

# ASSOCIATION BETWEEN ALCOHOLIC BEVERAGES CONSUMPTION AND SOCIODEMOGRAPHIC CONDITIONS IN PEOPLE WITH LEPROSY

## ASSOCIAÇÃO ENTRE CONSUMO DE BEBIDAS ALCOÓLICAS E CONDIÇÕES SOCIODEMOGRÁFICAS EM PESSOAS COM HANSENÍASE

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**ABSTRACT:** The objective of this article aimed was investigate the association between the consumption of alcoholic beverages and sociodemographic conditions of people with leprosy. It is a cross-sectional study, in which 347 people were addressed as people with leprosy, reported by Brazilian Health Information System, between 2001 and 2014, in a city in Northeast of Brazil, classified as hyperendemic. 290 other people, above 15 years old, were included in the research. After answering all the instruments of study, the exclusion criteria was having some cognitive deficit. The data were collected by a form with questions about sociodemographic conditions, elaborated by the researchers, and the Alcohol Use Disorder Intention Test (AUDIT). The participants were classified as low-risk and risk consumers. The low-risk consumers (n=260) were 60 years old (and older) men, married, up to high-school educated, with individual income up to \$244,44. Among the risk consumers (n=60), there was a prevalence of 15-39 years old women, married, up to high-school educated, with individual income up to \$244,44. The gender and age range was statistically significant with alcohol consumption (p-value=0,012). Knowing the consumption risk and its relation to sociodemographic conditions, the implementation of preventive actions and public policies should be considered, since the consumption of alcoholic beverages deserves attention, because it affects treatment and self-care.

**KEYWORDS:** Alcohol Drinking. Leprosy. Public Health.

### INTRODUCTION

Leprosy is chronic infectious disease present in tropical regions representing—public health problem (MOURA et al., 2017). Its transmission is related to unfavorable aspects of life, such as low family income, poor housing conditions and lack of basic health conditions (WHO, 2015). Such circumstances facilitate the contamination and spread of the disease (LOPES; RANGEL, 2014).

Despite the implementation of public policies and advances in relation to the care of patients with leprosy, the stigma is important factor that leads to social exclusion. The late diagnosis may prolong the leprosy transmission and increase the risk of neural damage, in addition to impairment, which may aggravate the stigma (DADUN et al., 2017).

This is a disease what causes to physical disabilities, which causes fear and rejection, which can lead to barriers in the implementation of

efficient treatment (HASKER et al., 2017). The withdrawal from the leprosy treatment is related to personal factors associated with health care. Personal factors include quality of life, socioeconomic and cultural conditions, such as alcohol consumption and health-related factors involving adverse effects resulting from medication, waiting time for health care and distance from the home to the service (GIRÃO et al., 2013).

Considering this context of unfavorable conditions of life and stigmatization, the consumption of alcoholic beverages can be an important complicating factor in the treatment and recovery of leprosy. The ingestion of alcoholic beverages among people with leprosy is a concern, since the consumption may interfere with the therapeutic regimen and self-care, which may influence the prevention of disabilities (SALES et al., 2013).

The consumption of alcoholic beverages is motivated by multiple factors, such as

socialization, leisure, stress, anxiety, depression, discrimination, and family problems. The harmful use of alcoholic beverages acts as a detrimental aspect to mental health, causing anxiety, stress, depression and disorders resulting from its use (NEVES; TEIXEIRA; FERREIRA, 2015).

Investigate the consumption of alcoholic beverages is an opportunity for primary and secondary prevention (WATSON et al., 2009). The gap in international scientific production on the consumption of alcoholic beverages among people with leprosy should be highlighted. Among people with leprosy, it is an important aspect, because the consumption of alcohol, besides rising blood pressure, it is one of the causes of anti-hypertensive therapeutic resistance and the biggest cardiovascular morbimortality (LUIS et al., 2018). The alcohol consumption investigation can also prevent nutritional problems, seizures, hypoglycemia, neuropathy and other chronic complications (SBD, 2016). Therefore, the objective was to investigate the association between alcoholic beverages consumption and sociodemographic condition of people with leprosy.

