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EVALUATION OF THE PREVALENCE OF ALCOHOL INTAKE IN PATIENTS ADMETTED AT THE HOSPITAL EMERGENCY UNI: CASE OF THE YAOUNDÉ EMERGENCY CENTER

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ABSTRACT

Background: the abusive use of alcohol is considered by the World Health Organization (WHO) as the third major cause of death or disability, and is 9 % responsible for road accidents in the whole world.[1] This is clearly due to the great motorization of region but also, due to easy access to alcoholic beverages by the population. Unfortunately, both the consumers and the peoples around them suffer the consequences. Thus, in order to prevent the risks of road accident due to acute alcohol intoxication, we aimed first to determine the blood alcohol concentration of patients admitted at the emergency unit of hospitals in Cameroun, case of the Yaoundé Emergency Center. **Methods:** we use the Alco meter ALCOHAWK ultra slim in which the participants blown into, then we recorded the results appearing on the screen of the apparatus; we also took note of the time at which they arrived the emergency unit and the emergency motives. **Results:** 157 patients, i.e. 61 (38.85 %) women and 96 (61.15 %) men, distributed into 60 (38.22 %) internal medicine cases, 49 (31.21 %) road traffic accident, 35 (22.29 % aggressions, 11 (7.01) other accidents and 2 (1.27 %) cases of gynecology with an average age of 40.38 ± 16.33 years, took part in the study. The Blood alcohol concentration mean was 0.169 ± 0.136 ≈ (0.46 g / L; with an acute alcohol intoxication prevalence of 56.05. The range aged of 26 to 35 had the highest level of intoxication (15.29 % ≥ 0.15 BAC i.e. equal to 0.5 g / L and young males were 0.75 times more intoxicated than young females. More, 109 (69.43 %) emergency problems were directly or indirectly linked to alcohol consumption and 48 (30.57 %) other cases were not. **Conclusion**: the young men, aged between 18 and 35, both coming for road traffic accidents, internal medicine cases and aggression at the emergency center, coming at all moment according to their various occupations, marital status, educational background and their area of residence, have for the most part a blood alcohol level ≥ 0.5g/ L (≈ 0.46g/ L) They therefore constitute a major risk factor that can endanger their lives and people around.

KEYWORDS*:* Intoxication, alcohol, driving, risk, accident and hospital.

INTRODUCTION

Alcohol consumption is a very widespread phenomenon in the world and has been a very long time. Alcohol has, for most societies, a cultural connotation[1], in the sense that it is an integral part of their eating habit through the consumption of table wines, beer, and other spirits. However, excessive alcohol consumption and its consequences are also widely reported in many countries, regardless of their standard of living.[2] It can thus be noted with regard to effects associated with the abuse of alcohol, alcohol intoxication is a danger for both the individual consumer (dependence, hepatic cirrhosis, cancer…) as well as his environment, since the attitudes that arise from this state (driving drunks, fetal violence various, intoxication…) put his entourage at risk.[2,3] Data on alcohol consumption and its consequences in Africa in general are quite alarming ; in Cameroun, between 2008 and 2010, individual (adult aged 15 and above) consumption of alcohol was averagely 8.4 liters of pure alcohol per year, while the average African region was 6.0 liters of pure alcohol per year. In addition, 65 % deaths from liver cirrhosis and 9 % road accidents are due to alcohol worldwide.[4] With all this, the World Health Organization ranking alcohol abuse as the third highest risk of death and disability in the world, has prioritized public health, protection of health of the population against the dangers posed by alcohol abuse by giving themselves as major objective to prevent and to minimize harmful effects.[5] Data in

Africa and Cameroun associated with the harmful effects of alcohol abuse in hospitals are not yet available. In order to propose action against alcohol abuse, we need information; it is in this line that we propose to carry out a cross-sectional study, consisting of the evaluation of the prevalence of alcohol intake in patients admitted at the emergency unit of the Yaoundé Emergency Center **(CURY).**

MATERIALS AND METHODS

It was the cross-sectional study carried out at the *Yaoundé Emergency Center* from November 20, 2017 to June 30, 2018 (7 months). The study population consisted of patients aged 17 and over who came for emergency care at the *Yaoundé Emergency Center* (CURY) and agree to participate in the study. All patients with mental disorder, the staffs of the structure and patients of age lower than 17 years old were excluded to the study; the minimum sample size was calculated by the ***Lorentz*** formula and was equal to 163 subjects minimum.

