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How Does Bonzai Go, Kid? - One-Year Experience

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ABSTRACT

Introduction: *Synthetic cannabinoids are becoming increasingly popular in adolescent age group as an abused substance. Therefore, pediatricians and emergency physicians should be alert for Bonzai uses which are being more common day by day.*

Aim: *The aim of the study is to investigate adolescent age group cases who admitted to hospital with use of Bonzai.*

Materials and Methods: Hospital database was screened for codes " Bonzai drug level", "Drug abuse" and "Substance abuse". Positive reports for presence of synthetic cannabinoids "Bonzai" in urine were investigated. Only pediatric age was taken include to the study. Demographic features as number of patients, gender, mean of age and seasonal distribution were determined.

Results: *245 patients between 13- 18 years of age were suspected for substance abuse and were investigated for, during 2015. In 51 of them Bonzai was detected meantime. One of the cases needed intensive care unit admission. Most admission was in Fall and Summer. The youngest case positive for Bonzai was 14 years old.*

Discussion: *One of 7 adolescent suspected for substance abuse was found to use Bonzai. Considering that this is only a meantime detection, and there is always possibility that "other time" users' number is greater, this is an alert result. Summer time and school time period is most dangerous for Bonzai spread.*

Conclusion: *Substance of abuse can cause potentially serious health care conditions that necessitate emergency evaluation or may result in death. The widespread use of Bonzai among the youth should alert governments.x*

KEYWORDS : Synthetic cannabinoids, frequency, bonsai, risk population, abuse, adolescent

INTRODUCTION

In recent years and over the past decade, use of illicit drugs has dramatically increased in number (1, 2). Several of chemicals are inhaled for the development of euphoria, including marijuana (cannabis, pot, K2, spice, Bonzai), methamphetamine, heroin, crack cocaine, phencyclidine, and nitrites. Synthetic cannabis (SC) is readily accessible, sold under several names and packaging with smoking as the most common route of administration (3). SC is a structurally diverse family of compounds with a large number of biological targets (4). They seem to affect the same receptors with cannabis (CB1 and CB2) but severity and implication of clinical reflection of SC impact may not be always predicted; some of the SC are more potent than cannabis itself. When smoked, they can produce significant psychoactive and physical effects similar to cannabis. Changes in cognition, behavioral disturbances, alterations in mood, and perceptual changes have been reported and emerging number of literature indicates that use of these products is associated with anxiety and other negative mood changes not typical of cannabis intoxication (1, 5). To make the diagnosis, clinicians should become familiar with the effects of synthetic cannabinoid use and have a high index of suspicion.

There are many articles about the history, type and pharmaco-chemical properties of, side effects and toxicological activity of SC in the literature; however the number of articles about the frequency of their detection, especially among youth, is limited.

Because drug abuse is modern disaster of populations, requirement of definition for risk groups occurred. With this study we tried to define the Bonzai use frequency among adolescent and make contribution to literature.

MATERIAL AND METHODS

We conducted a retrospective study searching a one –year period hospital records between 01-01-2015 and 31-12-2015. The database of a Tertiary Care Hospital was retrospectively reviewed. The ICD-10 codes for SC use were scanned (F10, 0, X44, 0, Y57, 9, Z81, 0) and patients' information was obtained. Data of biochemistry and pharmacology laboratories was scanned for codes'' Bonzai drug level' and the patients 13-18 years of age were involved to the study. The patients with negative laboratory results for drug level, and patients with lack of data were excluded from the study. Positive reports for presence of synthetic cannabinoids ''Bonzai" in urine were investigated. Patients only between 13 and 18 years of age were taken into consideration. Demographic features as number of patients, gender, mean of age and seasonal distribution were determined.

The data was evaluated for demographic features and descriptive statistics were performed. Main groups were separated into years. In subgroups, seasonal, gender and age variants were investigated. Both parametric and non-parametric tests were performed to force the results of analyses. Correlation and one-way ANOVA test were performed to investigate the relation of groups. SPSS 15 statistical software package for windows was used in the analysis.

