DRUG ABUSE CASES PRESENTED TO BENHA GOVERNMENTAL HOSPITALS: PREVALENCE, CLINICAL MANIFESTATIONS AND MANAGEMENT PROTOCOLS (PROSPECTIVE STUDY)

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Abstract

Background: Substance abuse disorder (SAD) is a rapidly growing problem, it is a disease that affects brain, attitude and behavior and leads to an inability to control the use of a legal or illegal drug. **This study aimed to** study the prevalence of substance abuse disorder of acute & chronic abuse cases to overcome the spread of SAD and its hazardous effects on public health. **Methods:** This cross-sectional prospective study carried out on 200 cases of SAD. Patients were divided into two equal groups; Acute cases included individuals presenting with acute symptoms of SAD and Chronic cases included individuals with a known history of SAD. Full history, examination, investigations, and treatment plan. **Results**: Age was significantly lower in acute cases than chronic cases. According to gender, socioeconomic status (SES) and residence there were non-significant differences between the two groups. There was a significantly higher distribution of methamphetamine and tramadol in chronic cases. A significantly higher frequency of benzodiazepine and Vodoo in acute cases. **Conclusion:** Age was lower in acute cases compared to chronic cases, and there were no significant differences based on gender, SES, or residence. Methamphetamine and tramadol were more prevalent in chronic cases, while benzodiazepine and Vodoo were more frequent in acute cases.

Keywords: Substance Abuse cases, Manifestations; Management, Benha

Introduction

Substance abuse disorder (SAD) is a disease that affects brain, attitude and behavior and leads to an inability to control the use of a legal or illegal drug. Substances such as alcohol, cannabis and nicotine also are considered drugs **(Schoenberger et al., 2022)**. SAD are highly prevalent worldwide and considered as a leading cause of morbidity and mortality globally, fortunately epidemiological studies had provided data on the patterns of substance use in nationally representative samples across the world **(Chiang et al., 2023).**

The Institute of Health Metrics and Evaluation database published in 2019 revealed that, prevalence of substance-use disorders across the world was 2.2%, not surprisingly, with higher prevalence of alcohol (1.5%) than other drug-use disorders (o.8% total including: cannabis o.32%; opioid o.29%, amphetamine o.10%; cocaine o.06%) **(Castaldelli-Maia and Bhugra, 2022)**.

The prevalence of adolescents' substance-abuse in Egypt is also a raising concern, with sporadic studies indicating increasing manner of substance use, particularly in the vulnerable age group of late adolescence/young adulthood, with reports indicating a progressive rise in drug abuse among this population **(Bassiony et al., 2022).**

Symptoms of SAD vary from impairment of simple tasks to death at toxic levels. Slurred speech, nausea, vomiting, lack of coordination, impaired judgment, mood and personality changes, somnolence, respiratory depression are few of the important clinical features seen during intoxication **(Pasha et al., 2020)**.

The patient should be assessed for adequate airway, breathing and circulation, and 1V fluids should be initiated. Concurrently a 'banana bag' (dextrose, thiamine, folic acid, multivitamin) should be administered. Once the patient is stabilized, he/she may be admitted to the hospital for further observation if appropriate. **(Day and Daly, 2022)**.

Patients are usually managed symptomatically as needed. Monitoring the effects on non-neurological organ systems is also an important task. Efforts should be made to avoid letting a severely intoxicated patient to leave the hospital until their mentation improves as the patient is at high risk of self-harm in their altered state and physicians could be held responsible in case of harm to others or self **(Knox et al., 2019)**.

Substance abuse treatment has traditionally been based on acute care. The substance abuse treatment field is developing and testing approaches to treat addiction as a chronic illness. Aftercare and continuing care have been developed to extend the benefits of the initial treatment, and recovery monitoring has been developed to assess patients' status and return them to treatment as needed **(Lawn et al., 2016).**

This study is concerned with studying the prevalence, clinical manifestations and management protocols of substance abuse disorder cases admitted to Benha governmental hospitals (Benha Poisoning Treatment and research unit {BPTRU} and Benha mental health hospital) and differentiating acute from chronic abuse cases. to overcome the spread of SAD and its hazardous effects on public health.

Patients and methods

This cross-sectional prospective study carried out on 200 cases of substance abuse disorder presented to BPTRU at Benha University Hospitals and Benha Mental Health hospital from 1st September 2022 till 31st March 2023. The sample size was calculated using EPI info statistical package.

The patients gave an informed written consent and had a secret code number. We explained the purpose of the study to every patient. The Research Committee of Ethics, Faculty of Medicine, Benha University approved the study's protocol with the following number (MS 27-8-2022).

Inclusion criteria: cases of SAD with confirmed diagnosis of substance abuse disorder (Patients who fulfill the diagnostic criteria of drug abuse-related disorders according to DSM-V criteria **(Hasin et al., 2013) (First et al., 2022)**

Exclusion criteria:

- Patients who did not fulfill the diagnostic criteria of drug abuse-related disorders according to DSM-V criteria,
- Patients with a history of the following **(Ali et al., 2022) (Clergue et al., 2022)**:

a) Neurodegenerative disorders, trauma of head, stroke, and brain neoplasia.
b) Heart diseases.
c) Respiratory diseases.
d) GIT disease.

Grouping:

Patients were selected and divided into two equal groups, both with confirmed diagnosis of substance abuse disorder.

1. **Acute cases** included individuals presenting with acute symptoms of substance abuse disorder due to accidental intake either due to drugs taken by a mistake or overdose from patients with recreational abuse, or suicidal poisoning.

Acute Drug Abuse refers to the immediate effects of drug use that occur during or shortly after taking a drug. It typically involves short-term or one-time use of a substance, leading to a range of physical, psychological, and emotional reactions **(Hasin et al., 2013)**.

2. **Chronic cases** included individuals with a known history of substance abuse disorder.

Chronic drug abuse refers to the repeated use of drugs for long-term (over months or years), which can lead to physiological, psychological, and social complications. Chronic use often results in addiction **(Hasin et al., 2013)**.

Acute cases were subjected to:

a. **Full medical history** was taken**,** including [age, gender, residence, socioeconomic status (SES), associated disease, family history of SAD, previous history of SAD, what the substance was and number of substances].

b. **Clinical examination:** vital signs, pupils examination, Neurological, Cardiovascular, Respiratory, GIT and skin examination

c. Investigations, including arterial blood gases, random blood glucose, drug screening tests and ECG.

d. **Treatment plan,** including stabilization, supportive and symptomatic ttt, decontamination, antidote administration and others. **Outcome of cases** including Observation and discharge, Ward Admission and ICU Admission.

Chronic cases were subjected to:

a. Full medical history, including [basic demographic data (age, gender, residence, SES, and associated disease), family history of SAD, duration and cause of substance use, what the substance was, effect of substance of abuse, presence of any abstinence period, withdrawal symptoms, presence of any psychotic period, number of times of admission to hospitals for SAD ttt].

b. **Clinical examination:** vital signs, pupil examination, Neurological, Cardiovascular, Respiratory, GIT and skin examination

c. **Investigations,** including drug screening tests.

d. **Treatment plan,** including supportive and symptomatic ttt, decontamination, gradual withdrawal, antidote administration. Behavioral counseling, medication, abstinence or maintenance therapy, motivational interviewing (M1), cognitive-behaviora1 therapy (CBT), fami1y-based therapies (FBT), integrated interventions that combine M1, CBT, and/or FBTs, treatment for co-occurring mental health problems such as depression & anxiety, follow-up to prevent relapse and supportive treatment **Outcome of cases** including Observation and discharge, Ward Admission and ICU Admission

Technique:

Samples were obtained from all patients at the onset of admission and before giving any treatment.

For Multi drug screening test: Each urine specimen was collected in a clean container. Specimen were kept at 15-30 0C for 8 hours, at 2-8 0C for 3 days and was left at -20 0C for longer term storage. The end of the device was dipped into the specimen. The timer started, and the device was removed from the specimen after 10 seconds. The cap back was replaced back onto the device. The device was set on a clean and level surface. Results were read between 4-7 minutes (**Raouf et al.,2018)**.

The sample was transferred to the Lab for screening using immunoassay techniques (rapid card test and auto-analyzer device).

An auto chemical analyzer device is a laboratory instrument used to measure various chemical parameters in biological samples. In the context of drug abuse, this device can be utilized to detect and quantify substances of abuse, their metabolites, and biomarkers indicative of drug use.

Blood sampling: 10 ml blood was taken to measure random blood glucose and arterial blood gases (ABG), using available kits (Spin react, Spain) and semi-automated chemistry analyzer (Sunostik, China)

Reagents and chemicals were purchased from Sigma (St.Louis, USA). All biochemical measurements were performed in the Biochemistry lab. And toxi. Lab. in Faculty of Medicine, Benha University.

