

## Screening of Some Drugs of Abuse in Outpatient Clinics in Al-Azhar University Hospitals

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### ABSTRACT

**Background:** Substance, which use among the youth worldwide is a major problem that has elicited concern from different individuals and groups. In Egypt, drug dependence is considered one of the serious problems that worry both the people and government; however, epidemiological data on drug dependence are still few. Drug addiction is one of the serious problems that worry the Egyptian government, as it deals with young people within the age of work and productivity. It may lead to many problems such as bad social adaptation, decreasing productivity at work or dismissing from job.

**Aim of the work:** The study aims to give an information about the degree of prevalence of a social problem like drugs of abuse in ages more than 18 years in the Egyptian society from May 2016 to April 2017.

**Methods:** This study was a cross sectional study which done on random urine sample of 500 persons in age of more than 18 years coming to outpatient clinics of Al-Azhar university hospitals namely El-Hussein and Bab Elshaaria university hospitals after taking full history for each one (patient sheet) with informed written consent.

**Results:** This study found that prevalence of drugs abuse among all studied sample, negative were 215 (43.0%), and positive were 285 (57.0%). Regarding prevalence of types of drugs abuse among all studied sample; negative were 215 (43.0%), THC 105 (21.0%), THC & Opiate 15 (3.0%), THC & tramadol were 40 (8.0%), THC, tramadol & opiate 20 (4.0%), tramadol 55 (11.0%) and tramadol & opiate were 50 (10.0%). Percent of males was significantly higher among the studied groups positive than negative (100.0%, 95.3% respectively,  $p = 0.000$ ). Mean value of age was significantly lower among the studied groups positive than negative (37.96, 43.88 respectively,  $p < 0.000$ ).

**Conclusion:** prevalence of drugs abuse among all studied sample, negative were 215 (43.0%), and positive were 285 (57.0%).

**Keywords:** Drugs abuse - Prevalence –Social problems.

### INTRODUCTION

The 20<sup>th</sup> century ended with the conviction that drug abuse is a worldwide problem and thus worldwide solutions were required. The apparently neat boundary between producer, transit, and consumer countries has clearly broken down <sup>(1)</sup>.

A 2007 National Survey report stated that 8.5% of Egyptians - or six million people - are addicted to drugs, the majority of them are between 15 and 25 years old and the addicts are considered as criminals rather than patients in need for treatment <sup>(2)</sup>.

Souief *et al.* <sup>(3)</sup> found that 20% of Egyptian male students have used drugs at some time in their life, and among them, 25% have continued to do so. Among secondary school male students, 5.05% abused hashish, 0.84% abused opiates, 2.72% abused tranquilizers,

1.79% abused stimulants, and 2.26% abused hypnotics <sup>(3)</sup>.

Substance which use among the youth worldwide is a major problem that has elicited concern from different individuals and groups <sup>(4)</sup>.

In Egypt, drug dependence is considered one of the serious problems that worry both the people and government; however, epidemiological data on drug dependence are still few <sup>(5)</sup>.

Drug addiction is one of the serious problems that worry the Egyptian government, as it deals with young people within the age of work and productivity. It may lead to many problems such as bad social adaptation, decreasing productivity at work or dismissing from job <sup>(5)</sup>.

Drug testing has a number of purposes in clinical practice, each of which requires a clear testing strategy. Urine is generally “the best” biologic specimen for determining the presence

or absence of most drugs because it has a 1- to 3-day window of detection for most drugs. In contrast, drugs and/or their metabolites would be detectable for only a matter of hours in serum. Since serum drug testing also suffers from the disadvantages of increased cost and invasive nature, urine is the preferred biologic sample. The term urine drug "screening" is a misnomer since it implies screening for all drugs<sup>(6)</sup>.

For most clinical and forensic applications, initial testing continues to be done with class-specific immunoassay drug panels, which are designed to classify substances as either present or absent according to predetermined cutoff thresholds. Definitive identification of a specific drug and/or its metabolite(s) requires tests that are more sophisticated, chromatograph. However, with the emergence of laboratories focusing on pain management, some are eliminating initial immunoassay testing in favor of panels utilizing more definitive GC/MS testing. The UDT method chosen should be a function of the question that needs to be answered. It is important that clinicians understand the methods for UDT in order to correctly interpret results<sup>(7)</sup>.

The immunoassay drug tests, which are designed to classify substances as either present or absent according to a predetermined cutoff threshold, are the most common methods. Immunoassays are based on the principle of competitive binding, and use antibodies to detect the presence of a particular drug or metabolite in a urine sample<sup>(8)</sup>.

A known amount of an antibody and the drug or metabolite that has been labeled with an enzyme are added to the urine sample. The drug or metabolite in the sample will compete with the labeled drug or metabolite to bind antibody to form antigen-antibody complexes. The amount of enzyme-labeled antigen that binds with the antibody is inversely proportional to the amount of drug and/or its metabolite(s) in the sample<sup>(9)</sup>.

