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Afr. J. Biomed. Res. Vol. 27 (January 2024); 29- 38

Research Article

Excessive Alcohol Intake and Health Outcomes Nexus among Youths in Mushin Area of Lagos State, Southwest Nigeria

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ABSTRACT

Excessive alcohol intake is apparent among youths in Nigeria, and its perceived health implications among this population is lacking. Therefore, this study seeks to explore the prevalence and health implications of excessive alcohol intake among Mushin youths residing in Itire suburbs of Mushin local government area (LGA) of Lagos State, Nigeria. The study design adopted was descriptive cross-sectional, conducted in the district area of Mushin local government area in Lagos State, Southwest geopolitical zone of Nigeria. Using a systematic sampling technique, a final sample of 400 youths was selected for the study. Data on the outcomes of interest were gathered between August and November 2022 using an interviewer-administered structured survey questionnaire. The data were analyzed using descriptive and inferential statistics. Findings revealed that 89.0% of the respondents were alcohol abusers and 89.5% of them mentioned enjoyment as one of the main reasons for their drinking behaviours. The multiple linear regression analysis showed that factors such as ‘significant others’ ($t = 6.892$, $\rho < 0.05$), price of alcohol ($t = 6.392$, $\rho < 0.05$), and males more prone ($t = 3.134$, $\rho < 0.05$), significantly predicted a higher likelihood of excessive intake of alcohol. However, peer pressure ($t = -3.869$, $\rho < 0.05$) and age cohorts’ acceptance ($t = -5.080$, $\rho < 0.05$) were statistically significant, characterized by a negation of denial of respondents predicting the odds of excessive alcohol intake and its health implications. Thus, there is urgent need to create awareness programmes that will sensitize Mushin youths of the health consequences of excessive alcohol intake, especially in rural and grassroots communities in Nigeria.

Keywords: *Demographic factors, excessive alcohol intake, health implications, Lagos state, youths*

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Received: June 2023; Accepted: November 2023

DOI: <https://doi.org/10.4314/ajbr.v27i1.4>

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INTRODUCTION

Despite the fact that drinking is widespread throughout many cultures, in recent times globalization, modernization, and ‘trendy mass media adverts’ on alcohol have modified the changes in drinking patterns such as binge drinking among the youth in developed (Lu *et al.*, 2019; Svensson *et al.*, 2021) and developing (Silumbwe *et al.*, 2022; Ekeke *et al.*, 2023) countries, including Nigeria. There is much debate about whether the definition of binge drinking and alcohol absorption differences should be different between adults and youths. The World Health Organization (WHO) (2014a) asserts that findings from their study have revealed that reaching a given blood-alcohol concentration (BAC) level, takes a fewer consumption of drinks among youths (WHO, 2014a). Excessive alcohol intake among youths is prominent

but the knowledge and its perceived health effects are poor. Its use during adolescence and young adulthood remain a well-known challenge in its forms of abuse and misuse for medical and non-medical experts to tackle. Harmful use of it in early adult life constitutes a significant social and public health problem. The excessive intake of alcohol carries risks of adverse health and social consequences related to its intoxicating, toxic, and dependence-producing properties (WHO, 2014a; WHO, 2023). The problem of excessive alcohol intake among the youth remains an important area of research owing to the adverse health implications for the future of the youth (Ajayi *et al.*, 2019).

Previous studies conducted in Nigeria had indicated relatively high rates of excessive alcohol intake among youths in institutions of higher learning (Abikoye & Osinowo, 2011; Dumbili, 2013). Such research studies have demonstrated an

alarming prevalence of binge drinking among Nigeria's young adults. For instance, Odukoya *et al.* (2018) revealed a prevalence of 47.1% excessive alcohol intake among Nigerian adults in a rural and urban cross-sectional study in Abia State. Also, Chikere and Morakinyo (2011) reported a high prevalence of 78.4% of excessive alcohol intake among Nigerian students in Owerri; and Igwe and Ojinnaka (2010) stated in their findings a prevalence of 31.6% of excessive alcohol intake among Nigerian secondary students in Enugu metropolis. To design effective alcohol-focused treatments, deeper comprehension of the demographics and public health associated with alcohol intake is important (Onodugo *et al.*, 2019). Despite the foregoing preliminary findings that a high rate of alcohol intake was found among the youth, there simply is little evidence that the Mushin youth understand health implications when engaged in excessive alcohol intake. Thus, the aim of this study is to explore the nexus between health outcomes and excessive alcohol intake among Nigerian youths residing in the Itire suburbs of Mushin local government area (LGA), Lagos State, Nigeria. The specific objective is to examine the knowledge about excessive alcohol intake and its health implications among Mushin youths residing in Itire suburbs of Mushin LGA, Lagos State.

MATERIALS AND METHODS

Study design and setting: The study was carried out between September and November 2022 in the Itire suburbs of Mushin LGA, Lagos State, Nigeria, using a descriptive cross-sectional design. Mushin is a local government area in Lagos and it is located 10km north of the city centre, adjacent to the main road to the state capital, Ikeja (City Population, 2022). The Itire suburb of Mushin LGA is divided into Itire-Ijesha and Itire-Ikate community areas. This study was carried out in the sampling areas of Itire-Ijesha and Itire-Ikate community areas. The community comprises a busy residential neighborhood with poor hygiene and sub-standard homes. There are an estimated 633,009 residents at the 2006 National Population Commission in the study setting (NPC, 2006). The number of the population aged 15 – 19 years is 49,820 (males – 24,192 and females – 25,627), and aged 20 – 24 years is 65,839 (males – 34,304 and females –31,534), giving a total youth population of 115,659. The overall median age in Mushin LGA is 24.3 years, with the male median age 25 years and female median age 23.5 years (City Population, 2019-2023). In this study, only males and females aged 15 –24 years from these two community areas are eligible for the study. Males and females who were younger than 15 years or older than 24 years were excluded from the study.

Study population, sampling and data collection: The study population included all males and females between the ages of 15 to 24 years, residing in Itire suburbs of Mushin local government area (LGA), Lagos State. 'Youth' is used interchangeably with 'adolescents' and 'young people' for the aim of this study and is defined as males and females between the ages of 15 and 24, which is consistent with the World Health Organization (WHO) definition (Prata *et al.*, 2013). The youth aged 15-24 years have been primarily attributed with risky behaviours, which include non-use of condoms,

having multiple sexual partners, and harmful use of alcohol and psychoactive substance, and these behaviours are found to vary according to factors such as in gender and region in Nigeria (Kuntsche *et al.*, 2015; Odeyemi *et al.*, 2014).

Before being given to research respondents, the questionnaire utilized in this study was adapted from Health Promotion Agency Alcohol Survey Questionnaire (2012), self-designed and piloted. A pilot research was conducted among forty respondents who lived in the Itire-Ijesha and Itire-Ikate suburb areas of Mushin local government area of Lagos State, prior to data collection. The questionnaire was modified in response to the feedback from the pilot study findings. In the initial phase of fieldwork, the questionnaire was administered to willing youths by research assistants selected and trained especially for this study. In this study, questions were included in a standardized, and self-administered questionnaire on knowledge of excessive alcohol intake and knowledge on health implications, sources of information on excessive alcohol intake and its health implications, attitude of youth towards excessive alcohol intake and its health implications, drinking behavioural patterns of excessive alcohol intake, and factors associated with excessive alcohol intake among youths residing in Mushin LGA, Lagos State, Nigeria.