## MATERIAL AND METHODS

This is cross-sectional epidemiological study, linked to the macro project entitled "INTEGRAHANS: an integrated approach to the clinical, epidemiological (spatio-temporal), operational and psychosocial aspects of leprosy in highly endemic Piauí municipalities", with people with leprosy reported in the Brazilian Health Information System, between 2001 and 2014, living in a Northeast city classified as hyper endemic. After the exclusion of duplicated data, 4 incomplete notifications, addresses not found and deaths, 347 people were addressed and 290 met the inclusion criteria: above 15 years old, answering all the instruments of study. The exclusion criteria was having some cognitive deficit.

The data gathering occurred between July 2015 and July 2016, the approach was made at the participants home, where we invited them to participate and booked the instrument application in social devices, public or private places (schools, churches, social associations), near their houses to provide privacy.

The data were collected by a form with questions about sociodemographic conditions, elaborated by the researches, and Alcohol Use Disorder Identification Test (AUDIT) on the

consumption of alcoholic beverages. It contains 10 questions and the score ranges from 0 to 40, the results are classified as: 0 to 7 points, that indicates low risk or abstinence, between 8 and 15 points, risk or simple use, between 16 and 19 points that indicates harmful use, which recommends brief intervention and monitoring, and above 20 points, demonstrates possible dependence, where diagnosis, assessment and treatment is indicated (WHO, 2001). However, for the purpose of this study, a recategorization was performed in which below seven points are classified as low risk and those that obtained a result above eight are considered risk consumption, thus constituting the outcome variable (BRITES; ABREU, 2014).

The explanatory variables used in the study were: gender, age range, marital status, schooling, individual income, having leprosy was a factor in changing the consumption of alcoholic beverages and the questions regarding the consumption that make up the AUDIT. The individual income considered the value of the minimum wage converted from "real" (R\$ 880, value in force in 2016) to dollar, equivalent to US\$ 244.44.

A double-digit technique was used in the Epi Info TM software, version 7.1.3 of the Center for Disease Control and Prevention - CDC) and it was later exported to the Statistical Package for the Social Science (SPSS), version 20.0 and a chi-square test for statistical treatment was performed. A double-digit technique was used in the Epi Info TM software, version 7.1.3 of the Center for Disease Control and Prevention - CDC) and it was later exported to the Statistical Package for the Social Science (SPSS), version 20.0 and the non-parametric chi-square test was applied, with significance level of 0,05, in order to verify the association among the consumption of alcoholic beverages and explanatory variables. The study was approved by the Research Ethics Committee of the Federal University of Piauí (UFPI) (Parecer 1.115.816).

**Table 1.** Sociodemographic characterization associated with the consumption of alcoholic beverages. Florianópolis (PI), 2017. (n = 290)

Variable	Low power consumption risk (n=260) n (%)	Consumption of risk (n=30) n (%)	p-value
<b>Sex</b>			
Female	120 (43.6)	24 (80.0)	0.012
Male	140 (56.4)	6 (20.0)	
<b>Age range</b>			
>Age group	4 (1.6)	0 (0.0)	0.023
15 to 39 years	68 (26.1)	14 (46.6)	
40 to 59 years	84 (32.3)	12 (40.0)	
60 years and over	104 (40.0)	4 (13.4)	
<b>Marital status</b>			
Not married	78 (30.1)	11 (36.7)	0.456
Married	122 (46.9)	15 (50.0)	
Divorced/ Widowed	60 (23.0)	4 (13.3)	
<b>Schooling*</b>			
Illiterate	48 (18.7)	4 (13.3)	0.712
Until high school	198 (76.7)	24 (80.0)	
Higher education	12 (4.6)	2 (6.7)	
<b>Individual income</b>			
No income	24 (10.8)	3 (12.0)	0.778
Up to US\$ 244,44.	140 (62.8)	14 (56.0)	
One to US\$ 733,32	55 (24.6)	8 (32.0)	
Above US\$ 733,32	4 (1.8)	0 (0.0)	
<b>Having leprosy was a factor in changing the consumption of alcoholic beverages</b>			
Never drank	154 (59.0%)	0 (0.0%)	0.000
There was no change	67 (26.0%)	16 (53.4%)	
Yes, with increase	0 (0%)	2 (6.6%)	
Yes, with reduction	18 (6.9%)	9 (30%)	
Yes, I stopped drinking	21 (8.1%)	3 (10%)	

