SYNTHETIC CANNABINOIDS USE BY CANNABIS ABUSERS ADMITTED TO MENOUFIA POISONING AND DEPENDENCE CONTROL CENTER

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ABSTRACT

Background: Cannabis is the most commonly abused substance in Egypt. Cannabis abusers are at high risk of engaging in synthetic cannabinoids (SCs) use which are more dangerous.

Aim of the work: to study synthetic cannabinoids users' characteristics among a sample of cannabis abusers and to differentiate between synthetic cannabinoids users and non-users regarding demographic data and other abuse-related information.

Methods: a retrospective study including two groups of cannabis abusers admitted to Menoufia poisoning and dependence control center, Egypt over 5 years from the first of January 2018 to the end of December 2022. The first group was natural cannabinoids abusers compared with patients with additional use of Strox or Voodoo.

Results: During the study period, this study included 362 male cannabis smokers, of them 95 reported additional use of SCs (72 Strox and 23 Voodoo). SCs users were reported mainly in 2018 and 2019 and were younger in age. They more presented with acute toxicity and needed more ICU admission. 36.8% of the SCs abusers presented with agitation. All the patients were discharged after supportive care and control of withdrawal symptoms.

Conclusion: the use of SCs is more dangerous and commonly used by young abusers trying new high. They more presented with agitation and mostly needed ICU admission. Public awareness about this problem is very important.

Key words: Cannabis, Substance abuse, Synthetic cannabinoids

INTRODUCTION

Substance abuse is considered a growing problem worldwide. Egypt is not away from the problem of increasing the prevalence of the use of illicit drugs especially among adolescents and youth despite the religious, legal, and cultural constraints (Zaki et al., 2019).

Substance abuse includes the nonmedical use of a variety of substances and is responsible for physical and psychological harm. It is considered one of the serious problems that worry both the people and the government. It has a negative outcome for both individuals and society and imposes huge financial losses (**EL-Zoghby et al.**, **2017**). It caused a variety of social problems, such as crimes, road traffic accidents, suicidal attempts, poor school and work performance, depression and anxiety (**AbddelMoneim et al., 2020**).

The use of psychoactive substances in Egypt is not a new phenomenon. They have been consumed throughout history. Cannabis became prevalent from the second half of the 1990s. Natural cannabinoids are used to produce hashish and a form of marijuana known as Bhang; both can be smoked, inhaled, or ingested with other substances (Sharma et al., 2012).

Synthetic cannabinoids (SCs) are a class of designer drugs which mimic the psychoactive properties of $\Delta 9$ -tetrahydrocannabinol ($\Delta 9$ -THC), the active principle of the cannabis plant (marijuana) and bind the same receptors CB1and CB2. They are developed as alternatives that could not be detected by routine cannabinoid blood tests (**Azab et al., 2022**). Regarding Egypt, Strox and Voodoo are the commonly used SCs.

The primary goals of substance abuse treatment are abstinence, relapse prevention, and rehabilitation. During the initial stage of abstinence, an individual may need help avoiding or lessening the withdrawal symptoms using medication determined by the drug of dependence. That process is called detoxification and it is usually performed in a hospital or other inpatient setting (Zaman et al., 2015).

PATIENTS AND METHODS

It was a retrospective study which included cannabis abusers admitted to Menoufia poisoning and dependence control center over five years in the period from the first of January 2018 to the end of December 2022.

The present study examined two groups of cannabinoids abusers. The first one with natural cannabinoids abuse (hashish -bhang) compared with patients with self-reported additional use of SCs (street names in Egypt: Strox and Voodoo).

The following data were recorded for each patient:

• Demographic data (age, sex, district, educational level, marital status, occupation).

• Abuse information (the substance abused as reported by the patient, route and place of administration, age of initiation, and duration of addiction).

• Type of withdrawal symptoms.

• Investigations: All patients had positive urine for cannabinoids using immunoassay. Routine blood investigations were done at the initial patient presentation (serum aspartate aminotransferase (AST), alanine aminotransferase (ALT) and creatinine levels).

