Dynamics of Ethanolic Intoxications between the 15th of March 2020 to the 15th of March 2021 in the Context of the Covid-19 Pandemic

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Abstract: *In Romania, the consumption of alcoholic beverages has been and still is a cultural mechanism for socializing and reducing anxiety, regardless of age and gender. This paper evaluates the trends related to people diagnosed with acute intoxication (F10.0) and harmful use (F10.1) at the 'Elisabeta Doamna' Psychiatriy Hospital in Galati, during the pandemic, in the period between the 15th of March 2020 and the 15th of March 2021. We analysed the data base of discharges from the 'Elisabeta Doamna' Psychiatry Hospital from the 15th of March 2020 to the 15th of March 2021. ICD-10 (Classification of mental and behavioural disorders) was used for diagnosis of psychiatric disorders. We selected outpatients with the codes for acute intoxication (F10.0) and harmful use (F10.1) and excluded all patients with other psychiatric diagnoses. The data were statistically processed using: Microsoft Office-Excel, The jamovi project (2021) jamovi (Version 1.6) [Computer Software]. During the analysed period, there were 7614 discharges from the 'Elisabeta Doamna' Psychiatriy Hospital of which 1465 (20.08%) disorders were related to alcohol consumption. Disorders related to intoxication and alcohol use represent 13.14% (957 cases) of the total discharges and 65.46% of the total number of disorders related to alcohol. Disorders related to harmful use (F10.1) represent 30.31% (442 cases), and a percentage of 35.15% (515 cases) with disorders due to acute intoxication (F10.0) out of the total cases were related to alcohol consumption. From the view of the dispersion of the number of cases, there is a fluctuation in the tendency to follow the restrictions imposed by the authorities.*

Keywords: *Alcohol, Covid-19, pandemic, psychiatry, intoxication, harmful use.*

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1. Introduction

In Romania, the consumption of alcoholic beverages has been and still is a cultural mechanism for socializing and reducing anxiety, regardless of age and gender (Luca, Baroiu et al, 2020). This is due to the easy use of beverages (accepted in the social context) (Sandu, 2020a), alcohol being found among the substances that are legally accessible at this time, alongside with nicotine and caffeine (Ciubara et al., 2015; Ciubara et al., 2018). Excessive consumption affects the normal functioning of the body, generating a multitude of diseases (Sandu 2020b; 2020c), including mental disorders (Luca, Ciubara et al., 2020).

2. Objective

This paper tries to evaluate the trends related to people diagnosed with acute intoxication (Tabian et al. 2021) code (F10.0) and harmful use code (F10.1) (American Psychiatric Association. 2013) hospitalized at the 'Elisabeta Doamna' Psychiatriy Hospital in Galati, during the COVID-19 pandemic in the period between the 15th of March 2020 and the 15th of March 2021.

The two diagnoses of acute ethanolic intoxication code (F10.0) and harmful alcohol use code (F10.1) were chosen from alcohol-related disorders, because they reflect acute consumption and associated dissociative behavioural disorders that cause a social reaction.

3. Method

We analysed the database of discharges from the 'Elisabeta Doamna' Psychiatriy Hospital using the temporary selection criteria in the period between the 15th of March 2020 and the 15th of March 2021.

We selected the discharged persons with the codes acute ethanol intoxication (F10.0) and harmful alcohol use (F10.1) and we excluded all patients with other psychiatric diagnoses.

ICD-10 (Classification of mental and behavioural disorders) was used for diagnosis of psychiatric disorders (World Health Organization. 2016).

The data were statistically processed using:

- Microsoft Office-Excel,

- The jamovi project (2021). jamovi (Version 1.6) [Computer Software]

- SOFA – Statistics Open For All version 1.5.4

4. Results

4.1. Distribution according to location and diagnosis

Table 1. Distribution by **location** and Diagnosis

Environment	F10.0			F10.1		
	Freq	Col %	Row %	Freq	Col %	Row %
Rural	177	34.4%	55.5%	142	32.1%	44.5%
Urban	338	65.6%	53.0%	300	67.9%	47.0%
TOTAL	515	100.0%	53.8%	442	100.0%	46.2%

Source: Authors' own conception

Out of the total of 757 cases in the analysed period, for the diagnosis of acute intoxication (F10.0), urban area cases represent a majority of 338 cases (65.6%) compared to rural areas that present a total of 177 cases (34.4%). For the diagnosis of harmful alcohol use (F10.1), the urban environment represents a percentage of 67.9% compared to the rural environment which represents only 32.1%.