After accounting for potential missing responses, a total sample size of 400 respondents was needed for both study areas using the Cochran's sample size estimation formula (Uakarn *et al.*, 2021). This sample size was calculated at a confidence level of 95% and a precision level of +/- 5%. Permission was obtained from the Baales (Orton *et al.*, 2011) and heads of the community, and consent forms were administered to the respondents aged 18 years and above before administering copies of the questionnaire. Respondents were selected using multi-stage systematic sampling and they were stratified to age and sex to ensure representativeness. The respondents were recruited systematically from both community areas at different times during town hall meetings, with the help of the community leaders. All the recruited respondents were interviewed in the open places located within the community town halls in both suburbs. Overall, 450 respondents, both males and females aged 15–24 years, were incorporated into the research; regardless, only 400 respondents returned the filled-out survey questionnaire forms. Assent forms were given to respondents aged under 18 years, as they may refuse to participate in the study even with consent from their parents or guardians. The inclusion criteria were respondents aged 15 to 24 years and who were residents of Itire-Ijesha and Itire-Ikate community areas of Itire suburbs of Mushin LGA, Lagos State. The exclusion criteria were respondents whose age is lower than 15 years or who are not resident in the study setting. The data collection was conducted in easily understandable English, Pidgin English, and in local dialects such as those of the Yoruba, Igbo, Hausa and other ethnic membership, using interpreters where necessary. The duration of the data collection lasted for three months (between September and November 2022).

Variable measurements: The primary outcome of interest of the study is excessive alcohol intake, which was operationalized as ever used alcohol, last month use of

alcohol, and number of bottles/cups of alcohol taken in the last month. Respondents with responses from having used alcohol, responses from last month use of alcohol and responses from number of bottles/cups of alcohol taken in the last one month are categorized as Yes = 1, otherwise it is No = 0 as the outcome variable. Also, the rate of alcohol use was measured by asking respondents to state the number of days they drank alcohol excessively over the last month. Moreover, there are sets of independent variables, which are demographic factors (such as sex, age, ethnic group, marital status, occupation, religion and estimated monthly stipend/income. Sex was grouped into male and female, while age was categorized into '15-19' years and '20-24' years. Ethnic group was grouped into 'Yoruba', 'Hausa/Fulani', 'Igbo' and 'Other' ethnic group membership (Gustafson, 1957; Krämer *et al.*, 2013; Fousiani *et al.*, 2019). Marital status was categorized as 'single but not cohabiting' and 'cohabiting'. Occupation was classified into 'students' and 'artisans'.

The reported religious background of the respondents was categorized into Christianity, Islamic and Traditional religions. Estimated monthly stipends/income was grouped as 'Below ₦9,999', '₦10,000-₦19,999', '₦20,000-₦29,999', and '₦30,000 and above'. Educational level was categorized as 'elementary primary school', 'secondary school' and 'vocational training school'. Respondents' knowledge level on excessive use of alcohol intake was assessed with 17 items of validated knowledge questions, with correct answers ranging from 1-17 and knowledge level was categorized as 'poor' (0-5), 'average' (6-11), and 'high' (12-17) (Akokuwebe *et al.*, 2019; Akokuwebe *et al.*, 2020; Akokuwebe *et al.*, 2023). Also, respondents' general knowledge on health implications were categorized as 'short-term' (domestic violence, alcohol poisoning, risky sexual behaviours and miscarriage/still birth) (Giani *et al.*, 2020); 'medium-term' (sexual assault, poor school performance, motor vehicle crashes, anemia, depression) (Williamson *et al.*, 2022) and 'long-term' (non-communicable diseases, cancer (liver and colon), dementia, mental health issues (depression and anxiety), social problems (loss of productivity and family problems) and alcohol dependence) (Leung *et al.*, 2020). Similarly, sources of information were measured by two variables: 'excessive alcohol intake' (hospitals, significant others, and mass media jingles) and 'health implications of excessive alcohol intake' (hospitals, significant others, mass media jingles, and non-governmental organizations (NGOs)). Moreover, respondent attitudes were measured on risky drinking using validated evaluation questions such as extreme drinking, binge drinking and episodic heavy drinking classified as 'risky drinking' and otherwise non-risky drinking (taking beverages, soft drinks, etc.). Based on these, respondent attitude was categorized as 'positive' attitude towards 'non-risky drinking' and 'negative' attitude towards 'risky drinking' (Bonar *et al.*, 2020; Tarrío-Concejero *et al.*, 2023). Patterns of excessive alcohol intake among the respondents were measured by 'alcohol drinking behavioural patterns' (normal drinkers and alcohol abusers), self-reported patterns of alcohol drinker (light, heavy, and binge) and reasons for regular patterns (health and enjoyment) (Kuntsche *et al.*, 2015). Also, social factors associated with excessive alcohol intake among the respondents were measured.

Contemporary sociologists characterize social factors as instances or situations that alter individuals' lifestyles and well-being (de Visser, 2021). In this study, 'significant others', men more prone, higher-income, cultural norms, peer pressure, media adverts, price of alcohol, free drinks from brewery, use of codeine, lower income, women more prone, and religion were measured as social factors associated with excessive alcohol intake.

Statistical analysis: The questionnaires were checked for completeness, coded, and entered into the Statistical Package for Social Sciences (SPSS) (IBM Corp., 2011) version 20.0 statistical software for analysis. The data was analyzed using Statistical Package for Social Sciences (SPSS), and its management involved the use of tables and appropriate graphs. First, we conducted a descriptive analysis of criterion variables together, where discrete data were presented as proportions (percentages), while continuous variables such as age were expressed as mean \pm standard deviation. The incidence and prevalence of excessive alcohol use among the study's respondents were computed. Second, Chi-square (χ^2) was employed to ascertain the relationship between the explanatory and the outcome of interest variables. Third, we conducted several regression models to evaluate the possible differences and the predictors of the outcome variable among the regression models, with significant level of $p < 0.05$ as the level of precision.

Ethics approval and consent to participate: The ethical review committee of the Osun State University, Okuku campus, Osun State, Nigeria (Reference number: SOC/2013/0038) and Osun State University Health Research Ethics Committee, Osun State, Nigeria (Reference number: SSA/PF/0437), approved the study protocol. Written consent was obtained from all participants. For the few respondents ($n = 102$) included in this study who were aged 15 – 17 years at the time of the study, assent and parental consent were obtained before their participation. We gave all respondents a detailed explanation of the research objectives and how the information collected will be used. Also, respondents were told that they were free to skip any question they were not comfortable answering, or to stop the interview at any time. Anonymity, confidentiality, and privacy were ensured throughout the study.

RESULTS

The mean age of study respondents was 19.5 years (standard deviation = 3.36). Table 1 presents the findings of the demographic characteristics of the study respondents. Most respondents were age 20 – 24 years (50.2%), Yoruba (50.0%), single but not cohabiting (78.5%), artisans (51.0%), Christians (63.5%), with primary education (66.6%) and with a monthly income below ₦9,999 (43.0%). Table 1 also showed that incidence of excessive alcohol intake is 47.5% and the prevalence of excessive alcohol intake is 71.0%, respectively among the respondents (Table 1).

Knowledge of excessive alcohol intake and its health implications: Table 2 shows that 78.0% of the respondents had ever heard of excessive alcohol intake and 47.5% of them reported current use of excessive alcohol, respectively. Also,

the study findings showed that knowledge level of excessive alcohol intake (47.0%) and its health implications (55.4%) were relatively high among the respondents (Table 2). Similarly, table 2 shows that most respondents reported mass media jingles (66.0%) and ‘significant others’ (26.0%) as their source of information on excessive alcohol intake; while mass media (41.5%), health centres (26.5%), and ‘significant others’ (20.5%) were largely reported as used by respondents to obtain information on the health implications of excessive alcohol intake (Table 2).