Exclusion criteria

• Patients with mixed substance abuse rather than cannabinoids (urine screening for other abused substances was done using immunoassay techniques).

• Patients with a history of hepatic, renal or neurologic diseases.

Ethical consideration:

Data were kept anonymous to maintain confidentiality. The Ethical Committee for Research, Faculty of Medicine, Menoufia University approved the study protocol (code: 1/2023 FORE5). Also, Approval was obtained from the head of the Poisoning Control Centre.

Statistical analysis

Data were organized and statistically analyzed using SPSS, version 22. The study compared between cannabis abusers and self-reported SCs (plus cannabis) users by χ^2 . Quantitative data were described as mean \pm SD (standard deviation) and then compared using Student's t-test. The level of significance was considered at a P value < 0.05.

RESULTS

During the period of study, 362 male cannabis abusers were included, of them 95 reported additional use of synthetic cannabinoids (72 Strox and 23 Voodoo) as shown in Table (1). The results revealed that 56.6% of the total cases were hashish-only abusers and 17.1% used bhang only. Additional Strox was reported in 19.9% of studied cases and additional Voodoo was abused in 6.4% of cases. The route of administration was smoking in all cases.

Table (2) and Figure (1) illustrate the distribution of the cases in the studied years. It was observed that SCs users were mainly in 2018 and 2019 then the number declined. It was found that 37.9% and 34.2% of the total cases of each year used additional synthetic cannabinoids respectively. Only thirteen cases of SCs users were recorded in 2020 and fifteen cases in 2021. Finally, nine cases of abused SCs admitted in 2022.

Table (3) shows the demographic characteristics of the included cases. The mean age of the second group was (22.53 ± 4.41) which was younger than the mean age of the first group using natural cannabis only (31.06 ± 7.23) with a significant difference (P value <0.001). All the cases were males mostly from urban areas (58.8% of the total cases).

The results showed a preponderance of abuse among males with lower education levels. Most of the total cases in both groups were below secondary education (11.6% were illiterate and 58.3 % were primary). The remaining portions were secondary (20.2% of all total cases) and higher education (9.9%).

Concerning marital status, most of the cannabis-only abusers were married (62.9%), while the higher percent of the second group were singles (61.1%). The lowest percentage related to divorced and widows (4.9% and 2.1% for the first and second groups respectively). The difference was statistically significant (p = 0.000).

Regarding the occupation of the studied cases, workers formed 36.3% and 33.7% for the first and second groups respectively. Followed by, students represented 23.2% of cannabis-only abusers and slightly higher percent (29.5%) of the second group. Driver and private jobs constituted 18% of the total cases. About ten percent of all studied cases were employees. The remaining cases were not working (10.5% and 13.7% of both groups respectively).

There was a non-significant difference between the two groups regarding residence, educational level and occupation.

The abuse information for cases was summarized in Table (4). The great majority of cases of both groups were tobacco and/or Shisha smokers (94% and 90.5% of both groups respectively). Most of the patients consumed the abused substance at home (59.6% of the first group and 73.7% of the second one). A higher percentage of the first group consumed cannabis outdoors with a statistically significant difference (p-value = 0.014).

Nearly seventy percent of the total cases (69.9%) started abusing substances at the age of ≤ 20 years (71.5% and 65.3% of each group respectively).

The results illustrated that nearly half of the first group (51.3%) consumed natural cannabis for more than three years. On the other hand, 47.4% of the second group were abusers for less than one year. The remaining portions of cases were abusers for 1-3 years. The difference was statistically significant (P value= 0.000).

Regarding the withdrawal symptoms, 35.2% of the first group presented with irritability and anxiety compared with 12.6% of the second group. The commonest presentation of SCs abusers was agitation (36.8%) compared to 5.6% of the first group. Nearly twenty percent (19.5%) of the first group and about ten percent (10.5%) of the second one complained of sleep difficulty. Depressed mood was presented in It was found that 14.6% of the first group and 7.4% of the second one complained of decreased appetite. Nausea and vomiting were more common among the second group (18.9% compared to 7.9% of the first one). The difference was statistically significant (P-value= 0.000).

