(RESEARCH ARTICLE)

The impact and risk factors of recreational drug poisoning in patients admitted to the emergency room of Bab El Oued

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Abstract

Recreational drug refers to the use of drugs that are not intended for medical reasons but for its psychoactive nature and leisure. In the Middle East and worldwide, drug abuse is a growing problem for authorities

Materials and methods: We carried out a descriptive and analytic cohort study. We included all cases aged over 16 years presented to the emergency department (SU) of the Lamine Debaghine-Bab El Oued University hospital, between November 2020 to October 2021 presenting acute toxicity due to self-reported recreational drug use or exhibiting symptoms/signs consistent with acute toxicity.

Furthermore, we carried out a multivariate analysis by logistic regression to eliminate all confounding factors around the risk of morbidity and mortality of poisoned patients.

Results: The mean age was 18-year-old. they are mostly due to prescription medicine.50.7% of the cases are dual consumptions of leisure drugs. 51% stayed more than 13h. Starting from the initial model (Table 01), the explanatory variables which remained significant in the final model illustrated as follows: Signs of cardiac collapse or decompensation significantly increased the risk of hospitalization and intensive care unit admission.

They multiplied the risk by 2.5: ORa= 2.5 (1.1 – 5.81) CI 95%

Discussion: We highlighted that drug abuse started at a really young age in our population. we noticed a preponderance of dual and medicinal drugs, a longer duration of hospitalization and a significantly increased risk of cardiac events

Conclusion: We could relate the pretty young age and duration of stay to the lake of awareness, social level and the accessibility to prescription medicine for a leisure purpose

Keywords: Recreational Drug; Medicinal Intoxications; Intensive Care; Emergency Medicine

1. Introduction

Recreational drug use is a significant public health problem, especially among young populations (1). In 2021, approximately 275 million people worldwide used recreational drugs (2). The resulting global deaths increased by 60%, from 105,000 deaths (2000) to 168,000 deaths (2018) (3).

Long-term consumption of these substances may lead to avoidable increases in mortality and morbidity, such as neurotoxicity (4), Acute cardiovascular events (sudden death, acute coronary syndrome, acute heart failure,

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thromboembolic events, myocarditis and Arrhythmias) (5.6) Addiction, psychological problems and disorders, accidents, involvement in criminal activity and risky sexual behavior (7.8.9.10).

Although many acute cardiovascular events may involve recreational drug use, the prevalence of such drug use in patients hospitalized in intensive cardiac care units (ICCUs), as well as the short-term cardiovascular consequences of it, remains unknown.

2. Materials and methods

After approval of the ethics committee and consents obtained from patients admitted to the intensive care unit. We carried out a descriptive and analytic cohort study. We included all cases aged over 16 years presented to the emergency department (SU) of the Lamine Debaghine University hospital, between November 2020 to October 2021 presenting acute toxicity due to self-reported recreational drug use or exhibiting symptoms/signs consistent with acute toxicity.

Furthermore, we carried out a multivariate analysis by logistic regression to eliminate all confounding factors around the risk of morbidity and mortality of poisoned patients.

Data collection concerned, drug poisoning, age, neurological score, medical history, associated habit length of stay, number of consumed drugs.

Furthermore, we carried out a multivariate study by logistic regression with as dependent variable: The duration of hospitalization, a major risk factor for increased morbidity and mortality of poisoned patients. We included the following independent variables in the initial model: age, gender, smoking, alcoholism, substance addiction, psychiatric history, heart disease, aspiration pneumonia, acute endocarditis, signs of collapse, Glasgow score, rhythm disorder, lactatemia and neuropsychiatric signs. (Table 01)

3. Results

The incidence of poisoning in patients admitted to intensive care was 10.6%. Our population included 123 patients.31% of patients were under 20 years old; the age groups are demonstrated in (fig1). The mean age in our population was 18.11-year-old. Most of the drugs consumed were recreational or intended recreational substances and only 5% were addicts and only 18% had a psychiatric medical history. As for other toxic habits, smoking has been illustrated in (fig 2) .51% were hospitalized for more than 13 hours in our ward. the consumed drug, number of consumed drugs and Glasgow scale at the admission are reported in figures in order (fig 3), (fig 4), (fig5).
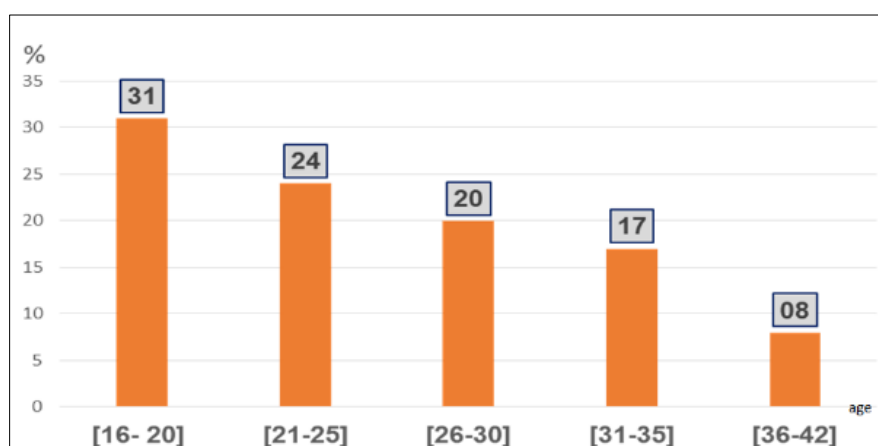