Table 1:
Socio-demographic characteristics of respondents, n = 400

| Demographic factors | | Freq. | (%) |
|---|----------------------------|-------|-------|
| Sex | Male | 272 | 68.0 |
| | Female | 128 | 32.0 |
| Age | 15 – 19 years | 192 | 48.0 |
| | 20 – 24 years | 208 | 52.0 |
| Ethnic Group | Yoruba | 200 | 50.0 |
| | Hausa | 28 | 7.0 |
| | Igbo | 120 | 30.0 |
| | Others | 52 | 13.0 |
| Marital Status | Single but not cohabiting | 314 | 78.5 |
| | Cohabitation | 86 | 21.5 |
| Educational level | Elementary primary school | 264 | 66.0 |
| | Secondary school | 34 | 8.5 |
| | Vocational training school | 102 | 25.5 |
| Occupation | Student | 196 | 49.0 |
| | Artisan | 204 | 51.0 |
| Religion | Christianity | 254 | 63.5 |
| | Islam | 98 | 24.5 |
| | Traditional | 48 | 12.0 |
| Estimated monthly stipend/income | Below ₦9,999 | 172 | 43.0 |
| | ₦10,000 – ₦19,999 | 138 | 34.5 |
| | ₦20,000 – ₦29,999 | 56 | 14.0 |
| | ₦30,000 and above | 34 | 8.5 |
| Behavioural Measures of excessive alcohol intake* | Incidence | 190 | 47.5% |
| | Prevalence | 284 | 71.0% |

*Note that the totals for incidence and prevalence is 400 each and their frequencies should not be added in the table to add up to 400, as each of them are calculated differently

Attitude and patterns of excessive alcohol intake: Table 3 showed that 37.5% of respondents have drinking attitudes they disapprove of, and 72.0% of them reported being drunk in the past three months prior to the survey. Forty-two percent mentioned binge drinking problems associated with alcohol, while 28.5% mentioned binge drinking as one of risky drinking behaviours they have engaged in within the last three months. Findings revealed that most of the respondents (82.0%) reported a negative attitude towards excessive alcohol intake. Also, the patterns of excessive alcohol intake among the respondents were measured with the following indicators such as self-reported drinking patterns, patterns of excessive alcohol intake, and reasons for the pattern of excessive alcohol intake. A majority of the respondents reported alcohol abuser (89.0%), heavy (43.0%) and binge patterns of excessive alcohol intake (45.0%), and 89.5% of them mentioned enjoyment as the reason for their patterns of excessive alcohol intake (Table 3).

Similarly, by associated demographics, a majority of the male respondents (82.2%) was found significantly associated with negative attitude towards excessive alcohol intake ($\chi^2 = 15.65, p = 0.05$), while respondents aged 15-19 years (87.3%)

was found to be significantly associated with negative attitude towards excessive alcohol intake ($\chi^2 = 3.87, p = 0.05$).

Table 2:
Distribution of respondents’ knowledge on excessive alcohol intake and its health implications, n = 400

| Knowledge questions on excessive alcohol intake | | F | (%) |
|--|---|-----|-------|
| Ever heard of excessive alcohol intake | Yes | 312 | 78.0 |
| | No | 88 | 22.0 |
| Current use of excessive alcohol | Yes | 190 | 47.5% |
| | No | 210 | 52.5% |
| Knowledge level of excessive alcohol intake | Poor | 65 | 16.2 |
| | Average | 147 | 36.8 |
| | High | 188 | 47.0 |
| Knowledge of health implications of excessive alcohol intake | Poor | 60 | 15.1 |
| | Average | 118 | 29.5 |
| | High | 222 | 55.4 |
| Description of excessive alcohol intake | 5 or more bottles of alcohol | 160 | 40.0 |
| | Alcohol drink + codeine shot of spirits only | 22 | 5.5 |
| | 1 glass cup of beer only | 44 | 11.0 |
| | Alcohol herbal extract with 30% alcohol vol (Alomo Bitters) | 20 | 5.5 |
| | Alcohol herbal mixtures (<i>shekpe, shalaye</i> etc.) | 94 | 23.5 |
| | Alcohol herbal mixtures (<i>shekpe, shalaye</i> etc.) | 60 | 15.0 |
| Period of time in engaging in excessive alcohol intake (prior to the survey) | 6 months ago | 104 | 26.0 |
| | 12 months | 30 | 7.5 |
| | 24 months | 42 | 10.5 |
| | 36 months | 30 | 7.5 |
| | More than 36 months | 194 | 48.5 |
| Daily estimation of the number of bottles of alcohol consumed per day | 1 – 2 | 170 | 42.5 |
| | 3 – 5 | 86 | 21.5 |
| | 5 – 7 | 126 | 31.5 |
| | Above 7 | 18 | 4.5 |
| Reasons for excessive alcohol intake | Fights cold | 120 | 30.0 |
| | Relieves mental stress | 76 | 19.0 |
| | Good for the heart | 78 | 19.5 |
| | Improves libido | 126 | 31.5 |
| Knowledge of non-benefits of excessive alcohol intake | Loss of self-control | 124 | 31.0 |
| | Liver disease | 116 | 29.0 |
| | Kidney stone | 50 | 12.5 |
| | Obesity | 38 | 9.5 |
| | Use of sedatives | 38 | 9.5 |
| | Nervous breakdown | 34 | 8.5 |
| Knowledge of short-term health implication of excessive alcohol intake | Domestic Violence | 105 | 26.2 |
| | Alcohol poisoning | 102 | 25.5 |
| | Risky sexual behaviours | 91 | 22.8 |
| | Miscarriage/stillbirth | 102 | 25.5 |
| Knowledge of long-term health implications of excessive alcohol intake | Non-communicable Dis. | 68 | 17.0 |
| | Cancer (Liver and Colon) | 63 | 15.7 |
| | Dementia | 61 | 15.2 |
| | Mental health issues | 71 | 17.7 |
| | Alcohol dependence | 74 | 18.4 |
| | Social problems | 63 | 16.0 |
| Problems associated with excessive alcohol intake among youths | Sexual assault | 83 | 20.8 |
| | Poor school performance | 82 | 20.6 |
| | Motor vehicle crashes | 98 | 24.4 |
| | Anemia | 55 | 13.7 |
| | Depression | 82 | 20.5 |
| Sources of information on excessive alcohol intake | Mass media jingles | 264 | 66.0 |
| | ‘Significant others’ | 104 | 26.0 |
| | NGOs | 0 | 0.0 |
| | Health centers | 32 | 8.0 |
| Sources of information on Health implications | Mass media jingles | 166 | 41.5 |
| | ‘Significant others’ | 82 | 20.5 |
| | NGOs | 46 | 11.5 |
| | Health centers | 106 | 26.5 |

Respondents with below ₦9,999 (90.4%) and ₦30,000 and above (82.4%) were found to be associated with negative

attitude towards excessive alcohol intake ($\chi^2 = 22.16, \rho = 0.05$) (Table 3).