Family history of substance abuse was present in 10.9% of the first group and in 12.6% of the second one.

Concerning hepatic and renal markers, it was found that both groups were within normal ranges. The mean value of aspartate aminotransferase (AST) for the first group was 26.45±12.44 U/L compared to 28.63±11.69 U/L in the second group. The mean levels of serum alanine aminotransferase (ALT) were 25.09±11.66 U/L and 30.91±11.9 U/L for both groups respectively.

The mean serum level of creatinine was higher in SCs abusers $(0.97\pm0.16 \text{ mg/dl})$ than in the first group $(0.84\pm0.18 \text{ mg/dl})$. The difference between the two groups regarding serum levels of AST and creatinine was statistically significant (p-value <0.001).

The hospitalization criteria of the studied cases are illustrated in Table (5) and Figure (2). It was recorded that 20.6% of the first group and 35.8% of the additional SCs users had a previous history of hospitalization. The rest of the patients came to the hospital for the first time. The difference was statistically significant (P-value= 0.003).

The results of the study found that 82.8% and 34.7% of the first and second groups respectively came for detoxification, while the remaining potions presented with acute toxicity.

Most of the cases were admitted in ordinary wards. A higher percentage of the second group was admitted first to the ICU and then transferred to the ward after stabilization of their condition (18.9% compared to 4.9% of the first group) with a statistically significant difference (p-value =0.000). All the patients were discharged after supportive care, symptomatic treatment and control of withdrawal symptoms.

Concerning the hospitalization period, the first group was hospitalized for 6.55 ± 2.5 days, while the mean value of the second group was 2.37 ± 0.7 days with a statistically significant difference (p= 0.001).

	Ν	%
Hashish only	205	56.6
Bhang only	62	17.1
Additional Strox	72	19.9
Additional Voodoo	23	6.4
Total	362	100

Table (1): Patients classification according to the substance of abuse

Table (2): Distribution of cases of both groups (natural and additional synthetic cannabinoids abusers) in the studied years (2018-2022)

year	Cannabis only N=267	Cannabis and SCs N=95	Total N=362
2018	54 (62.1%)	33 (37.9%)	87
2019	48 (65.8%)	25 (34.2%)	73
2020	69 (84.1%)	13 (15.9%)	82
2021	51 (77.3%)	15 (22.7%)	66
2022	45 (83.3%)	9 (16.7%)	54

SCs: synthetic cannabinoids, N: number



Figure (1): Distribution of number of cases of both groups (natural and additional synthetic cannabinoids abusers) in the studied years (2018-2022).

		Cannabis Ca only N=267		Canna S N	nabis and SCs N=95		Total N=362	X ²	P value
		N.	%	N. 11	%	N.	%		
Age (in years)		31.06±7.23		22.53±4.41		28.8±7.6		t test	<0.001*
Sex	Male	267	100	95	100	362	100%	10.8	
	Female	0	0	0	0	0	0%		
District	Rural	112	41.9%	37	38.9%	149	41.2%	0.26	0.61
	Urban	155	58.1%	58	61.1%	213	58.8%		
Educational level	Illiterate	33	12.4%	9	9.5%	42	11.6%	2.83	0.418
	Primary	159	59.6%	52	54.7%	211	58.3%		
	Secondary	52	19.5%	21	22.1%	73	20.2%		
	High education	23	8.6%	13	13.7%	36	9.9%		
Marital	Single	86	32.2%	58	61.1%	144	39.8%	24.444	0.000*
status	Married	168	62.9%	35	36.8%	203	56.1%		
	Divorced/	13	4.9%	2	2.1%	15	4.1%		
Occupation	Widow Student	62	23.2%	28	29.5%	90	24.9%	3.883	0.422
	Employee	31	11.6%	6	6.3%	37	10.2%		
	Worker	97	36.3%	32	33.7%	129	35.6%		
	Driver/ private job	49	18.4%	16	16.8%	65	18.0%		
	Not working	28	10.5%	13	13.7%	41	11.3%		