The didactic materials were essentially that used for the collection and analysis of the sample: register, pen, pencil, eraser, paper, computer + printer, structured and anonymous questionnaire. The technical materials were the equipment (Electronic Ethyl meter (Alco HAWK ultra slim) and consumables (Electrics batteries, wipes).

All the administrative authorizations were obtained for the realization of this study, in particular: the ethical clearance signed by the institutional ethical committee of the University of Douala; the research authorization, signed by the director of the *Yaoundé Emergency Center* (CURY). The informed consent form of participants and the formulary were presented to the participants. The technical procedures consist to measurement of the blood alcohol concentration using the Alco HAWK ultra slim.

Principle : The alcohol content in the expired alveolar air is determined by the alcoholmeter by means of an electronic sensor ; the blow in air forcefully and steadily into the disposable hygienic mouthpiece ; the device checks the pressure, the flow rate and the duration of breath, then automatically collects 1 cm^3 of the alveolar air. The operating mode: participants coming to the *Yaoundé Emergency Center* are first approached, and then informed about the study and its purpose, in order to obtain their consent. After obtaining their participation agreements, we gave them anonymity numbers and recorded some personal data such as sex and age. When the subject blew into the breathalyzer through a disposable hygienic mouthpiece; the blood alcohol value displayed on the indicator and the sampling time were immediately read. Finally, the emergency motives of the participants were noted.

STATISTICS ANALYSIS

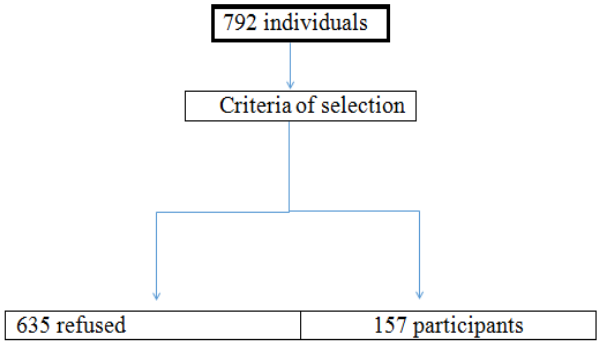
The data collected was coded and inserted in the Epi Info 7.1.3.0 software and then analysed by software such as Epi Info 7.1.3.0, SPSS 2010, and Excel 2010. We presented the continuous variables on average (standard deviation) and discrete variables in frequencies (percentages). Paired Khi-2 or fisher tests were used for comparisons and to measure associations. The general threshold of significance was set at 5 %.

EHTICAL CONSIDERATIONS

This study was realized in conformity with the bioethical laws; it obtained beforehand, the agreement of the responsible of the region delegation of public health, then the person in charge of the institution where the research will be carried out. This study must respect: (the scientific objective; the choice of the patient on his participation or not in the study; confidentiality of information collected during the recruitment of patients; anonymity of the sample during all the manipulation and during all the operation of treatment of the results and only the people who participate in the study will be able to have access to the information received.

RESULTS

Recruitment of participants was done while respecting the selection criteria for the study, as well as the recruitment period, after which we obtained 157 participants as presented in the flow diagram below.



1: Flow diagram

The statistical analysis performed on the data collected during our survey presents following facts.

1) Socio demographic characteristics

Table 1: Distribution of participants by gender, by age group, by emergency cases, and by according to alcohol consumption.

Parameters	Frequency	Percentage (%)
Gender		
Males	94	59.87
Females	53	40.13
Total	157	100.00
Age group		
18-25	34	21.66
26-35	45	28.66
36-45	20	12.74
46-55	26	16-56
56-65	20	12-74
66-75	9	5.73
75 years+	3	1.91
Total	157	100.00
Emergency cases		
Aggression	35	22.29
Gynecology	2	1.27
Internal medicine	60	38.22
Other accident	11	7.01
Road traffic accident	49	31.21
Total	157	100.00
According to alcohol consumption		
Yes	109	69.43
No	48	30.57
Total	157	100.00

Gender

As shown in the **table 1** above, it appears that amongst the 157 participants, 94 (58.87 %) consisted of males and 63 (40.13) of females, for a sex ratio of 2 :3 in favor of the males.