Table 3:

Level of attitude towards excessive alcohol intake, self-reported drinking pattern and its associated demographic indicators, n = 400

| Drinking behaviours | | Frequency | (%) |
|---|---|-------------------------|--------------------------|
| Drinking attitudes (disapprove of) | 5 + drinks one or two times per weekend | 130 | 32.5 |
| | 5 drinks once a month | 120 | 30.0 |
| | 1 or 2 drinks every day | 150 | 37.5 |
| | Drinking behaviours | | |
| | Drank in past year | 48 | 12.0 |
| | Been drunk in past year | 64 | 16.0 |
| | Been drunk in 3 months* | 288 | 72.0 |
| Problems associated with Alcoholism | Binge drinking | 168 | 42.0 |
| | Alcohol abuse | 110 | 27.5 |
| | Alcohol dependence | 122 | 30.5 |
| Risky drinking in last 3 months* | Episodic heavy drinking | 110 | 27.5 |
| | Binge drinking | 114 | 28.5 |
| | Risky single occasion drinkin | 12 | 3.0 |
| | Extreme drinking | 164 | 41.0 |
| Experience with Alcoholism | Pleasant | 40 | 10.0 |
| | Unpleasant | 360 | 90.0 |
| Attitude level towards excessive alcohol intake | Positive | 72 | 18.0% |
| | Negative | 328 | 82.0% |
| Self-reported drinking patterns | Normal drinker | 44 | 11.0% |
| | Alcohol abuser | 356 | 89.0% |
| Patterns of excessive alcohol intake | Light | 48 | 12.0% |
| | Heavy | 172 | 43.0% |
| | Binger | 180 | 45.0% |
| Reasons for the pattern of excessive alcohol intake | Health | 42 | 10.5% |
| | Enjoyment | 358 | 89.5% |
| Demographics | | Positive, n = 72 | Negative, n = 328 |
| Sex ($\chi^2 = 15.65, \rho < 0.05$)** | Male | 52 (17.2%) | 250 (82.8%) |
| | Female | 20 (20.4%) | 78 (79.6%) |
| Age groups ($\chi^2 = 3.87, \rho < 0.05$)** | 15 – 19 years | 25 (12.7%) | 172 (87.3%) |
| | 20 – 24 years | 47 (23.2%) | 156 (76.8%) |
| Marital status ($\chi^2 = 2.93, \rho > 0.05$) | Single but not cohabiting | 57 (18.2%) | 257 (81.8%) |
| | Cohabitation | 15 (17.4%) | 71 (82.6%) |
| Average Monthly Income ($\chi^2 = 22.16, \rho < 0.05$)** | Below ₦9,999 | 20 (9.6%) | 188 (90.4%) |
| | ₦10,000 – ₦19,999 | 32 (28.6%) | 80 (71.4%) |
| | ₦20,000 – ₦29,999 | 14 (30.4%) | 32 (69.6%) |
| | ₦30,000 and above | 06 (17.6%) | 28 (82.4%) |

*Prior to the survey; **Significant at $\rho < 0.05$

Social factors associated with excessive alcohol intake:

Table 4 shows the social factors associated with excessive alcohol intake among the respondents. Social factors such as religion ($\chi^2 = 24.18, \rho < 0.05$), low income ($\chi^2 = 22.16, \rho < 0.05$), use of codeine ($\chi^2 = 22.16, \rho < 0.05$), brewery free drinks ($\chi^2 = 22.16, \rho < 0.05$), lower price of alcohol ($\chi^2 = 22.16, \rho < 0.05$), media adverts ($\chi^2 = 22.16, \rho < 0.05$), peer pressure ($\chi^2 = 22.16, \rho < 0.05$), cultural norms ($\chi^2 = 22.16, \rho < 0.05$), men more prone ($\chi^2 = 22.16, \rho < 0.05$) and ‘significant others’ ($\chi^2 = 22.16, \rho < 0.05$) were found to be significantly associated with excessive alcohol intake among the respondents. Women more prone to excessive alcohol intake and higher income were not significantly associated with excessive alcohol intake (Table 4).

Table 4:

Social factors associated with excessive alcohol intake among the respondents, n = 400

| Social factors | Frequency | Percentage (%) | Chi-square (χ^2) |
|------------------------|-----------|----------------|-----------------------------------|
| Religion | 80 | 20.0% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Women prone | 102 | 25.5% | $\chi^2 = 22.16, (\rho > 0.05)$ |
| Low income | 113 | 28.3% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Use of codeine | 134 | 33.5% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Brewery free drinks | 142 | 35.5% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Lower price of alcohol | 158 | 39.5% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Media adverts | 166 | 41.5% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Peer pressure | 176 | 44.0% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Cultural norms | 188 | 47.0% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| Higher income | 202 | 50.5% | $\chi^2 = 22.16, (\rho > 0.05)$ |
| Men prone | 293 | 73.3% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |
| ‘Significant others’ | 314 | 78.5% | $\chi^2 = 22.16, (\rho < 0.05)^*$ |

*Significant at $\rho < 0.05$

Multiple Linear Regression showing predictors of excessive alcohol intake:

The multiple linear regression model were used to examine the unstandardized (β_1) and standardized coefficients (β_2) of the key independent predictors of excessive alcohol intake. In the standardized coefficients of the model, ‘significant others’ ($t = 6.892, \rho < 0.05$), price of alcohol ($t = 6.392, \rho < 0.05$), higher income ($t = 2.529, \rho < 0.05$), lower income ($t = 3.586, \rho < 0.05$), men more prone ($t = 3.134, \rho < 0.05$), use of codeine ($t = 2.770, \rho < 0.05$) and religion permits it ($t = 2.367, \rho < 0.05$) significantly predicted a higher likelihood of excessive alcohol intake among the respondents. Also, the effect of the magnitude and direction remained constant even after accounting for other variables. However, peer pressure ($t = -3.869, \rho < 0.05$) and age cohorts’ acceptance ($t = -5.080, \rho < 0.05$) were statistically significant, characterized by a negation of denial of respondents of the odds of excessive alcohol intake. Also, table 5 showed that the summary finding of the yielded coefficient of the multiple regression analysis were $R = 0.779, R^2 = 0.607$ and adjusted $R^2 = 0.589$. This showed that the independent predictors jointly accounted for 58.9% variation (Adjusted $R^2 = 0.589$) in the prediction of excessive alcohol intake among the respondents. The ANOVA revealed a significant joint influence of the dependent and predictor variables, with an F value of 34.497 and $\rho < 0.05$.

DISCUSSION

This study examined the predictors of excessive alcohol intake among respondents in Lagos State, Nigeria. Our results show an incidence of 47.5% and a prevalence of 71.0% of excessive alcohol intake among the respondents. Thus, when compared to earlier studies, the prevalence and incidence of excessive alcohol intake was found to be in line with findings from such studies (Akande-Sholabi *et al.*, 2019; Nwosu *et al.*, 2022). According to Sudhinaraset *et al.* (2016), a Brazilian study found that 71.4% of adolescent schoolchildren used alcohol, and Chikere and Morakinyo (2011) found that male undergraduate students in Owerri, South-East Nigeria, used alcohol at a higher prevalence of 78.4%.