Forensic laboratories are important because addiction to drugs of abuse has many detrimental effects on individuals and society as a whole. A variety of analytical techniques has been applied in forensic laboratories to comprehensively screen for drugs of abuse. The typical analysis for drugs of abuse involves an immunoassay screening test, and the positive cases are then confirmed and quantified by gas chromatography mass spectrometry (GC-MS) and liquid chromatography mass spectrometry(LC-MS)<sup>(10)</sup>.

Substance abuse, also known as drug abuse, is a patterned use of a drug in which the user consumes the substance in amounts or with methods that are harmful to themselves or others, and is a form of substance-related disorder<sup>(11)</sup>.

It is common among patients in primary care settings. Although it has a substantial health impact, physicians report low levels of preparedness to identify and assist patients with substance use disorders. An effective approach to office-based treatment includes a coherent framework for identifying and managing substance use disorders and specific strategies to promote behavior change<sup>(12)</sup>.

### AIM OF THIS WORK

It was to give information about the degree of prevalence of a social problem like drug abuse in ages more than 18 years in the Egyptian society.

### SUBJECTS AND METHODS

#### Subjects:

This study was a cross sectional study which run on random urine sample of 500 persons in age of more than 18 years coming to outpatient clinics of Al-Azhar university hospitals namely El-Hussein and Bab Elshaaria university hospitals after taking full history for each one (patient sheet) with informed written consent.

### METHODS

#### 1. Preliminary urine test (immunoassay)

Urine screening test is done by rapid diagnostic test (Ag- Abreaction).

#### Intended Use

The One Step Multi-Drug, Multi-line Screen Test Device is a lateral flow chromatographic immunoassay for the qualitative detection of multiple drugs and drug metabolites in urine at the following cut-off concentrations<sup>(13)</sup>.

#### Positive

The positive result indicates that the drug concentration in the urine sample exceeds the designated cut-off for a specific drug.

#### Negative

The appearance of a colored line in C region and a colored line in the T region for a specific drug indicate a negative test result. Up to four colored lines may appear one line in the C region, and up to three lines in the T region. This

negative result indicates that the drug concentrations in the urine sample are below the designated cut-off levels for a particular drug tested.

**The study was done after approval of ethical board of Al-Azhar University and an informed written consent was taken from each participant in the study.**

#### *Statistical analysis*

The data were coded, entered and processed on computer using SPSS (version 18). The results were represented in tabular and diagrammatic forms then interpreted. Mean, standard deviation, range, frequency, and percentage were used as descriptive statistics.

The following test was done: **Chi-Square test  $X^2$**  was used to test the association variables for categorical data. **Student's t-test** was used to assess the statistical significance of the difference between two population means in a study involving independent samples. **P value was considered significant as the following:**  $P > 0.05$ : Non-significant and  $P \leq 0.05$ : Significant.

## RESULTS

The study was conducted on, 250 (50%) at El-Hussein and 250 (50%) were at Said Glal. Regarding gender, 490 (98%) were males and 10 (2.0%) were females. Regarding marital status, 395 (79%) were married and 105 (21%) were not married. Regarding education, 30 (6.0%) were high 235 (47%) were medium and 235 (47%) were not educated (**Tab 1**).

Prevalence of drugs abuse among all studied sample: regarding results, negative were 215 (43.0%), and positive were 285 (57.0%) (**Tab 2**).

Prevalence of types drugs abuse among all studied sample. Regarding type, negative were 215 (43.0%), THC 105 (21.0%), THC & OPIATE 15 (3.0%), THC, tramadol were 40 (8.0%), THC, tramadol & opiate 20 (4.0%), tramadol 55 (11.0%) and Tramadol & opiate were 50 (10.0%) (**Tab: 3**).

Percent of female was significantly lower among the studied groups positive and negative were (0.0%, 4.7% respectively). Percent of male was significantly higher among the studied groups positive and negative were (100.0%, 95.3% respectively,  $p = 0.001$ ) (**Tab 4**).

Mean value of age was significantly lower among the studied groups positive and negative were (37.96, 43.88 respectively,  $p < 0.001$ ) (**Tab 5**).

Percent of married was not significantly difference among the studied groups positive than negative (77.2%, 81.4% respectively,  $p = .253$ ) (**Tab 6**).

Percent of high was significantly lower among the studied groups positive and negative were (1.8%, 11.6% respectively). Percent of medium was significantly lower among the studied groups positive and negative were (35.1%, 62.8% respectively). Percent of No education was significantly higher among the studied groups positive than negative (63.2%, 25.6% respectively) (**Tab 7**).

