



PREVALENCE OF ALCOHOL DRINK CONSUMPTION AND ASSOCIATED FACTORS IN THE ADULT POPULATION

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ABSTRACT

Objective: to estimate the prevalence of alcohol consumption and associated factors in an adult population, assisted in Primary Health Care, in a capital city of Northeastern Brazil. **Method:** a cross-sectional study, carried out with 391 adults, between 20 and 59 years old, assisted by the Family Health Teams in the city of Teresina, Piauí. Data were obtained through structured interviews from April to July 2019 and analyzed in SPSS version 20.0. **Results:** The sample was mostly composed of women, between 30 and 39 years old, educated but without a job, with children, and religious. The prevalence of alcohol consumption was 59.3%, of which 15.3% made risky use, 2.1% harmful use, and 3.1% presented possible dependence. There was a statistically significant association between alcohol consumption and the independent variables: gender, age group, and work. **Conclusion:** the results show a high prevalence of alcohol consumption associated with men, despite the predominance of women, young adults, and those with work. Considering the harmful consumption causes, the importance of the routine application of instruments during consultations carried out in Primary Care that identify the pattern of alcohol consumption is highlighted, allowing for early and effective intervention.

Keywords: Consumo de bebidas alcoólicas. Alcoolismo. Bebedeira. Assistência à saúde mental. Estudos transversais.

INTRODUCTION

Alcohol users have increasingly harmful consumption patterns, both for themselves and their families and the community in general. This harmful use is defined through the consumption of alcohol, which causes social and health damage to those who consume it and also to people around them and society in general, and consumption patterns are associated with a higher risk of adverse health effects⁽¹⁾. The World Health Organization informs that there is a higher frequency of abusive consumption among young adults, between 18 and 44 years old⁽¹⁾.

This fact raises another important issue: the early onset of alcohol consumption. In Brazil, a survey carried out with data from the Brazilian Institute of Geography and Statistics (IBGE) in

2018 shows that the average age for starting alcohol consumption was 12.5 years old⁽²⁾. When compared to the data found, from 2006 to 2012, by the II National Survey on Alcohol and Drugs (LENAD), there is a reduction of 3.5 years to start drinking⁽³⁾.

In 2016, 43% of the world's population used alcohol. This consumption proved to be high among the Brazilian population, represented by 40% of Brazilians. As for the amount of ethanol ingested per person aged 15 years or over, world consumption was 6.4 liters, while in Brazil this average was 7.8 liters per person⁽¹⁾.

The current global context with the dissemination of COVID-19 required social isolation, a break or a reduction in work activities, which generated idle time for the population, leading to an increase in alcohol consumption, especially in the pattern known as

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binge drinking, characterized by the ingestion of large amounts of alcoholic beverages in a short period⁽⁴⁾.

Ethyl alcohol is an offensive substance to the human body because it is teratogenic, carcinogenic, toxic to the liver, heart, kidneys, reducing immunity, increasing anxiety, and stimulating violent behavior⁽⁵⁾. For these reasons, the harmful use of ethanol ranks seventh in the list of risk factors for premature mortality, first for the global burden of the diseases in the world, and unproductive years of life due to deficiency^(1,6).

Thus, we observed that the consumption of alcoholic beverages is configured as a serious public health problem, requiring studies that seek to explain this phenomenon for the development of more effective public policies and safer and more efficient multidisciplinary care. In this sense, this study sought to verify the consumption of alcoholic beverages in the adult population of Teresina-Piauí and the main factors associated with this consumption. Thus, this study aimed to estimate the prevalence of ethanol consumption and its associated factors in an adult population, assisted in Primary Health Care, in a capital city of the Northeast of Brazil.

METHOD

This is an analytical, cross-sectional study, following the guideline Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)⁽⁷⁾.

The participants were adults, assisted by the Family Health Teams (FHT) from Teresina, Piauí, Brazil. Eligibility criteria for the composition of the sample were: users aged between 20 and 59 years old, who sought primary health care to perform some medical, dental, or nursing procedure. We excluded users younger than 20 years old and over 59 years old, and those under the influence of any psychoactive substance at the time of the interview.

Sample calculation was performed for research in finite populations, considering the prevalence of 50% for alcohol consumption among the adult population of the II National Survey on Alcohol and Drugs⁽³⁾. The confidence level adopted was 95% and maximum error 5%, with a total of 374 individuals. A further 5% was

added to the sample calculated for cases of losses and refusals, totaling 391 participants.