Age group

The same table1 shows that individuals aged between 26 and 35 years are the most represented, with proportion of 28.66 %.

Emergency cases

From table 1 above, we observe that out of the 157 emergency cases, 60 (38.22 %) were internal medicine cases, 49 (31.21 %) were due to road traffic accident and 35 (22.29 %) were due to aggressions.

Emergency cases by according to alcohol consumption

From the **table 1**, we can observe that out of the 157 patients who came for emergency, 109 (69.43 %) consumed alcohol and 48 (30.57 %) did not consume alcohol.

Table 2: Average age.

	Observations	Mean	Standard deviation	Minimum	Median	Maximum	Mode
Age	157	40.3758	16.3285	19.00	35.00	79.00	26.00

The average mean observed is 40.38 ± 16.33 years ; with a minimum of 19 years for the youngest and a maximum of 79 years for the eldest, as shown in the table 2 above.

2) Blood-alcohol concentration

Table 3: Average blood-alcohol concentration.

	observations	Total	Mean	Standard Deviation	Minimum	Median	Maximum	Mode
Alcohol Value	157	26.622	0.1696	0.1365	0.01	0.18	0.53	0.01

The average alcohol level among participants is as 0.1696 ± 0.136 (≈ 0.45 g/L) as noted above on the table 3.

Table 4: Blood-alcohol concentration (BAC) rates by level of blood-alcohol concentration (BAC).

Range of alcohol value	Frequency	Percentage (%)
0.00– 0.15	69	43.95
0.16 – 0.30	58	36.94
0.31 – 0.50	24	15.29
0.51 – 0.99	6	3.82
Total	157	100.00

It can be observed that 88 individuals, that is the majority of participants, had a blood-alcohol level ≥ (0.50 g/L; what gives us prevalence of alcohol intoxication of the order of 56.05 %.

3) Blood-alcohol level according to age and to gender

Tableau 5: **Cross tabulation of alcohol level by age group.**

Alcohol value	0.00 – 0.15	0.16 – 0.30	0.31 – 0.50	0.51 – 0.99	
Gender					**Total**
Males	35 (37.2)	39 (41.5)	16 (17.0)	4 (4.3)	94 (59.87 %)
Females	34 (54.0)	19 (30.2)	8 (12.7)	2 (3.2)	63 (40.13 %)
Total	69 (100.0)	58 (100.0)	24 (100.0)	6 (100.0)	157 (100.0)
Age Group					
18-25 years	11 (15.59)	13 (22.4)	6 (25.0)	4 (66.7)	34 (21.7)
26-35 years	21 (30.4)	18 (31.0)	6 (25.0)	0 (0.0)	45 (28.7)
36-45 years	7 (10.1)	8 (13.8)	5 (20.8)	0 (0.0)	20 (12.7)
46-55 years	14 (20.3)	9 (15.5)	3 (12.5)	0 (0.0)	26 (16.6)
56-65 years	7 (10.1)	8 (13.8)	3 (12.5)	2 (33.3)	20 (12.7)
66-75 years	6 (8.7)	2 (3.4)	1 (4.2)	0 (0.0)	9 (5.7)
75 years+	3 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.9)
Total	69 (100.0)	58 (100.0)	24 (100.0)	6 (100.0)	157 (100.0)

P = 0.72

Gender

The proportion of females (54.0 %) greater than those males (37.2 %), for blood-alcohol values contained in the range of sobriety; beyond this interval, the proportions are reversed. In addition, the ratio of blood-alcohol level of females to males ≥ 0.50g/L is 4 : 3 and 3 : 4 for values ≤ 0.50g/L which means that females certainly have lower blood-alcohol levels than males, but also quite high.