Table (3): Demographics of the studied cases of both groups (natural and additional synthetic cannabinoids abusers)

SCs: synthetic cannabinoids, N: number, t= Student's t-test, * P<0.05 is significant

		Cannabis only N–267		Cannabis and SCs N–95		Total N=362		Test of significance	P value
		11-207		11-75				X ²	
		Ν	%	Ν	%	Ν	%		
Tobacco and/or Shisha	Yes	251	94.0%	86	90.5%	337	93.1%	1.32	0.25
smoking	No	16	6.0%	9	9.5%	25	6.9%		
Place of administration	At home	159	59.6	70	73.7%	229	63.3%	6.022	0.014*
	outdoors	108	40.4%	25	26.3%	133	36.7%		
Age of initiation	\leq 20 years	191	71.5%	62	65.3%	253	69.9%	1.310	0.252
	> 20 years	76	28.5%	33	34.7%	109	30.1%		
Duration of	<1 year	32	12.0%	45	47.4%	77	21.3%	53.594	0.000*
addiction	1–3 years	98	36.7%	16	16.8%	114	31.5%		
	>3 years	137	51.3%	34	35.8%	171	47.2%		
Type of withdrawal	Agitation	15	5.6%	35	36.8%	50	13.8%	76.347	0.000*
	Irritability and anxiety	94	35.2%	12	12.6%	106	29.3%		
	Decreased appetite	39	14.6%	7	7.4%	46	12.7%		
	Sleep difficulty	52	19.5%	10	10.5%	62	17.1%		
	Depressed mood	46	17.2%	13	13.7%	59	16.3%		
	Nausea and vomiting	21	7.9%	18	18.9%	39	10.8%		
Family history	Yes	29	10.9%	12	12.6	41	11.3	0.219	0.64
of drug abuse	No	238	89.1%	83	87.4%	321	88.7%		
AST(U/L) (mean	n± SD)	26.45±12.44		28.63±11.69		27.02±12.3		t test 4.16	<0.001*
ALT(U/L) (mean	n± SD)	25.0	9±11.66	30.9	91±11.9	26.6	2±11.9	t test 1.49	0.136
Creatinine (mg/	dL)	0.84±0.18		0.97±0.16		0.88±0.19		t test 6.01	<0.001*

Table (4): Abuse information and laboratory investigations of the studied cases of both groups (natural and additional synthetic cannabinoids abusers)

SCs: synthetic cannabinoids, N: number, AST: aspartate aminotransferase, ALT: alanine aminotransferase, t= Student's t-test * P<0.05 is significant

		Cannabis only N=267		Cannabis and SCs N=95		Total N=362		Test of significance X ²	P value
		Ν	%	Ν	%	Ν	%		
Previous	Yes	55	20.6%	34	35.8%	89	24.6%	8.720	0.003*
admission	No	212	79.4%	61	64.2%	273	75.4%		
Patient presentation	Came for detoxification	221	82.8%	33	34.7%	254	70.2%	77.232	0.000*
	Acute toxicity	46	17.2%	62	65.3%	108	29.8%		
First place of	ordinary ward	254	95.1%	77	81.1%	331	91.4%	17.736	0.000*
admission	ICU	13	4.9%	18	18.9%	31	8.6%		
Hospitalization (mean± SD)	n period (days)	6.5	5±2.5	2.	37±0.7	5.4	5±2.83	t test 16.2	0.001*

Table (5): Hospitalization criteria of the studied cases of both groups (natural and additional synthetic cannabinoids abusers)

SCs: synthetic cannabinoids, N: number, ICU: intensive care unit, SD: standard deviation, t= Student's t-test * P<0.05 is significant



Figure (2): Distribution of cases of both groups (natural and additional synthetic cannabinoids abusers) regarding previous admission, patient presentation and first place of admission.