Data were collected by members of the Study Group on Nursing, Violence and Mental Health (*Grupo de Estudos sobre Enfermagem, Violência e Saúde Mental- GEEVSM*), at the Federal University of Piauí (UFPI), who were previously trained. Then, a pilot test was applied with 15 participants, showing that the questionnaire was understandable and responded to the study objectives. These people were not included in the study sample. There was no loss of form, however, some participants abstained on some questions.

Data were obtained through structured interviews from April to July 2019. The independent variables were sociodemographic aspects, health conditions, and lifestyle habits. They were obtained through a structured and multidimensional questionnaire developed by the authors for this study. For the economy class, the IBGE benchmark was adopted, consisting of: Class E (R\$ 0 to 1,254.00), D (R\$1,255.00 to R\$2,004.00), C (R\$2,005.00 to R\$ 8,640.00), B (BRL 8,641.00 to BRL 11,261.00) and A (from BRL 11,262.00)².

The dependent variable was alcohol consumption, analyzed using the AUDIT (Alcohol Use Disorders Identification Test). It is an easy-to-apply instrument recommended by the Ministry of Health, comprising ten questions, each question scored from one to four, whose results with higher scores are indicative of problems⁽⁸⁾. The instrument predicts four risk zones, according to the score obtained: zone I (up to seven points: indicates low-risk use or abstinence); zone II (from eight to 15 points: indicates risk use); zone III (from 16 to 19 points: suggests harmful use) and zone IV (above 20 points: shows a possible dependence)⁽⁸⁾.

Data analysis was performed using the Statistical Package for Social Science (SPSS) software, version 20.0. To characterize the sample, we used the calculation of simple frequency, mean and standard deviation. To compare means between groups categorized into qualitative variables, the Mann-Whitney and Kruskal-Wallis tests were used, as the data are non-parametric. To verify the association, the chi-square test and logistic regression were used to calculate the odds ratio (OR). To assess the

strength between the variables, we used Spearman's correlation coefficient. For all analyzes performed, we adopted a significance level of 0.05 and a confidence interval of 95%.

This research is part of the macro-project: "Impact of interventions for drug use, depressive symptoms, anxiety and suicidal behavior in the adult population of Teresina-PI" developed by GEEVSM-UFPI. The project is approved by the Research Ethics Committee of UFPI - Opinion 2.404.139. Participants were informed of the research objectives and invited to participate, voluntarily, after reading and signing the Informed Consent Form (ICF). Thus, this research meets all the requirements of Resolution 466/2012 of the National Research Ethics Commission of the National Health Council.

RESULTS

A total of 305 women (78%) and 86 men (22%) participated in the study, and most respondents were between 30 and 39 years old

(34.8%), had a partner in the same home (63.9%), children (82.5%), mixed-race (59.5%), economic class E (84.0%), did not work (52.7%), had religion (89.3%) and frequency school age over 10 years was reported by 75.7% of the volunteers. About half of the sample (50.3%) reported the presence of a recent stressful event, however, 61.0% reported not having problems with sleep and 57.7% did not practice physical activity. When asked about a history of violence, 20.7% said they were victims and 16.6% suffered discrimination.

Table 1 shows the association between alcohol use and sociodemographic, economic, and living conditions variables. There is a significant association with the variables: gender ($p=0.000$), age group ($p=0.033$), and work ($p=0.001$), with a higher percentage of alcohol use among men, aged 20-29 years old and working individuals. Although not significant, there was a higher percentage of alcohol use among individuals who reported the presence of a recent stressful event and a history of violence.

Table 1. Factors associated with alcohol use by adults assisted in primary health care services. Teresina, Piauí, Brazil, 2019.