Out of the total of 319 cases (33.3%) from the rural area who were hospitalized in the mentioned period, 55.5% presented the diagnosis of F10.0 and 44.5% presented the diagnosis of (F10.1). On the other hand, in relation to patients from urban areas, and out of a total of 628 cases (66.7%), the diagnosis of F10.0 was present at a percentage of 53.0%, and the diagnosis of (F10.1) was present at a percentage of 47%.

The number of patients from urban area were twice the number of patients coming from rural areas, as was observed in hospitalizations in the period of the pandemic, but the distribution according to the diagnosis between them being almost the same in both urban and rural areas.

4.2. Gender and Diagnosis Distribution

Table 2. Distribution by Gender and Diagnosis

Gender	F10.0			F10.1			TOTAL	
	Freq	Col %	Row %	Freq	Col %	Row %	Freq	Col %
F	60	11.7%	57.7%	44	10.0%	42.3%	104	10.9%
M	455	88.3%	53.3%	398	90.0%	46.7%	853	89.1%
TOTAL	515	100.0%	53.8%	442	100.0%	46.2%	957	100.0%

Source: Authors' own conception

During the analysed period, out of the total number of cases, 853 (89.1%) were males and only 104 (10.9%) were females. This confirms the

increased consumption of alcohol among men and their ignorance of the imposed measures during the quarantine period.

Among males, 455 patients (53.8%) had a diagnosis of F10.0 and 398 patients (46.7%) had a diagnosis of (F10.1). Among females, 60 patients (57.7%) had a diagnosis of F10.0 and 44 patients (42.3%) had a diagnosis of (F10.1). Regarding these percentages, we can observe an increasing tendency of females to present at the psychiatry services for acute intoxication.

4.3. Distribution according to Environment and Gender

Table 3. Distribution by Environment and Gender

Environment	F			M			TOTAL	
	Freq	Col %	Row %	Freq	Col %	Row %	Freq	Col %
Rural	23	22.1%	7.2%	296	34.7%	92.8%	319	33.3%
Urban	81	77.9%	12.7%	557	65.3%	87.3%	638	66.7%
TOTAL	104	100.0%	10.9%	853	100.0%	89.1%	957	100.0%

Source: Authors' own conception

In urban areas, males represent 87.3% (557 patients) compared to females 12.7% (81 patients). In rural areas, although the absolute number of cases was lower (319 patients), the male gender predominates in a higher percentage with 92.8% (296 patients) compared to the female gender with a percentage of 7.2% (23 patients).

There is a predominant percentage of males over females, both in urban areas 557 (87.3%) and in rural areas 296 (92.8%).

In the case of females, with only 104 cases, there is a strong predominance of the urban environment with 81 (77.9%) compared to the rural area 23 (22.1%). In men, there is a lower predominance of urban 557 (65.3%) than in rural areas with 296 (34.7%).

4.4. Distribution by Month and Gender

Table 4. Distribution by Month and Gender

Month	F			M			TOTAL	
	Freq	Col %	Row %	Freq	Col %	Row %	Freq	Col %
January	10	9.6%	9.7%	93	10.9%	90.3%	103	10.8%
February	6	5.8%	7.4%	75	8.8%	92.6%	81	8.5%
March	8	7.7%	7.8%	94	11.0%	92.2%	102	10.7%
April	6	5.8%	10.7%	50	5.9%	89.3%	56	5.9%
May	11	10.6%	15.9%	58	6.8%	84.1%	69	7.2%
June	17	16.3%	23.0%	57	6.7%	77.0%	74	7.7%
July	7	6.7%	10.1%	62	7.3%	89.9%	69	7.2%