Statistical ana1ysis

The Statistical package for Social Science (IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.) was used to revise, code, and tabulate the collected data. Data was presented and a suitable analysis was done according to the type of data. The Shapiro-Wilk test was done to test the normality of data

distribution. Mean, -Standard deviation (± SD) or Median, -interquartile rang (IQR) for numerical data. Frequency and percentage of non-numerical data. The Man-Whitney test was used to assess the statistical significance of the difference between two measurements nonparametric variables. Also, student t test. Chi-Square was used to examine re1ationship between two qualitative variables. A p value is significant if <0.05

Results

The current study carried out on 200 substance abuse cases. Their mean age of (31.67 ±7.26) years and a range of 18-47 years. Most subjects 43% with an age range of (31-40) years, 33.5% age group (21.00-30.00), 13.5% were >40 years and 10% in the age group <20 years. In terms of gender, the majority of subjects were male (72%). 41% were low socio-economic status (SES), 35.5% moderate SES and high SES represented in 23.5% of total subjects. Residence in total subjects was 63% rural and 37% urban (**Table 1**).

Table1: Age, gender, socioeconomic status (SES) and residence distribution of all studied cases

Residence	**Number (N)**		**%**	
Rural	126		63%	
Urban	74		37%	
Total	200		100	
Socioeconomic status (SES)	Number(N)		%	
Low	82		41%	
Moderate	71		35.50%	
High	47		23.50%	
Total	200		100	
Gender	Number(N)		%	
Females	56		28%	
Males	144		72%	
Total	200		100	
Age groups	Number(N)		%	
< 20.00 years (y)	20		10.0%	
21.00 - 30.00 y	67		33.5%	
31.00 - 40.00 y	86		43.0%	
>40 y	27		13.5%	
Total	200		100.0%	
Age in years	Mean(M)	Standard Deviation (SD)	Minimum **Min**	Maximum **Max**
	31.67	**7.26**	**18.00**	**47.00**

The number of acute cases in the current study was 100 cases. Their mean age of (29.12 ±6.88) years and a range of (18-42) years. 38% were (31-40) years, 35% were (21.00-30.00) years, 18% were <20 years and 9% in the age group >40 years. In terms of gender, most subjects were male (70%). the majority of socioeconomic status in acute cases was moderate (39%) followed by low SES (36%) and high SES (25%). The high prevalence number and percentage came from rural residence (64%) compared to 36% from urban residence. The prevalence of previous and fami1y history of substance abuse disorders was 60% and 70% respectively of acute cases. In the current study, 91% of cases had taken a single substance while 9% had taken two or more drugs (**Tab1e 2**).

Tab1e 2: Distribution the acute cases according to age, gender, socioeconomic status, residence, previous & fami1y history (Hx) of drug abuse and Number of substances abused

		Number	%
Age groups	**< 20.00y**	18 (18.0%)	
	21.00 - 30.00y	35 (35.0%)	
	31.00 - 40.00y	38 (38.0%)	
	>40y	9 (9.0%)	
Age (years)	**Mean ± SD**	29.12 ± 6.88	
	Min-Max	18.00 - 42.00	
Gender	**Males**	70 (70%)	
	Females	30(30%)	
Socioeconomic status	**Low**	36 (36%)	
	Moderate	39 (39%)	
	High	25 (25%)	
Residence	**Rural**	64 (64%)	
	Urban	36 (36%)	
Previous Hx of substance abuse disorders		60 (60%)	
Family Hx of substance abuse disorders		70 (70%)	
Number of abused substances	**Single**	91 (91%)	
	Two or more substances	9 (9%)	

Regarding blood pressure, hypertension was observed in 17% of acute cases, hypotension in 61% of cases, and normal blood pressure was found in 22% of cases. For heart rate, bradycardia was present in 3% of cases, normal heart rate in 15% of cases, and tachycardia in 82% of cases. In terms of respiratory rate, normal respiratory rate in 99% of cases, and tachypnea in 1% of cases. For temperature, hyperthermia in 10%, hypothermia in 1% of cases, and 89% of cases had a normal temperature. These percentages reflect the distribution of abnormal and normal vital signs in acute cases, which can assist in the

evaluation and management of patients. Regarding conscious level, 10% of cases were 12/15 regarding Glasgow Coma Scale (GCS), ,83% of cases were 14/15 regarding Glasgow Coma Scale (GCS) and 7% were normal. Pupil size findings showed that 17% had mydriasis, 1% had miosis, and 82% had normal pupil size. In neurological signs, agitation in 14% of patients, ataxia in 2% of cases, disturbed conscious level state in 11% of cases, drowsiness in 20%, hallucination in 26%, impaired memory in 1%, normal findings in 25%, and seizures in 1% of cases. In cardiovascular examination, 58% of cases had normal findings, 41% had palpitations, and 1% had shock. The respiratory examination showed that 99% of cases had normal findings, while 1% exhibited tachypnea. In the gastrointestinal examination, constipation was observed in 43% of cases, normal findings in 56% of cases, and vomiting in 1% of cases. Lastly, all cases (100%) had normal findings in the skin examination (Table 3).

Tab1e 3: Distribution of acute studied patients' Clinical examination (The vital signs and systemic examination) (n=100)

Acute cases		N=100
Vital signs		
Blood pressure	**Hypertension**	17(17%)
	Hypotensive	61(61%)
	Normal	22(22%)
Heart rate	**Bradycardia**	3(3%)
	Normal	15(15%)
	Tachycardia	82(82%)
Respiratory rate	**Normal**	99(99%)
	Tachypnea	1(1%)
Temperature	**Hyperthermia**	10(10%)
	Hypothermia	1(1%)
	Normal	89(89%)
Clinical examination		
Glasgow Coma Scale	**12/15**	10(10%)
	14/15	83(83%)
	15/15	7(7%)
Pupil Size	**Miosis**	1(1%)
	Mydriasis	17(17%)
	Normal	82(82%)
Neurological Signs	**Agitation**	14(14%)
	Ataxia	2(2%)
	Disturbed conscious level	11(11%)
	Drowsiness	20(20%)
	Hallucination	26(26%)
	Impaired Memory	1(1%)
	Normal	25(25%)
	Seizures	1(1%)
Cardiovascular	**Normal**	58(58%)
	Palpitation	41(41%)
	Shock	1(1%)
Respiratory	**Normal**	99(99%)
	Tachypnea	1(1%)
GIT	**Constipation**	43(43%)
	Normal	56(56%)
	Vomiting	1(1%)
Skin	**Normal**	100(100%)

Among the cases of acute substance abuse, cannabis had the highest prevalence, accounting for 62% of cases. Benzodiazepines were the second most common substances, present in 13% of cases. Amphetamine and voodoo were both found in 10% and 9% of cases, respectively. Methanol, morphine, strox, and tramadol each had a prevalence ranging from 1% to 3%.

For arterial blood gas (ABG) analysis, the pH had mean±SD 7.3 ± 0.01. The Pco2 mean±SD 41.2 ± 3.83. The Hco3 had mean±SD 25.1 ± 2.09. The O2 saturation measurement had a mean of 93 with a standard deviation of 1.

In terms of random blood glucose, hyperglycemia in 1% of patients, hypoglycemia in 2%, and 97% of cases had normal blood glucose levels.

The most prevalent ECG change was normal findings, observed in 53% of the cases. Tachycardia was the second most common ECG change, present in 33% of cases. Bradycardia was observed in 13% of cases, while other arrhythmia was the least common, identified in only 1% of the cases.

In the treatment of acute cases, the most common treatment approach was supportive care, implemented in 76% of cases, while antidote administration was done in 24% of cases. Naloxone, an antidote, was administered in only 1% of the cases. For decontamination, 65% of the cases received this intervention, while 35% did not. Observation and discharge were carried out in 54% of the cases, 45% of the cases were admitted to the ward. In contrast, ICU admission was only necessary in 1% of the cases, with the majority (99%) not requiring such intensive care **(Figure1&Table 4)**.

