


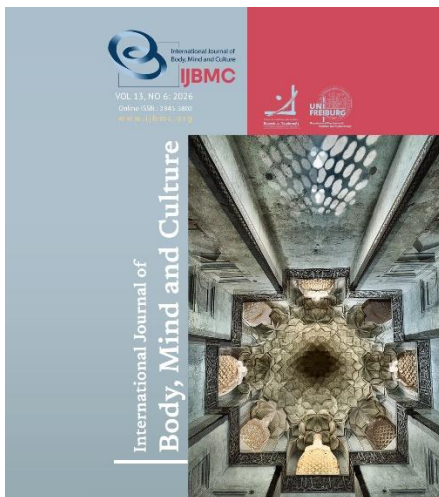
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Socio-Demographic Characteristics among Substance Abusers Admitted in Two Tertiary Hospitals in Baghdad, Iraq

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ABSTRACT

Objective: Substance abuse is one of the largest and most pressing problems in the world today. This phenomenon became a significant problem in Iraqi society and needs to be addressed by all responsible authorities.

Methods and Materials: A sample of 370 substance abuse inpatients admitted to two tertiary hospitals, designated for treatment and rehabilitation of substance-related disorders, in Baghdad/Iraq, were interviewed by the researchers during the period from 1st January 2022 till 31st December 2022. A validated semi-structured questionnaire about socio-demographic characteristics and substance use history details was used. The statistical analysis process relied on descriptive and association analyses using chi-square and correlation tests in IBM SPSS version 20, at a two-sided significance level of <0.05.

Findings: An overwhelming majority of the sample were males (96.8%), with a mean age of 33.04±10.46 years, two-fifths (41.6%) were married, while three-quarters (74.1%) had a low educational level (primary school level or less). A similar proportion reported their occupation as job earners, private workers. The mean age of the patients when starting substance use was 22.27±7.70 years, with the highest proportion (43.8%) in the 20- 29 year age group. The reported duration of substance abuse ranged between a few months to >10 years, and about one half (48.4%) of the sample reported > 10-year use duration. Weakly significant correlations were discovered between different types of substance use and age, gender, marital status, and occupation.

Conclusion: Almost all hospitalized substance abusers were young males, mostly in the 25-34 year age group. Substance use disorders were more common among those with lower educational levels and job earners.

Keywords: Socio-demographic Characteristics, Substance Abuse, Psycho-social, Alcohol, Addiction.

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Introduction

Substance Use Disorder and dependence describe problematic use of a drug (Greenfield et al., 2010), which is recognized as a global issue that is becoming worse. The term abuse of substance is a medical term to describe a case of using a drug that causes significant distress (Drugs, 2010; Report, 2022; World Drug Report, 2024). According to the United Nations Office on Drugs and Crime Report (2022), people between the ages of 15 and 64 who had used drugs globally reached 292 million, a 20% increase over 10 years; with 64 million suffering from SUD, which represents 3% rise over five years. However, only one in 11 of SUD patients are receiving treatment-I in 7 among males and 1 in 18 among females- (Drugs, 2024; United Nations Office on Drugs and Crime (UNODC). World Drug Report, 2024). People's attitudes about addiction can range from prosecution and prohibition or condemnation to tolerance and therapy, depending on several factors, including lack of knowledge, mitigation, and stereotyping (Smith et al., 2013; Talib & Al-Hemiary, 2010; Van Boekel et al., 2015).

