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Alcohol Use Disorders among Participants of a Community Outreach in Jos, Nigeria: Prevalence, Correlates and ease of acceptance of Brief Intervention

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ABSTRACT
Background: *Screening and Brief intervention though shown to be effective at identifying alcohol problems at an early age is not routinely offered in community medical services. This study aimed at getting the prevalence and correlates of alcohol use and alcohol use disorders among participants of a community outreach and investigate the ease of integrating care into routine medical services in the community.*
Materials and Methods: *Participants at a medical outreach in Jos North who were 18 years and above were administered the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and Mini International Neuropsychiatric Interview (MINI) and offered Brief Intervention and Referred for specialized treatment as appropriate.*
Results: *Of the total 1170 participants recruited, 11.7% (8.9% and 2.8%) had moderate to severe risk out of the current drinking population (total of 20.9%). One-Way Analysis of Variance (ANOVA), showed a statistical significant difference between alcohol abuse and dependence, $F(2) = 1167$, $p < .05$.Majority (96.0%) of the participant had no to low risk use of alcohol, those who abuse alcohol (2.2%) were more compared to participants who are dependent (1.8%).A total of 245 participants received brief intervention for alcohol use, 26 were counseled for alcohol abuse, and 21 were referred for in-depth psychotherapy due to alcohol dependence.*
Conclusion: *Alcohol use is still prevalent in the population with significant number of current drinkers with alcohol use disorders. With proper planning, training and execution, alcohol screening with ASSIST and brief intervention can be incorporated into routine community medical services.*
Keywords: *Alcohol Use, Alcohol Use Disorder, Screening and Brief Intervention.*

Introduction

Alcohol has for a long time formed an intricate part of African social life. Alcohol is a legal drug and its use is socially acceptable. It is often served during cultural and social activities, important life transitions and events such as the birth of a child, marriages, getting a job or promotion, resolution of conflicts and burial ceremonies.[1]

Moderate use of alcohol has some beneficial effects. For example, when used in moderation, alcohol has been associated with reduced risk of peripheral heart attack, ischaemic stroke, sudden cardiac death and death from all cardiovascular causes.[2] However, alcohol misuse is associated with behavioural and physical health problems; and alcohol use disorders are responsible for considerable burden of diseases worldwide.[3,4] In Nigeria, it has also been associated with a large proportion of injuries and road traffic accidents, as well as physical and mental health problems .[5,6]

Despite the fact that a wide range of illnesses and disorders are associated with the use of alcohol the general public is often unaware of the range and nature of impairments that a person is likely to experience following large amounts of alcohol consumption.[7]

Various studies have demonstrated that alcohol dependence and abuse are highly prevalent, underdiagnosed and undertreated.[8,9,10] These are due to factors which include attitudinal barriers like resistance to a medical model of addiction, inadequate training of primary care physicians in addiction and lack of faculty role models who intervene and diagnose alcohol dependence.[11,12]

Screening and Brief Intervention (SBI) have been shown to be effective in identifying alcohol and other substance misuse at an early stage and offer help to people with this problem.[13,14] Findings from Screening, Brief Intervention and Referral to Treatment (SBIRT) initiative of Substance Abuse and Mental Health Services Administration (SAMHSA) also shows that large numbers of people who are at risk of developing serious alcohol problems can be identified through screening, while a combination of screening, brief intervention, and referral to treatment can decrease the frequency and severity of alcohol use and increase the percentage of people who obtain the specialized treatment they need.[15] The World Health Organization recommends the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) followed by brief intervention (BI) for this purpose and for use for substances other than alcohol.[16]

This study aims at getting the prevalence and correlates of alcohol use and alcohol use disorders among participants of a community outreach as well as investigate the ease of integrating care into routine medical services in the community.

Methods

Study Design: This was a cross sectional descriptive study.

Study Population: The study population comprised participants of a medical outreach at an open field from communities all close to and within Jos North Local Government. Included were participants who were above the age of 18 years and consented to the study.

Community approach and ethical issues

The research strategy to approach the community was based on the following: (1) To call the community's attention to the issues of alcohol and drugs as medical conditions rather than moral issues (2) To advertise the outreach widely stimulating inhabitant's participation in the outreach and study (3) provide brief intervention for participants with mild to moderate alcohol abuse on screening instruments and referral for treatment for those with severe alcohol abuse. (4) All these within the context of outreach for general medical and surgical conditions.