Month							
August	11	10.6%	14.7%	64	7.5%	85.3%	75	7.8%
September	4	3.8%	5.9%	64	7.5%	94.1%	68	7.1%
October	10	9.6%	10.5%	85	10.0%	89.5%	95	9.9%
November	9	8.7%	11.4%	70	8.2%	88.6%	79	8.3%
December	5	4.8%	5.8%	81	9.5%	94.2%	86	9.0%
TOTAL	104	100.0%	10.9%	853	100.0%	89.1%	957	100.0%

Source: Authors' own conception

Compared to the total number of cases in the examined period, it is noted that the months with the highest number of cases are: January with 103 (10.8%), March with 102 (10.7%) and October with 95 (9.9%), and the months with the lowest number of cases are: April with 56 (5.9%), September with 68 (7.1%) and July with 69 (7.2%). A model correlated with governmental measures related to the COVID-19 pandemic could not be established.

Regarding the female gender, we can see that the months with the highest number of cases are: June with 17 (16.3%), August with 11 (10.6%) and May with 11 (10.6%), and the months with the lowest number of cases are: September with 4 (3.8%), April and February with 6 (5.8%). A model correlated with governmental measures related to the COVID-19 pandemic could not be established.

Compared to the male gender, it is observed that the months with the highest number of cases are: March with 94 (11.0%), January with 93 (10.9%) and October with 85 (10.0%), and the months with the lowest number of cases were: April with 50 (5.9%), June with 57 (6.7%) and May with 58 (6.8%).

4.5. Distribution by month and Environment

Table 5. Distribution by Month and Environment

Month	Rural			Urban			TOTAL	
	Freq	Col %	Row %	Freq	Col %	Row %	Freq	Col %
January	34	10.7%	33.0%	69	10.8%	67.0%	103	10.8%
February	22	6.9%	27.2%	59	9.2%	72.8%	81	8.5%
March	33	10.3%	32.4%	69	10.8%	67.6%	102	10.7%
April	19	6.0%	33.9%	37	5.8%	66.1%	56	5.9%
May	22	6.9%	31.9%	47	7.4%	68.1%	69	7.2%
June	28	8.8%	37.8%	46	7.2%	62.2%	74	7.7%
July	25	7.8%	36.2%	44	6.9%	63.8%	69	7.2%
August	31	9.7%	41.3%	44	6.9%	58.7%	75	7.8%
September	16	5.0%	23.5%	52	8.2%	76.5%	68	7.1%

October	43	13.5%	45.3%	52	8.2%	54.7%	95	9.9%
November	23	7.2%	29.1%	56	8.8%	70.9%	79	8.3%
December	23	7.2%	26.7%	63	9.9%	73.3%	86	9.0%
TOTAL	319	100.0%	33.3%	638	100.0%	66.7%	957	100.0%

Source: Authors' own conception

In relation to the urban area patients, it was observed that the months with the highest number of presentations were: January with 69 patients (10.8%), March with 69 patients (10.8%) December with 63 patients (9.9%), and the months with the lowest number of presentations were: April 37 (5.8%), July with 44 (6.9%) and August with 44 (6.9%).

In the urban environment, there is an association between the lowest number of presentations and the onset of the pandemic, we also notice the association between the highest number of presentations and the relaxation of measures before wave 2 of the pandemic.

In rural areas, the months with the highest number of presentations were: October with 43 patients (13.5%), January with 34 patients (10.7%) and March with 33 patients (10.3%). While the months with the least presentations are: September with 16 (5.0 %), April with 19 patients (6.0%) and May with 22 patients (6.9%). The model that was marked in the rural areas seems to be a model related to the harvest and the specific holidays.