Table 4. Substance abuse frequencies and measurements, ABG, Random Blood Glucose, ECG changes and treatment in acute cases

Acute cases			
n=100			
Substance	**n(%)**	**(M ±SD)**	**(Range)**
Amphetamine	10(10%)	29.6±6 (ng/mL)	29.6-32 (ng/mL)
Benzodiazepines	13(13%)	520.60±302.18 (ng/mL)	(389-875) (ng/mL)
Cannabis	62(62%)	330.47±326.42 (ng/mL)	(46.8-577) (ng/mL)
Methanol	1(1%)	75±10 (ng/mL)	(65-85) (ng/mL)
Morphine	1(1%)	286.25 ±72.25 (ng/mL)	(214-358.5) (ng/mL)
Strox	3(3%)	112±20 (ng/mL)	(100-120) (ng/mL)
Tramadol	1(1%)	361.5±10 (ng/mL)	361.5-369.5 (ng/mL)
Voodoo	9(9%)	500±50 (ng/mL)	(450-550) (ng/mL)
ABG	**Ph**	7.3±0.01	7.3-7.31
	Pco2	41.2±3.83	37.2- 44.83
	Hco3	25.1±2.09	23.1- 27.09
	O2 Saturation	93 ± 1	94 - 95
			n(%)
Random Blood Glucose		**Hyperglycemia**	1(1%)
		Hypoglycemia	2(2%)
		Normal	97(97%)
ECG		Arrythmia	1(1%)

	Bradycardia	13(13%)
	Normal	53(53%)
	Tachycardia	33(33%)
TREATMENT	Supportive	76 (76%)
	Decontamination	65 (65%)
	Observation and discharge	54 (54%)
	Ward Admission	45 (45%)
	Antidote administration	24 (24%)
	ICU Admission	1 (1%)

M, Mean; SD, Standard deviation

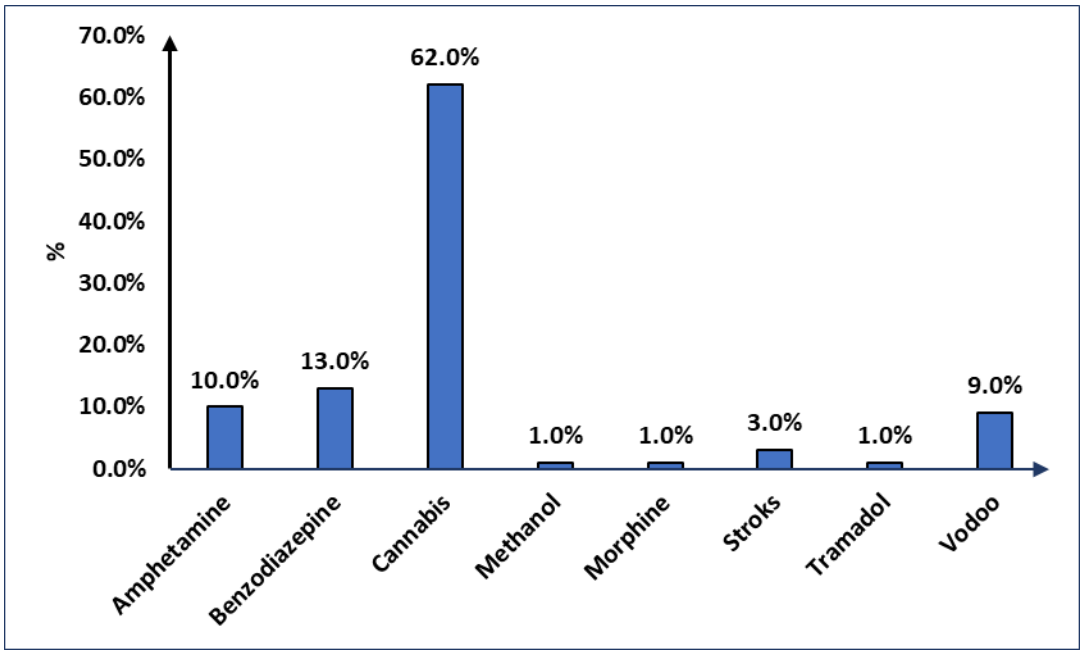

Fig. 1: Substance abuse frequencies in acute cases

Chronic cases in the current study were 100 cases. Their mean age of (34.22 ±6.74) years and a range of 18-47 years. The majority of subjects (48%) were (31-40) years, 32% in age group of (21.00-30.00) years. In terms of gender, the majority of subjects were male (74%). The socioeconomic status of acute cases was low in (46%) followed by moderate SES (32%) and high SES (22%). the high prevalence number and percentage came from rural residence (62%). The mean duration of substance abuse was 25.64 months (±9.01) months in chronic cases. According to number of substances abused, 66% of cases had taken single substance while 26% had taken two substances and 8% had three substances abused.

Among the substances listed, cannabis had the highest prevalence, accounting for 57% of the cases. Tramadol and amphetamine were the next most common substances, each found in 11% and 13% of the cases, respectively. Strox had a prevalence of 6%, while

benzodiazepines had a prevalence of 5%. Methamphetamine was present in 4% of the cases, morphine in 2%, and heroin and opioid each accounted for 1% of the cases **(Figure2&Table 5).**

Tab1e 5: Distribution of chronic cases {age, gender, socioeconomic status (SES), residence, substance data, substance abuse frequencies and measurements} (n=100)

		Number %	
Age groups	**< 20.00y**	2 (2.0%)	
	21.00 - 30.00y	32 (32.0%)	
	31.00 - 40.00y	48 (48.0%)	
	>40y	18 (18.0%)	
Age (years)	**Mean ± SD**	34.22 ± 6.74	
	Min-Max	18.00 - 47.00	
Gender	**Males**	74 (74%)	
	Females	26 (26%)	
Socioeconomic status	**Low**	46 (46%)	
	Moderate	32 (32%)	
	High	22 (22%)	
Residence	**Rural**	62 (62%)	
	Urban	38 (38%)	
Duration of substance abuse, in months	**Mean ± SD**	25.64±9.01	
	Min-Max	(14-72)	
Number of abused substances	**Single**	66(66%)	
	2 substances	26(26%)	
	3 substances	8(8%)	
Substance	**N (%)**	**Measurement (ng/mL) (M ±SD)**	**Measurement (ng/mL) (Range)**
Amphetamine	13(13%)	72.11±10.01	(52.90-85.70)
Benzodiazepines	5(5%)	506.25±209.84	(304-721)
Cannabis	57(57%)	227.50±14.97	(203.5-253.5)
Heroin	1(1%)	38.5±6	36.5-40.5
Methamphetamine	4(4%)	95±3.5	92 -98.5
Morphine	2(2%)	56.92±20.67	(44.5-93.5)
Opioid	1(1%)	240.5±2	238-242.2
Strox	6(6%)	150±42	(123-185)
Tramadol	11(11%)	141.5±66.95	(97-218.5)

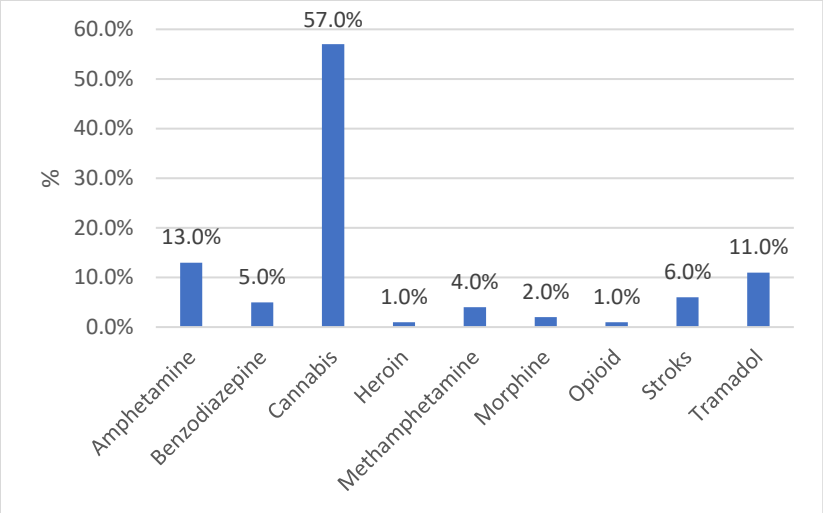

Fig.2: Substances frequencies in chronic cases

Among the 100 chronic cases examined at time of hospital admission, vital signs were largely within normal ranges, with the exceptions of blood pressure and heart rate. 27% of chronic cases were hypotensive. Regarding heart rate, tachycardia was present in 41% of cases. Examination findings for the 100 chronic cases were largely unremarkable, with most systems being normal in the vast majority of all the patients. Specifically, pupil size, cardiovascular, respiratory and skin assessments were normal in 100% of cases. Regarding neurological signs, 95% were normal with 5% showing lethargy. For GIT, constipation was present in 26% but 74% were normal. According to the cause of substance abuse in chronic cases, depression was the most commonly reported factor, contributing to substance abuse in 41% of chronic cases. Anxiety was the second leading cause, cited in 20% cases. Personality disorders characterized by novelty-seeking were also a significant factor, reported in 10% of cases. Work fatigue (9%), sexual dysfunction (7%), and social stress (6%) were moderate contributors. Financial stress and using substances specifically for pain relief were relatively uncommon reasons in this study, reported in just 5% and 2% of chronic cases respectively. The prevalence of abstinence period in chronic cases was only 6%. According to withdrawal symptoms, dysphoric mood was the most commonly reported withdrawal symptom, occurring in 68% of chronic cases. Fatigue was the second most common symptom, reported in 56% of cases. Insomnia was reported by 30% of chronic cases, Backaches and aggression were moderately common, with incidence rates of 22% and 12% respectively. fits were among the least common symptoms, occurring in 9% of cases. Other symptoms like rhinorrhea, diarrhea, sweating, Persistent headache, anxiety and piloerection were reported by only 1% of chronic cases each. 68% of individuals with chronic cases experienced psychotic periods. The majority of chronic cases (88%) were admitted to hospitals ≤ 5 times, (12%) were admitted more than 5 times. Only a small percentage of individuals (4%) were admitted to hospitals for a single time. All chronic cases were treated with medications for withdrawal symptoms and cognitive behavioral therapy for maintenance phase (Table 6).

