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RISKY SUBSTANCE USE AMONG PATRONS OF GAMBLING VENUES IN OGBOMOSO, OYO STATE, NIGERIA

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ABSTRACT

Background: Risky substance use is associated with significant morbidity worldwide. Although persons engaged in gambling activities are generally at risk of problematic substance use, little is known about substance use among persons that engage in gambling activities despite recent proliferation of venues in Nigeria. The study aimed to determine the prevalence of substance use and associated factors in persons engaged in gambling activities.

Methods: This was a descriptive cross sectional design. Participants were recruited from 19 gambling locations identified in 5 randomly selected administrative wards. South oaks gambling screen and Alcohol, Smoking and substance involvement test were administered.

Results: One hundred and forty six patrons (84.9%) agreed to participate in the study. Mean age was 27.5years (SD = 8.57). Majority were male (89.7%), single (64.4%) and betted on pools (80.8%). Risky use of alcohol (32.2%) was most common, followed by tobacco (21.9%) and cannabis (4.8%). Risky use of any of the psychoactive substances was found to be significantly related to age (Mann Whitney U-test, z =-4.098, P < 0.001), income (Mann Whitney U-test, z = -3.025, P = 0.002) and amount spent on gambling (Mann Whitney U-test, z =-3.004, P =0.003). Risky alcohol use was associated with marital status, age (Mann-Whitney U-test, z =-3.621, P < 0.001) and income (Mann-Whitney U-test, z = -2.428, P = 0.015).

Conclusion: These findings highlight the need to consider integrating screening of substance programs in evaluations of persons engaged in gambling activities. Preventive interventions targeting common risk factors may save costs in resource constrained settings.

KEYWORDS: Gambling, Nigeria, Ogbomoso, Problematic Substance Use

INTRODUCTION

Substance use remains a major contributor to morbidity and mortality worldwide. According to a recent global health estimates, substance use disorders alone accounted for up to 200,000 deaths (WHO, 2014). Although prevalence rates vary worldwide, alcohol, tobacco and cannabis are some of the most abused substances across countries. This pattern is reflected in previous surveys in Nigeria. For example, the Nigeria survey of mental health and wellbeing reported

lifetime prevalence rates of 57.6%, 16.8% and 2.7% for alcohol, tobacco and cannabis respectively (Gureje et al., 2007). Several studies have focused on substance use in selected groups in Nigeria reporting wide prevalence rates of 17% to 62%. Previous studies examining high risk and vulnerable groups have reported significantly high rates of hazardous substance use in undergraduates (Abayomi, Adelufosi, et al., 2013; Oye-Adeniran et al., 2014), road transport workers (Oladele et al., 2012), adolescents (Atilola et al., 2013; Olumide et al., 2014; Oshodi et al., 2010), prisoners(Amdzaranda et al., 2009) and persons with mental disorders (Abayomi, Ojo, et al., 2013; Okpataku et al., 2014). Some of these studies show that some persons or groups are more likely to engage in problematic substance use than others. In most of these studies, factors found to be associated with psychoactive substances include male gender, marital status, religious affiliation, unemployment and education.

Persons engaged in gambling activities are generally at risk of problematic substance use, there is paucity of information on substance use among persons that engage in gambling activities in Nigeria. In western countries, gambling has been consistently associated with problematic substance use. For instance, a large scale US study has shown that 73% of pathological gamblers had an alcohol use disorder, 38% had a drug use disorder, 60% had nicotine dependence (Morasco et al., 2006). For example, a South African study reported hazardous drinking was 7 times more likely to occur in problem gamblers (Skaal et al., 2015). Although gambling has existed for decades in Nigeria (Heap, 2010), the legalization of certain forms of gambling (casinos and online lottery), has led to a recent proliferation of gambling venues, significantly increasing opportunities to gamble in Nigeria. Many of these gambling sites offer slot machines, lotteries and other forms of betting linked to popular sporting activities (casinosuite.com). This study aimed to determine the prevalence and factors associated with problematic substance use among persons engaged in gambling activities in Ogbomoso, South-western Nigeria.

METHODS

This was part of a larger study focused on the relationship between substance use and behavioral addictions in Ogbomoso, Oyo State, Nigeria. A descriptive cross-sectional design was used to obtain baseline data in September, 2013. The study was conducted in Ogbomoso North local government, Oyo state, Nigeria. This is one of 5 local governments in Ogbomoso with an estimated population of 251, 122 (NPC, 2006). Out of 10 administrative wards, subjects were recruited from 5 randomly selected wards in Ogbomoso local government area. In all, 19 gambling locations were identified and participants were recruited from them. Efforts were made to prevent re-sampling of respondents. All persons aged 18 years and above found to be patrons of gambling centers at the time of the study were invited to participate.