Age group

Note: Alcohol level (g /L), 0.15 BAC = 0.50 g /L. (% of individuals)

The age group ranging from 26 to 35 years, is the most affected by highest alcohol level at 18 % for value between 0.16 to 0.30 BAC, to 6 % for values ≥ 0.31 BAC but has no significant difference as compared to the other age group (p = 0.72). Moreover, this same group has the highest sobriety levels of about 30.4 %. The second most affected group by high blood-alcohol levels is the age group ranging from 18 to 25 years and still has no significant difference as compared to others (p = 0.17).

4) Blood alcohol level according to occupation, to level of study, to marital status, to area of residence, and by according to time of arrival at the Emergency.

Table 6: **Cross-tabulation of alcohol level by different parameters.**

Alcohol value	0.00 -0.15	0.16 – 0.30	0.31 -0.50	0.51 – 0.99	
Occupations					**Total**
Army	5 (7.2)	10 (17.2)	5 (20.8)	0 (00)	20 (12.7)
Clergy	2 (2.9)	0 (00)	0 (00)	0 (00)	2 (1.3)
Driver	9 (13.0)	13 (22.4)	4 (16.7)	0 (00)	26 (16.6)
Farmer	3 (4.3)	2 (3.4)	1 (4.2)	1 (16.7)	7 (4.5)
Hospital worker	3 (4.3)	1 (1.7)	0 (00)	0 (00)	4 (2.5)
House wife	3 (4.3)	1 (1.7)	0 (00)	0 (00)	4 (2.5)
Night worker	7 (10.1)	7 (12.1)	4 (16.7)	1 (16.7)	19 (12.1)
Office worker	7 (10.1)	3 (5.2)	1 (4.2)	0 (00)	11 (7.0)
Retire worker	5 (7.2)	1 (1.7)	0 (00)	0 (00)	6 (3.8)
Student	7 (10.1)	7 (12.1)	3 (12.5)	4 (66.7)	21 (13.4)
Teacher	2 (2.9)	0 (00)	0 (00)	0 (00)	2 (1.3)
Technician	7 (10.1)	3 (5.2)	0 (00)	0 (00)	10 (6.4)
Trader	7 (10.1)	3 (5.2)	1 (4.2)	0 (00)	6 (3.8)
Unemployed		7 (12.1)	5 (20.8)	0 (00)	19 (12.1)
Total	69 (100.0)	58 (100.0)	24 (100.0)	6 (100.0)	157 (100.0)
Level of study					**Total**
High school	9 (13.0)	7 (12.1)	6 (25.0)	1 (16.7)	23 (14.6)
No education	11 (15.9)	14 (24.1)	9 (37.5)1	1 (16.7)	35 (22.3)
Primary	18 (26.1)	17 (29.3)	4 (16.7)	1 (16.7)	40 (25.5)
Secondary	11 (15.9)	12 (20.7)	3 (12.5)	3 (50.0)	29 (18.5)
University	20 (29.0)	8 (13.8)	2 (8.3)	0 (0.0)	30 (19.1)
Total	69 (100.0)	58 (100.0)	24 (100.0)	6 (100.0)	157 (100.0)
Marital status					**Total**
Divorce	5 (7.2)	4 (6.90)	3 (12.5)	1 (16.7)	13 (8.3)
Married	27 (39.1)	18 (31.03)	7 (29.2)	0 (0.0)	52 (33.1)
Single	25 (36.2)	26 (44.83)	11 (45.8)	4 (66.7)	66 (42.0)
Widow/widower	12 (17.4)	10 (17.24)	3 (12.5)	1 (16.7)	26 (16.6)
Total	69 (100.0)	58 (100.0)	24 (100.0)	6 (100.0)	157 (100.0)
Area of residence					Total
Rural	22 (31.9)	30 (51.7)	14 (58.3)	2 (33.3)	68 (43.3)
Semi urban	20 (29.0)	12 (20.7)	3 (12.5)	2 (33.3)	37 (23.6)
Urban	27 (39.1)	16 (27.6)	7 (29.2)	2 (33.3)	52 (33.1)
Total	69 (100.0)	58 (100.0)	24 (100.0)	6 (100.0)	157 (100.0)
Time of arrival at emergency					Total
0H – 1H59M	5(7.2)	26 (40.0)	5 (29.4)	5 (83.3)	41 (26.1)
3H – 5H59M	27 (39.1)	18 (27.7)	7 (41.2)	1 (16.7)	53 (33.8)
6H – 8H59M	25 (36.2)	11(16.9)	4 (23.5)	0 (0.0)	40 (25.5)
9H+	12 (17.4)	10 (15.4)	1 (5.9)	0 (0.0)	23 (14.6)
Total	69 (100.0)	58 (100.0)	24 (100.0)	6 (100.0)	157 (100.0)