Socioeconomic variables and living conditions	Use of alcohol		p^{\dagger}
	Yes n (%)	No n (%)	
Gender			0.000
Male	54 (62.8)	32 (37.2)	
Female	105 (34.4)	200 (65.6)	
Age group			0.033
20-29 years old	57 (46.7)	65 (53.3)	
30-39 years old	55 (40.4)	81 (59.6)	
40-49 years old	34 (43.6)	44 (56.4)	
50-59 years old	13 (23.6)	42 (76.4)	
Marital status			0.094
With a partner, living in the same home	97 (38.8)	153 (61.2)	
With a partner, without living in the same home	18 (56.2)	14 (43.8)	
Without a partner, with a previous marriage	12 (30.0)	28 (70.0)	
Without a partner	32 (46.4)	37 (53.6)	
Education level****			0.391
Up to 10 years of study	35 (38.5)	56 (61.5)	
More than 10 years of study	116 (40.8)	168 (59.2)	
With children*			0.101
Yes	126 (39.3)	195 (60.7)	
No	33 (48.5)	35 (51.5)	
Race/skin color**			0.187
White	10 (29.4)	24 (70.6)	
Black	45 (42.1)	62 (57.9)	
Asian	10 (66.7)	5 (33.3)	
Brown-skinned	93 (40.1)	139 (59.9)	
Indigenous	1 (50.0)	1 (50.0)	

To be continued.

Socioeconomic variables and living conditions	Use of alcohol		p^{\dagger}
	Yes n (%)	No n (%)	
Economic class ***			0.605
A	1 (50.0)	1 (50.0)	
B	1 (25.0)	3 (75.0)	
C	10 (55.6)	8 (44.4)	
D	17 (44.7)	21 (55.3)	
E	127 (39.1)	198 (60.9)	
Working			0.001
Yes	92 (49.7)	93 (50.3)	
No	67 (32.5)	139 (67.5)	
Religioun			0.192
Yes	138 (39.5)	211 (60.5)	
No	21 (50.0)	21 (50.0)	
Presence of stressful event ****			0.902
Yes	80 (41.0)	115 (59.0)	
No	78 (40.4)	115 (59.6)	
Sleep problems **			0.995
Yes	62 (40.8)	90 (59.2)	
No	97 (40.8)	141 (59.2)	
Physical activity **			0.107
Yes	75 (45.5)	90 (54.5)	
No	84 (31.7)	141 (68.3)	
history of violence			0.124
Yes	39 (48.1)	42 (51.9)	
No	120 (38.7)	190 (61.3)	
history of discrimination			0.692
Yes	25 (38.5)	40 (61.5)	
No	134 (40.1)	192 (59.9)	

*2 individuals did not respond
 **1 individual did not respond
 *** 4 individuals did not respond
 **** 3 individuals did not respond
 ***** 16 individuals did not respond
 \dagger chi-square test

Figure 1 describes the prevalence of alcohol consumption by adults assisted in primary health care services.

■ Sim ■ Não

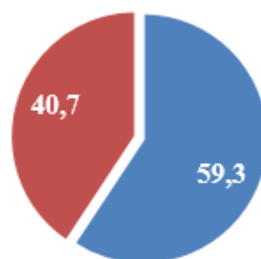


Figure 1. Prevalence of alcohol use by adults assisted in primary health care services. Teresina, Piauí, Brazil, 2019.

Participants between 20 to 29 years old reported more the pattern of alcohol consumption (46.7%). Figure 2 shows that the majority reported being abstinent (characterized by non-use) or presents a low risk. However,

20.5% were exposed to the ingestion of ethanol in quantities, which can trigger chemical dependency throughout life, through reports of “risk use”, “harmful use” and “possible dependence”.

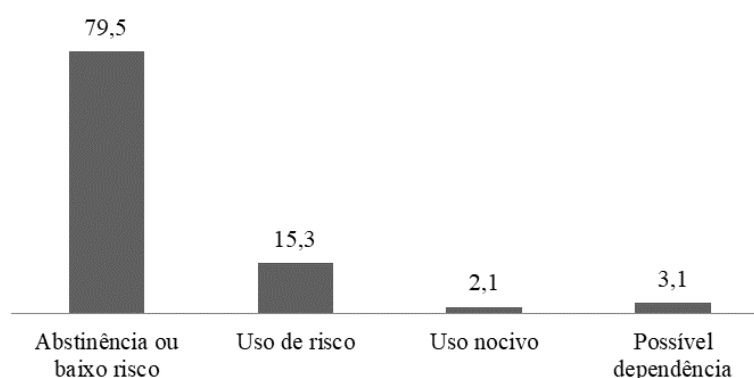


Figure 2. Pattern of alcohol consumption by adults assisted in primary health care services. Teresina, Piauí, Brazil, 2019.

When comparing the means obtained in the application of the AUDIT, considering the Mann Whitney or Kruskal Wallis test, we observed significant differences in the variables: gender

($p = 0.000$), work ($p = 0.001$) and history of violence ($p = 0.033$), with higher means found in male individuals, who work and report a history of violence (Table 2).