About a month prior to the outreach the organizers of the outreach met and obtained permission for the open field venue from the management of Vitafoam factory. Thereafter, meetings were held with the community and youth leaders of the surrounding communities of JIB village, "mama Iyabo" and "vitafoam forest" all close to Old Airport Junction and within Jos North

Programme Description: The Study was conducted as part of a general medical outreach. After the initial registration and vital signs taken by the general medical team consecutive participants who gave consent were recruited into the study. Using the questionnaires, which includes the sociodemographic questionnaire, the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and the Alcohol module of the Mini International Neuropsychiatric

Interview (MINI), the participants were interviewed by a total of 12 psychologists and social workers who had previously been trained in the administration of these instruments.

The ASSIST was developed by the World Health Organization for screening in primary and general medical care settings and as such categorizes into low, moderate and high risks on the bases of the scores. With scores of 0-10 for alcohol and 0-3 for illicit drugs, the participants are categorized as having low risk for health and other problems from their use of Alcohol and Other Drugs (AODs), 11-26 for alcohol and 4-26 for other drugs indicate moderate risks while >26 indicate high risks for health and other problems from their current use of alcohol and other drugs and are likely to be dependent.[17]

ASSIST-linked Brief Intervention is a procedure adopting a 10-step process that includes asking the participant to see his/her scores on the ASSIST, explaining the implications of the scores, stimulating the participant to compare the positives and negatives of using substances and providing materials for further education. The interviewers adopt a non-judgemental, non-authoritarian approach with a lot of empathy throughout the process.[16]

The MINI was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM IV and ICD 10. It can be used by clinicians after a brief training session. Lay interviewers require more extensive training.[18]

Participants who are in the low risk category were given general advice and encouraged to maintain low usage, while those with moderate risks were given Brief Intervention. Those who have moderate risks on ASSIST but diagnosed with AUD on MINI (Abuse or Dependence) as well as those with high risks with or without diagnosis of AUD on MINI were enrolled to be treated in a specialized substance treatment facility as continuation of the programme after having a consultation with Psychiatrists who provided Motivational Interview during the outreach.

Data were extracted from the programme records on the number of patients screened, the number that required brief intervention, how many will like to engage with treatment settings and how many actually engaged with treatment settings.

Data Analysis

Data Analysis was done by Statistical Package for Social Sciences (SPSS) version 20.0. The Chi square test was used to investigate the differences between categorical variables and their association. Regression analysis was used to test the demographic characteristics predictive of alcohol use. One-Way Analysis of Variance (ANOVA) was used to compare the scores on ASSIST with diagnosis on MINI. Statistical significance was set at $P < 0.05$.

Results

A total of 1341 participants attended the outreach programme out of which 1170 were recruited giving 87.25% response rate. Those not recruited either did not meet the inclusion criteria or declined consent.

Table one indicates that females were the majority (64.3%) in this study. Participants aged 30 - 39 years old were more (25.0%). Christians constituted 97.3% of the study population. Nigerians formed 99.8% of the study participants. The state and indigenous group most represented are Plateau (68.0%) and natives of the states (68.2%), respectively. Similarly, 96.6% of the participants live in a home / stable accommodation. Those who reside with their parents, family or relatives were 40.1% of the sample. Ninety point four percent of the participants live in urban areas. A total of 54.8% of the participants are married. Participants who have completed secondary school constituted 28.3% of the population. Those with regular employment formed 25.3% of the participants while students (39.4%) were the majority by occupation.

Chi-square goodness-of-fit test showed there was a statistical significant rate of alcohol use among the study participant's, $x^2 = 1835.71$, $df = 3$, $p < .05$. The result indicates that 79.1% of the participant's did not engage in alcohol use. However, 9.2% have low risk use, 8.9% were

within moderate risk of use and 2.8% have a high risk alcohol use.(Table 2)