The established significant risk factors associated with SUDs are family history of SUDs, age, ethnicity, in addition to psychiatric disorders and unemployment (Andersson et al., 2021; Campbell et al., 2018; Lamptey, 2005a; Smith et al., 2013; Wubetu et al., 2020). The most common misused substances are cannabis, followed by amphetamines, opiates, and cocaine (Drugs, 2024; United Nations Office on Drugs and Crime (UNODC). World Drug Report, 2024). Abuse of illegal substances includes heroin, marijuana, methamphetamine, and cocaine (U.S. Department of Health and Human Services, 2013), but also may include abuse of legal substances, namely nicotine, alcohol, and prescribed medicines, the most common of which is alcohol use (Andersson et al., 2021). Addiction to alcohol and other drugs becomes a worldwide lifestyle trend regardless of poor or rich countries (Koob & Volkow, 2010; Rather et al., 2013). Cigarette smoking and alcohol addiction are considered major public health problems (Rather et al., 2013). According to the WHO 2019, 237 million men and 46 million women worldwide are suffering from alcohol-use disorder (Ali et al., 2011; Campbell et al., 2018). The abused drugs have a direct action on the nervous system, especially in the brain. Most of these materials, namely marijuana, opium, cocaine, caffeine, nicotine, psilocybin,

and mescaline, are natural products, while some others are chemically synthesized (Drugs (2024)). Most of these substances are related historically to religious ceremonies, such as Amanita muscaria, which is known for its hallucinogenic properties, sometimes called fly agarics, medicinal uses, "opium", social way, "caffeine, alcohol, nicotine" (Zaki et al., 2021). The Mesopotamian civilization in ancient Iraq documented a clear association between religion and substance use culture (Al Ansari et al., 2021). A recent study has assessed the socio-demographic characteristics of abusers, which are detrimental in countries with an oriental culture, and compared some of these characteristics of randomly selected substance abusers (Majumder et al., 2021). Iraq is a natural transit area, making drug trafficking a serious issue there. Similarly, due to the country's geographical location, it is simple to transport drugs from one state to another. Additionally, the ongoing unrest is thought to have exacerbated Iraq's drug abuse problem, along with an unusual rise in other psychiatric disorders. The transporting of drugs nowadays looks easy, and has become a challenge due to major cultural changes and drug abuse patterns, graduating from alcohol toward a rise in illicit substances such as Marijuana and Heroin, use of opioids in several forms, abusing stimulants, namely amphetamine and its derivatives, and heavy cannabis use (Majumder et al., 2021). Only a few research projects have been done to identify the socio-demographic characteristics of drug users in Iraq. However, they fail to focus on tertiary hospitals or data on methamphetamine use. Overall statistics in Iraq indicate that males are more frequently involved in drug-related offenses than females (Al Abri et al., 2020). The physical and mental health of today's youngsters will determine a nation's future prosperity and its source of developmental force. Therefore, it is crucial for all nations, including our own, to implement appropriate and practical solutions to address any socio-medical, psychological, and physical issues that could adversely affect young people. In Iraq according to the recorded cases of substance abuser were 1462, males are outnumbering females (96.4% to 3.6%), with the age of 18 year (95.8%) compromised most cases, the recorded outpatient (87.5%) were presented clinics instead of inpatient units, and prescription drug for abusers was the most common type (74.6%) (Al-Hemiary et al., 2014). The availability of substances with cheap pricing and the

lack of knowledge on the risk of becoming addicted, as well as family relations and tension, are major causes of the acceleration of substance abuse (Al-Hemiary & Talib, 2010; Al-Hemiary et al., 2014). In our country, deadly malignant diseases are already a problem, depleting the resources available for public health. It is therefore important that professionals in this field focus on the primary prevention of this escalating socio-medical problem, since secondary and tertiary prevention are costly and, in most cases, ineffective. This work was conducted to investigate the substance distribution factors associated with Socio-demographic characteristics reported in similar studies in Iraq, such as escape from problems (Kawther Salman Dawood, 2018a, 2018b; Pourallahvirdi et al., 2016). The current study aimed to identify socio-demographic factors such as age, gender, socioeconomic level, and education associated with addiction. The objectives of the study are categorized into two parameters, namely: (1) identify socio-demographic characteristics among Iraqi substance abusers; (2) find out the relationship between socio-demographic characteristics and the type of substance abuse.