**Table (1): Distribution of demographic characteristics among all studied sample**

		Patients	
		NO.	%
hospital	El- Hussein	250	50.0
	Said Glal	250	50.0
	Total	500	100.0
Gender	Male	490	98.0
	Female	10	2.0
	Total	500	100.0
Marital status	Married	395	79.0
	Single	105	21.0
	Total	500	100.0
Levels of education	High	30	6.0
	Medium	235	47.0
	Illiterate	235	47.0
	Total	500	100.0

**Table (2): Prevalence of drugs abuse among all studied sample**

		patients	
		NO.	%
Results	Negative	215	43.0
	Positive	285	57.0
	Total	500	100.0

**Table (3): Prevalence of types drugs abuse among all studied sample**

		patients	
		NO.	%
Type	Negative	215	43.0
	THC	105	21.0
	THC & OPIATE	15	3.0
	THC, TRAMADOL	40	8.0
	THC, TRAMADOL & OPIATE	20	4.0
	Tramadol	55	11.0
	Tramadol & opiate	50	10.0
	Total	500	100.0

**Table (4): Gender among the studied groups**

			Negative	positive	X <sup>2</sup>	P value
Gender	Female	No.	10	0	13.526	.001
		%	4.7%	.0%		
	Male	No.	205	285		
		%	95.3%	100.0%		
	Total	No.	215	285		
		%	100.0%	100.0%		

**Table (5): Comparison between age among the studied groups**

		negative	positive	t. test	P. value
age(years)	Mean ±SD	43.88 ±10.91	37.96±12.08	-5.648	.001

**Table (6): Marital status among the studied groups**

			negative	positive	X <sup>2</sup>	P value
Marital status	Married	No.	175	220	1.305	.253
		%	81.4%	77.2%		
	Single	No.	40	65		
		%	18.6%	22.8%		
	Total	No.	215	285		
		%	100.0%	100.0%		

**Table (7): Education among the studied groups**

			negative	positive	X <sup>2</sup>	P value
Education	High	No.	25	5	76.740	.001
		%	11.6%	1.8%		
	Medium	No.	135	100		
		%	62.8%	35.1%		
	Illiterate	No.	55	180		
		%	25.6%	63.2%		
Total	No.	215	285			
	%	100.0%	100.0%			

**Table (8): Comparison between El-Hussein and Said Glal regarding results**

			El- Hussein	Said glal	X <sup>2</sup>	P value
results	Negative	No.	90	125	9.996	.002
		%	36.0%	50.0%		
	Positive	No.	160	125		
		%	64.0%	50.0%		
	Total	No.	250	250		
		%	100.0%	100.0%		

## DISCUSSION

This study showed that, regarding hospital, 250 (50%) were at El-Hhussien and 250 (50%) were at Said glal. regarding gender, 490 (98%) were males and 10 (2.0%) were females. regarding marital status, 395 (79%) were married and 105 (21%) were not married. regarding education, 30 (6.0%) were high 235 (47%) were medium and 235 (47%) were not educated.

This study showed that, prevalence of drugs abuse among all studied sample, negative were 215 (43.0%), and positive were 285 (57.0%).

This more than **EL-Sherbiny** <sup>(11)</sup> which made a study aimed to assess the frequency of drug abuse among customers of Tanta university hospital outpatient clinics, as well as to determine its sociodemographic predictors. He made a cross-sectional study, which conducted on 218 patients who attended Tanta university outpatient clinic for medical consultations over a period of 3 months from 1 April to the end of June 2013 in outpatient clinics of Tanta University Hospital, Egypt. He found that 15.14% of this study group comprised drug abusers. <sup>(11)</sup>

In Egypt, **Hamdi** <sup>(19)</sup> found that the lifetime prevalence of any substance use varies between 7.25 and 14.5%. One-month prevalence varies between 5.4 and 11.5% when adjusted to

different population parameters. An overall 9.6% of the study group was identified to have used illicit substances at least once in their life: 3.3% took drugs for experimental reasons and during social settings, 4.46% took drugs at regular base, and substance dependence was found in 1.6%. The difference between our results and those of another study was due to different sociodemographic profile of both populations.

Several studies have reported increase in the prescription rates of abusable medications including stimulants, opioids, and benzodiazepines <sup>(14, 15)</sup>. This increase is likely the result of many factors, including improved awareness on the signs and symptoms of several disorders, increased duration of treatment, availability of new medications, and increased marketing <sup>(16)</sup>. The increase in prescription rates have raised public health concerns because of the abuse potential of these medications and high prevalence rates of nonmedical use, abuse, and dependence, especially among young adults between 18 and 24 years of age. <sup>(17, 18)</sup>

This study showed that, prevalence of types drugs abuse among all studied sample, negative were 215 (43.0%), THC 105 (21.0%), THC and OPIATE 15 (3.0%), THC, TRAMADOL were 40 (8.0%), THC, TRAMADOL and OPIATE 20 (4.0%),

tramadol 55 (11.0%) and Tramadol and opiate were 50 (10.0%).