Table 5:
Multiple Linear Regression Model showing independent predictors of excessive alcohol intake

| Model | Unstandardized coefficients | | Unstandardized coefficients | | t | Significance |
|------------------------|-----------------------------|------------|-----------------------------|--|--------|--------------|
| | β_1 | Std. Error | β_2 | | | |
| (Constant) | -0.288 | 0.121 | – | | -2.385 | 0.02 |
| ‘Significant others’ | 0.524 | 0.076 | 0.372 | | 6.892 | 0.00* |
| Peer pressure | -0.111 | 0.059 | -0.212 | | -3.869 | 0.00 |
| Cultural norm | 0.150 | 0.044 | 0.155 | | 3.422 | 0.00* |
| Price of alcohol | 0.337 | 0.053 | 0.349 | | 6.392 | 0.00* |
| Higher income | 0.147 | 0.058 | 0.146 | | 2.529 | 0.01* |
| Lower income | 0.168 | 0.047 | 0.164 | | 3.586 | 0.00* |
| Age cohorts acceptance | -0.161 | 0.032 | -0.286 | | -5.080 | 0.00 |
| Men more prone | 0.215 | 0.069 | 0.177 | | 3.134 | 0.00* |
| Women more prone | 0.012 | 0.054 | 0.011 | | 0.220 | 0.83 |
| Use of codeine | 0.121 | 0.044 | 0.124 | | 2.770 | 0.01* |
| Religion permit | 0.143 | 0.060 | 0.127 | | 2.367 | 0.02* |

| Model | R | R ² | Adjusted R ² | Std. Error |
|-------|-------|----------------|-------------------------|------------|
| 1 | 0.779 | 0.607 | 0.589 | 0.310 |

| Model | SS | df | Mean Square | F | Significance |
|--------------|------------|---------------|-------------|--------|--------------|
| Regression | 11 | 36.413 | 3.310 | 34.497 | 0.000* |
| Residual | 246 | 23.606 | 0.096 | | |
| Total | 257 | 60.019 | | | |

β – Beta; t-test – an inferential statistics used to determine if there is a significant difference between the means of two groups and how they are related; SS – Sum of Squares; Sig – *Significant at $p < 0.05$

However, the prevalence rate of excessive alcohol intake in this study is lower than the rates earlier documented among other students in Nigeria, ranging from 71.0% to 78.4%, while the incidence rate of excessive alcohol intake is formerly reported within the range of 47.5% to 60.6% (Dumbili, 2022; Ekeke *et al.*, 2023). The plausible reason for this is that the Northern region of Nigeria is mainly dominated by Muslims and this has been cited in several studies (Anene, 2022; Ojonuba *et al.*, 2023). The current study was conducted in Lagos State, in the Southern part of Nigeria, which has a significant population of individuals who are Christians. According to this study findings, excessive alcohol intake was found to be higher (63.5%) among respondents who reported to be Christians. Thus, a majority of Christians do not forbid alcohol intake, and the implementation of alcohol non-intake among Christians is less pronounced amid Christians in the southern part of Nigeria compared to the northern region of Nigeria (Anene, 2022; Ojonuba *et al.*, 2023).

Studies have shown that high incidence of excessive alcohol intake may influence a high prevalence rate, stimulating negative impact on people’s health over time (Nwosu *et al.*, 2022). Among the respondents, knowledge of excessive alcohol intake and its health implications was high, and this study’s findings are in line with Anene (2022) and Ojonuba *et al.* (2023). Another study also corroborates this study’s findings (Lasebikan *et al.*, 2018). Sources of information on excessive alcohol intake and its health implications were widely obtained among respondents via mass media jingles and ‘significant others’. This is similar to the findings of the works of Ferreira-Borges *et al.* (2016) and Abiona *et al.* (2019). Given that the legal drinking age in most nations, including Nigeria, is 18 years, this is not unexpected and explains why there is a greater prevalence of excessive intake of alcohol among those under 20 years (Anene, 2022;

Ojonuba *et al.*, 2023). According to data from the World Health Organization (WHO), excessive alcohol intake is one of the main causes of illness and death in persons between the ages of 20 years and 40 years (WHO, 2014b; WHO, 2023). This shows that compared to cohorts younger than this age, this age group consumes more alcohol excessively. Age cohorts of 15 years to 24 years represent the phase of time between adolescence and adulthood, and it is at this time that many young adults experiment and try new activities, such as excessive alcohol intake. Furthermore, this age group experiences a great deal of stress, societal pressure, and striving for accomplishment, among other factors which may encourage alcohol intake (Giani *et al.*, 2020). Many of the youths in this age cohort still rely on others in some ways for their livelihood, and some have many sources of income, so it makes sense to think they have a bit more spending power for excessive alcohol intake (Nwosu *et al.*, 2022).

Early engagement in excessive alcohol intake among younger age cohorts, may likely predisposes them to alcohol dependency in the near future when they grow up (Ojonuba *et al.*, 2023). As it is a piece of general knowledge, individuals who drink too much do not only endanger themselves but also their "significant others," the wider community, and their local settings. Similarly, excessive alcohol intake among youths is usually associated with alcohol use disorder, insomnia, self-harm, unintentional and intentional injuries, mental and psychological disorders, violence, alcohol dependence, social anxiety, poor academic performance, and social behaviours such as increasing aggression, self-disclosure, and sexual adventurousness (Tarrío-Concejero *et al.*, 2023). Drinking behavioural patterns of excessive alcohol intake as an alcohol abuser was also highest among the respondents, followed by heavy and binge drinkers. The association between lack of monitoring and restrictive measures regarding the sales of

alcohol to youths gives them the tendency and liberty to engage in binge and heavy drinking (Ajayi *et al.*, 2019; Giani *et al.*, 2020). Mainly respondents reported their reasons for their drinking patterns as enjoyment and health. Apart from that, youths who drink for pleasure exhibit these patterns of behaviour that comply with the norms of their social environments, where excessive drinking, intoxication, and acting out are regarded as usual and even seen as part of the fun (de Visser, 2021; Dumbili, 2022).

However, this type of behaviour is different from the prescriptive norms in society, which encourage positive behaviour or discourage negative behaviour (proscriptive), denoting patterns of behaviour and internalized values which are important norms that support a contribution to social order (Abiona *et al.*, 2019). Also, the notion that alcohol intake is good for health is also ancient, where aperitifs are seen to enhance appetite and digestion (Goh *et al.*, 2022). The health benefits of moderate alcohol intake have been documented medically, and prospective epidemiologic studies have found that moderate drinkers have lower incidences of chronic diseases such as heart disease (cardiomyopathy—disease of the heart muscle), irregular heartbeat (high blood pressure and stroke) and liver disease (fatty liver disease (steatosis), hepatitis, fibrosis, and cirrhosis), (Nwosu *et al.*, 2022; Akokuwebe *et al.*, 2023) and have good health compared to those involved in regular excessive alcohol intake. Thus, preserving a good health condition involves regular exercise, balanced nutrition, and adequate rest, which all contribute to good health. Hence, physical well-being involves pursuing a healthy lifestyle to decrease the risk of disease (Akokuwebe *et al.*, 2022; Akokuwebe *et al.*, 2023). Moreover, historically and internationally cultural predictions of alcohol intake and its effects vary in terms of likely positive and negative consequences that are attached to excessive alcohol intake. In some contemporary societies, strict parameters for drinking are enforced, including regulation of time and place of alcohol consumption, age restrictions for drinking, and taxation policies (Johnson *et al.*, 1988; Tarriño-Concejero *et al.*, 2023).

The idea of the need to control drinking externally or formally among the youth coincides with social and medical problems associated with excessive alcohol intake, which introduce negative effects in youths who engaged in excessive alcohol intake under cover. Thus, involvement in excessive alcohol intake is often associated with risky behaviours such as an increase in violence (Ajayi *et al.*, 2019), cigarette smoking (Tarriño-Concejero *et al.*, 2023), use of illicit drugs (Svensson *et al.*, 2021), traffic accidents (Giani *et al.*, 2020), unsafe sexual behaviour (Sudhinaraset *et al.*, 2016), depression (Giani *et al.*, 2020), and suicide (Ajayi *et al.*, 2019). Therefore, a health promotion campaign to lessen the adverse effects of excessive youth drinking is necessary, particularly among those between the ages of 15 to 24 years old (Ekeke *et al.*, 2023). By restricting the growth of alcohol businesses nearby and regulating the hours of operation, such laws may be designed to decrease the availability of alcohol to young people around their vicinity. Given that alcohol tends to be accessible to young people, raising the alcohol sales tax is a policy option to reduce the youthful consumption of alcohol. Alcohol taxation policy has been shown to

significantly impact alcohol use and other important outcomes (Nwosu *et al.*, 2022).

