Association between sociodemographic factors and alcohol consumption in rural women*

Associação entre fatores sociodemográficos e consumo de bebida alcoólica em mulheres rurais

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ABSTRACT
Objective: to describe the association between sociodemographic factors and alcohol consumption in women from a rural community. Methods: a cross-sectional study conducted with 259 women from a rural community. For data collection, a structured form and the Alcohol Use Disorders Identification Test were used. For analysis, chi-square and/or Fisher’s Exact tests were used, with a 95% confidence interval. Results: there was a statistically significant association between alcoholic consumption by the women investigated and age and zone I (p=0.043), income and zone I (p=0.081), and income and zone IV (p=0.049). Conclusion: participants with lower income consumed alcoholic beverages excessively.

Descriptors: Alcohol Drinking; Alcoholism; Women; Rural Population.


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RESUMO
Objetivo: descrever a associação entre os fatores sociodemográficos e o consumo de bebida alcoólica em mulheres de uma comunidade rural. Métodos: estudo transversal, realizado com 259 mulheres de uma comunidade rural. Para coleta dos dados, utilizaram-se de formulário estruturado e do Alcohol Use Disorders Identification Test. Para análise, empregou-se os testes qui-quadrado e/ou Exato de Fisher, com intervalo de confiança de 95%. Resultados: observou-se associação estatisticamente significantes entre o uso de bebidas alcoólicas pelas mulheres investigadas e a idade e a zona I (p=0,043), renda e a zona I (p=0,081), e renda e zona IV (p=0,049). Conclusão: as participantes com menor renda consumiam bebida alcoólica de forma excessiva.

Descritores: Consumo de Bebidas Alcoólicas; Alcoolismo; Mulheres; População Rural.

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Introduction

Consuming psychoactive substances is considered a social and health problem, indiscriminately affecting all people, regardless of color, gender, social class or education. The United Nations Office on Drugs and Crime estimated that 271 million people between the ages of 15 and 64 used drugs in 2016, and that in 2018, 31 million people suffered from drug-related disorders[1].

Therefore, there is an increase in psychoactive substance use by women, both legal and illegal; although male consumption is still higher[2], which is a risk factor for triggering health problems and disabilities, this use has been causing three million deaths annually around the world, accounting for 5.1% of morbidity in low, medium and high-income countries[3].

Abusive consumption is characterized by having four or more doses of alcoholic beverages among women and from five doses among men, at the same time. In general, abusive consumption is punctual and sporadic, different from dependence, which implies a lack of control over drug use, in a repetitive way, in search of pleasure. It is noteworthy that addiction is a disease, whose diagnosis requires careful assessment[3]. The national prevalence of alcohol consumption by women estimated for 2018 was 11.0%, with emphasis on the city of Salvador, in Bahia, Brazil, which showed the highest frequency. Moreover, for both sexes, women and men, this consumption tends to decrease after 35 years and increase with educational levels[4].

In this setting, on a scale of countries that most consume alcohol, Brazil ranks fourth, followed by the United States of America, Chile, and Argentina. Among Brazilian women, consumption has been, on average, 4.2 liters of alcohol, leaving Brazil in seventh position in the ranking of countries that most consume alcohol, according to gender[5]. Alcohol consumption has brought important consequences for Brazil, such as high rates of liver cirrhosis (42.6%) and traffic accidents among women (23.0%). Concerning the problems linked to alcohol consumption, it is estimated that 1.6% of Brazilian women meet criteria for abuse or dependence[3].

When it comes to consumption, especially in other settings, psychoactive substance use by women is still considered conduct that is not consistent with the roles and functions socially constructed for women[6]. This social and culturally established function is still decisive in the context of rural women. In this environment, marked by lack of coverage of public policies and difficulty in accessing services, especially in the poorest regions of the country, in addition to gender inequalities, women’s living conditions are terrible, which can be configured as a motivating agent for alcohol consumption as a coping strategy[7].

The conjuncture of isolation, present in rural areas, makes alcohol consumption something very specific. Globally, vulnerable groups carry disproportionate burdens related to alcohol use than the population of higher socioeconomic status, which is aggravated by other health risks, such as unhealthy eating, smoking and poor access to quality education and health care[8]. This reality is a reflection of the unpreparedness of health services to deal with this context, considering the characteristics of the field, promoting difficulties in guaranteeing basic rights, remodeled in prejudice and racism, resulting in abandonment and forgetfulness of the community[9].