**Hamdi** <sup>(19)</sup> found that Cannabis is the drug mostly misused in Egypt followed by opiates.

**El-Sawy** <sup>(5)</sup> found that (84.6 %) were poly-drug users (13). Similarly, a study of a sample of drug users in Greater Cairo showed that they were habitual poly-drug users. <sup>(20)</sup>

**Goreishi and Shajari** <sup>(21)</sup> in Iran found that, hookah with 18.8% usage in students and LSD with 0.1% had the highest and lowest percentage of abuse, respectively. Codeine, cigarette and alcohol were the next drugs (16.5%, %16.1 and 6.5%) In addition, 17 (1.4%) subjects were alcohol, 5 (0.4%) were tramadol and 4 (0.23%) students were cannabis abusers.

**McHugh et al.** <sup>(22)</sup> found that, Marijuana is the most commonly used illicit drug among both men and women (38.1% of women age 12 and older report lifetime use of marijuana), followed by nonmedical use of prescription medications (18.9%), cocaine and hallucinogens (approximately 11% each), inhalants (5.3%), and heroin (1.0%).

This study showed that, mean value of age was significantly lower among the studied groups positive than negative (37.96, 43.88 respectively)  $p < 0.000$

This agrees with **Hamdi et al.** <sup>(19)</sup> who found that, mean value of age was significantly lower among the studied groups positive than negative.

This study showed that, Drug abuse was significantly higher in the male.

This agrees with **EL-Sherbiny** <sup>(11)</sup> who revealed that most of the drug abusers (91.0%) in his target group were male. Whereas **El-Sawy et al.** <sup>(5)</sup> found that the prevalence of drug abuse was 70% in the male population, whereas it was 30% in the female population.

The variation was due to the difference in the study population, as **El-Sawy et al.** <sup>(5)</sup> targeted only drug addicts, whereas this study and **EL-Sherbiny**, <sup>(11)</sup> targeted a group of the total population.

This agrees also with **Goreishi and Shajari**, <sup>(21)</sup> who found drug abuse was higher among males than females.

This study showed that, regarding to marital status among the studied groups, % of married was not significantly difference among the studied groups positive than negative (77.2%, 81.4% respectively,  $p = .253$ ).

This disagrees with **EL-Sherbiny** <sup>(11)</sup> who found drug abuse was significantly lower among married individuals (2.9%) than among single, widow or divorced individuals (42.9, 13.0, and 71.4%, respectively). **El-Sawy et al.** <sup>(5)</sup> reported that 60.6% of drug abusers were of single marital status.

This study showed that, Drug abuse among higher education (1.8%) was significantly lower compared with medium education (35.1%) and no education (63.2%).

This agrees with **EL-Sherbiny** <sup>(11)</sup> who found, drug abuse among university graduates (4.1%) was significantly lower compared with that among illiterate (54.5%) and literate (27.5%) individuals.

This study showed that, Drug abuse was significantly higher among workers

A complex relationship exists between occupation and addictive behavior; it has been argued that addiction can lead to occupational disruption and ill health. Considering occupation as the mean to maximize health and human capacities can add an alternative perspective when understanding people with addiction <sup>(23)</sup>.

Workers are increasingly exposed to stressful work environments as a result of changing work expectations including tighter deadlines, constant and prompt communication and increased production targets set with little consideration for individual workload. <sup>(24,25)</sup>

**Boulos et al.** <sup>(26)</sup> revealed that (33.6%) and (19.7%) of the male addicts attending ASU clinic had a moderately high and high job strain respectively according to the overall Job Content Questionnaire score. Similarly around 31% of the Canadian labor force experiences chronic work stress either alone or in combination with chronic physical condition and/or a psychiatric disorder. <sup>(24)</sup> Using the Karasek demand/control formulation of job strain, **Storr et al.** <sup>(27)</sup> in their study, found that participants were 1.5 times more likely to be a non-medical drug user if they had a high strain job as compared to those in low strain jobs.

## CONCLUSION

This study concluded that prevalence of drugs abuse among all studied sample, negative were 215 (43.0%), and positive were 285 (57.0%). Prevalence of types drugs abuse among all studied sample. Regarding type, negative were 215 (43.0%), THC 105 (21.0%), THC & OPIATE 15 (3.0%), THC, TRAMADOL were 40 (8.0%), THC, TRAMADOL & OPIATE 20 (4.0%),

tramadol 55 (11.0%) and Tramadol & opiate were 50 (10.0%). Percentage of male was significantly higher among the studied groups positive than negative (100.0%, 95.3% respectively,  $p = 0.000$ ). Mean value of age was significantly lower among the studied groups positive than negative (37.96, 43.88 respectively,  $p < 0.000$ ).

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