We found higher odds of various factors associated with excessive alcohol intake among respondents. These factors include 'significant others', cultural norm, price of alcohol, higher income, lower income, men more prone, use of codeine and religion permits it. This finding from our study supports other studies that have shown that higher levels of family support are protective against alcohol-related harms, predominantly through lower intake of alcohol patterns (Sudhinaraset *et al.*, 2016; Giani *et al.*, 2020; Dumbili, 2022). This is particularly relevant regarding the association between "significant others" and excessive alcohol consumption. Social or financial assistance from family members might take many different forms, but they are all connected. Adequate family support constitutes an investment in the life of a young person. Adolescents who are sufficiently supported by their families may not wish to disappoint them by engaging in otherwise aberrant conduct (Odukoya *et al.*, 2018). Although we lack the evidence to support it, another likely hypothesis is that the child's sense of entitlement as a result of the family's support may encourage them to speak up for themselves and lessen their propensity to drink excessively to cope with stress. Yet, a family that encourages alcohol consumption could result in children who take alcohol, and a family that disapproves of it may grow children who despise alcohol (Dumbili, 2022). This study's findings showed that cultural norms are associated with excessive alcohol intake, and our finding validates other studies ((Anene *et al.*, 2022; Tarriño-Concejero *et al.*, 2023).

Anene *et al.* (2022) submitted that drinking in any community can, however, be influenced by the social and cultural norms of the community. Normative alcohol culture is an accumulation of the beliefs, attitudes, expectations, norms and behaviours within and surrounding drinking behaviour and drinking practices, including who, when, how, and how much alcohol can be consumed based on social and cultural factors (Nwosu *et al.*, 2022). However, in some cultures, alcohol drinking is part and parcel of religious rites and social customs, where alcohol intake is regulated by tradition and self-control is the ability to control youths' excessive alcohol intake (Ajayi *et al.*, 2019). The price of alcohol was found to be a higher predictor of excessive alcohol intake among youths. The possible reason may be that a decrease in the price of alcohol may lead to increased alcohol intake. Yet studies which have examined the effects of increases of monetary prices on alcohol consumption and health issues have demonstrated that price increases for alcoholic drinks leads to reduced alcohol consumption in the general population of youth (Svensson *et al.*, 2021; Ekeke *et al.*, 2023). Having a higher or lower income was found to be a predictor of excessive alcohol intake among the youth. This finding validates the studies' findings of Abiona *et al.* (2019) and Nwosu *et al.* (2022).

Income is a principal determinant of alcohol intake, but access to credit sources and subsistence activities are also critical for it (Nwosu *et al.*, 2022). However, beside these economic factors, some psychological factors may also influence consumer spending. Thus, heavy and binge drinking is a way to escape from stress and lack of control people

experience in their lives, feelings which are less intense for affluent individuals who enjoy higher social status, better social support, and more economic freedom (Ferreira-Borges *et al.*, 2016; Ojonuba *et al.*, 2023). Similarly, men are more prone is found to have higher odds of association with exclusive alcohol intake among youths. Several studies have shown that men are more likely to drink more alcohol, more frequently, and are more likely to binge drink than women (Nwosu *et al.*, 2022; Ojonuba *et al.*, 2023). The reason is that women's bodies have a higher ratio of fat to water, and they reach a higher blood alcohol concentration after a single drink than men, even when matched for weight and size (Ojonuba *et al.*, 2023). Notwithstanding, women drink for many of the same reasons that men drink, such as to relax, to gain confidence in social situations, to get to sleep, and to relieve stress. Other reasons why women drink alcohol mentioned in some studies include that women are more likely to drink if they have problems with loved ones (Dumbili, 2022; Goh *et al.*, 2022).

For instance, in the United States, more males than females drink each year (males – 68%, females – 64%) and male drinkers tend to drink more often and more heavily than females do, consuming nearly three times as much pure alcohol per year (males – 19.0 litres, females – 6.7 litres) (Nwosu *et al.*, 2022). Thus, alcohol is by far the most common substance of abuse in the United States and historically, men have had higher rates of alcohol abuse (Nguengang *et al.*, 2020; Goh *et al.*, 2022). Studies have showed that nearly 20% of men have an alcohol use disorder (AUD) compared to between 7% and 12% of women (Anene, 2022; Ojonuba *et al.*, 2023) and yet, recent studies have shown that women's drinking habits are falling more in line with their male counterparts (Lasebikan *et al.*, 2018; Dumbili, 2022). Likewise, use of codeine was found to be associated with higher odds of youths' involvement in excessive alcohol intake. This corroborates the findings of several studies conducted in Nigeria (WHO, 2014b; Anene, 2022). Codeine-containing cough syrup appears to be the most consumed opioid products by the students in their lifetime, and evidence of misuse of these products have been reported in many countries (Anene, 2022).

The accessibility of these products over-the-counter (OTC) not requiring a prescription might describe the ease of its availability with little or no rejection. A health expert, such as a pharmacist, should see every sale of over-the-counter (OTC) drugs containing codeine. This might raise public awareness of codeine dependency, especially among youths of youthful enthusiasm (Ojonuba *et al.*, 2023). The intervention to control access to over-the-counter products having codeine will assist in helping to identify youths abusing these prescription medications, regardless of whether they are doing so intentionally or unintentionally. Finally, religion permits it predicted excessive alcohol intake among youths, and this finding corroborates other studies conducted in Nigeria (Abiona *et al.*, 2019; Ekeke *et al.*, 2023). Several studies have shown that the world's religions have differing relationships with alcohol, and many religions forbid alcoholic consumption or see it as sinful or negative (Nwosu *et al.*, 2022; Ekeke *et al.*, 2023). However, other have allocated a specific place for it, such as in the Christian practice of using

wine during the Eucharistic rite, and thus, strong religious commitment consistently relates to lower rates of alcohol use and misuse across religious affiliations (Lasebikan *et al.*, 2018; Dumbili, 2022). Alcohol and other drugs may interfere with and weaken one's spirit and mind, which may affect the emotional, social, spiritual, and physical well-being of youths. This can weaken their connection to family, community, culture and country. According to Ojonuba *et al.* (2023) and Ekeke *et al.* (2023) harmful alcohol consumption is a risk factor that can be prevented that contributes to increasing rates of non-communicable ailments and death. To address the problems above among Nigerian youth and youth worldwide, it is essential to implement policies centred on prevention as a primary goal.

In Nigeria, policies with specific steps to fight hazardous alcohol use have been established, but local and state implementation is lacking. The high prevalence of intake of excessive alcohol among youths in Nigeria is not unforeseen, given the lack of a practical or effective policy on alcohol use and marketing in the nation (Nwosu *et al.*, 2022; Ojonuba *et al.*, 2023). Alcohol use is frequently mentioned among young people across the world. The days of youths seldom taking alcohol due to perceived cultural barriers are long gone; instead, with the current prevalence of coercing and unrestrained alcohol company commercials, a dearth of alcohol policies, and the exposure to many different youth programmes by alcohol manufacturing sectors, youths now find alcohol use more appealing (Anene, 2022). It is worse among youths who have a perceived sense of freedom from parental control and as a result, feel free to engage in excessive alcohol intake (Lasebikan *et al.*, 2018; Dumbili, 2022). Youths sees their transitional stage of physical and psychological development as a period to experiment with the various patterns of behaviours they perceive in their environment, and they sometimes engage in alcohol intake for social identity, to improve their sexual performance, or to deal with stress and anxiety accompanying academic or social activities (Anene, 2022).