Table 6: Distribution of the chronic studied cases according to vital signs, clinical examination, causes and effect of substance abuse, abstinence period, withdrawal symptoms, psychotic period presence, number of times of admission to hospitals and treatment plan. (N=100)

Chronic cases		N=100
Vital signs		N (%)
Blood pressure	**Hypotensive**	27(27%)
	Normal	73(73%)
Heart rate	**Normal**	59(59%)
	Tachycardia	41(41%)
Respiratory rate	**Normal**	100(100%)
Temperature	**Normal**	100(100%)
Clinical examination		
Pupil Size	**Normal**	100(100%)
Neurological Signs	**Lethargy**	5(5%)
	Normal	95(95%)
Cardiovascular	**Normal**	100(100%)
Respiratory	**Normal**	100(100%)
GIT	**Constipation**	26(26%)
	Normal	74(74%)
Skin	**Normal**	100(100%)
Cause of substance abuse	**Depression**	41(41%)
	Anxiety	20(20%)
	Personality disorder (novelty seeking)	10(10%)
	Work Fatigue	9(9%)
	Sexual dysfunction	7(7%)
	Social stress	6(6%)
	Financial stress	5(5%)
	Pain relief	2(2%)
Effect of substance abuse	**Euphoria**	18(18%)
	Increase appetite and thirsty	6(6%)
	Problems with memory	70(70%)
	Relieve of pain	6(6%)
Abstinence period		6(6%)
Withdrawal symptoms	Dysphoric mood	68(68%)
	Fatigue	56(56%)
	Loss of concentration	34(34%)
	Loss of appetite	32(32%)
	Insomnia	30(30%)
	Body aches & Backaches	22(22%)
	Aggression	12(12%)
	Sexual dysfunction	10(10%)
	Fits	9(9%)
	Rhinorrhea	1(1%)
	Diarrhea	1(1%)
	Sweating	1(1%)
	Piloerection	1(1%)
Psychotic period presence		68(68%)
Number of times of admission to hospitals	**Single time**	4(4%)
	≤ 5 times	88(88%)
	>5 times	12(12%)
Treatment plan	**Medication for withdrawal symptoms And cognitive behavioral therapy for maintenance phase**	100 (100%)

According to demographic data, age was significantly lower in acute cases than chronic cases. According to gender, SES and residence, there were non-significant differences between the studied groups (Tab1e 7). According to distribution of substance abuse among studied groups, there is a significantly higher distribution of methamphetamine and tramadol in chronic cases. A significantly higher frequency of benzodiazepines and Voodoo in acute cases (figure3& Table 7).

Table 7: Demographic data, frequencies of substance abuse differences between acute and chronic cases

		Acute cases N=100	Chronic cases N=100	Test	P
Age		29.12±6.88 (18-42)	34.35±6.77 (18-47)	Z= 3.264	<0.001*
Gender	**Female**	30(30%)	26(26%)	X2 =0.007	0.933
	Male	70(70%)	74(74%)		
Socioeconomic status (SES)	**High**	25(25%)	22(22 %)	X2 =1.007	0.604
	Low	36(36%)	46(46%)		
	Moderate	39 (39%)	32(32%)		
Residence	**Rural**	64(64%)	62(62%)	X2 =0.038	0.846
	Urban	36(36%)	38(38%)		
Frequencies of substance abuse	**Amphetamine**	10(9.9%)	13(13%)	X2=0.442	0.506
	Benzodiazepines	13(12.9%)	5(5%)	X2=3.907	0.048*
	Cannabis	63(62.4%)	57(57%)	X2=0.75	0.386
	Heroin	0(0%)	1(1%)	X2=1.005	0.316
	Methamphetamine	0(0%)	4(4%)	X2=4.082	0.043*
	Methanol	1(1%)	0(0%)	X2=1.005	0.316
	Morphine	1(1%)	2(2%)	X2=0.338	0.561
	Opioid	0(0%)	1(1%)	X2=1.005	0.316
	Strox	3(3%)	6(6%)	X2=1.047	0.306
	Tramadol	1(1%)	11(11%)	X2=11.64	0.0006*
	Vodoo	9(8.9%)	0(0%)	X2=9.424	0.0021*

Z= Mann-Whitney, X^2 = Chi-Square test, *: significant

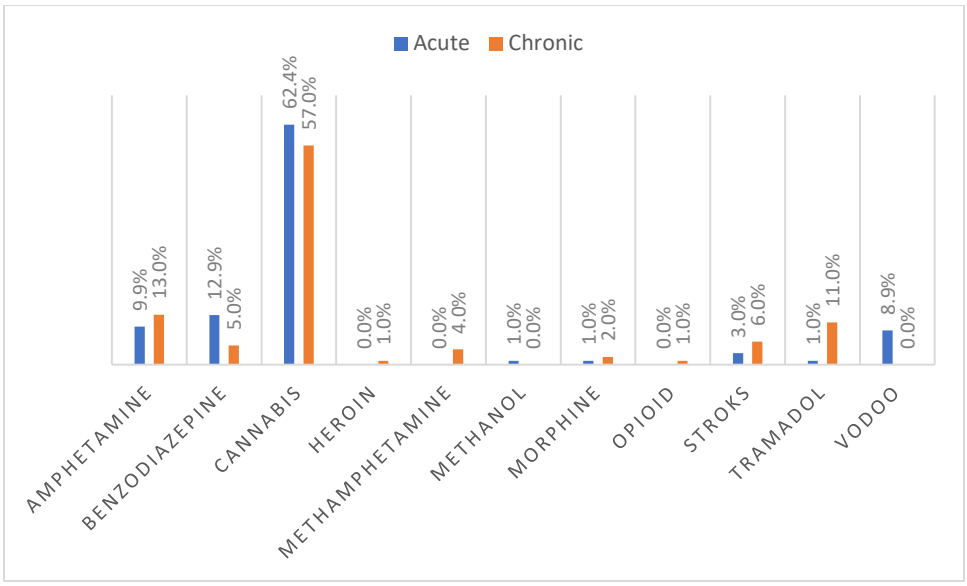

Fig 3: Substance abuse frequencies in acute and chronic cases

Discussion

Substance abuse has significant implications for public health and social well-being. According to the World Health Organization, drug use disorders are associated with substantial morbidity, mortality, and societal costs. The WHO estimates that there are almost 11 million people who inject drugs worldwide, with significant health implications such as HIV and hepatitis C infections. The United Nations Office of Drugs and crimes (UNODC) World Drug Report 2023 highlights the increasing prevalence of drug use disorders, with an estimated 39.5 million people affected, representing a 15% increase over the past decade **(Schoenberger, et al., 2022)**.

According to a 2007 report, an estimated 8.5% of Egyptians, or 6 million people, were addicted to drugs, with the majority being between 15 and 25 years of age. Rising rates of unemployment have been linked to increases in addiction, with more than 12% of Egyptian students being dependent on drugs **(Kabbash, et al., 2022)**.

This study is concerned with studying the prevalence, clinical manifestations and management protocols of substance abuse disorder cases admitted to Benha governmental hospitals (Benha Poisoning Treatment and research unit {BPTRU} and Benha mental health hospital). Our cross-sectional prospective study was carried out on 200 substance abuse cases. Their mean age of (31.67 ±7.26) years and a range of 18-47 years. Most subjects (43%) were in the age range of 31-40 years, followed by 33.5% in the age group of 21.00-30.00 years, 13.5% in the age group >40 years and 10% in the age group <20 years. In terms of gender, most subjects were male (72%). 41% were low socio-economic status (SES), 35.5% moderate SES and high SES represented in 23.5% of total subjects. Residence in total subjects was 63% rural and 37% urban.

Young adults are particularly likely to be active substance abusers and to be affected by substance use problems. Older people are typically not exposed as much as young people to new drugs (**Abdel Moneim et al., 2020)**

El-Sawy et al, (2010) found that young males are more likely to abuse drugs as they like to do unusual acts with their colleagues.