DISCUSSION

Although the history of substance abuse is very old, recently it has become a global problem. The multiplicity of factors associated with it makes the problem a complex one. It affects young people in the age of work and productivity (**Rather et al.**, **2013**).

Cannabis is abused widely among the working lower classes in Egypt. This could be linked to the decline in public awareness of the risks associated with its use (**Khafagy et al., 2021**). It can be easily obtained and cultivated illegally in many areas of Egypt (**Amr et al., 2014**).

The consumption of synthetic cannabinoids was established through selfreporting by the patient. The difficulties in detecting the urinary metabolites of synthetic cannabinoids bv screening methods are well-documented (Bonnet and Mahler, 2015; Babi et al., 2017; and Tai and Fantegrossi, 2017) also, due to the continuous introduction of new substances which are rarely predictable with urinary screening methods (D'Errico et al., 2022).

Hashish was more frequently used compared to the others. This may be due to that hashish is an extracted resin with a more potent effect. This was also reported by a previously published Egyptian study by **Naguib et al., (2021)**.

The current study also revealed more popularity of the herbal mixture of strox than voodoo among the studied cases. Similar figures were reported by other researchers (**Hashim et al.**, (2022).

The study recorded that synthetic cannabinoids users were mainly in 2018 and 2019 then the number declined in the following years. This may be explained by increased recognition of their health adverse effects such as psychosis.

The results revealed that cannabis abuse was evident among teenagers and

youth. This is the most vulnerable age group due to its characteristic problems and the significant peer influence and pressure (Hamdi et al, 2016). In this period, they are trying to find their own identity and to seek new experiences making them more prone to substance abuse and other harmful behaviors (Rabie et al., 2020).

SCs users were younger which was previously observed by the studies of **Cooper, (2016)** and **Shalit et al., (2016)**. This could be explained by the fact that younger adults usually tend to take multiple substances and try new ones to experience their psychoactive effects (**Azab et al., 2022**). However, the study of **Mensen et al., (2019)** found no difference in age between the SCs and natural cannabis users.

All cases were male does not necessarily mean that females were not involved in substance abuse. Greater stigma attached and negative cultural attitudes prevent females from coming for treatment. Males are more likely to abuse drugs due to earlier work careers and more freedom that help them to go outdoors, meet more people and try substances of abuse (**Prajapati et al., 2019**).

Prevalence of consumption of cannabinoids in males under the age of 30 years, which is the peak for substance abuse globally, was recorded in previous researches (Smith and Robert, 2014; Karila et al., 2016 and Simão et al., 2022).

Most of the substance abusers were from urban areas. This finding may be explained by more availability of abused substances in urban areas. Additionally, most youth in urban residence have more contact with peers and less family supervision (**Abdel Hamid et al., 2017**). Strong social and family bonds in rural areas discourage substance abuse (**Hamdi et al., 2016**).

Education is considered a protective factor against substance abuse. Educational level of the studied cases ranged from illiterate to highly educated. However, abuse was more common among less educated people. This coincided with the study of **Amr et al., (2014)** done in Mansoura University Emergency Hospital, Egypt, in which cannabis was the most common drug abused. Similarly, **Caviness et al., (2015)** noted that SCs use was significantly associated with non-educated males.

The study findings illustrated that most cannabis-only abusers were married because they were older than the second group of additional use of SCs. In the same line, **Eldabah et al., (2018)** found that drug abuse (mainly cannabis) was higher among married individuals as their study screened persons more than 18 years coming to outpatient clinics of Al-Azhar university hospitals. On the other hand, the study of **Amr et al., (2014)** illustrated that abusers were commonly singles.

Workers formed the highest percentage of both groups. This is probably related to their lower education, together with the relatively high income which is directed to substance abuse instead of other useful activities. Moreover, they are more susceptible to irregular income, losses, financial and social insecurities leading to more stresses on them (Hamdi et al, 2016).