It is known that whatever the pattern of alcohol consumption, there is damage to the human body, especially for the female population, due to the specificities, such as pregnancy, since alcohol can affect the fetus. However, studies addressing alcohol consumption in the female population are scarce, even more so when this population lives in rural areas. Moreover, it is important that health teams that work in a territorial area know the main problems that affect the community to intervene in the best possible way in preventing damage and promoting health to these pe-
ople. Thus, the objective was to describe the association between sociodemographic factors and alcohol consumption in women from a rural community.

Methods

This is a cross-sectional study, with a non-probabilistic sample for convenience, composed of 259 women from a rural community in the municipality of Camaçari, Bahia, Brazil. Data collection was carried out from June 2019 to February 2020. Women over the age of 18 and registered at Family Health Units for consultations and consultations have been included. Women who did not live in a rural community have been excluded. The power of the study was estimated at 11.0%\(^4\), due to alcohol abuse prevalence by women. Significance level of 5% was adopted, with test power of 99.0%.

Operationalization for data collection occurred by approaching women from a rural community who attended service for consultations and care at basic units. After presenting and explaining the objective of the study and acquiescence of participants, researchers scheduled data collection at home in the company of community health agents, to approach the context in which they lived. Two instruments were used for data collection. A sociodemographic form was produced by the research group with closed and semi-structured questions, containing information about age in years, self-declared color, marital status, income, housing and health information. To verify alcohol consumption, the Alcohol Use Disorders Identification Test was used. This instrument was developed by the World Health Organization\(^10\), composed of 10 questions, aiming at identifying possible alcohol dependents, especially in the last 12 months, with scores ranging from zero to four, totaling a maximum value of 40 points.

The first three questions of the instrument refer to the frequency and amount of alcohol consumption. The next three questions explore the possibility of alcohol dependence. The last four refer to health damage resulting from binge drinking. In this perspective, four zones of alcohol consumption were classified, with corresponding actions to be adopted considering the score attributed. Thus, zone I - <8 points offers education on alcohol consumption; zone II - 8-15 points proposes advice on alcohol consumption; zone III - 16-19 points proposes recommendations on alcohol consumption and continuous monitoring; zone IV - ≥20 points proposes referral of individuals to an expert for assessment, diagnosis and treatment\(^10\).

The data were stored and analyzed using the statistical software Statistical Package for the Social Sciences, version 20.5 of the Windows Platform. Bivariate analyzes were carried out in order to describe and verify proportional differences between the characteristics of interest in the study (sociodemographic characteristics and binge drinking), by applying Pearson’s chi-square and/or Fischer exact tests. The level of statistical significance adopted was 5%.

The present study was approved by the Research Ethics Committee of the School of Nursing of Universidade Federal da Bahia, according to Opinion 3,825,203/2020, whose investigation met the ethical and bioethical precepts of research with human beings, nationally and internationally.

Results

The sample consisted of 259 women. The age group between 30 and 49 years old (47.5%), self-declared black (89.2%), Christian (74.5%), with a partner (64.4%), with complete high school (53.7%), engaged in paid activity (67.6%), received less than a minimum wage (34.4%), financially dependent (64.5%) and lived in their own or ceded home (85.3%) figured prominently (Table 1).
Concerning the pattern of alcohol consumption, shown in Table 2, it was observed that 50.2% of women consumed alcohol. For those who consumed the substance, when asked about the doses used, the frequency was higher among those who drank up to four (43.8%), followed by five to nine (37.0%) and 10 or more (19.2%). It is worth noting the fact that 39.2% of women reported never having drunk more than six drinks on a single occasion, but consumed alcoholic beverages two to three times a week (26.1%).

Table 3 presents information regarding the association between binge drinking and sociodemographic characteristics among rural women. The relationship between age and alcohol use showed a statistically significant association (p=0.043) between the age group of 30 to 49 years old and the risk zone I. There was also a statistically significant difference between alcohol consumption and income, both for zones I (p=0.081) and for zone IV (p=0.049).
Table 3 – Association between alcohol consumption and the sociodemographic characteristics of women living in a rural community in the municipality of Camaçari, Camaçari, BA, Brazil, 2019-2020