***Cross tabulation of alcohol level by occupation.**
Note: alcohol level (g/L), 0.15 BAC = 0.50g/L. (% of individuals)

From the study, we see that the drivers are the most affected by highest alcohol level at 22.4 % for values between 0.16 to 0.30 BAC, to 4 % for values ≥ 0.31BAC but don't have any significant difference as compared to the others (p = 0.39). Moreover, this same group has the highest sobriety levels of about 13 % the second most affected group by high blood-alcohol levels are the army followed by students, night workers and the unemployed. The army equally have a high level alcohol consumption with a significant difference as compared to other occupation **(p = 0.05).**

***Cross tabulation of alcohol level by level of study**
Note: Alcohol level (g/L), 0.15 BAC = 0.50g/L. (% of individuals)

From this study, we see that the uneducated are the most affected by highest alcohol level at 24.1 % for values between 0.16 to 0.30 BAC, to 33.33 % for values ≥ 0.31 BAC and has the significant difference as compared to others (p = 0.05). The university graduates equally have a significant difference as compared to others (p= 0.05) and equally have the highest sobriety levels of about 29.0 % ; the second most affected group by high blood-alcohol levels are the primary school leavers with 25.0 % for value ≥ 0.16 followed by secondary school graduates.

***Cross tabulation of alcohol level by marital status.**
Note: Alcohol level (g/L), 0.15 BAC = 0.50g/L. (% of individuals)
This table shows us that the single individuals are the most affected by highest alcohol level at 44.83 % for values between 0.16 to 0.30 BAC, to 50.00 % for values ≥ 0.31 BAC but do have any significant difference as compared to other marital status (p = 0.20).the married individuals have the highest sobriety levels of about 39 %.Though they represent the second most affected group by high blood-alcohol levels with 28.40 % for value ≥ 0.16 followed by widows / widowers.

***Cross tabulation of alcohol level by area of residence**

Note: Alcohol level (g/L), 0.15 BAC = 0.50g/L. (% of individuals).
From our study we see that inhabitants of rural areas are the most affected by highest alcohol level at 51.7 % for values between 0.16 to 0.30 BAC, to 53.33 % for values ≥ 0.31BAC and have a great significance as compared as compared to the other areas of residence **(p = 0.02**). The inhabitants of urban areas have the highest sobriety levels of about 39.1 %, though they represent the second most affected group by high blood-alcohol levels with 28.40 % for values ≥ 0.16 followed by semi-urban areas dwellers.

***Cross tabulation of alcohol level by time of arrival at the emergency**
Note: Alcohol level (g/L), 0.15 BAC = 0.50g/L. (% of individuals).
In this cross tabulation, we noticed that most participants came for emergency in the time range 3H- 5H59 after consumption of alcohol with value 53 (33.8 %). We noticed a decrease in alcohol value with increase in time of arrival at the emergency ; from the time range 0H-2H59M to the range 3H- 5H59M, we observed the drastic decrease of alcohol value with time (i.e.40.0 % to 27.7 % for alcohol value ranging from 0.16 – 0.30 and 7.2 % to 39.1 % for alcohol value ranging from 0.00 – 0.15).