4.6. Distribution by Gender and Day of the week

Table 6. Distribution by Gender and Day of the week

Week day	F			M			TOTAL	
	Freq	Col %	Row %	Freq	Col %	Row %	Freq	Col %
Monday	23	22.1%	12.9%	155	18.2%	87.1%	178	18.6%
Thursday	15	14.4%	13.9%	93	10.9%	86.1%	108	11.3%
Wednesday	8	7.7%	6.3%	118	13.8%	93.7%	126	13.2%
Tuesday	17	16.3%	13.5%	109	12.8%	86.5%	126	13.2%
Friday	21	20.2%	13.7%	132	15.5%	86.3%	153	16.0%
Saturday	11	10.6%	8.3%	121	14.2%	91.7%	132	13.8%
Sunday	9	8.7%	6.7%	125	14.7%	93.3%	134	14.0%
TOTAL	104	100.0%	10.9%	853	100.0%	89.1%	957	100.0%

Source: Authors' own conception

For the female gender, it was observed that the days with the highest number of presentations were: Monday with 23 patients (22.1%) and Friday with 21 patients (20.2%), and the days with the least presentations were: Wednesday with 8 patients (7.7%) and Sunday with 9 patients (8.7%).

For males, the days with the highest number of presentations were: Monday with 155 patients (18.2%) and Friday with 132 patients (15.5%), and the days with the least presentations were Tuesday with 93 patients (10.9%) and Thursday with 109 patients (12.8%).

We notice a concordance related to Mondays and Fridays in both genders.

4.7. Distribution by Month and Diagnosis

Table 7. Distribution by Month and Diagnosis

Month	F10.0			F10.1			TOTAL	
	Freq	Col %	Row %	Freq	Col %	Row %	Freq	Col %
January	62	12.0%	60.2%	41	9.3%	39.8%	103	10.8%
February	35	6.8%	43.2%	46	10.4%	56.8%	81	8.5%
March	57	11.1%	55.9%	45	10.2%	44.1%	102	10.7%
April	27	5.2%	48.2%	29	6.6%	51.8%	56	5.9%
May	39	7.6%	56.5%	30	6.8%	43.5%	69	7.2%
June	48	9.3%	64.9%	26	5.9%	35.1%	74	7.7%
July	33	6.4%	47.8%	36	8.1%	52.2%	69	7.2%
August	51	9.9%	68.0%	24	5.4%	32.0%	75	7.8%
September	33	6.4%	48.5%	35	7.9%	51.5%	68	7.1%
October	39	7.6%	41.1%	56	12.7%	58.9%	95	9.9%
November	43	8.3%	54.4%	36	8.1%	45.6%	79	8.3%
December	48	9.3%	55.8%	38	8.6%	44.2%	86	9.0%
TOTAL	515	100.0%	53.8%	442	100.0%	46.2%	957	100.0%

Source: Authors' own conception

The months with the highest number of presentations for the diagnosis of acute intoxication (F10.0) were: January with 62 patients (12.0%) and March with 57 patients (11.1%), and the months with the lowest presentations were: April with 27 patients (5.2%) and July and September with 33 patients (6.4%).

For the diagnosis of (F10.1), the months with the highest number of presentations were: October with 56 patients (12.7%) and February with 46 patients (10.4%), and the months with the least presentations were: August with 24 patients (5.4%) and April with 29 patients (6.6%)

April had the lowest number of hospitalizations regarding both diagnoses, most likely, due to the measures imposed in relation to COVID-19.

5. Conclusions

During the analysed period, there were 7614 discharges from the 'Elisabeta Doamna' Psychiatriy Hospital, of which 1465 patients (20.08%) diagnosed with disorders related to alcohol consumption. Disorders related to intoxication and alcohol use represent a percentage of 13.14% (957 cases) of the total discharges, and 65.46% of the total disorders related to alcohol.

Harmful use disorders (F10.1) represent a percentage of 30.31% (442 cases) of the total alcohol-related disorders. On the other hand, disorders due to acute intoxication (F10.0), represented a percentage of 35.15% (515 cases).

After analysing the data, the following points were observed:
- those in urban areas predominate by a percentage of 66.7%
- cases with (F10.0) predominate by a percentage of 53.8%
- male predominates by a percentage of 89.1%

From the view of the dispersion of the number of cases, there is a fluctuation in the tendency to follow the restrictions imposed by the authorities.

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