\*2 people did not respond

## RESULTS

According to table 1, the participants were classified as low risk and risk consumers. The low-risk consumers (n=260) were males (56.4%), those aged 60 or over (40.0%), married (46.9%), educated up to high school (76.7%), individual income 140 (62.8%) up to US\$ 244.44. The participants were questioned if the leprosy diagnosis was a changing factor on the consumption of alcoholic beverages, and we observed that it took to reducing the consumption (6.9%) and even quitting (8.1%).

Among those classified as risk consumers (n=30), there was more prevalence of the female gender (80.0%), between 15-39 years old (46.6%), married (50.0%), with high school education (80%), and individual income (56.0%) up to \$244.44. With the diagnosis of leprosy, they reduced consumption (30.0%), stopped drinking

(10.0%) and increased the intake (6.6%). Table 1 showed statistical significance between sex with  $p < 0.01$  and age group  $p = 0.02$ . The change in the consumption after diagnosis was positive for the exact fisher test with 0.000.

**Table 2.** Characterization of people with leprosy who have consumed alcoholic beverages in the last year. Florianópolis (PI). 2017. (n = 290)

<b>Variable</b>	<b>Low power consumption risk (n=260) n (%)</b>	<b>Consumption of risk (n=30) n (%)</b>
<b>How often do you have a drink containing alcohol?</b>		
Never	200 (76.9)	0 (0.0)
Monthly or less	33 (12.7)	3 (10.0)
2 to 4 times a month	25 (9.7)	15 (50.0)
2 to 3 times a week	2 (0.7)	7 (23.4)
4 or more times a week	0 (0.0)	5 (16.6)
<b>How many drinks containing alcohol do you have on a typical day when you are drinking?</b>		
None	200 (76.8)	0 (0.0)
1 or 2	33 (12.7)	2 (6.7)
3 or 4	16 (6.3)	5 (16.7)
5 or 6	7 (2.8)	9 (30.0)
7,8 or 9	2 (0.7)	7 (23.3)
10 or more	2 (0.7)	7 (23.3)
<b>How often do you have six or more drinks on one occasion?</b>		
Never	228 (87.7)	2 (6.7)
Less than monthly	19 (7.3)	5 (16.6)
Monthly	10 (3.9)	6 (20.0)
Weekly	3 (1.1)	12 (40.0)
Daily or almost daily	0 (0.0)	5 (16.7)
<b>How often during the last year have you found that you were not able to stop drinking once you had started?</b>		
Never	258 (99.2)	23 (76.7)
Less than monthly	1 (0.4)	4 (13.3)
Monthly	1 (0.4)	2 (6.6)
Weekly	0 (0.0)	1 (3.4)
<b>How often during the last year have you failed to do what was normally expected from you because of drinking?</b>		
Never	260 (100.0)	25 (83.3)
Less than monthly	0 (0.0)	3 (10.0)
Monthly	0 (0.0)	2 (6.7)
<b>How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</b>		