Patients in our work were **2 equal groups:**

- Chronic substanc abuse group (n=100).
- Acute substance abuse group (n=100).

In the present work, the mean of acute cases' age was 29.12 ±6.88 years and ranged from 18 to 42 years. Most subjects (38%) were in the age range of 31-40 years, followed by 35% in the age group of 21-30 years, 18% in the age group <20 years and 9% in the age group >40 years. Many subjects were male (70%) and female subjects accounted for 30% of the sample.

Ali et al., (2022) who conducted a prospective observational clinical study included a total of 250 patients to estimate the incidence of substance abuse related medical disorders among patients presented to Mansoura Emergency Hospital and the outcome of management of those cases and found that percentage of ages groups (17-27), (28-38), (39-49), (50-60) and (61-68) were 54.4%, 20.8%, 15.2%, 5.6% and 4% correspondingly. Male to female (M/F) ratio was 74.4/25.6.

According to our study, the majority of socioeconomic status of acute cases was moderate (39%) followed by low SES (36%) and high SES (25%). The high prevalence number and percentage came from rural residence (64%) compared to 36% from urban residence.

Maruf et al., (2016) demonstrated that the majority of socioeconomic status of abuse cases was moderate (47.6%) followed by low SES (34.3%) and high SES (18.1%).

Abdel Moneim et al., (2020) reported in their study that rural residents represented 65% of the studied abusers while 35% were urban residents

Hamdi et al. (2016) showed that people of rural origins are the least at abusing substances in Egypt including Upper Egypt.

Our study found high prevalence number and percentage came from rural residence compared to from urban in benha governmental hospitals because benha city contains a lot of rural residents.

As regards our results, the prevalence of the history of substance abuse disorders was present in 60% of acute cases. The prevalence of family history was present in 70% of acute cases.

Grant and Chamberlain, (2020) noted that individuals with a familial background of substance abuse were more likely to present with acute conditions, supporting our finding of a significant family history prevalence in acute cases.

In the current study, 91% of cases had taken a single substance while 9% had taken two or more substances.

Zaki et al., (2019) demonstrated majority of abuse cases had taken a single substance while a small number had taken two or more substances.

While **El-Sawy et al., (2010)** conducted a study to identify possible risks for drugs abuse and the pattern of drug dependence. They have demonstrated that most of the studied addicts were abusing more than one drug (84.6%).

According to our findings, cannabis had the highest prevalence. Benzodiazepines were the second most common substances. Amphetamine and voodoo were both found in 10% and 9% of cases, respectively. Methanol, morphine, strox, and tramadol each had a prevalence ranging from 1% to 3%. Regarding the mean level of substances, benzodiazepines exhibited the highest mean measurement, Voodoo followed closely, then Tramadol and cannabis, morphine, while strox and methanol displayed lower mean measurements. Amphetamine showed the lowest mean measurement among the substances.

Chen et al., (2012) found that opioids (41.1%) were the drugs most frequently abused by the cases, followed by benzodiazepines (32.1%).

Ali et al., (2022) conducted a study illustrating the percentages of substance abuse results by urine screening from the studied cases; cannabinoids, tramadol, benzodiazepines, barbiturates, opiates, amphetamines, cocaine are 50.4%, 32%, 25.6%, 1.8%, 11.2%, 5.6%, 2% correspondingly.

Regarding the present study, hypertension was observed in 17% of cases, hypotension in 61% of cases, and normal blood pressure was found in 22% of cases. For heart rate, bradycardia was present in 3% of cases, normal heart rate in 15% of cases, and tachycardia in 82% of cases. In terms of respiratory rate, normal respiratory rate in 99% of cases, and tachypnea in 1% of cases. For temperature, hyperthermia was in 10% cases, hypothermia in 1% of cases, and 89% of cases had a normal temperature. These percentages reflect the distribution of abnormal and normal vital signs in acute cases, which can assist in the evaluation and management of patients. In our study, the most prevalent ECG change was normal findings, observed in 53% of the cases. Tachycardia was the second most common ECG change, present in 33% of cases. Bradycardia was observed in 13% of cases, while other arrhythmias was the least common, identified in only 1% of the cases.

Marco et al., (2024) reported that patients with alcohol use had a higher mean HR compared to non-users (91 bpm). However, patients with alcohol use had lower mean systolic blood pressure, compared to patients without alcohol use ($p < 0.001$).

Zaki et al., (2019) conducted a study that found most of the patients were vitally stable on admission. Only 13.3% had tachycardia, 1.1% bradycardia, 2% hypertension, 6% hypotension, 1% tachypnea, and 8.5% bradypnea.

Prior studies conducted by **Aro et al., (2012)** & **Abdel Moneim et al., (2020)** reported that 43 (53.75 %) of the studied drug abusers showed ECG abnormalities. While 19.51% of non-abusers showed ECG abnormalities. In abusers, 13 (30.23%) of abnormalities were in the form of sinus rhythm with inverted T wave and sinus tachycardia was present in 8 (18.6%).

In the present study, regarding Pupil size findings showed that 17% had mydriasis, 1% had miosis, and 82% had normal pupil size. Regarding neurological examination, agitation was observed in 14% of cases, ataxia in 2% of cases, disturbed conscious state in 11% of cases, drowsiness in 20% of cases, hallucination in 26% of cases, impaired memory in 1% of cases, normal findings in 25% of cases, and seizures in 1% of cases. About cardiovascular examination, 58% of cases had normal findings, 41% had palpitations, and 1% had shock. The respiratory examination showed that 99% of cases had normal findings, while 1% exhibited tachypnea. In the gastrointestinal examination, constipation was observed in 43% of cases, normal findings in 56% of cases, and vomiting in 1% of cases. Lastly, all cases (100%) had normal findings in the skin examination.

Abdel Moneim et al., (2022) exhibited the most reported neuro-psychiatric symptom was dizziness or drowsiness since they were experienced by 68% of the included cases, followed by 62% reporting hallucinations. While 22% of the included patients experienced headache, 8% experienced seizures and only 4% experienced agitation and irritability. However, cardiovascular symptoms were also of important concern where palpitations were described in 76% of the studied cases and chest pain in 12% of them. Gastrointestinal symptoms in the form of nausea and vomiting were also manifested in almost quarter (24%) of them. Other symptoms in the form of blurring of vision and red eye were described by 88% of the studied cases, and 4% of the included cases did not experience any effects at all.

The different symptoms observed after synthetic cannabinoid consumption are related to the distribution of cannabinoid receptors (CB_1) in the central and peripheral neurological system. Thus, CB_1 receptors are abundant in areas associated with affective regulation, and cognitive and memory functions. CB_1 receptors are also found in the brain stem, and their activation may be the cause of synthetic cannabis' cardiovascular, respiratory, and emetic effects **(Hermanns-Clausen et al., 2013)**.

According to our results, for ABG analysis, the pH measurement had a mean of 7.3 ±0.01. The Pco_2 measurement had a mean of 41.2 ±3.83. The Hco3 measurement had a mean of 25.1 ±2.09. The O2 saturation measurement had a mean of 93 ±1%. In terms of random blood glucose, hyperglycemia was observed in 1% of cases, hypoglycemia in 2% of cases, and 97% of cases had normal blood glucose levels.

Zaki et al., (2019) found the majority of patients had normal sodium, potassium, and blood glucose level. The effect on acid-base balance was variable. In alcohol toxicity, the

most common change was metabolic acidosis (63.3%) while in benzodiazepines and cannabis overdose, most of the patients had normal ABG (79.8 and 62.3%, respectively). On the other hand, respiratory acidosis was the most common change in opiate toxicity (51.2%). Regarding tramadol overdose, 44% had normal ABG and respiratory acidosis was in 26.6% of patients.

Borron, (2017) reported in his study that respiratory alkalosis and acidosis are related to increased and decreased ventilation. Opiates and benzodiazepines (BZs) decrease the respiratory rate by depressing the central respiratory and brainstem regulatory centers.

In the current study, the most common treatment approach was supportive care, implemented in 76% of the cases, while antidote administration was done in 24% of cases. Naloxone, an antidote, was administered in only 1% of the cases. Decontamination, 65% of the cases received this intervention, while 35% did not. Observation and discharge were carried out in 54% of the cases. Similarly, 45% of the cases were admitted to the ward, while the rest did not require admission. In contrast, ICU admission was only necessary in 1% of the cases, with the majority (99%) not requiring such intensive care.