Methods and Materials

Study Design

This cross-sectional hospital-based study using consecutive admissions over 12 months was carried out at the Ibn Rushud Psychiatric Training Hospital, which is the main Center for Addiction Treatment and Rehabilitation in Iraq, and Baghdad Teaching Hospital, which is a Medical Training Hospital, to which individuals with substance-related disorders aged 15 years and above were referred for treatment and rehabilitation. Exclusion criteria included patients who were unable/unwilling to consent. A total of 370 patients were interviewed using the semi-structured socioeconomic form from 1st January 2022 to 31st December 2022. These inpatients were admitted to the Center for Treatment of Addictive Disorders according to

the diagnostic criteria specified in the DSM-5 (American Psychiatric Association (APA). *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, 2013; Association, 2022).

Ethical Consideration

At the beginning of data collection, all patients were informed about the purpose of the study and the protection of their information, which was used only for the study (whether or not for the public domain), and data were collected with patients' consent. Data collection was anonymous, and confidentiality was maintained using secure storage. Patient demographics and substance abuse data were grouped into categories, and significant associations were explored using the chi-square test for categorical variables and t-tests or ANOVA for continuous quantitative variables. In addition, a correlation was determined between the type of SUD and socio-demographic variables. The IBM SPSS software package for Windows, version 20, was used for the statistical analysis. The mean and standard deviation data were used to compare the continuous variables.

Findings and Results

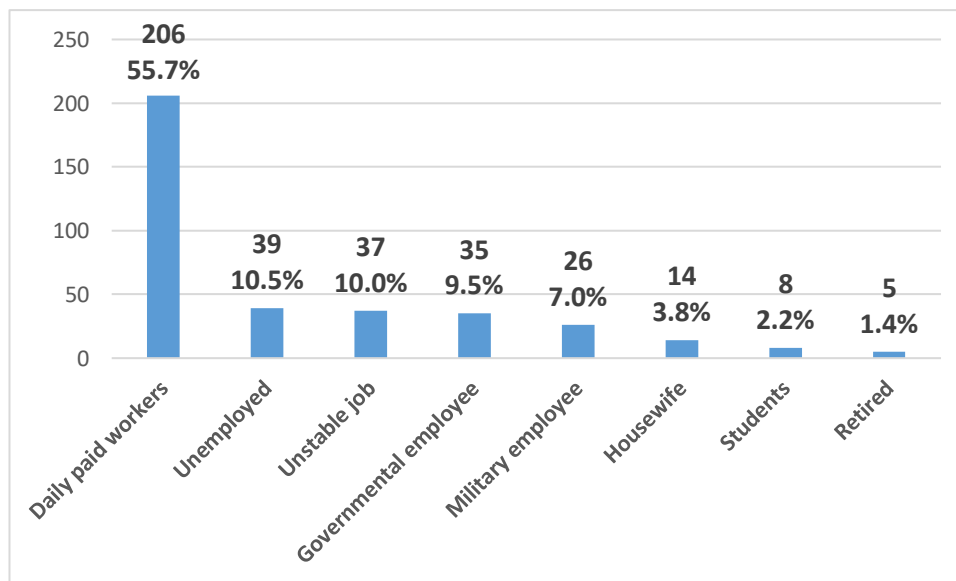
Three-quarters of the patients (75.9%) were admitted to Ibn Rushud Tertiary hospital, while only one-quarter were from Baghdad Teaching hospital. The mean age of admitted substance abusers was 33.04 ± 10.46 years, with the highest proportion in the 25-34 year group ($n=129$, 34.9%). The vast majority of the sample (96.8%) were married, about one half ($n=154$, 41.6%). The level of education distribution showed that three-quarters of abusers' level of education reached primary school or less (Table 1) (Association, 2022; Kawther Salman Dawood, 2018). The mean age of the first substance abuse was 22.27 ± 7.70 years, with the highest percentage referring to 20-29 years ($n=162$, 43.8%), and only a small minority over 40 years of age. The duration of substance abuse was >10 years in 48.4% of the sample (Table 1).