Table 2. Comparison of mean AUDIT score according to socioeconomic variables and living conditions in adults. Teresina, Piauí, Brazil, 2019.

Socioeconomic variables and living conditions	Mean (SD)	p^{\ddagger}
Gender		0.000
Male	6.35 (6.60)	
Female	2.80 (5.40)	
Marital status		0.146
With a partner, living in the same home	3.08 (5.50)	
With a partner, without living in the same home	5.13 (5.93)	
Without a partner, with a previous marriage	4.20 (6.73)	
Without a partner	4.32 (6.43)	
With children		0.111
Yes	3.36 (6.28)	
No	4.63 (5.77)	
Economic class		0.642
A	2.00 (2.82)	
B	2.00 (4.00)	
C	4.72 (5.70)	
D	2.11 (3.77)	
E	3.55 (6.00)	
Working		0.001
Yes	4.33 (6.04)	
No	2.90 (5.63)	
Religion		0.065
Yes	3.38 (5.78)	
No	5.19 (6.41)	
Presence of stressful event		0.401
Yes	4.06 (6.52)	
No	3.04 (5.07)	
Sleep problems		0.993
Yes	3.89 (6.33)	
No	3.39 (5.56)	
Physical activity		0.072
Yes	4.11 (5.95)	
No	3.20 (5.79)	
History of violence		0.033
Yes	5.02 (7.08)	
No	3.20 (5.45)	
history of discrimination		0.213
Yes	5.46 (8.23)	
No	3.20 (5.20)	

\ddagger Mann Whitney or Kruskal Wallis test

Table 3 shows the presence of a significant negative correlation between the AUDIT score and age, in which the younger the age, the higher

the AUDIT score obtained by the individual, and the greater the risk in the respondents' drinking habits ($r = -.128$; $p = 0.011$).

Table 3. Correlation between AUDIT score, age, and years of education in adults assisted in primary health care services. Teresina, Piauí, Brazil, 2019.

		Age	Years of study
AUDIT score	Spearman's correlation	-.128	-.056
	P	0.011	0.284

DISCUSSION

This study showed worrying data, as 20.5% of respondents had problematic alcohol use (risk use, harmful use, and probable dependence). This is a high value when we think that one in five alcohol users has this consumption pattern. The prevalence rates of alcohol use found in the present study corroborate the rates found in other studies, with the problematic use rate varying between 20% and 30%⁽⁹⁻¹²⁾.

The number of abstainers and low-risk consumers was high, even with the consumption of alcoholic beverages being socially accepted. However, with the social isolation caused by the COVID-19 pandemic, alcohol consumption has been growing, including among low-risk consumers. This is maybe due to boredom, modification, or interruption of routines, or due to fear of the disease and uncertainty about the future^(13,14).

The predominantly female profile in the composition of the sample is evident, which can be explained by the greater demand of women for consultations, tests, and vaccinations, both for themselves and for family members, especially for their children. Although female participation was predominant, the result was consistent, about gender, with most research on alcohol use reporting a predominance of consumption among men^(11,15,16). However, the increasing consumption of women stands out, even faster than men⁽¹⁷⁾.

Another relevant cause is the presence of recent stressors or the fact of having suffered violence or discrimination. Despite not being statistically associated, we found a relevant number of drinkers who reported the presence of these events. This fact corroborates a study that states that the presence and more intense the psychological distress, the greater will be the

consumption of alcohol⁽¹⁸⁾.

Among participants who have a religion, more than half responded that they do not use alcoholic beverages. There is evidence in the literature that religiosity is closely associated with the pattern of alcohol consumption, indicating that the levels of alcohol intake among religious individuals are low compared to those who do not have a religion⁽¹⁹⁾. This can be due to the discouragement of alcohol consumption that some religions preach⁽²⁰⁾.

We also found in this study that young adults have a more intense consumption and, therefore, more harmful, corroborating Brazilian⁽¹⁶⁾ and worldwide⁽¹⁾ data. This fact generates great concern for public health, as it is an economically active age group that puts itself at risk, due to modifiable factors, for the development of diseases and fatal accidents for themselves and others or years of incapacity due to disabilities.

One limitation of the study was that it is not possible to determine causality by the type of method used, since this is a cross-sectional study. However, the contributions are notable, as they enable the mapping of patterns of alcohol use and factors associated with harmful consumption, allowing an earlier and more effective approach to professionals, as well as the development of more effective public policies.