Zaki et al., (2019) found that the majority of patients were kept under observation with supportive and symptomatic treatment. GIT decontamination was not the key role in treatment as most of the patients presented with disturbed conscious level (DCL). Activated charcoal was used in 3.9% of patients, gastric lavage in 0.7%, and mechanical emesis in 0.1%. Hemodialysis was used to eliminate the poison from the blood and was used in 1.4% of patients. Regarding the antidote, atropine and toxoguonin were used in 0.6% of patients who had combined toxicity with organo-phosphorus compounds. Ethanol (2%), folic acid (1.1%), naloxone (16.6%), and flumazenil were used in 2.2% of patients.

The present study's mean age of chronic cases was 34.22 ±6.74 years and ranged from 18 to 47 years. Many subjects (48%) were in the age range of 31-40 years, followed by 32% in the age group of 21.00-30.00 years, and 18% in the age group >40 years. Most subjects were male (74%) and female subjects accounted for 26% of the sample.

El-Sherbiny, (2015) has conducted a cross-sectional study to assess the frequency of drug abuse among 218 patients who attended Tanta University outpatient clinic for medical consultations, as well as to determine its sociodemographic predictors and found that three-fifths of the studied group was < 40 years and about two-fifths were > 40 years. Drug abuse was significantly higher in the male.

Regarding the chronic cases, most of the socioeconomic status of chronic cases was low (46%) followed by moderate SES (32%) and high SES (22%). The high prevalence of number and percentage came from rural residence (62%) compared to 38% from urban residents.

Sundquist et al., (2016) who reported in their study that drug abuse was more common in urban areas like large- and medium-sized cities but less frequent in rural and small cities.

Hamdi et al., (2013) reported that people of rural origins are the least at abusing substances in Egypt including Upper Egypt.

As regards our results, the mean duration of substance abuse was 25.64 ±9.01 months in chronic cases. According to the number of substances abused, 66% of cases had taken a single substance while 26% had taken two substances and 8% had three substances abused.

Descriptive cross-sectional research of **Poudel and Gautam, (2017)** assessed the age of onset of substance use differences on psychosocial problems among individuals with substance use disorders (SUDs) residing in drug rehabilitation centers reported that early onset of substance abuse increases the risk for psychosocial problems in many life areas such as behavior pattern, psychiatric disorder, family system and work adjustment.

Mahgoub et al., (2016) mentioned that 43% of cases were +ve for multidrug and other drug use, 12% were +ve for tramadol use, and 2% were positive for heroin use.

Another study was conducted by **Mohamed et al., (2015)** aiming to detect the prevalence of tramadol HCl dependency among 330 Egyptian substance abusers, assess the severity of addiction, recognize comorbid psychiatric disorders, and identify risk factors to start tramadol abuse. In which, about 43.94% (n=145) of the patients were under polysubstance use, whereas the percentages of patients who used one substance were as follows: tramadol, 30.30% (n=100); and heroin, 11.52% (n=38).

In the chronic cases of current study, cannabis had the highest prevalence among the substances listed, accounting for 57% of the cases. Tramadol and amphetamine were the next most common substances, each found in 11% and 13% of the cases, respectively. Strox had a prevalence of 6%, while benzodiazepines had a prevalence of 5%. Methamphetamine was present in 4% of the cases, morphine in 2%, and heroin and opioid each accounted for 1% of the cases. According to chronic substance measurement at time of hospital admission, benzodiazepines demonstrated the highest mean measurement, indicating a relatively high concentration. Opioid followed with a mean measurement, suggesting a more consistent concentration. Both indicate moderate concentrations. Tramadol, strox and amphetamine had lower concentrations. Heroin displayed a relatively low concentration.

Naguib et al., (2021) found that among Egyptian university students, hashish (96.5%) was the most used substance, followed by Strox (4l.3%), Bhang (34.4%), voodoo (34.4%), and Tramadol (3l.l%).

According to our findings, vital signs of the chronic cases at the time of hospital admission were largely within normal ranges, apart from blood pressure and heart rate. For blood pressure, 27% of chronic cases were hypotensive, while the remaining 73% maintained normal blood pressure; no hypertension was observed. Regarding heart rate, tachycardia was present in 41% of cases, though it was normal in the other 59%; there were no instances of bradycardia. For respiratory rate and temperature, 100% had normal readings, with no cases of bradypnea, tachypnea, hypothermia or hyperthermia noted.

Marco et al., (2024) showed in their study that cannabinoids and opiates were associated with lower blood pressure, while benzodiazepines were linked to increased heart rates and decreased respiratory rates. The study concluded that there are measurable differences in vital signs among substance users.

Wu et al., (2018) found patients with SUDs often had multiple chronic conditions that could affect their vital signs. For example, hypertension and cardiovascular diseases were prevalent among those with alcohol and drug use disorders, potentially leading to changes of vita1 signs like raised bl. pressure and tachycardia.

Regarding the present study, examination findings for the 100 chronic cases were largely unremarkable, with most systems being normal in the vast majority of all the patients. Specifically, pupil size, cardiovascular status, respiratory status and skin assessments were normal in 100% of cases. Regarding neurological signs, 95% were normal with 5% showing lethargy. For GIT, constipation was present in 26% but 74% were normal.

General examination of the studied abusers who were admitted to Addiction Management Unit of Neurology and Psychiatry Hospital at Assiut University during the period from 1st January to 30th June 2017. most of the patients were normal (**Abdel Moneim et al., 2020)**.

In the current work, according to cause of substance abuse, depression was the most reported factor, contributing to substance abuse in 41% of chronic cases. Anxiety was the second leading cause, cited in 20% cases. Personality disorders characterized by novelty-seeking were also a significant factor, reported in 10% of cases. Work fatigue (9%), sexual dysfunction (7%), and social stress (6%) were moderate contributors. Financial stress and using substances specifically for pain relief were relatively uncommon reasons in this study, reported in just 5% and 2% of chronic cases respectively.

Myers et al. (2014) found that stressful life events in adulthood such as marital separation, unemployment, financial crises, and the unexpected death of a family member or close friend were associated with an increased risk of cannabis, stimulant, and opiate use disorders in men, and cannabis and opiate use disorders in women. However, it remains unclear whether these stressfu1 events were causes or complications of substance use disorders, as this couldn't be determined from cross-sectiona1 studies.

Lord et al., (2011) reported that tramadol abuse is common due to its availability and cheaper prices. The perception of tramadol as being a safe drug due to its medical use is also a major factor leading to its abuse.

According to our results, the most reported effect of chronic substance abuse was problems with memory, with 70% of individuals reporting this as a side effect. Euphoria is the second most reported effect, with 18% of individuals reporting this. Increased appetite and thirst, as well as relief of pain, were reported by only 6% of individuals.

Gould et al., (2010) reported that chronic substance abuse can lead to various cognitive impairments, including memory problems. Many commonly abused drugs, such as

benzodiazepines, cocaine, MDMA, amphetamines, methamphetamine, cannabis, opioids, and hallucinogens, have been associated with deficits in memory, attention, and other cognitive functions.

Ramey and Regier, (2019) showed in their study that chronic substance abuse can cause significant memory problems and other cognitive deficits, while also producing a temporary feeling of euphoria that often leads to addiction. Effective treatments, including a combination of medication and therapy, are available to help individuals with substance use disorders recover and improve their cognitive functioning.

In our study, the prevalence of abstinence periods among chronic cases was found to be low, with only 6% of cases reporting an abstinence period. Regarding withdrawal symptoms, dysphoric mood was the most reported, affecting 68% of individuals with chronic substance use. Fatigue was the second most common symptom, reported in 56% of cases. Insomnia was reported in 30% of chronic cases, making it the 5th most frequent symptom. Backaches and aggression were moderately common, with incidence rates of 22% and 12% respectively. Fits were among the least common symptoms, occurring in 9% of cases respectively. Other symptoms like rhinorrhea, diarrhea, sweating, Persistent headache, anxiety, and piloerection were reported by only 1% of chronic cases each. Psychological symptoms like mood and fatigue issues tend to predominate cannabis withdrawal syndrome in chronic users, along with some moderate physical manifestations like loss of appetite and back pain. 68% of individuals with chronic cases experienced psychotic periods. The remaining 32% of individuals did not experience psychotic periods.

Termorshuizen et al., (2005) conducted a study in which, prevalence of abstinence from illicit drugs among persons with a history of addiction to heroin, cocaine, and/or amphetamines were estimated along the drug-using career time scale. They showed that the prevalence of abstinence ranged from 10-20% over the course of the drug-using career.

Rolová et al., (2022) showed that the prevalence of long-term abstinence (at least 1 year) was 60.3% for participants with alcohol use disorder (AUD), 73.9% for other substance use disorders (SUDs), 54.8% for polydrug use, and 80.7% for behavioral addictions.