DISCUSSION

The observation made from the various results thus obtained enabled us to point out certain important aspects : **The participation rate** is quite low on the order of 19.82 % with just 63 (40.13 %) women compared to 94 (59.87 %) men for a total of 157 participants **; Figure 1**.This is mainly due to the skepticism of some participants and some caretakers, not being accustomed for most of them, to submit to such a singular study in the current socio-cultural context. **Blood alcohol concentration (BAC):** The average blood-alcohol level among participants is around 0.169 BAC (≈ 0.46g/L). **Tab1. Blood alcohol concentration (BAC) in relation to age :**The prevalence of acute alcohol intoxication in this study is 56.05 % ; it is supported by the blood alcohol content of **the** vast majority of participants whose age range is between 26 and 35 years (15.28 % ≥ 0.5g/L) and have no significance difference as compared to the other age group. (p = 0.7). The 18 to 25 age group is the second largest in terms of high blood-alcohol content, at 14.65 %, followed by 36 to 45 years and 56 to 65 years (08.28 %). These results are corroborated by the studies are by Mezey and al.[6] WHO pointed out that young people are more likely to consume a lot of alcohol, so a high blood alcohol content if raised on an ad hoc basis, because of their young age, compared to the older ones. The WHO[5] outbid by noting that the 15 to 29 age group is the largest consumer of alcohol and obviously has the highest alcohol level of all other age categories. However, one can notice a difference in the age group ([18 - 25] and [20 - 34]) ; this may be due to the fact that young people under the age of 21 (except emancipated minors, aged 17 to 20) in Cameroun are not allowed to consume alcohol or at least to bars. On the other hand, this interval [20 - 34] has the highest percentage even in the range of the sobriety; it could be said that the individuals included in this age group, constituted the majority in the recruited population.

Blood alcohol concentration (BAC) in relation to sex: Overall, the results show relatively low levels of blood-alcohol among women compared to men, and more pronounced sobriety among women **(Tableau 2**). As a result, they are corroborated by studies by Lammers and al[7] Mezey and al[6] and Mishra and al[11], which showed that women eliminated alcohol faster because of more intense ADH activity. Vaubourdolle and al[10] also believed that male hormones tend to reduce ADH activity. Nevertheless, it could be noted that the ratio of 3: 4 in favor of women would have a noticeable influence on these results.

Blood concentration (BAC) in relation to time of arrival at the emergency unit: From the study, we noticed that most participants came for emergency in the time range 3H – 5H59M after consumption of alcohol with value 53 (33.8 %). We noticed a decrease in alcohol value with increase in time of arrival at the emergency, from the time range 0H – 2H59 to time range 3H - 59M, we observed a drastic decrease of alcohol value with time (i.e. 40.0 % to 27.7 % for alcohol value ranging from 0.16 – 0.30 and 7.2 % to 39.1 % for alcohol value ranging from 0.00 – 0.15). This change could be due to the distance from the incident scene to the hospital or due to the availability of transportation means.

Blood concentration (BAC) in relation in according to occupation : From the study, we see that the drivers are the most affected by highest alcohol levels at 22.4 % for values between 0.16 to 0.30 BAC, to 4 % for values ≥ 0.31 BAC, but have no significant difference as compared to the other occupations (**p = 0.39**). Moreover, this same group has the highest sobriety levels of about 13 % ; the second most affected group by high blood-alcohol levels are the army followed by students, night workers and the unemployed. The army equally have high alcohol level representing a high consumption of

alcohol and represent a significant difference as compared to other occupations (**p = 0.05**). Our results however show blood alcohol levels ≥ 0.5 g/L in 22.4 % drivers. These results are similar to those of Gjerde and al[8] who found that 64.3 % of motorists who died in traffic accidents in Norway between 2006 and 2008 had a blood alcohol level ≥ 0.5 g/L. However, according to Fell JC and al[5], 23 of vehicle owners and 27 % of motorcyclists involved in traffic accidents had BACs ≥0.5 g /L, in 2009 in the USA. A relatively low participation rate of motorists would explain the difference between the observations made by Fell JC and al and our projections. We also notice a high level of alcohol with the students, the army and the night workers.