Table 1

The distribution of the demographic characteristics of admitted substance abusers in two tertiary hospitals in Baghdad, Iraq (n=370)

Variable	Group	Frequency	Percentage
Age	15 – 24 years	84	22.7
	25 – 34 years	129	34.9
	35 – 44 years	105	28.4
	45 – 54 years	37	10
	55 – 64 years	15	4.1
Gender	Male	358	96.8
	Female	12	3.2
Marital status	Single	153	41.4
	Married	154	41.6
	Divorced	56	15.1
	Separated	5	1.4
	Widow	2	0.5
Level of education	Doesn't read & write	52	14.1
	Read & write	17	4.6
	Primary school	205	55.4
	Intermediate school	53	14.3
	Secondary school	23	6.2
	College	20	5.4
Age at first substance abuse	10 – 19 years	153	41.4
	20 – 29 years	162	43.8
	30 – 39 years	44	11.9
	40 – 49 years	8	2.2
	50 – 59 years	2	0.5
	≥ 60 years	1	0.2
Duration of substance abuse	< 1 year	16	4.3
	1 – 3 years	52	14.1
	4 – 5 years	47	12.7
	6 – 10 years	76	20.5
	>10 years	79	48.4
	Total	370	100.0

Regarding occupation, more than half of the sample (55.7%) were employed in the private sector (daily paid workers; figure 1).

**Figure 1**

The distribution of the type of occupation of admitted substance abusers in two tertiary hospitals in Baghdad, Iraq (n=370)

A great majority of the patients (89.7%) reported that the route of administration refers to oral administration among substance abusers. Despite the cultural stigma regarding SUD, about one-fifth of the abusers (18.1%)

reported positive family history. The motives of substance abuse revealed that peer pressure was the highest (n=129, 34.9%) predictor for SUD (table 2, single answer for most applicable answer was allowed).

Table 2

The distribution of admitted substance abusers in two tertiary hospitals in Baghdad, Iraq, according to factors associated with Substance use (n=370)

<i>Frequency</i>	<i>Group</i>	<i>Frequency</i>	<i>Percentage</i>
Family history of substance abuse	Positive	67	18.1
	Negative	303	81.9
Motives of substance abuse	Peers pressure	129	34.9
	Happiness	56	15.1
	Money	28	7.6
	Pain reduction	31	8.4
	Workplace	8	2.1
	Availability of alcohol and drugs	68	18.4
	Social media	15	4.0
	Sexual desire	35	9.5
	Route of administration	Oral	332
Inhalation		5	1.4
Injection		7	1.9
Smoking		6	1.6
More than one route		19	5.1
Sniffing		1	0.3
Total		370	100

One-half of abusers did not attempt to stop substance use, while a small minority (5.9%) reported attempting to stop three times (Table 3).

Table 3

The distribution of admitted substance abusers in two tertiary hospitals in Baghdad, Iraq, according to the attempts to stop substance abuse (n=370)

<i>Variables</i>	<i>Group</i>	<i>Frequency</i>	<i>Percentage</i>
Attempted to stop substance use	None	176	47.6
	Once	144	38.9
	Twice	28	7.6
	Three +	22	5.9
	Total	370	100

More than one-third of the patients (34.9%) reported abusing more than one type of the mentioned drug, and a similar proportion reported abusing amphetamines,

while only a minority (1.9%) of patients were abusing hashish.

Table 4

The distribution of substance abusers in two tertiary hospitals in Baghdad, Iraq, according to the types of substance abused (n=370)

Variables	Group	Frequency	Percentage
Type of drug abused	Polysubstance	129	34.9
	Trihexyphenidyl (Benzhexal)	22	5.9
	Analgesics	20	5.4
	Alcohols	45	12.2
	Inhalants	2	.5
	Muscular relaxants	2	.5
	Opioid	16	4.3
	Cannabis	7	1.9
	Amphetamines (methamphetamine)	127	34.3
	Total	370	100

Then correlation analysis indicated that there is a significant relationship among types of drug abuse (opioids, amphetamines, and other drugs) with the age of substance abusers at p-value= 0.001, 0.001, and 0.036. Cannabis is significantly correlated with the gender of substance abusers at p-value = 0.013. There is a significant relationship between marital status and abusing opioids and amphetamines at p-value= 0.023 and 0.001.