In conclusion, this study revealed a high incidence and prevalence of excessive alcohol intake and its health implications among the youth, and is consistent with other studies in Nigeria and elsewhere. Knowledge-related factors such as knowledge on health implications and attitude as well as drinking behavioural patterns and socio-demographic factors, were also significant predictors of excessive alcohol intake. There is a need to design interventions to lower excessive alcohol intake among youths in the Nigerian context, as well as to put into practice measures to control alcohol production, sales and marketing, and accessibility in terms of policies.

Acknowledgements

We are grateful to all the study respondents and research assistants for assisting in the collection of the data. For their roles in editing and improving the statistical quality of this paper, the authors acknowledge Mrs Helen Thomas and Late Mr. Johnson Erhoe. The authors would also like to thank the North-West University Faculty of Humanities in Mafikeng, South Africa, for the Postdoctoral Research Fellowship Platform for Dr. Monica Ewomazino Akokuwebe.

REFERENCES

- Lu W, Xu J, Taylor AW, Bewick BM, Fu Z, Wu N, Qian L and Yin P. (2019).** Analysis of the alcohol drinking behavior and influencing factors among emerging adults and young adults: a cross-sectional study in Wuhan, China. *BMC Public Health*. 19, 458.
- Svensson R, Johnson B and Kronkvist K. (2021).** A community intervention to reduce alcohol consumption and drunkenness among adolescents in Sweden: a quasi-experiment. *BMC Public Health*. 21; 764.
- Silumbwe A, Sabastian MS, Michelo C, Zulu JM and Johansson K. (2022).** Sociodemographic factors associated with daily tobacco smoking and binge drinking among Zambians: evidence from the 2017 STEPS survey. *BMC Public Health*. 22, 205.
- Ekeke EC and John EO. (2023).** 'Alcohol abuse in African traditional religion: Education and enlightenment as panacea for integration and development'. *HTS Theologisches Studies/Theological Studies*. 79(1): a8304.
- World Health Organization (WHO) (2014a).** Alcohol and inequalities Guidance for addressing inequities in alcohol-related harm. Copenhagen: WHO Regional Office for Europe; 2014.
- World Health Organization (WHO) (2023).** Alcohol. Accessed on the 26th of January, 2023 from https://www.who.int/health-topics/alcohol#tab=tab_1.
- Ajayi AI, Owolabi EO and Olajire OO. (2019).** Alcohol use among Nigerian university students: prevalence, correlates and frequency of use. *BMC Public Health*. 19, 752.
- Abikoye GE and Osinowo HO. (2011).** In the eye of the beholder: Alcohol use and perceptions among student-patrons of 'Joints' in three Nigerian university communities. *Psychological students*. 56 (3): 258-265.
- Dumbili EW (2013).** Patterns and determinants of alcohol use among Nigerian university students: An overview of recent developments. *African Journal of Drug and Alcohol Studies*. 12 (1), 29–51.
- Odukoya OO, Sobande OO, Adeniran A and Adesokan A. (2018).** Parental monitoring and substance use among youths: A survey of high school adolescents in Lagos State, Nigeria. *Nigerian journal of clinical practice*. 21 (11): 1468–1475.
- Chikere EI and Mayowa MO. (2011).** Prevalence and perceived health effect of alcohol use among male undergraduate students in Owerri, South-East Nigeria: a descriptive cross-sectional study. *BMC public health*. 11, 118.
- Igwe WC and Ojinnaka NC. (2010).** Mental health of adolescents who abuse psychoactive substances in Enugu, Nigeria - a cross-sectional study. *Italian Journal of Pediatrics*. 36, 53.
- Onodugo OD, Ezeala-Adikaibe BA, Anyim OB, Ezeme M, Ijoma UN, Obumneme-Anyim IN, Okoli OI, Onodugo PN, Okoli PC and Ekenze OS. (2019).** Prevalence and pattern of alcohol use among adults in an urban slum in south east Nigeria. *Open J Psychiatry*. 9: 179.
- Collins SE, Witkiewitz K and Larimer ME. (2011).** The theory of planned behaviour as a predictor of growth in risky college drinking. *Journal of Studies on Alcohol and Drugs*. 72 (2): 322.
- Johnson EM, Amatetti S, Funkhouser JE and Johnson S. (1988).** Theories and models supporting prevention approaches to alcohol problems among youth. *Public health reports (Washington, D.C. : 1974)*. 103 (6): 578–586.
- Sling G. (2013).** Why do students drink? In J. Chrzan (Ed.), *Alcohol: Social drinking in cultural context*. Taylor & Francis: New York, NY. Pp. 131-160.
- City Population (2022).** Mushin Local Government Area in Nigeria – Population. Accessed on January 14th, 2023 from https://www.citypopulation.de/en/nigeria/admin/lagos/NGA025016__mushin/
- National Population Commission (NPC), (2006).** Mushin (Local Government Area, Nigeria) - Population Statistics, Charts, Map and Location. NPC: Abuja, Nigeria.
- City Population (2019-2023).** Mushin, Lagos State, Nigeria. Accessed on the 14th of January, 2023 from <https://www.city-facts.com/mushin/population>
- Prata N, Weidert K and Sreenivas A. (2013).** Meeting the need: youth and family planning in sub-Saharan Africa. *Contraception*. 88 (1): 83-90.
- Kuntsche E, Otten R and Labhart F. (2015).** Identifying risky drinking patterns over the course of Saturday evenings: An event-level study. *Psychology of Addictive Behaviours*. 29 (3): 744–752.
- Odeyemi K, Odeyemi B and Olatona F. (2014).** Alcohol Knowledge and Consumption among Medical Students in Lagos, Nigeria. *Universal Journal of Public Health*. 2(4): 131-136.
- Uakarn C, Chaokromthong K and Sintao N. (2021).** Sample Size Estimation using Yamane and Cochran and Krejcie and Morgan and Green Formulas and Cohen Statistical Power Analysis by G*Power and Comparisons. *APHEIT International Journal*. 10 (2): 76-88.
- Sterling SA, Palzes VA, Lu Y, Kline-Simon AH, Parthasarathy S, Ross T, Elson J, Weisner C, Maxim C and Chi FW. (2020).** Associations Between Medical Conditions and Alcohol Consumption Levels in an Adult Primary Care Population. *JAMA Network Open*, 3 (5).
- Gustafson L. (1957).** Relationship between Ethnic Group Membership and the Retention of Selected Facts Pertaining to American History and Culture. *The Journal of Educational Sociology*. 31 (2), 49–56.
- Krämer K, Bente G, Luo S, Pfeiffer UJ, Han S and Vogeley K. (2013).** Influence of Ethnic Group-Membership and Gaze Direction on the Perception of Emotions. A Cross-Cultural Study between Germany and China. *PLoS ONE*. 8 (6): e66335.
- Fousiani K, Michaelides M and Dimitropoulou P. (2019).** The effects of ethnic group membership on bullying at school: when do observers dehumanize bullies? *The Journal of Social Psychology*. 159 (4), 431-442.
- Akokuwebe ME, Falayi EO, Adekola F and Saliu MY. (2019).** Sexual Behaviour of In-school Rural Adolescents in Ogun State, Nigeria. *Afr. J. Biomed. Res*. 22 (2): 135-143.
- Akokuwebe ME, Odimegwu C and Omololu F. (2020).** Prevalence, risk-inducing lifestyle, and perceived susceptibility to kidney diseases by gender among Nigerians residents in South Western Nigeria. *African health sciences*. 20 (2), 860–870.
- Akokuwebe ME and Idemudia ES. (2023).** Prevalence and knowledge of kidney disease risk factors among Nigerians resident in Lagos State Metropolitan District, South West Nigeria. *Ann Afr Med*. 22 (1):18-32.
- Giani P, Castruccio S, Anav A, Howard D, Hu W and Crippa P. (2020).** Short-term and long-term health impacts of air pollution reductions from COVID-19 lockdowns in China and Europe: a modelling study. *The Lancet Planetary Health*. 4 (10): e474 – e482.
- Williamson A.E., Tydeman F., Miners A. and Pyper K. (2022).** Short-term and long-term impacts of COVID-19 on