<table>
<thead>
<tr>
<th>Sociodemographic variables</th>
<th>Alcohol Use Disorders Identification zone n (%)</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 29</td>
<td>60(30.5)</td>
<td>18(40.9)</td>
<td>4(50.0)</td>
<td>4(57.1)</td>
<td></td>
</tr>
<tr>
<td>30 - 49</td>
<td>97(49.2)</td>
<td>22(47.7)</td>
<td>3(37.5)</td>
<td>2(28.6)</td>
<td></td>
</tr>
<tr>
<td>&gt; 49</td>
<td>40(20.3)</td>
<td>5(11.4)</td>
<td>1(12.5)</td>
<td>1(14.3)</td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.043*</td>
<td>0.367*</td>
<td>0.640*</td>
<td>0.422*</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>175(88.8)</td>
<td>39(88.6)</td>
<td>8(100.0)</td>
<td>6(85.7)</td>
<td></td>
</tr>
<tr>
<td>Another</td>
<td>22(11.2)</td>
<td>5(11.4)</td>
<td>0</td>
<td>1(14.3)</td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.742*</td>
<td>1.000*</td>
<td>0.556*</td>
<td>0.556*</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>3(1.5)</td>
<td>1(2.3)</td>
<td>0</td>
<td>1(14.3)</td>
<td></td>
</tr>
<tr>
<td>Literate</td>
<td>194(98.5)</td>
<td>43(97.7)</td>
<td>8(100.0)</td>
<td>6(85.7)</td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.596*</td>
<td>1.000*</td>
<td>0.129*</td>
<td>0.129*</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With companion</td>
<td>142(72.1)</td>
<td>31(70.5)</td>
<td>5(62.5)</td>
<td>4(57.1)</td>
<td></td>
</tr>
<tr>
<td>No companion</td>
<td>55(27.9)</td>
<td>13(29.5)</td>
<td>3(37.5)</td>
<td>3(42.9)</td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.511*</td>
<td>0.925*</td>
<td>0.694*</td>
<td>0.417*</td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own</td>
<td>168(85.3)</td>
<td>39(88.6)</td>
<td>8(100.0)</td>
<td>5(71.4)</td>
<td></td>
</tr>
<tr>
<td>Leased</td>
<td>29(14.7)</td>
<td>5(11.4)</td>
<td>0</td>
<td>2(28.6)</td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.496*</td>
<td>0.594*</td>
<td>0.604*</td>
<td>0.252*</td>
<td></td>
</tr>
<tr>
<td>Income (wage)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>62(31.5)</td>
<td>17(38.6)</td>
<td>4(50.0)</td>
<td>5(71.4)</td>
<td></td>
</tr>
<tr>
<td>&gt; 1</td>
<td>135(68.5)</td>
<td>27(61.4)</td>
<td>4(50.0)</td>
<td>2(28.6)</td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.081*</td>
<td>0.512*</td>
<td>0.452*</td>
<td>0.049*</td>
<td></td>
</tr>
</tbody>
</table>

*Pearson’s Chi-square test; †Fischer’s exact test

Discussion

We have identified some limitations, such as the social taboo surrounding women who use alcohol, especially those who abuse it; roles and attributions are social constructions, with the possibility that some interviewees omitted or avoided disclosing about alcohol consumption, as well as the fear of being stigmatized and exposed after disseminating the results. Also, geographical barriers are encountered due to the isolation of the study locus, as well as the limitation of physical mobility, depending on public transport and the unavailability of participants to receive home visits. Furthermore, the data are configured as a convenience sample, which demonstrates the impossibility of being generalized.

The results of this study contributed to sociodemographic, economic and social characterization of women living in rural area as well as to grouping regarding alcohol consumption and sociodemographic characteristics associated with use. Therefore, they can be used to support discussions about rural community and its specificities, such as alcohol consumption by women. Likewise, this study also contributed to enrich the literature on this section of the population. The topic is little discussed, scarce in the academic environment, complex and relevant, mainly because binge drinking is a public health concern.

In terms of participants’ sociodemographic characteristics, black color figured prominently due to a strong Afro-descendant influence in the state of Bahia, Brazil. Color and gender reflect a marginalized and excluded population in the labor market, reaffirming the predominant ethno-racial invisibility in Brazil, associated with sexism, placing black women at the base of social inequality. Thus, in a context of poverty, the variables mentioned above presented themselves as factors for oppression, contributing to elements that affect individuals. Individuals also have low levels of education, which is a factor that interferes with family income and financial dependence by third parties. Small differences in years of study significantly interfere with access to the formal labor market and workers’ remuneration.

A similar study showed that the level of education among people from rural communities has increased, contrary to the general values for this population. Linked to education, incipient income has been increasing; however, unemployment or low-paid activities are even more evident, which can corroboration...
rate the economic dependence of the partner, in addition to favoring conjugal violence and permanence of women in a relationship that brings discontent\(^{(2)}\). Moreover, education is seen as an infallible agent that contributes to reducing the vulnerability of individuals to alcohol consumption and drug use\(^{(3)}\).