There was no significant relationship between the type of drugs and level of education, but a significant correlation was found between amphetamine use and employment at p-value = 0.029. However, the correlation coefficient was weak for all the mentioned correlations.

Types of substance abuse		Cannabis	Opioids	Benzodiazepine	Amphetamines	Inhalants	Muscular inhibitors	Other types of misused substances
Characteristics								
Age	Pearson Correlation	.060	.172**	.066	.270**	.049	.052	.109*
	Sig. (2-tailed)	.246	.001	.204	.001	.351	.319	.036
Gender	Pearson Correlation	.128*	.051	-.047	-.038	.016	.057	.045
	Sig. (2-tailed)	.013	.324	.371	.462	.760	.272	.388
Marital Status	Pearson Correlation	.004	.118*	.006	.202**	.042	-.027	.014
	Sig. (2-tailed)	.937	.023	.904	.001	.419	.607	.795
Level of Education	Pearson Correlation	-.056	.025	-.002	.074	.007	.034	.035
	Sig. (2-tailed)	.285	.631	.975	.157	.888	.511	.506
Employment	Pearson Correlation	-.085	.021	.051	.114*	.037	.009	.018
	Sig. (2-tailed)	.103	.684	.327	.029	.475	.858	.736

*: Significant; **: Highly significant

Discussion and Conclusion

This study intended to uncover some socio-demographic elements that might be connected to the patients who sought treatment for addiction and were admitted to tertiary hospitals in Baghdad city. In this study, drug abusers were primarily young men between the ages of 25 and 34 years. Numerous studies have consistently indicated that young people are struggling with substance abuse (Castaldelli-Maia & Bhugra, 2022; Czeisler, 2020; Lander et al., 2013; Zaki et al., 2021).

The current study demonstrates unequivocally that male substance misuse is significantly higher than that of

females. In terms of substance abuse, gender inequality has always existed. This has given rise to several interpretations, including proposals that these gender distribution disparities may, in part, reflect fundamental differences between the sexes in their capacity to learn particular behaviors (Ibrahim et al., 2018; Lander et al., 2013). The association between males and hostility, violence, independence, and adventurism makes them strong initiators of substance usage (Jones et al., 2022). On the other hand, women are conceptualized as being less independent, more reliant, and less daring (Greenfield et al., 2010). Despite these explanations being still controversial, especially when sociocultural factors

are considered. Many studies also explored the educational levels of abusers, and a significant negative association was discovered with amphetamine use (Ghuloum, 2013; Isralowitz & Rawson, 2006; Lev - Ran et al., 2013; McHugh et al., 2018). The postulated reasons for the association between low levels of education and SUD might include peer pressure, inexperience, unemployment, and ignorance (Lee & Cunningham, 2019).

The age at which people start using drugs was reported to be very young; as patients age, it represents a fundamental predictor in the diagnosis of SUD for most substances. The age period with the highest prevalence of abuse, as well as the highest quantity of substance use for each of the relevant substances, occurs between the mid-teens and mid-twenties (Castaldelli-Maia & Bhugra, 2022; Ibrahim et al., 2018; Lamptey, 2005a, 2005b; Zaki et al., 2021). According to the current study, abusers tend to start abusing drugs when they are young, between the ages of 10 and 19, and this group made more than two-fifths (41.4%) of the abusers. The reported age range of the first substance use by the abusers in the present study was similar to the age distribution mentioned in many published studies (Castaldelli-Maia & Bhugra, 2022; Ibrahim et al., 2018; Lamptey, 2005a, 2005b; Zaki et al., 2021). The possible explanation behind this may be due to peer pressure, experimentation, leisure, situational events alerting the mind to analysis, or the "brain expander" phenomenon, which are likely to be the factors influencing their indulgence in substance addiction (Gilbert, 2023; Gilbert, 2024). Ignorance, modeling, and disobedient behavior against authority figures may also be significant factors (Al-Musawy et al., 2022; Czeisler, 2020; Kawther Salman Dawood, 2018a, 2018b; Jawad et al., 2019; Mahmood et al., 2019).