- economic vulnerability: a population-based longitudinal study (COVIDENCE UK). *BMJ Open*. 12: e065083.
- Leung TYM, Chan AYL, Chan EW, Chan VKY, Chui CSL, Cowling BJ, Gao L, Ge MQ, Hung IFN, Ip MSM, Ip P, Lau KK, Lau CS, Lau LKW, Leung WK, Li X, Luo H, Man KKC, Ng VWS, Siu CW, Wan EYF, Wing YK, Wong CSM, Wong KHT and Wong ICK. (2020).** Short- and potential long-term adverse health outcomes of COVID-19: a rapid review. *Emerging Microbes & Infections*. 9 (1), 2190-2199.
- Bonar EE, Schneeberger DM, Bourque C, Bauermeister JA, Young SD, Blow FC, Cunningham RM, Bohnert AS, Zimmerman MA and Walton MA. (2020).** Social Media Interventions for Risky Drinking Among Adolescents and Emerging Adults: Protocol for a Randomized Controlled Trial. *JMIR Res Protoc*. 9 (5): e16688.
- Tarriño-Concejero L, de Diego-Cordero R and García-Carpintero MMÁ. (2023).** Instagram, risky drinking and main health effects in Spanish adolescents in the COVID-19 pandemic. A qualitative study. *Public Health Nursing*. 40: 222–228.
- de Visser RO. (2021).** The Social Contexts of Alcohol Use. In: Cooke, R., Conroy, D., Davies, E.L., Hagger, M.S., de Visser, R.O. (eds) *The Palgrave Handbook of Psychological Perspectives on Alcohol Consumption*. Palgrave Macmillan, Cham.
- Akokuwebe ME and Idemudia ES. (2022).** A Community Study of the Risk Factors and Perceived Susceptibility to Kidney Disease Risk in Lagos State, South West Nigeria. *African Journal of Biomedical Research*. 25 (2), 153–161.
- Akande-Sholabi W, Adisa R, Iesanmi OS and Bellow AE. (2019).** Extent of misuse and dependence of codeine-containing products among medical and pharmacy students in a Nigerian University. *BMC Public Health*. 19, 1709.
- Nwosu IA, Ekpechu J, Njemanze VC, Ukah J, Eyisi E, Ohuruogu B, Nwazonobi P, Umanah N and Clement WE. (2022).** Self-Report on Men's Beliefs and Perceptions on Their Alcohol Use/Misuse in Southeast Nigeria. *American Journal of Men's Health*. 16 (6), 1557988322113019 3.
- Sudhinaraset M, Wigglesworth C and Takeuchi DT. (2016).** Social and Cultural Contexts of Alcohol Use: Influences in a Social-Ecological Framework. *Alcohol research: current reviews*. 38(1): 35–45.
- Dumbili EW (2022).** 'I just drink to feel abnormal for some time': Reconfiguring heavy drinking and intoxication as pleasurable. *International Journal of Drug Policy*. 99: 103454.
- Anene KA. (2022).** Pattern of Use and Effects of Codeine Products and Alcohol among Youths in Keffi, Nigeria. *J Basic Clin Pharma*. 13 (3):167-171.
- Ojonuba HS, Abdul Rahman H, Zaremohzzabieh Z and Mohd Zulkefli NA. (2023).** The Effectiveness of an Empowerment Education Intervention for Substance Use Reduction among Inner-City Adolescents in Nigeria. *International Journal of Environmental Research and Public Health*. 20 (4), 3731.
- Ferreira-Borges C, Rehm J, Dias S, Babor T and Parry CDH. (2016).** The impact of alcohol consumption on African people in 2012: an analysis of burden of disease. *Tropical Medicine and International Health (TMIH)*. 21 (1): 52-60.
- Abiona O, Oluwasanu M and Oladepo O. (2019).** Analysis of alcohol policy in Nigeria: multi-sectoral action and the integration of the WHO “best-buy” interventions. *BMC Public Health*. 19, 810.
- World Health Organization (WHO) (2014b).** Global status report on alcohol and health, 2014. Geneva: World Health Organization WHO Press; 2014.
- Goh CMJ, Asharani PV, Abidin E, Shahwan S, Zhang Y, Sambasivam R, Vaingankar JA, Ma S, Chong SA and Subramaniam M. (2022).** Gender Differences in Alcohol Use: a Nationwide Study in a Multiethnic Population. *International Journal of Mental Health and Addiction*. 2022.
- Nguengang WS, Lambert DM, Olry A, Rodwell C, Gueydan C, Lanneau V, Murphy D, Le Cam Y and Rath A. (2020).** Estimating cumulative point prevalence of rare diseases: Analysis of the Orphanet database. *European Journal of Human Genetics*. 28(2): 165-173.
- Carels C, Florence M, Adams S, Sinclair DL and Savahl S. (2022).** Youths' Perceptions Of The Relation Between Alcohol Consumption And Risky Sexual Behaviour in the Western Cape, South Africa: A Qualitative Study. *Child Indicators Research*. 15(4), 1269-1293.
- Mmerekhi B, Mathibe M, Cele L and Modjadji P. (2022).** Risk factors for alcohol use among adolescents: The context of township high schools in Tshwane, South Africa. *Frontiers in Public Health*, 10, 969053.
- Nawi AM, Ismail R, Ibrahim F, Hassan MR, Abdul Manaf MR, Amit N, Ibrahim N and Shafuridin NS. (2021).** Risk and protective factors of drug abuse among adolescents: a systematic review. *BMC Public Health*. 21, 2088.
- Maupa MA and Obioha EE. (2017).** Contemporary contributory factors of youth drug abuse in gauteng, South Africa. *International Journal of Social Sciences and Humanity Studies*; 9 (1): 170-185.
- Rachel C, Roman NV and Donga GT. (2022).** The Contribution of Parental Factors to Adolescents' Deviant Behaviour in South Africa: Evidence from Three Rural Communities in South Africa. *Social Sciences*, 11(4), 152.
- Rahmani H and Groot W. (2022).** Risk Factors of Being a Youth Not in Education, Employment or Training (NEET): A Scoping Review. *International Journal of Educational Research*. 120, 102198.
- September SJ, Rich EG and Roman NV. (2016).** The role of parenting styles and socio-economic status in parents' knowledge of child development. *Early Child Development and Care*. 186 (7): 1060-1078.
- Benchaya MC, Moreira TD, Constant HM, Pereira NM, Freese L, Ferigolo M and Barros HM. (2019).** Role of Parenting Styles in Adolescent Substance Use Cessation: Results from a Brazilian Prospective Study. *International Journal of Environmental Research and Public Health*. 16 (18), 3432.