Tobacco is considered a gateway to other substances of abuse. Most of the studied addicts were smokers. This indicated that smoking is a predictor of substance abuse besides its easy accessibility and legalized use (Khafagy et al., 2021). Similar observations were reported by the study of El-Sawy et al., (2010) done in Tanta University Hospital, Egypt. Gunderson et al., (2014) also observed that SCs consumption was common among tobacco smokers. Additionally, Öznur et al., (2018) found that smoking cigarettes and cannabis accompanied SCs use.

Smoking was the only route of administration in the present study. It was mostly preferred by abusers over oral route as oral consumption has delayed onset of action. Additionally, oral forms are easily ingested without any pleasure during preparation (Huestis and Smith, 2018). This also was reported by (Abdelmoneim et al., 2022).

This disagreed with the study of **Elhelaly and Salah Eldin (2022)** who recorded that the great majority of acute cannabis toxicity was caused by oral accidental exposure among children.

Most abusers consumed their substance in safe places such as homes and private places. The previous Egyptian study by **El-Sawy et al., (2010)** also reported indoor intake of drugs. This may be due to the conservative nature of Egyptian society which rejects open drug intake. However, **Kaur et al., (2018)** recorded that 86.5% of subjects of Punjab in India were using substance in agricultural fields, riverbanks and old buildings.

A higher percentage of the first group recorded outdoor administration of cannabis as it is abused widely in Egyptian weddings (**Khafagy et al., 2021**).

The age of start experimenting with substance abuse has dropped drastically over the years. The earlier the age of drug abuse, the more will be the vulnerability to both short-term and long-term complications (**Musyoka et al., 2019**).

Nearly seventy percent of the total studied cases started their abuse in the age of ≤ 20 years. **Rather et al.**, (2013) recorded that more than two-thirds of abusers started in the age group of 11 to 20 years. Moreover, **Blevins et al.**, (2016) demonstrated earlier cannabis initiation in synthetic cannabinoids abusers.

About half of the abusers consumed cannabinoids for more than three years. The Turkish study by **Öznur et al., (2018)** recorded the duration of using SCs as 3.79 ± 2.15 years reflecting the seriousness of this problem.

Synthetic cannabinoids demonstrate higher binding affinity to cannabinoid receptors and act as full agonists. Additionally, their metabolites have a stronger affinity for the receptors leading to greater potency and longer duration of their pharmacological effects and toxicity. They are associated with serious cardiac and neurological adverse effects (Hashem et al., 2012). Unpredictable toxic effects due to unregulated manufacturing processes and variability of ingredients were also declared (Traynor, 2018).

Acute Strox toxicity is often manifested by hallucinations with intense aggression which could be attributed to THC analogs, anticholinergic substances, ketamine or other unknown additives (**Sobh and Sobh**, **2020**). This was associated with more acute toxicity related to SCs (**Zaurova et al.**, **2016**). The study of **Shalit et al.**, (**2016**) also recorded more previous hospitalizations related to SCs.

It is well known the relapsing nature of this problem is due to the same friends and environment, lack of family support and easy availability of addicting substances **Mughal (2018)**.

Cessation of long-term and regular use precipitates a specific cannabis withdrawal syndrome with mainly mood and behavioral symptoms of light to moderate intensity while, the withdrawal syndrome of SCs seemed to be stronger (Bonnet and Preuss, 2017). SCs withdrawal may be a factor in explaining the higher rates of admission due to more treatment requirements.

Nausea and vomiting were more frequent in the withdrawal symptoms of SCs due to their greater potency at CB1 receptors. **Macfarlane and Christie (2015)** reported that 44% of their participants complained of nausea and vomiting as withdrawal symptoms of SCs and demonstrated difficulty stopping SCs use because of their withdrawal symptoms.

Families and relatives have а fundamental impact on adolescents' substance abuse as most of the adolescents' behaviors are learned by imitation of surrounding adults (Damiri et al., 2018). The results illustrated that 11.3% of all studied cases had a family history of substance abuse. Moreover. Abdu-Raheem (2013) concluded a significant relationship between family background and drug abuse.