One fifth of the patients in the present study were unemployed or had unstable work, and this might support the well-documented association of unemployment and SUD reported in several studies (Campbell et al., 2018; Henkel, 2011; Nolte-Troha et al., 2023). A study among > 18 thousand cohort of SUD patients reported that about one half of those with poly-drug use were unemployed (Campbell et al., 2018).

An important issue related to SUD control and treatment is legislation, as indicated by a study comparing SUD therapy in the USA before and after the Affordable Care Act in 2013, which found that more SUD

patients, including those with greater severity, were brought for therapy (Fleury et al., 2023). In Iraq, before the 2003 invasion, capital punishment and stringent judicial punishment for users was a successful preventive measure.

Additionally, it appears that the relationship between substance misuse and academic performance is inverse. Drug abuse is a significant unresolved issue that is harming vast portions of the population's academic performance (Bugbee et al., 2019). In this research, the marital status of nearly equal percentages of the substance abusers were married (n=154, 41.6%) and single (n=153, 41.4%). There were weakly significant differences regarding the marital state of the abusers. In our culture, parents frequently use marriage as a tool to help their children get rid of a habit, but this strategy rarely succeeds. In our study, addiction to several substances was the leading factor in the need for treatment (34.9%), amphetamine addiction came in second (34.3%), and alcohol addiction came in third (12.2%). In the current study, poly-substance usage was widespread (34.9%). Similar to the previous study, which was conducted (Campbell et al., 2018; Castaldelli-Maia & Bhugra, 2022; Ibrahim et al., 2018).

Despite being a hospital-based study, it is appropriate to draw certain conclusions. According to the results, the main bulk of the patients started using drugs when they were adolescents or young adults. Additionally, substance users had low levels of education; roughly three-quarters of participants had only completed elementary school or less. Unemployed and private employees formed the highest proportion of substance users in the present study. Additionally, the duration of substance abuse was >10 years in half of the sample. Family history of substance abuse was positive in one-fifth of the sample; however, the true fraction might be greatly more, but not declared for social reasons, including shame or stigma and fear of prosecution. An important finding indicated by the present study was the poly-substance abuse admitted by more than one-third of the sample, with a similar proportion reporting amphetamine use. The main reported reasons for beginning substance use were peer pressure, the availability of alcohol and drugs, pleasure, enjoyment, and sexual desire.

Recommendations

Our research on the early onset of substance use and polysubstance use revealed that young people in Iraq had easy access to both legal and illegal substances. Further research is required to determine the factors related to drug abusers' attendance at substance use treatment facilities and services in light of the variations across gender groupings. Additionally, Iraq has a dearth of facilities for the treatment of substance abuse, and those that do exist have small clinical staff. As a result, more services are required. The main illicit drugs used, methamphetamine, Alcohol, opiates, cannabis, and sedatives, suggest an urgent need for escalating the introduction of a substance abuse prevention program. An additional suggestion would be to broaden regulations to require the private health sector to report cases promptly. To determine the prevalence and social determinants of drug abuse in Iraq, a national survey is also advised.

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Declaration of Interest

The author declares no conflict of interest.

Ethical Considerations

The study was conducted with attention to voluntary participation, confidentiality, parental consent, and student assent. The exact ethics committee name, approval number, and approval date were not available in the source manuscript and should be added before final submission.

Transparency of Data

The revised statistical results were recalculated from the aggregate values reported in the submitted manuscript. Raw item-level data were not available in the source file.

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Authors' Contributions

Murtadha Hameed Shalaga was responsible for the conception, design, data collection, analysis, and writing of the manuscript.

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