Never	251 (96.5)	26 (86.6)
Monthly	9 (3.5)	2 (6.6)
Weekly	0 (0.0)	1 (3.4)
Daily or almost daily	0 (0.0)	1 (3.4)
<b>How often during the last year have you had a feeling of guilt or remorse after drinking?</b>		
Never	258 (99.2)	16 (53.4)
Less than monthly	2 (0.8)	6 (20.0)
Monthly	0 (0.0)	7 (23.3)
Daily or almost daily	0 (0.0)	1 (3.3)
<b>How often during the last year have you been unable to remember what happened the night before because you had been drinking?</b>		
Never	259 (99.6)	19 (63.4)
Less than monthly	1 (0.4)	8 (26.6)
Monthly	0 (0.0)	2 (6.6)
Weekly	0 (0.0)	1 (3.4)
<b>Have you or someone else been injured as a result of your drinking?</b>		
No	255 (98.0)	25 (83.3)
Yes, but not in the last year	5 (2.0)	4 (13.3)
Yes, during the last year	0 (0.0)	1 (3.4)
<b>Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?</b>		
No	253 (97.3)	16 (53.3)
Yes, but not in the last year	7 (2.7)	1 (3.4)
Yes, during the last year	0 (0.0)	13 (43.3)

Table 2 shows the characterization of people with leprosy who consumed alcoholic beverages. Among those classified as low risk, it is highlighted the ones that not consume in the last year or never drank (76.9%), reported that they had consumed 1 to 2 doses per day (12.7%), that never consumed more than 6 doses on one occasion (87.7%), reported that they never had a drink and could not stop (99.2%). The total number of participants reported that, on any occasion, they did not perform a task due to alcoholic beverage (100.0%). Drinking in the morning is a situation denied (96.5%), no feeling of guilt after drinking (99.2%) and have not been unable to remember what happened the night before because of the k in the morning (53.4%). Regarding feeling guilty after drinking, they reported not having this feeling (53.4%). As to being unable to

drink (99.6%). Most did not cause injury or harm to themselves or another person because they drank (98.0%) and responded that it was not suggested by others that they stopped drinking (97.3%).

Among those classified as risk consumers, it is clear that they consume 2 to 4 times a month (50.0%), ingest in a typical day 5 or 6 doses (30.0%), frequency of 6 doses or more in a single occasion for (40.0%). Regarding the frequency of drinking and not being able to stop, they reported that it never happened (76,7%). The activities performance did not have the interference of the alcohol ingestion, as reported by (83.3%), they reported that they did not drink remember what happened the night before because of drinking (63.4%) reported it has not occurred, as to cause injury or harm to themselves or to another

person after drinking, (83.3%) reported not having caused any type of injury.

Regarding the fact that someone suggested that they stop drinking, they said that it occurred in the last year (43.3%).

## DISCUSSION

The study results showed that most participants abstained from alcoholic beverages in the last year, therefore, they were classified as low risk for alcohol dependence. The characterization of low risk consumers was men, elderly, high school, married and with income up to 1 minimum wage. This reality is similar to the study conducted in Fernandópolis (São Paulo) with people with leprosy, which found low income, low schooling, age between 40 and 69 years old, married (BALDAN; SANTOS, 2012).

The consumption among men is similar to a Brazilian survey, in which 62% of men used to consume alcoholic beverages (LENAD, 2014). In the world population in general, men are the main consumers of alcohol and present the highest rates of morbidity and mortality, however, it is estimated that the consumption among women in some years is equal to that of men (OPAS, 2015).

The prevalence of alcohol consumption among the elderly classified as low risk calls attention. This point is subject for other studies, research on alcohol consumption regarding the elderly is scarce and the results diverge. A study carried out in Portugal found the prevalence of alcohol consumption of 63% Martins et al (2016) and research in Brazil found a prevalence of 8.9% (SOARES et al., 2016). When working with this population, consideration should be given to biases related to memory and omission of information due to fear of judgment and exposure. The elderly constitute a risk group because of comorbidities associated with the concomitant use of alcohol and drugs, which increases the risk of toxicity a risk factor for mortality, since they present a pattern of more dangerous consumption and health problems in economically productive people between 15 and 49 years old (OPAS, 2015).