Individuals at the gambling venues were evaluated for gambling and substance use problems with South Oaks Gambling Scale and World Health Organization Alcohol, Smoking, and Substance Involvement Screening Test.

INSTRUMENTS

Questionnaire on Socio-Demographic Variables:

A Sociodemographic instrument was used to elicit the socio-demographic characteristics of the respondents in this study. This is a questionnaire consisting of basic socio-demographic data of respondents (i.e. sex, age, type of religion, class).

The World Health Organization Alcohol, Smoking, Substance Involvement Screening Test (ASSIST)

ASSIST was developed by World Health Organization (WHO) to screen substance use related problems (Humeniuk et al., 2010). The ASSIST has been validated in several countries (Group W.A.W, 2002). The scores were categorized into 3 levels of risk: Low risk (0-3), Moderate risk (4-26) and High risk (27+). Respondents were divided into two groups for further analysis. Individuals with substance involvement score of 3 or below were categorized as non-hazardous substance users while those with scores greater than 3 were categorized as hazardous substance users. The instruments were translated into Yoruba (the predominant language spoken in south-western Nigeria) and modified to include local names of common psychoactive substances. Also, the interviewers received prior training in administering the instrument before commencement of the study.

South Oaks Gambling Screen

The SOGS is a widely used screening instrument for problem gambling and shows good reliability and validity in community and clinical samples (Lesieur and Blume 1987 and Petry 2005). A total SOGS score of 5 or higher is typically used to classify probable pathological gambling (Lesieur and Blume 1987). In order to adapt it to our environment, item 2 (What is the largest amount you have ever gambled with in any one day?) was modified to an open ended response format. Participants responded to the SOGS items with “yes” or “no”, and affirmative responses were summed to form a total score. The instrument was translated to Yoruba prior to administration.

Procedure

Ethical approval was obtained from the Research and Ethical Committee of Ladoke Akintola University of Technology Teaching Hospital, Ogbomoso, Oyo state. Informed consent was obtained from the subjects and data was anonymously collected.

The study data was analysed with Statistical Package for Social Sciences (SPSS) Programme version 16. Because variables such as age, income and amount spent on gambling were not normally distributed these were expressed as both median and mean values with ranges. Comparisons between risky substance use and continuous variables (i.e. income) for subgroups within the sample were tested for statistical significance using the nonparametric Mann-Whitney U-test, or for categorical differences using the chi squared test. The level of significance was set at < 0.05.

RESULTS

Out of 172 persons invited, one hundred and forty six patrons (84.9%) agreed to participate in the study. Mean age was 27.5years (SD = 8.57). Majority were male (89.7%), single (64.4%) and betted on pools (80.8%). Median monthly income and amount spent on gambling were $93.75 and $3.12 respectively. Lifetime prevalence rates of alcohol, tobacco, cannabis, sedatives and amphetamine were 51.8%, 24.7%, 6.8%, 4.1% and 3.4% respectively.

Risky use of alcohol (32.2%) was most common, followed by tobacco (21.9%) and cannabis (4.8%). Risky use of any of the psychoactive substances was found to be significantly related to age (Mann Whitney U-test, $z = -4.098$, $P < 0.001$), income (Mann Whitney U-test, $z = -3.025$, $P = 0.002$) and amount spent on gambling (Mann Whitney U-test, $z = -3.004$, $P = 0.003$). Risky alcohol use was associated with marital status, age (Mann-Whitney U-test, $z = -3.621$, $P < 0.001$) and income (Mann-Whitney U-test, $z = -2.428$, $P = 0.015$).

Table 1: Sociodemographic Characteristics of Respondents

Variable	N	%
Age (years)		
Mean ± SD =27.5 ±8.57		
Median:		
Age Range 18-74		
Income (dollars)		
Mean: 122.2 ± 143.1		
Median: 93.75		
Range: 3.1-937.1		
Largest amount gambled (US dollars)		
Mean: 7.96 ±17.06		
Median: 3.12		
Range: 0.125-125		
Sex		
Male	131	89.7
Female	15	10.3
Marital Status		
Never Married	94	64.4
Married	52	35.6
Educational attainment		
Primary	14	9.7
Secondary	81	56.3
Tertiary	49	34.0
Gambling types		
Bet on sports (pools)	118	80.8
Played cards for money	72	49.3
Played dices games for money	33	22.6
Bowled, shot pool or other games for money	33	22.6

