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## Correlation between alcohol consumption and facial trauma in patients from Dr. João Lúcio Pereira Machado Emergency Hospital in Manaus/AM

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### ABSTRACT

Alcohol consumption is a significant health issue in Brazil, contributing to a high incidence of trauma. Recent research indicates that 67% of the population consumes alcohol, with a growing number of alcohol-related facial traumas. This study aims to gather recent data on patients treated for trauma at a Brazilian emergency hospital and assess the relationship between alcohol abuse and facial trauma. Patients arriving at the emergency room were evaluated and categorized by gender, alcohol influence, and subsequent medical interventions. All data were then analyzed. The study found that 528 patients were treated for trauma at Dr. João Lúcio Pereira Emergency Hospital. Of these, 206 had consumed alcohol, with 166 males and 40 females. Among the males, 68 were discharged, 28 required immediate hospital treatment, and 35 were referred to specialized services. Of the females, 18 were discharged, 6 were admitted, and 16 were referred to specialists. The findings indicate that males have a higher incidence of alcohol-related facial trauma compared to females, representing 39% of trauma service visits. These results highlight the need for stricter evaluation of alcohol distribution and enforcement of laws against driving under the influence.

**Keywords:** Alcoholic Intoxication; Emergency Service; Hospital; Maxillofacial Injuries.

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## INTRODUCTION

The beverage industry in Brazil has increased exponentially each year in terms of new products and sales, since there is a large consumer public, especially regarding alcoholics, so much so that 67% of the Brazilian population consumes alcohol, according to the 2015 National Health Survey (Gawryszewski; Rorigues, 2006; Malta *et al.*, 2007; Chaman *et al.*, 2020).

Another alarming fact is that the number of accidents involving drunks has grown fiercely in the country. According to the analysis, the amount of people who engaged in an accident with bodily injuries in the last 12 months prior to the Survey in Brazil, was 3.1% of the population in general, but when referring to frequent consumption and abuse of alcohol, the number jumped to 7.5% (Soibelman; Luz; Diemen, 2004; Whitlock *et al.*, 2004; Monteiro, 2007).

Excessive consumption of alcoholic beverages is another relevant public health problem, with consequences such as cardiovascular diseases, neoplasms, absenteeism (missing work, early retirements), work and transport accidents, episodes of violence (assaults, homicides, suicides) and high frequency of occupation of hospital beds. Regarding only the problem of transport/traffic accidents, it is known that several factors contribute to their occurrence, such as disrespect for traffic laws, lack of maintenance of roads and vehicles and weather conditions. However, the consumption of alcoholic beverages stands out as one of the most frequently mentioned factors in the study of the causality of these accidents (Minayo, 2005; Soares Filho *et al.*, 2007; Souza *et al.*, 2007; Malta *et al.*, 2008).

Therefore, this work has scientific relevance and for society, where it will survey and correlate the use of alcohol and accidents that involve trauma in the face region in the treatment of the Polytrauma sector by the Head and Neck team, through the patient's file, thus, bringing data that can raise information pertinent to the problem of drunkenness in relation to traumas.

## MATERIAL STUDIED

## STUDY DESIGN

Our study is a prospective transversal quantitative and descriptive field study design to investigate the relation between alcohol consumption and facial trauma incidence of patients from the Dr. Joao Lúcio Pereira Emergency Hospital, between November 2020 to October 2022. The eligible criteria for the study were the patient emergency file, fully filled (patient information, information of motive of attendance and final conduct), originated both from the city of Manaus, and from the interior of the State of Amazonas. The exclusion criteria were the opposite of the inclusion regarding the patient file, where the patient has already died whenever he or she arrives, when there is the use of other drugs, alone or in association, causing the facial trauma, or that did not meet the proposed objectives.

### DATA COLLECTION TOOLS

All our data was collected from the patients' files, when they first arrived at the Emergency Room, of Dr. João Lúcio Pereira Emergency Hospital, originated from all sites within Amazonas State. All the data were written in a spreadsheet and then filled in a computer table made in a computer program, which was later used to analyze all the information acquired.

The data obtained from the patient files, at the moment of its admission at the emergency service, were all protected by the Hospital's Consent Term of Data Use and were submitted and approved by the Ethical Committee of the Amazonas State University, as oriented by the National Health Council, from the Health Minister, in the terms of the Resolution 466 from December 12th of 2012.