Having attended up to high school in this study prevailed in both drinking patterns. Leprosy often affects people with low levels of schooling, which is an indicator of poor living conditions (SOUZA et al., 2018). The poorest population is the most affected by the consequences of alcohol use, due to lack of access to health care and greater social exclusion (OPAS, 2015). In people affected by leprosy in Campos dos Goytacazes (Rio de

(MARTINS et al., 2016). One of the concerns about alcohol consumption regarding the elderly is the possibility of being related to a lack of knowledge of the health consequences and complications of leprosy.

The results of this study reveal that there is a close proximity of the quantitative between the genders regarding the low risk consumption, but in the risk consumption there is a considerable difference between the genders. The study showed statistical significance on the consumption of alcoholic beverages risk and the variables sex and age group. On average, the consumption of alcoholic beverages in the Americas is higher than in the rest of the world and has increased in both genders. The female consumption is worrying, since women health is more affected than men. American women have a higher prevalence of alcohol-related disorders in the world OPAS (2015) and, when analyzing the alcohol-attributable deaths in Sergipe between 1998 and 2010, there was a higher level of mortality, which was more pronounced among women (OHLAND; GONÇALVES, 2015). Such context requires differentiated attention to the female audience and specific actions to try to minimize the damages resulting from the association of leprosy and alcoholic beverages.

Among the consumers at risk, the most prevalent age group was between 15 and 39 years old. This phenomenon is observed in national studies, with research carried out in which participants had chronic diseases and found in both low-risk and higher-risk consumption, the prevalence between 18 and 44 years old (MOURA; MALTA, 2011). A study carried out in a municipality in northeastern Brazil showed that younger people aged from 14 to 29 years old showed a greater chance of abuse and addiction (FERREIRA et al., 2013). The consumption among young people represents

Janeiro), low income, low schooling levels, and aspects related to the limitation of participation in the labor market to jobs that provide lower income prevailed. Such context propels a social vulnerability, which is associated with greater possibilities of leprosy contagion (LOPES; RANGEL, 2014).

The highest prevalence among married women in both consumption patterns was found, but the civil status variable did not present statistical association. It is a similar result from a study that found no association between income, marital status, race and schooling (FERREIRA ET

AL., 2013). However, a study conducted in Bebedouro (São Paulo) showed a different result, associated with a harmful use (PEREIRA; VARGAS; SILVA, 2016).

The risk consumption in this study was more prevalent among women, young people between 15 and 39 years old, married, with high school and income up to 1 minimum wage. The results differ from those found in the Brazilian northeast, which showed abusive consumption by 34.9% of men and an association between abusive consumption and dependence in males (FERREIRA et al., 2013).

Regarding the consumption of alcoholic drinks after the leprosy diagnosis, there were changes. There was a reduction in the consumption, abstention and cases in which there was an increase. In agreement with a study of people affected by leprosy, in which 20% of the participants consumed alcoholic beverages and 14% suspended the consumption with the diagnosis of the disease (BALDAN; SANTOS, 2012). Not consuming alcoholic beverages is seen as a self-care action adopted by patients with leprosy (DUARTE et al., 2014). After the diagnosis it is necessary to change the lifestyle and adopt healthy habits and the consumption of alcoholic beverages causes behaviors that undermine the self-care and interfere in the regularity and adherence to the treatment. Cases of increased alcohol intake can be understood as a way to alleviate the fear and sufferings of the daily life (LUNA et al., 2010).

Amongst the consumers classified as risk, the frequency of consumption was 2 to 4 times a month, from 5 to 6 doses per week. An analogous finding was found in a study involving 515 people with leprosy in Campinas (São Paulo), which showed that they consume 2 or more times a week, 3 or more doses on a typical day, 6 or more doses at least once a month (BARROS et al., 2008).