Table 2: Prevalence of Substance Use among the Respondents

Variable		Lifetime use	Risky drug use
Substance		N (%)	N (%)
Any Substance		98 (67.1)	82 (56.2)
Alcohol		79 (51.8)	47 (32.2)
Tobacco		36 (24.7)	32(21.9)
Cannabis		10 (6.8)	7 (4.8)
Cocaine		1 (0.7)	-
Sedatives		6 (4.1)	-
Solvents		3 (2.1)	-
Amphetamine		5 (3.4)	-
Multiple substance use		16 (11)	13 (8.9)

Table 3: Factors Associated With Hazardous Substance Use

Variable	Any substance use n (%)	Risky Alcohol use n (%)	Risk Tobacco use N (%)	Risk Cannabis use n (%)	Risky Use of Any substance n(%)
Sex					
Male	**92 (70.2)***	45 (34.4)	29 (22.1)	7 (5.3)	77 (58.8)
Female	6 (40)	2 (13.3)	3 (20)	-	5 (33.3)
Marital status					
Never married	59 (62.8)	24 (25.5)	20 (21.3)	5 (5.3)	46 (48.9)
Ever Married	39 (75)	**23 (44.2)***	12 (23.1)	2 (3.8)	**36 (69.2)***
Educational status					
Below Secondary	64 (66)	29 (29)	20 (20.6)	5 (5.2)	51 (52.6)
Secondary and above	34 (69)	18 (36.7)	12 (24.5)	2 (4.1)	31 (63.3)
Continuous Variables					
Age (Mean (S.E)	**28.8(0.93)***	**31.7 (1.66)****	27.1 (1.1)	27.2 (2.3)	29.8 (1.1)
Income (Mean (S.E)	141.4 (20.7)	142.9(17.3)	170 (56.9)	109 (46.9)	**153.5 (25.2)***
Amount gambled (Mean (S.E)	**10 (2.06)****	10.1 (3.01)	10.3 (2.5)	**23.2(17.1)***	**11.3 (2.42)****

* P < 0.05 **p < 0.01

DISCUSSIONS

This study revealed that risky substance use may be common among persons engaged in gambling. Factors such as age, income and amount spent on gambling were found to be significantly related to risky substance use in this study.

The relationship between gambling and substance use is complex and partly attributed to presence of shared genetic and environmental factors. For instance, a recent twin study highlighted an overlap between gambling and substance use related genetic factors (Vitaro et al., 2014). In addition, impulsivity which drives consumption of hazardous quantities of psychoactive substances and risk taking decisions in behavioural addictions including gambling disorders has been cited as an underlying factor (Balogh et al., 2013; Di Nicola et al., 2015). The level of impulsivity has been identified as a predictor of relapse in persons with substance use disorders (Stevens et al., 2015).

The amount of money spent gambling may possibly be influenced by alcohol and drug use. The impact of alcohol use on gambling behaviour has previously been explored. Studies suggest that the adverse effect of psychoactive substances on cognitive processes leads to poor judgment and increased risk-taking which may include a tendency to gamble higher amounts of money (Baron & Dickerson, 1999). Substance use co-occuring with gambling is a significant clinical problem that may place a high burden on societies. The co-occurrence of gambling problems with substance use may further hinder access to treatment in non-western countries because such individuals experience difficulty in admitting their gambling problems. Delayed treatment access has been attributed to the burden of shame and embarrassment associated with such conditions (Loo et al., 2008).

This study had its limitations. Recall bias could have occurred as a result of the use of self report. Also, the limited time spent at each venue may have led to selection bias. Nevertheless, the strengths include the use of data from 'real world' gambling settings and the use of standardized and validated instruments. Future research could focus on how gambling contributes to hazardous substance use and the feasibility of interventions in community settings including gambling venues.

CONCLUSIONS

The potential co-morbidity of gambling and substance related problems should impact on interventions. Preventive interventions targeting common risk factors may save costs in resource constrained settings. Early detection would facilitate referral to appropriate treatment programs and scale up services for this group of individuals (Wardle et al., 2007). It may be possible to train and equip lotto operators to identify persons that need evaluation and treatment. Such interventions could include posting information about available treatment services. In addition, kiosks providing screening and brief interventions for substance may be sited near clusters of gambling centres to facilitate accessibility (Fong et al., 2011). The finding of co-occurring psychological distress in gamblers that engage in problem drinking in a previous study (Skaal et al., 2015) raises the possibility of exploring integrating screening substance and mental health screening programs in psychiatric evaluations of persons engaged in gambling activities.

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