### DATA ANALYSIS

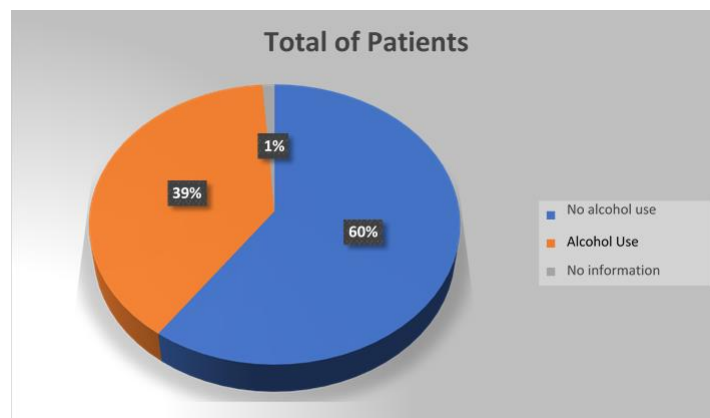
To evaluate our findings, we developed a Excel® 2013 (Microsoft, Redmond, WA, USA) table in a HP® ProBook 4430s (Hewlett-Packard Company, Palo Alto, CA, USA) containing all the interest data, distributed into columns, respectively in cases (numbers in rising order), gender, age, place of origin (capital or upstate), cause (automobile accident, motorcycle accident, knife wound, fire gun wound, physical aggression, bicycle accident, sport accident, fall from own height, and absence of information), presence of alcohol use, and if so, who (first party, third party or no information), type of trauma (Orbital complex fractures, nasal fractures, maxillary or

mandibular fractures, laceration, contusion, perforating trauma, excoriation, contusal-perforating, lacero-perforation, orto-contunding, hematoma and simple bruise). To each variable was assign a code created and described in its file.

## RESULTS

In our study, it was possible to identify 528 registered cases of patients related with alcohol consumption and facial trauma (Figure 1), when taking into account all the cutoff criteria, in the period of 24 months between 2020 and 2022, in Emergency service, by the head and neck department at Dr. João Lucio Pereira Machado Emergency Hospital, located in the city of Manaus-AM, Brazil.

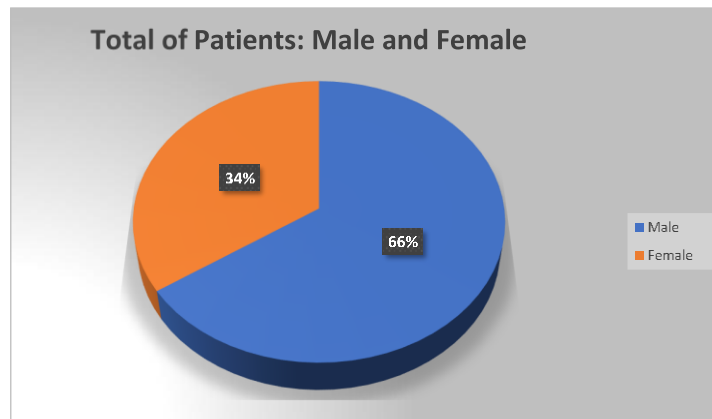
**Figure 1** – Number of patients evaluated at the Head and Neck Department of Dr. João Lúcio Pereira Emergency Hospital, in the East Zone of the City of Manaus, being a total of 528, where 206 had consumed alcohol, 316 did not and in 6 patients, there was no information



Fonte: Câmara *et al.* (2024)

Among the total number of patients evaluated within this condition of facial trauma, among the 528 patients treated, 346 of those were men and 182 were women (Figure 2).

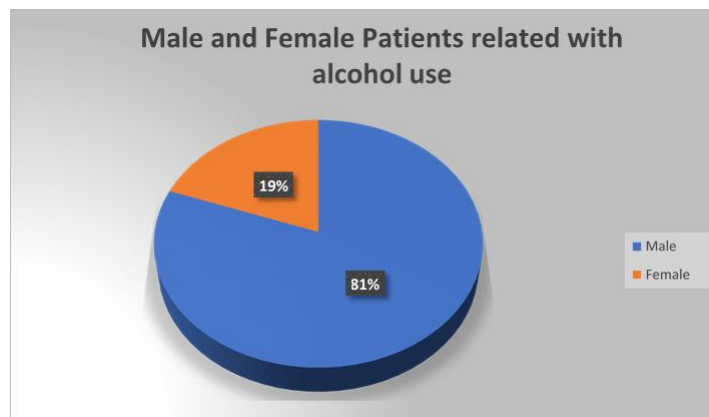
**Figure 2** – Total of 346 patients, being 173 males and 182 females, out of the 528 patients evaluated along the time of the study



Fonte: Câmara *et al.* (2024)

Of the total amount, 206 reported having consumed alcohol, being 166 men (81%) and 40 women (19%) (Figure 3).

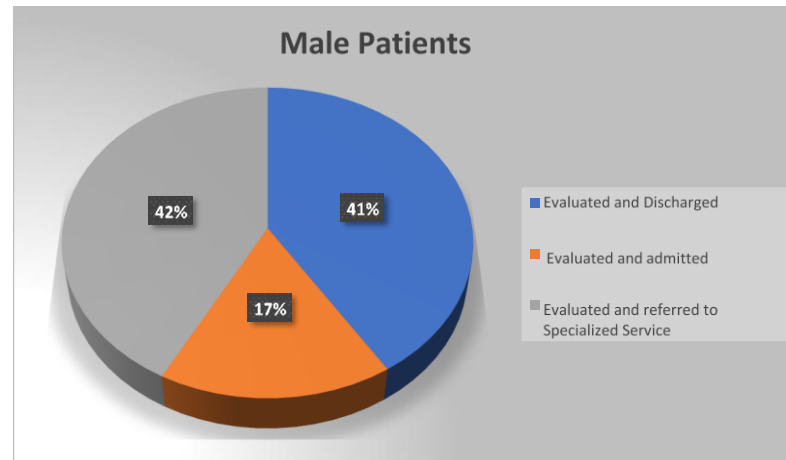
**Figure 3** – From the total of 206 patients that had used alcohol beverages, 166 were male and 40 were female