RESULTS

Urine illicit drug tests in 51 cases out of 245 investigated patients were positive for bonsai (Fig.1). Patient majority were male. The youngest case with meantime positive urine for bonsai was 14 years of age with average age 15 and 17 years of age in female and male respectively.

We analyzed the departments these cases admitted to hospital first. We reported that most cases admitted to forensic medicine for judicial control. Again most positive cases for bonzai were reported from forensic medicine clinic. Pediatric emergency department and pediatric outpatient were other departments where positive cases were detected (Fig1).

We analyzed seasonal admission of patients; seasonal distribution was 26, 14, 8 and 3 patients, respectively from fall, summer, winter and spring months (Fig.2). Detection bonzai in autumn months was significantly compared to other months ($p<0.05$).

Nearly all patients were followed up as outpatients (n=50, 98%), and only one case needed hospitalization (2% of the patients).

DISCUSSION

Synthetic cannabinoid use is an emerging problem causing serious adverse health problems, including death (6). Literature is reach about investigating problems this new disaster causes.

In our study we determined adolescents aged 13-18 who were investigated for substance abuse.

Epidemiological data suggest that the majority of SC users are young adults who perceive SC as safer than non-cannabinoid illicit drugs (7). Review studies show that most SC smokers are men from 13 to 59 years old, many with a history of poly-drug use such as cannabis, alcohol, and nicotine (8). In our study also male majority was detected; 96 % of the patients (n=49). This ratio is neither above nor under the word average of epidemiology for adolescents (2, 8).

In our study we report extremely low rate for female SC abuse: 4% of the cases. Clements-Nolle et all. reported this rate nearly about 50% among high-school students (9)=, and Keyes et all. give us rate up to 30 % female users (10). Considering that fact that we detected meantime urine analyses this data may mislead the investigation. Again considering that females were up to one quarter of all the suspected cases real distribution of females in population may be different. WE should be more alert about young female users in Turkey population.

Finally, we analyzed seasonal distribution of bonsai use. Our reports showed that admissions significantly make peak on autumn and summer months respectively ($p<0.05$). Epidemiologic investigations on substance abuse among the youth emphasize the fact that illicit drugs are getting more accessible among school children (9, 11). Our study gives similar contribution to the issue. Education and academic period of the year is the time both parents, education stuff and physicians should be alert about SC uses.

CONCLUSION

The number and diversity of bonsai use have increased significantly in the drug market in recent years, despite law enforcement and regulatory control measures. This has led to more widespread use among adolescent. Therefore, pediatricians and emergency physicians should be alert for bonzai uses.

(7)

LIMITS OF THE STUDY

There some limitations to our study. Even though we have the only laboratory of the surrounding to detect substance of abuse the hospital, this study has conducted in, is not the only one of the city. Thus it may not reflect the whole risk group for chosen population and may not reflect the whole Bonzai users of the city. But we believe that even our study may have weakness to reflect the accurate number data for SC user risk groups, never the less it reflects the ratio data.

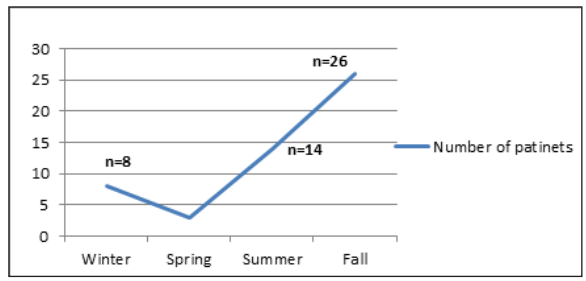
FIGURES

Figure1. Descriptive characteristics of patients utilizing Bonzai

Bonzai	Sex		Age (mean, year)		Hospital Admission Departmen				
	M	F	M	F	PED	FM	ED	Psychiatry outp.	Pediatrics outp.
Investigated cases	192	53	17	15	20	137	59	13	16
Positive cases	49	2	17	15	6	44	0	0	1

M: male, F: female, ED: emergency department, PED: pediatric emergency department, outp: outpatient.

Figure 2. Seasonal distribution of the patients admitted to hospital and the patients positive for bonzai.



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