Blood concentration (BAC) in relation in according to emergency problem: Our results, however, show blood alcohol levels ≥ 0.50g/L, 22.4 % drivers. These results are similar to those of Gjerde et al[8] who found that 64.30 % of motorists who died in traffic accidents in Norway between 2006 and 2008 had a blood alcohol level ≥ 0.5 g/L. However, according to Fell JC et al[9], 23 % of vehicle owners and 27 % of motorcyclists involved in traffic accidents had BACs ≥ 0.5 g/L in 2009 in the USA. A relatively low participation rate of motorists would explain the difference between the observations made by Fell JC et al and our projections. According to Juliode Carvalho Ponce and al, Daniel Romero Munoz and al, and finally Gabriel Andreuccetti and al on their study on Alcohol-related traffic accidents with fatal outcomes in the city of Sao Paulo in May 2011 states that alcohol is associated with nearly half of all traffic accident deaths in the city of Sao Paulo, especially for days and times associated with parties and bars (weekends between 12 a.m. and 6 a.m.). In addition, Amira D.[10] and researchers from the forensic Department of the University of Oran[8] estimate that at ethanol levels of ≥ 3g/L, the subject is in a state of ethyl coma ; or 6 (3.82 %) of the 157 participants in our study had BACs ≥ 3g/L (**Tableau 3)** and still had their lucidity, to point of getting behind the wheel. This can be explained by the chronicity in the consumption of this psychoactive substance, which results following adaptation, to a tolerance on the part of certain subjects of the high doses of alcohol, and an effective resistance to the effects which result from it.

Blood alcohol concentration (BAC) according to level of study: Our study show that the uneducated are the most affected by highest alcohol level at 24.1 % for values between 0.16 to 0.30 BAC, to 33.33 % for values ≥ 0.31 BAC and has a significant difference with the other group (**p = 0.05**). The university graduates equally have a significant difference as compared to others (p = 0.05) and equally have the highest alcohol sobriety levels of about 29.0 % ; the second most affected by high blood-alcohol levels are the primary school leavers with 20.0 % for value ≥ 0.16 g/L followed by secondary school graduates. The significant difference of university graduates could be as a result of unemployment of some, pear pressure from family due to the unemployed status and also due to exposure to a standard of living back in the university but we equally notice that they have the highest sobriety levels which could be due to their high level of education and also due to the fact that some of them are workers. This work goes in accordance to the work of Dan J Neal and al, in 2007 that says that most people who didn't undergo a formal education are more prone to high rate of alcohol consumption due to the fact that they are less aware of the consequences of alcohol.

Blood alcohol concentration (BAC) according to marital status: From our study we see that the single individuals are the most affected by highest alcohol level at 44.83 % for values between 0.16 to 0.30 BAC, to 50.00 % for values ≥ 0.31 BAC but not have any significant difference as compared to the other marital status (**p 0.20**). The married individuals have the highest sobriety levels of about 39. Though they represent the second most affected group by high blood-alcohol levels with 28.40 % for values ≥ 0.16 followed by widows/widowers. This work goes in accordance with Chris Power and al, in their longitudinal cohort study of 1999 on alcohol consumption and marital status where they found out that heavy drinker were the single and the divorce.

Blood alcohol concentration (BAC) according to area of residence : From our study, we see that inhabitants of rural areas are the most affected by highest alcohol level at 51.7 % for values between 0.16 to 0.30 BAC, to 53.33 % for values ≥ 0.31 BAC and have a great significance as compared to the other areas of residence (**p = 0.02**). The inhabitants of urban areas have the highest sobriety levels of about 39.1 %, though they represent the second most affected group by high blood-alcohol levels with 28.40 % for value ≥ 0.16 followed by semi-urban areas dwellers.

The inhabitants of rural areas represent this high level of alcohol may be due to the fact that some of them are farmers and uneducated and also the fact that they have access to power quality liquors and traditional made liquors which have a less costly. This study, goes in the line with Gill Valentine and al in 2008 and Johon B Saunders and al in 1993, which showed that alcohol related harm and heavy alcohol consumption where mostly in the rural areas due to the nature of the rural lifestyle, community spaces, intergenerational relationships and also due to the fact that the low on alcohol were not implemented there.

CONCLUSION

The study revealed that young men aged 18 to 35, both coming for road traffic accidents, internal medicine cases, gynecological problems and aggressions at the emergency center, coming at all time of the day according to their various occupations, marital status, educational background and their area of residence have

for the most part a blood alcohol level ≥ 0.5g / L (0.46g L). We noticed that 69.43 % of emergency cases were linked alcohol directly or indirectly. Women also had fairly high alcohol levels, but lower than men. All together present a very high risk, to be involved in a traffic accident and others emergencies motives mentioned above which can to them and to those of their respective entourage. Nevertheless, a larger number of drivers, army personnel, students and night workers would have added value to the quality of the results of our work.

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