Fonte: Câmara *et al.* (2024)

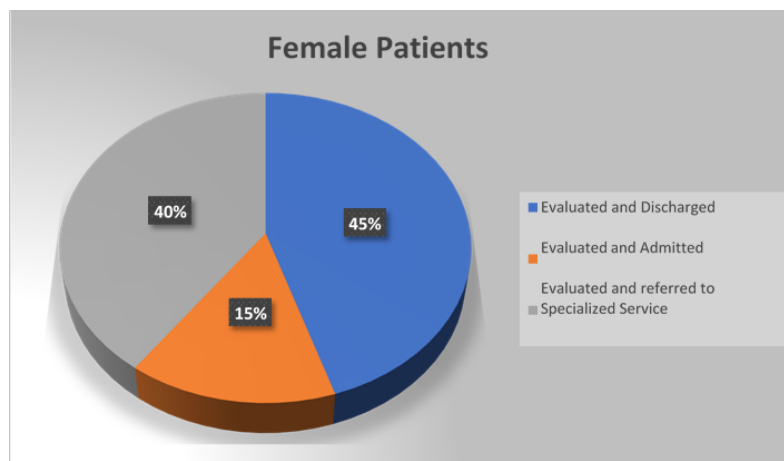
When taking into consideration 03 distinct conducts, being divided as discharge, hospitalization and referral to specialized services, we identified, of our total, 86 patients between men and women were attended and then discharged (41%), 34 between men and women needed to be hospitalized (17%) and 86 also of both sexes were discharged more referral to another specialty and/or other services (42%) (Figure 4 and 5).

**Figure 4** - From the total of 166 males evaluated with history of alcohol use, related to facial trauma, 68 were discharged, 28 were admitted and 70 were referred to the specialized service and then discharged from the emergency



Fonte: Câmara *et al.* (2024)

**Figure 5** - From the total of 40 women evaluated with history of alcohol use, related to facial trauma, 18 were discharged after examination, 6 were admitted and 16 were referred to the specialized service and then discharged



Fonte: Câmara *et al.* (2024)

## DISCUSSION

This study was focused on the relationship between alcohol and facial trauma, in emergency rooms patients, due to the substantial number of accidents that happen every year in Brazil, either from a poor judgment or due to lack of legislative correct enforcement. According to the studies of Gazal-Carvalho *et al.* (2002) Barros *et al.* (2003), Damacena *et al.* (2013), the number of trauma victims usually are below 10%, although alcohol use peaks around 50 and 70% of the population (females and males,

respectively), which shows a smaller number of alcohol users involved in some kind of trauma. On our study, our sample showed itself larger than what was expected, with 39% of the patients with some kind of alcohol influence. This could be explained by Amazonas population's habit, on uses of alcoholic beverages, without the concerned or even the belief that an accident is possible. Although the study of Freitas, Mendes and Oliveira (2008), has a similar number of patients involved in some kind of trauma, being 31.8%, very close to our sample. Moreover, in the article of Laranjeira (2007), about the National alcohol usage standard among the Brazilian population, he observed that 28% of his sample had shown some type of risk behavior after alcoholic beverage usage, and in this case, 38.4% have drunk and drive. This sample is smaller than we found but shows that the use of alcohol is not a limitation for millions of citizens to drink after.

When we divided the numbers between males and females, almost two thirds of our data showed that men are most often involved in some kind of trauma, after alcoholic intoxication, we found that 34% of women and 66% of men were evaluated in the hospital's trauma center, but the number of men involved was significantly higher, in order of 4 out of 5. This data was observed in all the studies, regarding gender differentiation. In the studies of Gazal-Carvalho *et al* (2002) and Babor *et al* (2003), the number of men involved in this type of trauma, under the influence of some type of alcoholic beverage usage, is similar to the ones found in our evaluations.

Regarding the conduct after the evaluation, usually, there is no significant statistical difference between genders, on either the hospitalization for treatment or referral to a specialized service, and it was seen in the same study from Freitas, Mendes and Oliveira (2008).

## CONCLUSION

The purpose of the study was to produce data that could contribute directly and indirectly to the creation of strategies, interventions, and preventive actions, to reduce or mitigate the risks related to the consumption of alcoholic beverages in relation to traffic, leisure, sports, and domestic activities, thereby promoting greater safety and health to the community.

These strategies must be used in broad spectrum, considering the culture of Brazilian society, which is extremely tolerant with the consumption of alcoholic beverages.

Based on the results obtained, we can conclude that males have a higher rate of facial trauma related with alcohol consumption when compared to women and, in general, this rate corresponds to 39% of visits in the polytrauma service, by the head and neck department of the Dr. João Lúcio Pereira Machado Emergency Hospital, located in the east side of the city of Manaus-AM, where it plays a reference role in facial trauma for the whole State.



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