Figure 1 Age bracket of the patients admitted to the emergency department for drug poisoning
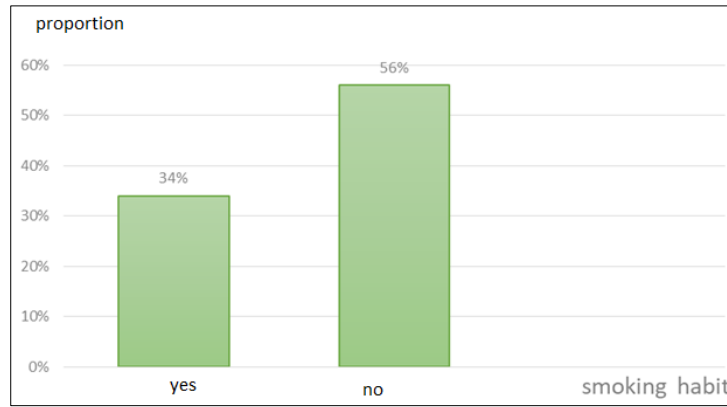
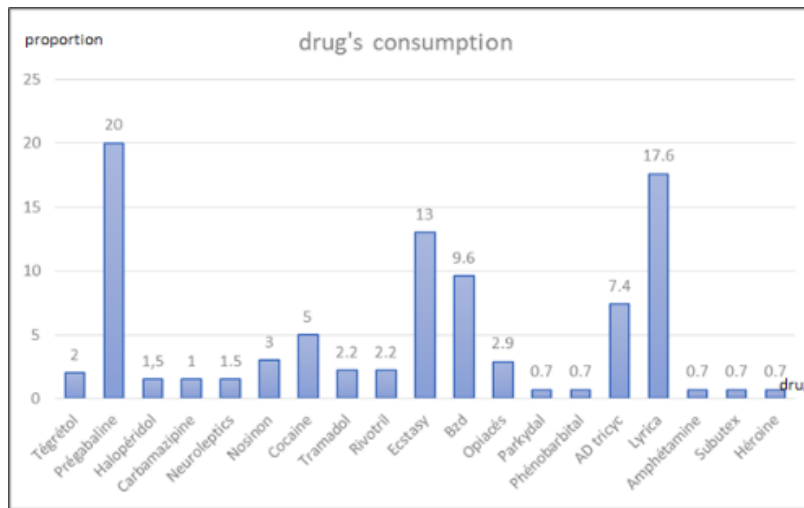**Figure 2** Smoking associated habit to drug use