Regression analysis indicates that Gender (β = -.140), Age Rage (β = .079), Marital Status (β = .089) and Employment Status (β = -.066) were the demographic characteristics that significantly determined alcohol use among the study participants, F (14, 886) = 2.357, p <.05. (Table 3) Chi-square test of independence indicates a significant difference within gender $\varkappa^2$ = 103.170, p < .05. More males were found to have low, moderate and high risk alcohol use compared to females. The difference between age range was also significant, $\varkappa^2$ =39.682, p< .05 as alcohol use was slightly higher among participants whose age range is between 30 – 39 years old. Similarly, alcohol consumption was significant among married participants, $\varkappa^2$ = 21.171, p < .05 compared to other marital status. Finally, participants who have regular employment engaged more in alcohol use, $\varkappa^2$ = 60.687, p < .05. (Table 4)

Using a One-Way Analysis of Variance (ANOVA), the results showed a statistical significant difference between alcohol abuse and dependence, F (2) = 1167, p < .05. Although, majority (96.0%) of the participant's reported no to low risk use of alcohol (M = .28, SD = .66); those who abuse alcohol (2.2%) were more (M = 2.19, SD = .75) compared to participants who are dependent (1.8%) on the substance (M = 2.14, SD = .66). (Table 5)

A total of 245 participants in this study received brief intervention for alcohol use. Those who were counseled for alcohol abuse were 26. Finally, 21 persons were referred for in-depth psychotherapy due to alcohol dependence. (Table 6)

Table 1. Participant's Demographic Features

Variable	Frequency	Percentages
Gender		
Male	418	35.7%
Female	752	64.3%
Age Range		
< 20	138	11.8%
20 - 29	291	24.9%
30 - 39	292	25.0%
40 - 49	185	15.8%
50 – 59	137	11.7%
60 >	126	10.8%
Missing figure (s)	1	.1%
Religion		
Islam	25	2.1%
Christianity	1138	97.3%
Traditional	2	.2%
None	2	.2%
Others	1	.1%
Missing figure (s)	2	.2%
Nationality		
Nigerian	1168	99.8%
Spanish	2	.2%
Ethnicity		
Indigenous	798	68.2%
Hausa	166	14.2%
Igbo	40	3.4%
Yoruba	41	3.5%
Foreign	1	.1%
Others	124	10.6%
Living environment		
Home / stable	1130	96.6%
accommodation	19	1.6%
Dormitory / institute	11	.9%
No stable accommodation	3	.3%
Others	7	.6%
Missing figure (s)		
Living Status	107	9.1%
Alone	469	40.1%
With parents, family or	376	32.1
relative	73	6.2%
With spouse / Partner	96	8.2%
With friends (no family	48	4.1%
relation)	1	.1%
With children (no spouse)		
Others	1058	90.4%
Missing figure (s)	79	6.8%
Residential Structure	20	1.7%
Urban	13	1.1%
Semi-urban		
Rural	378	32.3%
Missing figures (s)	641	54.8%
Marital Status	30	2.6%
Single (never married)	115	9.8%
Married	6	.5%
Divorced / Separated		
Widowed	167	14.3%
Others	202	17.3%
Education	179	15.3%
Some (never completed)	331	28.3%
primary	101	8.7%
Completed primary school	184	15.8%
Some secondary school	3	.3%
Completed secondary school	3	.3%
Some tertiary / graduate		
Competed tertiary / graduate	296	25.3%
Adult education	208	17.8%
Missing figure (s)	184	15.7%
Employment	173	14.8%
Regular employment	131	11.2%
Occasional employment	65	5.6%
Pupil / student	8	.7%
Unemployed	105	9.0%
House wife		
Others	461	39.4%
Retired	8	.7%
Missing figure (s)	150	12.8%
Occupation	20	1.7%
Student	105	9.0%
Professionals	238	20.3%
Civil servants	114	9.7%
NGO / Private	4	.3%
Military / Paramilitary	63	5.4%
Artisan		
Petty trader		
Clergy		
Others		

Table 2: Rate of Alcohol Use Among Participant's

Category	Observed N	Percentage	Expected N	χ^2	df	p-value
No Use	925	79.1%	292.5			
Low risk	108	9.2%	292.5			
Moderate risk	104	8.9%	2925	1835.80	3	.000
High risk	33	2.8%	292.5			
Total	1170	100.0%				