CONCLUSION

Therefore, this study allowed the identification of a high prevalence of alcohol consumption, and high problematic alcohol consumption by the adult population of Teresina, Piauí, Brazil. Men between 20 and 29 years old and who had a paid job were also found to be associated with higher alcohol consumption. We

conclude that the younger the age, the higher the consumption pattern.

Therefore, the importance of the routine application of the AUDIT during consultations carried out in Primary Care is highlighted, allowing the early detection of dangerous patterns of alcohol consumption and devising an effective intervention according to the patient's

needs.

Based on the above, we see the importance of targeting new subsidies to formulate knowledge about this problem in the context of public health, cooperating to identify the need for actions to detect and prevent the problematic use of alcohol by users of the public health system.

PREVALÊNCIA DO CONSUMO DE BEBIDAS ALCOÓLICAS E FATORES ASSOCIADOS EM POPULAÇÃO ADULTA

RESUMO

Objetivo: estimar a prevalência do consumo de álcool e fatores associados em população adulta, assistida na Atenção Primária à Saúde, de uma capital do Nordeste brasileiro. **Método:** estudo de corte transversal, realizado com 391 adultos, faixa etária de 20 a 59 anos, atendidos pelas Equipes de Saúde da Família do Município de Teresina, Piauí. Os dados foram obtidos por meio de entrevistas estruturadas no período de Abril a Julho de 2019 e analisados no SPSS versão 20.0. **Resultados:** a amostra foi composta majoritariamente por mulheres, idade de 30 a 39 anos, escolarizados, mas sem trabalho, com filhos, e religiosos. A prevalência do consumo de álcool foi de 59,3%, dos quais 15,3% fizeram uso de risco, 2,1% uso nocivo e 3,1% apresentaram possível dependência. Houve associação estatisticamente significativa entre consumo de álcool e as variáveis independentes: sexo, faixa etária e trabalho. **Conclusão:** os resultados mostram elevada prevalência do consumo de álcool associado a homens, apesar da predominância de mulheres, adultos jovens e com trabalho. Considerando os malefícios que o consumo nocivo provoca, destaca-se a importância da aplicação rotineira de instrumentos durante as consultas realizadas na Atenção Primária que identifiquem o padrão de consumo de álcool, permitindo uma intervenção precoce e eficaz.

Palavras-chave: Consumo de bebidas alcoólicas. Alcoolismo. Bebedeira. Assistência à saúde mental. Estudos transversais.

PREVALENCIA DEL CONSUMO DE BEBIDAS ALCOHÓLICAS Y FACTORES ASOCIADOS EN POBLACIÓN ADULTA

RESUMEN

Objetivo: estimar la prevalencia del consumo de alcohol y factores asociados en población adulta, asistida en la Atención Primaria a la Salud, de una capital del Nordeste brasileño. **Método:** estudio de corte transversal, realizado con 391 adultos, franja de edad de 20 a 59 años, atendidos por los Equipos de Salud de la Familia del Municipio de Teresina, Piauí-Brasil. Los datos fueron obtenidos por medio de entrevistas estructuradas en el período de abril a julio de 2019 y analizados en el SPSS versión 20.0. **Resultados:** la muestra fue compuesta mayoritariamente por mujeres, edad de 30 a 39 años, escolarizados, pero sin trabajo, con hijos, y religiosos. La prevalencia del consumo de alcohol fue de 59,3%, del cual 15,3% hizo uso de riesgo, 2,1% uso nocivo y 3,1% presentó posible dependencia. Hubo asociación estadísticamente significativa entre consumo de alcohol y las variables independientes: sexo, franja de edad y trabajo. **Conclusión:** los resultados demuestran elevada prevalencia del consumo de alcohol asociado a hombres, apesar de la predominancia de mujeres, adultos jóvenes y con trabajo. Considerando los males que el consumo nocivo provoca, se destaca la importancia de la aplicación rutinaria de instrumentos durante las consultas realizadas en la Atención Primaria que identifiquen el patrón de consumo de alcohol, permitiendo una intervención precoz y eficaz.

Palabras clave: Consumo de bebidas alcohólicas; Alcoolismo; Borrachera; Atención a la salud mental; Estudios transversales.

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Submitted: 23/04/2021

Accepted: 03/07/2021

FINANCIAL SUPPORT

Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).