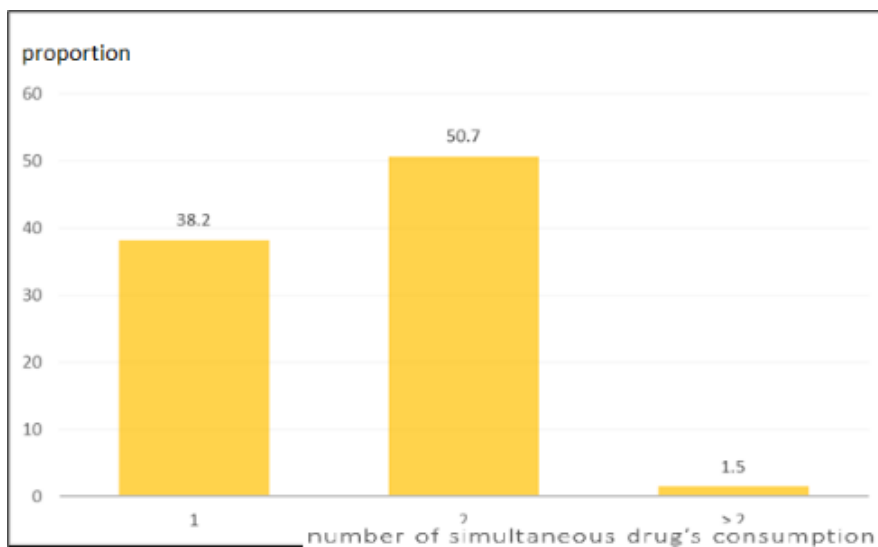**Figure 3** Drug's consumption tendency

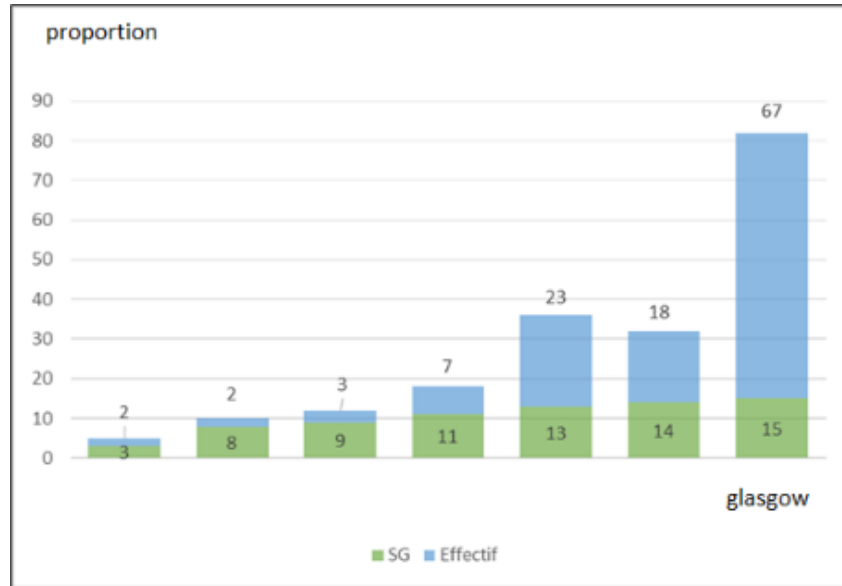**Figure 4** Number of simultaneous drug's consumption

Figure 5 Glasgow scale at the admission

The results of the logistic regression are listed in (Table 01) and (Table 02)

Table 1 The initial logistic regression model including the independent variables

Variables out of the equation					
Step 0			Score	ddl	sig
	variables	LAge	.087	1	.768
		G_re	.156	1	.693
		T_b	1.628	1	.202
		A _Pstrique	1.921	1	.166
		T_cme	2.168	1	.141
		C_D	.024	1	.878
		E_ aigue	.024	1	.878
		P_Hp	.160	1	.690
		S_G2	3.219	1	.073
		P_drog	1.201	1	273
		H_lact	.507	1	.477
		T_amb	.499	1	.480
		E_lisme	.472	1	.492
		T_rythme	.814	1	.367
		S Colap	6.862	1	.009
		T sort	3.893	1	.048
		Statistiques globales	20.697	16	.190

Table 2 The final logistic regression model, Signs of cardiac collapse or decompensation significantly increased the risk of hospitalization and admission to an intensive care unit

Variables in the équation									
		HAS	ES	Wald	ddl	Sig.	Exp(B)	IC for Exp(B) 95%	
								Lower	Superior
Step 1has	**T- comes out**	Four hundred ninety-seven	0.410	1.465	1	0.226	1.643	0.735	3.671
	L_Age	-0.144	0.402	0.128	1	0.720	0.866	0.394	1.903
	S_Colap	**0.919**	**0.428**	**40.609**	**1**	**0.032**	**2.508**	**1.083**	**5.806**
	Constant	-0.784	0.411	3.636	1	0.057	0.457		
HAS. Variable(s) entered in step 1: T_sort,L_Age,S_Colap.									

Starting from the initial model (Table 01), the explanatory variables which remained significant in the final model illustrated as follows: Signs of cardiac collapse or decompensation significantly increased the risk of hospitalization and intensive care unit admission.

They multiplied the risk by 2.5: ORa= 2.5 (1.1 – 5.81) CI 95%

4. Discussion

In our study, the prevalence of drug use was estimated to 10.6%. In France, the prevalence of recreational drug use is 11.4%, ahead of Italy (10.6%) (11). the mean age in our study was 18.11 which is much younger than the mean age reported in the EURO-DEN study in 2015 (31year-old) (12) .in a Nigerian study the median age of study participants was 22 years (13).

Signs of cardiac collapse or decompensation significantly increased the risk of hospitalization and intensive care unit admission. They multiplied the risk by 2.5: Ora = 2.5 (1.1 – 5.81). These current findings can be explained by several types of sympathomimetic effects of recreational drugs that proved in previous studies (5.14). Recreational drug use was independently associated with worse in-hospital outcomes. A study demonstrated that the use of leisure drugs is associated to hemodynamic shock (OR 5.22, 95% CI 2.25 to 11.6, p<0.001) and resuscitated cardiac arrest (OR 33.4, 95% CI 8.27 to >100, p<0.001) (5).the consequence of recreational drugs cardiotoxicity can lead to tachycardia , collapses and death as reported in literature (15).

The drugs most commonly involved were prescription medicine: pregabalin (20%) fallowed by Lyrica (17.6%) then ecstasy (13%) and benzodiazepine (9.6%). In 2015, EURO-DEN research showed a tendency of drug's abuse with a preponderance of heroin and cocaine (12). This difference could be explained by the accessibility of prescription medicine to a wider population in our community compared to designer drugs that are pricey and prohibited by law. Moreover, in the conducted study we noticed a preponderance for dual drug use (50.7%) in the European study (60.6%) presentations involved a single agent and only (27.0%) involved two agents. (12). As for the length of stay, 51% stayed more than 13h. In the EURO-DEN study, the majority of presentations (78.0%) stayed in hospital less than 12 hours (12).

5. Conclusion

The use of drug for leisure is a worldwide problem. We could relate the pretty young age and duration of stay to the lake of awareness, social level and the accessibility to prescription medicine for a recreational purpose. However, further investigations are needed to explain the variety in drug use

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors'.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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