Table 3. Demographic Determinants of Alcohol Use Among Participants

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.443	.564		2.560	.011
Gender	-.096	.025	-.140	-3.862	.000
Age range	.021	.037	.079	2.801	.005
Age	.002	.007	.039	.298	.766
Religion	.080	.117	.021	.681	.496
Nationality	-.471	.532	-.027	-.886	.376
State	.000	.005	.002	.048	.962
Ethnicity	-.001	.001	-.020	-.607	.544
LivingEnvironment	-.112	.084	-.040	-1.324	.186
LivingStatus	.011	.023	.017	.483	.629
ResidentialStructure	.017	.067	.008	.261	.794
Marital status	.018	.018	.089	2.850	.004
EducationLevel	-.010	.016	-.021	-.655	.513
EmploymentStatus	-.031	.016	-.066	-1.990	.047
Occupation	.004	.003	.053	1.600	.110
ANOVA	$R^2 = .329$, $F(13, 1021) = 9.549$, Sig. 000				

a. Dependent Variable: Alcohol

b. Predictors: Gender, Age range, Age, Religion, Nationality, State, Ethnicity, Living environment, Living status, Residential structure, Marital status, Educational status, Occupation.

Table 4: Cross-tabulation of Alcohol Use Significant Determinants

	Alcohol Use				X^2	p
	No use N (%)	Low risk N (%)	Moderate risk N (%)	High risk N (%)		
Gender					103.170	.000
Male	267 (22.8%)	56 (4.8%)	67 (5.7%)	28 (2.4%)		
Female	658 (56.2%)	52 (4.4%)	37 (3.2%)	5 (0.4%)		
Age Range					39.682	.001
< 20	127 (10.9%)	7 (0.6%)	3 (0.3%)	1 (0.1%)		
20 – 29	228 (19.5%)	34 (2.9%)	23 (2.0%)	6 (0.5%)		
30 – 39	229 (19.6%)	26 (2.2%)	23 (2.0%)	14 (1.2%)		
40 – 49	141 (12.1%)	12 (1.0%)	22 (1.9%)	10 (0.9%)		
50 – 59	102 (8.7%)	15 (1.3%)	19 (1.6%)	1 (0.1%)		
60 >	97 (8.3%)	14 (1.2%)	14 (1.2%)	1 (0.1%)		
Marital Status					21.171	.048
Single (never married)	312 (26.7%)	38 (3.2%)	20 (1.7%)	8 (0.7%)		
Married	491 (42.0%)	56 (4.8%)	70 (6.0%)	24 (2.1%)		
Divorced / Separated	23 (2.0%)	3 (0.3%)	3 (0.3%)	1 (0.1%)		
Windowed	95 (8.1%)	11 (0.9%)	9 (0.8%)	na		
Others	4 (0.3%)	na	2 (0.2%)	na		
Employment Status					60.687	.000
Regular employment	204 (19.2%)	36 (3.4%)	42 (3.9%)	14 (1.3%)		
Occasional employment	151 (14.2%)	30 (2.8%)	21 (2.0%)	6 (0.6%)		
Pupil / Student	163 (15.3%)	12 (1.1%)	3 (0.3%)	6 (0.6%)		
Unemployed	147 (13.8%)	14 (1.3%)	11 (1.0%)	1 (0.1%)		
Housewife	116 (10.9%)	6 (0.6%)	7 (0.7%)	2 (0.2%)		
Others	54 (5.1%)	2 (0.2%)	7 (0.7%)	2 (0.2%)		
Retiree	6 (0.6%)	na	2 (0.2%)	na		

na = not applicable

Table 5. Comparison of Alcohol ASSIST Domain Based on Alcohol MINI Diagnostic Criteria

Alcohol	N (%)	Mean	SD	95% Confidence Interval for Mean		df	F	Sig.
				Lower Bound	Upper Bound			
No - low risk	1123 (96.0%)	.28	.66	.24	.32			
Abuse	26 (2.2%)	2.19	.75	1.89	2.49	2, 1167	183.838	.000
Dependence	21 (1.8%)	2.14	.66	1.84	2.44			
Total	1170	.35	.76	.31	.40	1169		

Table 6. No of Participants who received Brief Intervention, Counseling or Referral