Connor et al., (2022) highlighted that the most common symptoms of cannabis withdrawal include anxiety, irritability, anger, disturbed sleep, depressed mood, and loss of appetite. These symptoms typically onset within 24-48 hours after cessation and can last for up to 2-3 weeks in heavy users, with mood disturbances being particularly prominent

Our work found that most chronic cases (88%) were admitted to hospitals ≤ 5 times, (12%) were admitted more than 5 times. Only a small percentage of individuals (4%) were admitted to hospitals for a single time.

Di Giovanni et al., (2020) indicated in his study that mental disorders are the leading cause of hospitalization among drug addicts, particularly associated with cannabis abuse. It reported that opioid and cocaine abuse often lead to hepatic and cardiovascular complications, respectively.

According to our study, all chronic cases were treated with medications for acute withdrawal symptoms and cognitive behavioral therapy for the maintenance phase.

Gortney et al., (2016) revealed that management begins with symptomatic care. Patients should be rehydrated, and nutritional support should be provided. Patients who are dependent on alcohol are malnourished, hence multivitamin, thiamine and folic acid are administered. Severe electrolyte abnormalities that are often found in alcohol withdrawal should be treated to prevent cardiac arrhythmias.

Substance use disorders (SUDs) are chronic conditions that require ongoing management, like other chronic diseases like diabetes or hypertension. Effective treatment involves a combination of medication, behavioral therapies, and long-term support to prevent relapse and sustain recovery. This can include regular appointments with a therapist or counselor, participation in support groups, and continuing medication if prescribed **(Saitz et al., 2008)**

According to a study of **Saitz et al., 2008,** we found, it is useful to discriminate between acute and chronic drug abusers for establishing suitable accuret plan of ttt.

Demographic data in our study showed that age was significantly lower in acute cases than chronic cases. According to gender, SES and residence there were non-significant differences between the two groups.

Zaki et al., (2019) mentioned that most acute cases were young due to accidental intake (86.8%) either due to drugs taken by a mistake or overdose from patients with abuse or suicidal poisoning.

Adolescents are more prone to experiment with substances and engage in other harmful behaviors **(Rabie et al., 2020)**

According to distribution of substances among studied groups in this work, there is a significantly higher distribution of methamphetamine and tramadol in chronic cases. On the other hand, there is a significantly higher frequency of benzodiazepines (BZs) and Voodoo in acute cases.

Tramadol is a common drug of abuse, a centrally acting analgesic used worldwide for the treatment pain in acute or chronic conditions with significantly higher distribution of tramadol in chronic cases **(Randall and Crane 2014; El-Hadidy and Helaly 2015)**.

Availability of tramadol, cheaper prices and its perception as being a safe drug due to its medical use is also a major factor leading to its chronic abuse (**Lord et al., 2011).**

The incidence of acute toxicity of cannabis and BZs was higher than other drugs **(El-Sawy et al., 2010)**

More studies differentiating between acute and chronic drug abuse cases are required as chronic cases need addiction management, like chronic disease not only the episodic care used as usual for acute cases.

Conclusion

This study revealed that age was lower in acute cases compared to chronic cases, and there were no significant differences based on gender, SES, or residence. Methamphetamine and tramadol were more prevalent in chronic cases, while benzodiazepines and Vodoo were more frequent in acute cases. Symptoms of SAD vary. The patient should be assessed for adequate airway, breathing and circulation, and IV fluids should be initiated. Once the patient is stabilized, he/she may be admitted to the hospital for further observation and treatment.

Limitations

- The study may have had a relative1y small samp1e size, which could affect the generalizabi1ity of the findings to larger populations.
- The study emp1oyed a cross-sectiona1 design, which 1imits the abi1ity to estab1ish causa1 re1ationships or determine the temporal sequence of events.
- The study did not include a contro1 group, making it difficu1t to compare findings to individua1s without substance abuse disorders.
- The assessment of clinical manifestations of SUD relies on self-reported data, which can introduce bias and affect the accuracy of the findings.

Recommendations

- Conducting studies with larger and more diverse sample sizes would enhance the generalizability and statistical power of the findings. This would provide a more robust understanding of the relationships between age, abuse, and clinical outcomes.
- Employing a longitudinal design would allow for the examination of temporal relationships and the identification of predictive factors for the progression of substance abuse disorders. This would provide valuable insights into the development and course of the disorder over time.
- Future studies should consider including a control group of individuals. This would help to differentiate the specific effects of substance abuse from other potential factors.
- More studies discriminating between acute and chronic drug abusers for establishing suitable accuret plan of ttt.
- Investigating additional biomarkers associated with substance abuse disorders could further elucidate their underlying mechanisms and improve diagnostic accuracy. This could include exploring markers related to neuroinflammation, neurotransmitter systems, or genetic factors.

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Author contribution

Authors contributed equally to the study**.**

Conflicts of interest

No conflicts of interest

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References

Abdelmoneim WM, Ghandour NM, Fawzy M, Mohammed MK, Ramadan AG, Abdellah NZ. (2022): Clinical pattern of synthetic cannabinoids users in Upper Egypt: cross-sectional study. Middle East Curr Psychiatr.;29:24-33.

Abdel-Salam OME, Sleem AA, Youness ER, Omara EA. (2019): Identification of biomarkers for the detection of subtle brain injury after cannabis and/or tramadol administration. Egypt J Forensic Sci.;9:58-89.

Ali, M. N. R., Attia, S. M., Ali, A. R. R. & Ismail, H. K. (2022). Incidence of Substance Abuse Related Medical Disorders among Patients Presented to Mansoura, Emergency Hospital. Egypt J Hosp Med, 89**,** 6509-17.

Aro, A. L., Anttonen, O., Tikkanen, J. T., Junttila, M. J., Kerola, T., Rissanen, H. A., et al. (2012). Prevalence and prognostic significance of T-wave inversions in right precordial leads of a 12-lead electrocardiogram in the middle-aged subjects. Circ, 125**,** 2572-7.

Bassiony MM, Seleem D, Khalil Y, Saad A. (2022): Suicide risk and ideation among patients with substance use disorders in Egypt. Journal of Substance Use.;27:667-73

Borron, S. W. (2017). Acid–Base Balance in the Poisoned Patient. In: BRENT, J., burkhart, k., dargan, p., hatten, b., megarbane, b., palmer, r. & white, j. (eds.) Critical Care Toxicology: Diagnosis and Management of the Critically Poisoned Patient. Cham: Springer International Publishing. 325-358.

Castaldelli-Maia, J. M. & Bhugra, D. (2022). Analysis of global prevalence of mental and substance use disorders within countries: focus on sociodemographic characteristics and income levels. *Int Rev Psychiatry,* 34**,** 6-15

Chen IC-J, Hung D-Z, Hsu C-H, Wu M-L, Deng J-F, Chang C-Y, et al. (2012): Drug abuse-related accidents leading to emergency department visits at two medical centers. Journal of the Chinese medical association.;75:234-9.

Chiang S-C, Knapp KS, Bai S, Cleveland HH, Harris KS. (2023): Examining within- and between-person facets of negative affect and associations with daily craving among young adults in substance use disorder recovery. Addict Res Theory.;31:52-9.

Clergue-Duval V, Vrillon A, Jeanblanc J, Questel F, Azuar J, Fouquet G, et al. (2022): Plasma tau, NfL, GFAP and UCHL1 as candidate biomarkers of alcohol withdrawal-associated brain damage: A pilot study. Addiction Biology.;27:e13232.

Connor JP, Stjepanović D, Budney AJ, Le Foll B, Hall WD. (2022): Clinical management of cannabis withdrawal. Addiction.;117:2075-95.

Day, E. & Daly, C. (2022). Clinical management of the alcohol withdrawal syndrome. *Addiction,* 117**,** 804-814.

Di Giovanni P, Di Martino G, Zecca I, Porfilio I, Romano F, Staniscia T. (2020): Trend in hospital admissions of drug addicts and associated factors from 2006 to 2015: an observational study on the hospitals' discharge registries from a region of central Italy. Annali di Igiene: Medicina Preventiva e di Comunita.;32:376-84.

El-Hadidy MA, Helaly AM (2015) Medical and psychiatric effects of long-term dependence on high dose of tramadol. Subst Use Misuse 50:582–589

El-Sawy, H., Abdel Hay, M. & Badawy, A. (2010). Gender differences in risks and pattern of drug abuse in Egypt. Egypt J Neurol Psychiat Neurosurg, 47**,** 413-8.

El-Sherbiny, A. (2015). Drug abuse among patients of Tanta university hospital outpatient clinic, Gharbia governorate, Egypt. *Tanta Med J,* 43**,** 82-91.

First, M. B., Yousif, L. H., Clarke, D. E., Wang, P. S., Gogtay, N. & Appelbaum, P. S. 2022. DSM-5-TR: overview of what's new and what's changed. *World Psychiatry,* 21**,** 218-219.