The liver enzymes and creatinine were within normal ranges in both groups but significantly higher in cases of SCs regarding AST and creatinine. **Elhelaly and Salah Eldin (2022)** noted a significant elevation in serum creatinine in SCs. However, the research of **Zaurova et al.,** (**2016**) reported no significant difference between acute presentation of SCs and marijuana concerning BUN and creatinine.

This study found less reported number of natural cannabinoid abusers requiring ICU admission. This agreed with the findings previously reported by **Essam Eldin et al., (2021)**.

As regards the period of hospitalization, a longer period was required for detoxification of chronic cannabis users than the SCs who mostly came with acute toxicity. **Lee et al.**, (2014) studied inpatient dependence treatment for chronic, frequent cannabis smokers. Symptoms were more intense at admission then most effects diminished within 4 days. However, sleep disturbance may persist for an extended period.

CONCLUSION

Younger cannabis abusers were found to be more likely to engage in SCs use which are more dangerous and more potent compounds. SCs mostly presented with agitation. The great majority of cases were tobacco and/or Shisha smokers which is a strong predisposing factor for addiction.

RECOMMENDATIONS

Prevention should be focused primarily on cannabis abusers as they are at high risk for using SCs. They should be encouraged to go to treatment centers before it is too late. Adolescents should receive good support from their parents and teachers to be protected from peer influence and bad company. Efforts should be made to increase public awareness about the dangerous effects of substance abuse. Urine screening for abused drugs among drivers, adolescents in Egyptian schools and those involved in acts of violence and traffic accidents is also recommended.

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الملخص العربى

استخدام نظائر القنب المصنعة في متعاطي القنب المحتجزين بمركز علاج التسمم والإدمان بالمنوفية

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المقدمة: يعتبر تعاطى القنب هو الأكثر شيوعا في مصر ولقد زاد استخدام نظائر القنب المصنعة (الستروكس -الفودو) الأشد خطورة بين مدمني القنب.

الهدف: در اسة خصائص مستخدمي نظائر القنب المصنعة في عينة من مدمني القنب ومقارنتهم بعدم المستخدمين.

الطريقة: تناولت الدراسة مجموعتين من متعاطي القنب بمركز علاج التسمم والإدمان بجامعة المنوفية على مدى خمس سنوات في الفترة من أول يناير 2018 إلى نهاية ديسمبر 2022. المجموعة الأولى مدمنى القنب الطبيعي (الحشيش - البانج) مقارنة بالمرضى الذين أبلغوا عن استخدام إضافي للقنب الصناعي. تم تسجيل التاريخ المرضي والبيانات الطبية للحالات وكذلك نتائج الأبحاث المعملية.

النتائج: شملت الدراسة على 362 من مدمنى القنب تم دخولهم بمركز علاج التسمم والإدمان بجامعة المنوفية خلال فترة الدراسة. وكانوا جميعهم من الذكور. وتم تقسيمهم إلى مجموعتين: المجموعة الأولى مدمنى القنب الطبيعي فقط (الحشيش -البانج) وشملت 267 مريضا والمجموعة الثانية شملت المرضى الذين أبلغوا عن استخدام إضافي للقنب المصنع وعددهم 95 مريضا (72 الستروكس - 23الفودو) تم حجز معظمهم خلال سنة 2018 وسنة 2019. أوضحت النتائج أن مستخدمى نظائر القنب المصنعة كانوا أقل سنا وكان يعانى معظمهم من الهياج العصبى (36.8%). وكانوا بحاجة أكثر للحجز بوحدة العناية المركزة. وقد غادرت جميع الحالات المستشفى بعد شفائها.

الخلاصة والتوصيات: مدمنى القنب الطبيعي الأقل عمرا أكثر عرضة لاستخدام نظائر القنب المصنعة وهى أشد خطورة حيث كان يعانى معظمهم من الهياج العصبى. ويوصى بعمل برامج توعية بخطورة المواد المخدرة وتشجيع المدمنين على العلاج المبكرفي المراكز المتخصصة.