The use of alcoholic beverages interferes with the treatment of chronic diseases, which have a worse prognosis in alcoholic patients when compared to non-alcoholics. The use is considered a clinical condition that causes aggravation of the case (SILVA; LAFAIETE; DONATO, 2011). The combination of alcohol consumption and leprosy is a concern, since the consumption can interfere with the therapeutic regimen and self-care, which can influence the prevention of disabilities, leading to complications (FERREIRA; IGNOTTI; GAMBÁ, 2011). In addition to being associated with the non-adherence and abandonment of the treatment, which represents a great obstacle to the cure of the

that people with incomes of up to one minimum wage, in a stable relationship, were positively disease, since the daily use of alcohol associated with the treatment of leprosy reduces the effect of medication, making it difficult to cure (ROLIM et al., 2016).

It is highlighted that the abusive consumption of alcohol entails detrimental bio psychosocial, political and economic effects that affect the individual, health and society as: reduction of conditions and quality of life, loss of work productivity, accidents at work, greater demand for health care and expenses, emergence of antisocial practices (OPAS, 2015; WHO, 2014).

As a study limitation, we highlight the non-usage of a multimethod approach, since it could increase the amount of results. However, we aimed to develop the results descriptive aspects, aiming a more critical analysis. Another limitation refers to the quality of SINAN database in relation to its completeness and inconsistency, situation that made deeply difficult the cases location. In order to reverse this situation, we crossed with other available databases (CADSUS, SIM)

## CONCLUSIONS

Among the patients with leprosy classified as low-risk consumers, men were the majority, followed by the elderly; a reality that concerns, since, even with moderate consumption, serious health damage can occur. And among the participants classified as risk consumers, there was a higher prevalence among young female people. In both consumption patterns, married people, with low schooling and income of up to 1 minimum wage prevailed.

The diagnosis of leprosy contributed to the change in the alcohol consumption by the participants in both consumption patterns.

Although the results show a low level of risk in the consumption of alcohol, it is necessary to develop interventions that aim to reduce this level of consumption in this specific population and, consequently, the risks to which they are susceptible. Therefore, it should be highlighted the need to carry out other studies in order to be able to draw up a state profile.

**RESUMO:** Este artigo tem como objetivo investigar a associação entre o consumo de bebidas alcoólicas e condições sociodemográficas de pessoas com hanseníase. Trata-se de um estudo transversal, que incluiu 347 com hanseníase notificadas no Sistema Brasileiro de Informação em Saúde, entre 2001 e 2014, em um município do Nordeste do Brasil, classificado como hiperendêmico., foram incluídas na pesquisa 290 pessoas, com idade acima de 15 anos que responderam a todos os instrumentos do estudo. O critério de exclusão foi ter algum déficit cognitivo. Os dados foram coletados por meio de um formulário com questões sobre condições sociodemográficas, elaboradas pelos pesquisadores, e o “Alcohol Use Disorder Identification Test (AUDIT)”. Os participantes foram classificados como consumidores de baixo risco e de risco. Os consumidores de baixo risco (n = 260) tinham 60 anos ou mais, homens, casados, até o ensino médio, com renda individual de até US \$ 244,44. Entre os consumidores de risco (n = 30), houve uma prevalência de mulheres de 15 a 39 anos, casadas, até o ensino médio, com renda individual de até US \$ 244,44. O sexo e a faixa etária foram estatisticamente significantes com o consumo de álcool (p-valor = 0,012). . O conhecimento do consumo de risco e a relação com condições sociodemográficas devem ser considerados na implementação de ações preventivas e políticas públicas, uma vez que o consumo de bebidas alcoólicas merece atenção, pois dificulta o tratamento e o autocuidado.

**PALAVRAS-CHAVES:** Bebidas Alcoólicas. Hanseníase. Saúde Pública.

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