Alcohol	N (%)	No intervention or referral	Received brief intervention	Referred for counselling	Referred to see psychiatrist
No - low risk	1123 (96.0%)	925	245	0	0
Abuse	26 (2.2%)	na	26	26	0
Dependence	21 (1.8%)	na	21	0	21

na = not applicable

Discussion

As a result of adequate community mobilization and penetration, the outreach was well attended by the residents of the catchment areas. Also proper planning, training and execution made it easy to seamlessly incorporate the project into the outreach programme which catered for general medical and surgical conditions. This was in spite of the pressure of huge number of residents that attended the outreach. This was achieved by having a good number of psychologists and social workers who were proficient in the administration of ASSIST and ASSIST Based Intervention at very fast rates. This may not easily be replicated in a routine medical set up where care workers are usually overburdened with other commitments. The Nigerian health care system as it is now is not likely to provide such significantly high number of mental health care workers for screening and intervention. This constitutes a limitation for the generalization of our resul

Since the outreach was organized by a Christian ministry and the study population was essentially dominated by Christians in a City that have been largely divided into Christian and Muslim areas due to frequency of terrorist attacks in the past,[19]it was not surprising that 97.3% of the respondents were Christians.

We found the prevalence rate of current alcohol use to be 20.8% among the participants. This is in contrast to the higher rate of 27.3% and a lower rate of 14% found in previous studies.[20, 21] These differences could be a reflection of the difference in the instruments used,[21] or as result of the differences in the spread of centres used.[20,21] It should be noted that our sample population comprises of residents of the catchment area of the medical outreach as against random selection of 2 semirural local government areas of Ibadan[20] or five of the six geo-polical regions of Nigeria; south-west (Lagos, Ogun, Osun, Oyo, Ondo and Ekiti), South-East (Abia, Anambra, Enugu, Ebonyi and Imo), South-south (Akwa Ibom, Cross River, Rivers), North Central (Kaduna, Kogi and Kwara) and North-East (Adamawa, Borno, Gombe and Yobe).[21]Again, majority of our study participants were female (64.3%). Previous studies have demonstrated that people who use alcohol are more likely to be male[10, 21]

We found that a total of 11.7% (8.9% and 2.8%) were moderate to severe risk drinkers which is a little above half of the current drinking population (total of 20.9%). This contrasts with the more than two thirds of the current drinking population found to have moderate to severe risk in a previous study.[20] However, this is still very worrisome considering that as noted in that study alcohol is related with a risk of adverse health consequences such as alcohol dependence, cancers and injuries. The significance of this results from the fact that though patients may seek consultation for alcohol related physical illnesses, clinicians are less likely to detect and institute treatment for alcohol use disorders.[10]

Contrary to most other studies where current drinking was associated with younger age, male gender, being unmarried, low educational status, low socioeconomic class, Christianity and

unemployment,[10,21] we found male gender, age range of 30-39years, being married and regular employment as demographic determinant of alcohol use in this study.

One of the strength of our study was the use of MINI to go beyond screening and brief intervention to make diagnosis of Alcohol Abuse in 26 participants (2.2%) and Alcohol Dependence in 21 participants (1.8%), which gives a total 48 participants (4.0%) with alcohol use disorders. This is similar to 4.3% reported among University students in Nigeria.[22]Comparing this with the Moderate risk of 8.9% and high risk of 2.8% respectively on ASSIST, there is a significant difference. A previous similar study used only ASSIST without diagnosing AUDs.[20]

Finally our study was able to identify a good number of participants who were either in danger of going further to develop alcohol use disorders and as such received brief intervention, and those with alcohol use disorders who thereafter were referred for either more intensive counselling or for more intensive treatment in a specialized treatment facility after the initial brief intervention. Considering the fact that most of these participants did not present primarily as a result of alcohol use problems, but for other medical or surgical problems, it will be appreciated that the alcohol problems are usually missed in routine medical services. Moreover, despite the fact that most of the respondents did not present primarily because of alcohol related disorders, the readiness with which they accepted the ASSIST screening and ASSIST-linked brief intervention is indication that screening and brief intervention are readily accepted even in a non-formal healthcare like the medical outreach was. However, this study did not include follow up to assess the impact of ASSIST-linked brief intervention on the beneficiaries; this constitutes another limitation of our study and may be the subject of further research.

Conclusion

We conclude that alcohol use is still prevalent in the population with significant number of current drinkers with alcohol use disorders. With proper planning, training and execution, alcohol screening with ASSIST and ASSIST brief intervention can be incorporated into routine community medical services. Further research may be needed to investigate how easy this may be done in general out –patient departments where health care workers are usually overburdened with other commitments.

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