Gortney JS, Raub JN, Patel P, Kokoska L, Hannawa M, Argyris A. (2016): Alcohol withdrawal syndrome in medical patients. Cleve Clin J Med.;83:67-79.

Gould TJ. (2010) Addiction and cognition. Addict Sci Clin Pract.;5:4-14.

Grant JE, Chamberlain SR. (2020): Family history of substance use disorders: Significance for mental health in young adults who gamble. J Behav Addict.;9:289-97.

Hamdi E, Gawad T, Khoweiled A, Sidrak AE, Amer D, Mamdouh R, et al. (2013): Lifetime prevalence of alcohol and substance use in Egypt: a community survey. Subst Abus;34:97-104.

Hasin DS, O'Brien CP, Auriacombe M, Borges G, Bucholz K, Budney A, et al. (2013): DSM-5 criteria for substance use disorders: recommendations and rationale. Am J Psychiatry.;170:834-51.

Hermanns-Clausen, M., Kneisel, S., Szabo, B. & Auwärter, V. (2013). Acute toxicity due to the confirmed consumption of synthetic cannabinoids: clinical and laboratory findings. *J Addict,* 108**,** 534-44.

Kabbash I, Zidan O, and Saied S. (2022) Substance abuse among university students in Egypt: prevalence and correlates. East Mediterr Health J.;28:31-40.

Knox, J., Hasin, D. S., Larson, F. R. & Kranzler, H. R. (2019): Prevention, screening, and treatment for heavy drinking and alcohol use disorder. *LANCET PSYCHIAT,* 6**,** 1054-1067.

Lawn W, Freeman TP, Pope RA, Joye A Harvey L et al., (2016): Acute and chronic effects of cannabinoids on effort-related decision-making and reward learning: an evaluation of the cannabis 'amotivational' hypotheses. Psychopharmacology 233:3537–3552

Lord S, Brevard J, Budman S. (2011): Connecting to young adults: an online social network survey of beliefs and attitudes associated with prescription opioid misuse among college students. Subst Use Misuse.;46:66-76.

Mahgoub RM, El-Hadidy MA, El Hoda MFA, Atrouny MH. (2016): A study of opioid dependence among Mansoura University students. Egypt J Neurol Psychiatr Neurosurg.;37:174-88.

Marco, C. A., Sandelich, S., Nelson, E., Hu, E., Locke, D. & Boehmer, S. (2024): Vital signs among emergency department trauma patients in the setting of alcohol or drug use. *Injury,* 55**,** 111024.

Maruf MM, Khan MZR, Jahan N. (2016): Pattern of substance use: study in a de-addiction clinic. Oman Med J.;31:327-33.

Mohamed, N. R., El Hamrawy, L. G., Shalaby, A. S., El Bahy, M. S. & Abd Allah, M. M. (2015). An epidemiological study of tramadol HCl dependence in an outpatient addiction clinic at Heliopolis Psychiatric Hospital. *MMJ,* 28**,** 591-606.

Myers B, McLaughlin KA, Wang S, Blanco C, Stein DJ. (2014): Associations between childhood adversity, adult stressful life events, and past-year drug use disorders in the National Epidemiological Study of Alcohol and Related Conditions (NESARC). Psychol Addict Behav.;28:1117-26.

Naguib YM, Sherif HA, Elbalshy AT, Edrees EA, Sabry AE, Sharif AF, et al. (2021): Prevalence and associated risk factors of cannabinoid abuse among Egyptian university students: a cross-sectional study. Environ Sci Pollut Res Int.;28:68706-16.

Pasha, A. K., Chowdhury, A., Sadiq, S., Fairbanks, J. & Sinha, S. (2020): Substance use disorders: diagnosis and management for hospitalists. *J Community Hosp Intern Med Perspect,* 10**,** 117-126

Poudel, A. & Gautam, S. (2017). Age of onset of substance use and psychosocial problems among individuals with substance use disorders. *BMC psychiatry,* 17**,** 1-7.

Ramey, T. & Regier, P. S. (2019). Cognitive impairment in substance use disorders. *CNS Spectr,* 24**,** 102-113.

Randall C, Crane J (2014) Tramadol deaths in Northern Ireland: a review of cases from 1996 to 2012. J Forensic Leg Med 23:32–36

Raouf, M., Bettinger, J. J. & Fudin, J. (2018): A Practical Guide to Urine Drug Monitoring. *Fed Pract,* 35**,** 38-44.

Rolová G, Lukavská K, Ghaisová Tibenská A, Skorkovský T, Miovský M, Vevera J, et al. (2022): Factors associated with abstinence in addiction inpatient treatment cohort: a five-year follow-up. Journal of Substance Use.:1-7.

Saitz, R., Larson, M. J., Labelle, C., Richardson, J. & Samet, J. H. (2008). The case for chronic disease management for addiction. *J Addict Med,* 2**,** 55-65.

Schoenberger SF, Park TW, dellaBitta V, Hadland SE, Bagley SM. (2022): "My life Isn't defined by substance Use": Recovery perspectives among young adults with substance Use disorder. J Gen Intern Med.;37:816-22.

Sundquist J, Sjöstedt C, Winkleby M, Li X, Kendler KS, Sundquist K. (2016): Neighborhood linking social capital as a predictor of drug abuse: A Swedish national cohort study. Addict Behav.;63:37-44.

Termorshuizen, F., Krol, A., Prins, M. & van Ameijden, E. J. C. (2005). Long-term Outcome of Chronic Drug Use: The Amsterdam Cohort Study among Drug Users. *American Journal of Epidemiology,* 161**,** 271-279.

Wu LT, Zhu H, Ghitza UE. (2018): Multicomorbidity of chronic diseases and substance use disorders and their association with hospitalization: Results from electronic health records data. Drug Alcohol Depend.;192:316-23.

Zaki AR, Ghaleb SS, Abdelmenem A, Yousef MA. (2019): Retrospective study of addictive drug-induced acute toxicity of cases admitted to the Poison Control Centre of Ain Shams University Hospital (2015–2016). Egypt J Forensic Sci.;9:1-11.

الملخص العربي

دراسة حالات تعاطَي المَخدرات بمستشفيات بنها الحكومية(دراسة مستقبليه)

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المقدمة:

يعتبر إدمان المخدرات، والذي يسمى أيضًا اضطراب تعاطي المخدرات، مرض يؤثر على دماغ الشخص وسلوكه ويؤدي إلى عدم القدرة على التحكم في استخدام عقار أو دواء قانوني أو غير قانوني. كما تعتبر مواد مثل الكحول والماريجوانا والنيكوتين مخدرات. عندما تصبح مدمنًا، يمكنك الاستمرار في تعاطي الدواء على الرغم من الضرر الذي يسببه. تنتشر اضطرابات تعاطي المخدرات بشكل كبير في جميع أنحاء العالم وتعتبر سببًا رئيسيًا للمراضة والوفيات على مستوى العالم،

إن تزايد انتشار اضطراب تعاطي المخدرات في المجتمع المصري يستدعي المزيد من الاهتمام من جانب المؤسسات الأسرية والتعليمية والصحية. تهتم هذه الدراسة بمدى وطبيعة اضطراب تعاطي المخدرات المقبولين بمستشفيات بنها الحكومية

الهدف من الدراسة:

هدفت هذه الدراسة إلى دراسة مدى انتشار اضطراب تعاطي المخدرات المقدم إلى وحدة علاج التسمم والأبحاث في مستشفى بنها الجامعى و مستشفى الصحه النفسية بنها لتنفيذ الخدمات الوقائية الموجهة للشباب لمكافحة هذه الظاهرة

المرضى وطرق البحث:

شملت هذه الدراسة حوالي 200 مريض تم عرضهم على وحدة علاج وأبحاث التسمم ببنها بمستشفيات جامعة بنها ومستشفى بنها للصحة النفسية خلال فترة الدراسة.

النتائج:

- وفقا للبيانات الديموغرافية، كان العمر أقل بشكل مهم احصائياً في الحالات الحادة منه في الحالات المزمنة. وعلى حسب الجنس، والوضع الاجتماعي والاقتصادي، ومكان الإقامة لم تكن هناك فروق مهمة احصائياً بين المجموعتين.
- وفقا لتوزيع المواد المتعاطية بين المجموعات المدروسة، فإن توزيع الميثامفيتامين والترامادول أعلى بشكل مهم احصائياً في الحالات المزمنة. من ناحية أخرى، هناك تردد أعلى بشكل مهم احصائياً من البنزوديازيبين والفودو في الحالات الحادة.

الاستنتاج:

كشفت هذه الدراسة أن العمر كان أقل في الحالات الحادة مقارنة بالحالات المزمنة، ولم تكن هناك فروق ذات دلالة إحصائية على أساس الجنس أو الوضع الاجتماعي والاقتصادي أو مكان الإقامة