Income was identified as a variable associated with alcohol abuse so that the lower the income, the greater the consumption. Unfavorable socioeconomic situation directly affects the health condition, as well as the social context, especially for those who spend part of their income to pay for housing, such as rent\(^{(2,8)}\). There was no significant association between housing and alcohol consumption in this study. Living in rented housing can trigger a situation of social instability, favoring vulnerability and contributing to alcoholic consumption and psychoactive substance use, when compared to the population with a higher socioeconomic level, as pointed out by a related study\(^{(2)}\), conducted with pregnant women, in a Brazilian maternity hospital in the city of Salvador, Bahia.

As for age, alcohol consumption figured prominently for women aged 30 to 49 years and an association was observed between these variables. Data from global reports indicate higher levels of consumption for people aged 18 to 25 years and show increased consumption for people aged 15 and over\(^{(1,3)}\). These data generally refer to the general population and do not include specificities of rural communities. The findings demonstrate the relationship between the participants’ age and alcohol abuse. This can represent health risks and highlight the condition of vulnerability in this age group; although, according to the Alcohol Use Disorders Identification zone, it was not configured as a dependency. This aforementioned vulnerability may be linked to the multiple situations of inequality and violence, especially family violence, the low level of education and income, which permeate the lives of these women. Overlapping vulnerabilities that affect health and quality of life and that deserve interventions, at the individual, social and political level.

A related study showed similar results among women who consumed alcoholic beverages, in which 50.1\% of those who attended the health unit investigated reported consuming alcoholic beverages. This result was higher than the national average, since alcohol abuse prevalence among women in 2015 was 8.9\%\(^{(15)}\).

In light of this, it can be suggested that the women in this study have a higher average alcohol consumption than the referred study and the national average. This reflects the need for efficient actions that meet the social and health demands and needs of this layer of the Brazilian population. Likewise, an investigation carried out with Puerto Rican women who lived in the United States obtained results in which 25.0\% declared themselves to be ex-drinkers; when asked about current alcohol consumption, 35.0\%, answered positively, of which 27.0\% were moderate drinkers and 8.0\% were heavy drinkers\(^{(16)}\).

Linked to alcohol consumption, religion is characterized as a protective element for use/abuse, showing, through corresponding studies\(^{(17)}\), a significant relationship between alcohol consumption and the different spheres and interferences of religion in this phenomenon. The link between religious belief and alcohol use constitutes, for those who do not have a religion, a risk factor for increased use, an event that supports and confirms what the literature has been discussing\(^{(18)}\).

Housing, another variable that may be linked to alcohol consumption, as evidenced in research carried out with pregnant women\(^{(2)}\), is characterized as a determining factor for health problems and other risk conditions, in addition to the relationship with drug use, including alcohol, which may become more significant, especially among those residing in rented houses.

Considering the aspects discussed, it is also important to highlight the social and health implications arising from alcohol consumption. The United Nations Office on Drugs and Crime in 2018 found that 35 million people between 15 and 64 years old (13.0\%)
suffered from disorders linked to harmful consumption of alcoholic beverages, corresponding to a group at risk of developing addiction, being necessary diagnosis and treatment. Furthermore, alcohol consumption is linked to violent and impulsive behaviors; alcohol consumption is responsible for morbidity and mortality occurrence from violent causes, especially women\(^{(1,15)}\).

Health effects can occur in this context, culminating in dependence, which can cause lung problems, greater susceptibility to Human Immunodeficiency Virus, hepatitis, mortality, physical and psychological degradation, decreased quality of life, social isolation, marginalization, breaking of affective bonds with the family, collective fear; in addition to the difficulty accessing health services\(^{(15)}\).

The results presented demonstrated specificities related to alcohol consumption by women from a rural community. Such results, a priori, will serve as a basis to guide actions to promote and prevent health problems, resulting from alcohol consumption and other drugs for the entire community. Preventive actions can be developed by the research team, in partnership with professionals from Family Health Units. It is pointed out that the investigation constituted an integration and learning action for the whole team, which enabled partnerships with Family Health Unit professionals and the community.

**Conclusion**

Binge drinking was identified proportionally among women in the present study and a statistically significant difference between participants with lower income (less than a minimum wage) and greater Alcohol Use Disorders Identification zone, configuring excessive consumption.

**Collaborations**

Nascimento DFB and Oliveira JF contributed to project design, analysis and interpretation of data, writing of the article, critical review of content and final approval of the version to be published. Mota GS, Souza BBS and Silva CTO collaborated with analysis, interpretation of data and writing of the article. Porto PN participated in project design, writing of the article and critical review of content. Pires GGS assisted in analysis and interpretation of data, writing of the article, relevant critical review of intellectual content and final approval of the version to be published.

**References**


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