66	1.13	0.88-1.46
Educational level						
Post-secondary	1		1		1	
Primary or lower	0.6	0.45-0.80	1.95	1.41-2.70	0.54	0.36-0.84
Secondary	1.04	0.83-1.31	1.16	0.90-1.49	0.78	0.59-1.03
Marital status						
Divorced/separated	1		1		1	
Single	0.88	0.53-1.47	0.69	0.42-1.11	0.72	0.38-1.34
Married/common Law	0.85	0.51-1.43	0.86	0.53-1.39	0.81	0.43-1.52
Residential area						
Urban	1		1		1	
Rural	0.95	0.82-1.10	0.81	0.69-0.95	0.85	0.69-1.03
Employment status						
Student	1		1		1	
Employed	2.11	1.49-2.98	0.56	0.37-0.86	0.37	0.24-0.57
Unemployed	1.54	1.11-2.15	0.96	0.63-1.44	0.41	0.27-0.63
Religion						
None/not stated	1		1		1	
Christian	1.05	0.85-1.28	1.44	1.14-1.82	1.34	1.03-1.74
Rastafarian	1.31	0.58-2.95	0.73	0.32-1.66	0.41	0.12-1.34
Non-Christian	0.66	0.12-3.65	2.46	0.38-15.81	5.5	0.39-77.78

AOR, Adjusted odd ratio; 95%CI, confidence interval; N: Total number of participants

Christian religion (AOR= 1.34, 95% CI=1.03-1.74) and age 12 -17 years (AOR =1.80, 95%CI=1.08-2.99) were significantly associated with past month alcohol consumption. In contrast, being employed (AOR = 0.37, 95% CI=0.24-0.57), male (AOR = 0.36, 95% CI=0.30-0.44) and having primary education (AOR = 0.54, 95% CI: 0.36-0.84) were protective factors against past month alcohol consumption (Table 3).

Discussion

In this study, prevalence of alcohol consumption was high across all sociodemographic characteristics, including adolescents, aged 12 – 17 years. Atkinson et al., (2015) in their study of adolescents in Jamaica also observed a rather high prevalence of alcohol use. This present study, however, was based on the general population, and adolescents had the lowest prevalence among all the age groups. In this study, being an adolescent was a protective factor against past year alcohol consumption. This is not surprising because the individuals in this age group were still young compared to the other age groups, and may not have become hooked to chronic drinking habits (past year drinking is indicative of chronic consumption).

Christian religion, in this study, was a significant risk factor for past year and past month alcohol consumption. The reason for this association is not clear but may be related to the fact that most Christian denominations use alcohol beverages in their services /worship to represent the blood of Christ. Alcohol is also used in many cultural activities in Jamaica in which Christians, being the most populous religious group in Jamaica, also participate (OAS/CICAD, 2012; Atkinson et al., 2015). This is dissimilar to the findings of Michalak et al., (2007), Menagi et al., (2008), and Lucchetti et al., (2012) who reported that being affiliated with a religion decreases alcohol use/abuse, excessive drinking, and lifetime use of alcohol.

In this study, lifetime alcohol consumption was significantly associated with male gender. This is consistent with the findings in other studies which show that alcohol consumption is more prevalent among men than women (Almeida-Filho et al., 2004).

Research has shown that higher educational attainment is a risk factor for alcohol consumption (Grittner et al., 2012). This is similar to the findings of this study which reveals that having primary education or lower was a

protective factor for lifetime and past month alcohol consumption. However, the finding differs from those of Van Oers et al., (1999) and Huckle et al., (2010) who opined that dangerous drinking is more of an attribute of less educated men.

Living in the rural area is a protective factor for past year alcohol consumption but no association was found with lifetime and past month consumption in this study. The reason for this result is not clear but may be related to conformation to norms for drinking behaviour in the rural area and less availability of alcohol. Rural dwellers may also be less economically able to regularly buy alcohol.

Being employed, in this study, is a risk factor for lifetime alcohol consumption but a protective factor against past month alcohol use. This suggests that participants might be able to suspend use of alcohol use after they initiated the habit. The reason may also be that the responsibilities in the workplace may require cutting down on or outrightly stopping alcohol consumption to avoid alcohol-related misdemeanor that might result in job loss. The finding that being in employment protects against past year and past month differs from the observation by Catalano et al., (2011) who postulated that being employed may be associated with increased drinking because drinking may be used to relieve work-related stress.

In conclusion, religious affiliation is a risk factor for past year and past month alcohol consumption in Jamaica. However, being a male, and employed were risk factor for lifetime alcohol consumption.

Conflict of Interest

This study was not funded. The authors declare they have no conflict of interest.

Acknowledgments

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