

Assessment of Non- Medical Use of Tramadol among University Students

Hend H. Abdelfattah¹, Ebtisam M. Abdelaal², Doaa M. Sobhy³

¹Bachelor of Science in Nursing at Benha Hospital Fevers, Faculty of Nursing - Benha University, ²Assistant Prof. of Community Health Nursing, Faculty of Nursing - Benha University, ³Lecturer of Community Health Nursing, Faculty of Nursing - Benha University

Abstract: Tramadol classified as a weak opioid with an analgesic effect similar to that of codeine and indicated for the treatment of moderate and severe pains. The purpose of this study was to assess the non-medical use of tramadol among university students. Research design: A descriptive research design was utilized in this study. Setting: This study was conducted at 50% of Faculties of Benha University it included 7 Faculties. The sample: stratified random sample was used in this study which included 10% of students in the first year academic year (2016- 2017) number of students who shared in the study was 315 male students. Two instruments were used I): A structured interviewing questionnaire and included two parts. part 1): included (a): socio-demographic characteristics of students and their family characteristics, (b): psychological distress of the students. (c): Physical health of students part2): to assess knowledge of students about tramadol. II): Likert scales consist of 3 level scales which measured attitude of students toward non- medical use of tramadol. Results: Nearly more than three quarters of students (94.3%) didn't have tramadol trial. More than one third of students (33.2%) had good knowledge toward tramadol. More than three quarters of students (80.9%) had positive attitude toward tramadol. Conclusion: There were statistically significant relations between student's family characteristics and tramadol trial. While there was highly statistical significant relations between health status and tramadol trial. there was a positive association among student's total knowledge and total attitude with their characteristics. Recommendations: health education programs for all students in the university regarding non-medical use of tramadol

Key words: *non-medical use, tramadol, university students.*

Introduction

The university experience is unique as it provides students with the first opportunity to be a part of a larger group of peer without parental supervision. It also illicit experiences such as drug abuse. Factors like unhealthy family represent the perceived by students as last period of freedom before taking on the responsibilities of adulthood. This

makes them more vulnerable to try novel and background, peer group influence, pressure to succeed in academic study and easy accessibility of drugs is implicated this problem (Ramkissoon et al., 2017).

Drug abuse is a serious public health problem that affects almost every

community and family in some way. Each year drug abuse causes millions of serious illnesses or injuries among peoples. Abused drugs include methamphetamine, anabolic steroids, club drugs, cocaine, heroin, inhalants, and marijuana and prescription drugs, including tramadol. also drug abuse plays a role in many major social problems, such as drugged driving, violence, stress, and child abuse, it can lead to homelessness, crime, and missed work or problems with keeping a job (Lyman, 2013).

Recent trends indicate that use and abuse of substances have dramatically increased worldwide particularly in developing countries. Several studies have indicated that substance use is common among students and is becoming increasingly widespread in many African countries. Most countries in Africa are experiencing rapid economic, social, and cultural transitions which have created favorable conditions for increased and socially disruptive substance use. Substance use has contributed to the increasing incidence of psychosocial problems among the youth; people with substance use disorder are more likely to die younger and are more likely to have a psychiatric disorder than people without substance use disorder (Osman et al., 2016).

Tramadol is a unique analgesic medication, with both mono aminergic reuptake inhibitor and opioid receptor agonist activity increasingly prescribed worldwide as an alternative for high-affinity opioid medication in the treatment of acute and chronic pain, available in variety of formulations

generally used in the oral form (as tablets or capsules). It can be a parenteral form (most typically, intravenous, although such as form could be used subcutaneously or intramuscularly) in some countries (e.g., India), and a rectal form (e.g., Bangladesh). Also it is available in a variety of other pharmaceutical formulations, such as sublingual drops, and an intranasal form (Miotto et al., 2017).

Tramadol can have undesired side effects, similar to other opioid drugs these include; nausea, vomiting, constipation, dizziness, drowsiness, headache, loss of appetite and dry mouth. There is also a known risk of seizures and convulsions, physical dependence on tramadol may occur; Withdrawal reactions can include restlessness, agitation, anxiety, sweating, insomnia, hyperkinesia, tremor, parenthesis, and gastrointestinal symptoms. It may cause serotonin syndrome when combined with other drugs that also increase serotonin (Fudin et al., 2017).

Nurses play a teaching role in addition to providing physical care toward students with substance abuse. They teach patients about the dangers of drug abuse, including the physical and psychological effects; the damage to relationships and family life; and the impact on meeting basic needs such as holding down a job. They also educate patients regarding treatment options; including those they can use on either an inpatient or outpatient basis (Public Health England, 2017).

Significance of the study

Tramadol misuse in Egypt has been a growing concern. A report from The National Council for Drug Control and Treatment (Egypt) noted that the proportion of people seeking treatment for tramadol addiction has been steadily increasing between 2011 (38.7% of total addicts were tramadol addicts) and 2016 (71.1%). A study (Bassiony et al., 2015) of 204 school students in Egypt found that 8.8% of them had a urine drug screen positive for tramadol (World Health Organization, 2017).

The purpose of the study

The purpose of this study was to assess of non-medical use of tramadol among university students

Research Questions

- 1) What is the utilization of tramadol among university students
- 2) Is there relation between knowledge of students and their attitude toward tramadol abuse

Methods

Research Design

A descriptive research design was used in carrying out this study.

Setting:

The study was conducted at 50% of all Faculties of Benha University it included 7 Faculties which was collected randomly, namely Faculty of Nursing, Faculty of Sciences, Faculty of Education, Faculty of Computer and Information, Faculty of Engineering, Faculty of Physical Education, and Faculty of Applied Arts.

Sampling:

The stratified random sample was used in this study as 10% of each Faculty students. The total number of students

were 315 male students included in study," 10% was taken as pilot study (32 students) and excluded from the study sample so the study sample included 283 students" following criteria:

- Male students.
- Enrolled first year.
- Free from medical health problem

Instruments of data collection:

Two instruments was used in this study

Instrument one an interviewing questionnaire sheet which consists of two parts:

Part (1): This part included two items

- a) Socio demographic data it consisted of 10 questions closed ended questions (questions No. 1 – 10) these items include (Faculty name, family number, students ranking, father's education, father's job, mother's education, mother's job, residence, monthly income and tramadol trial).
- b) Kessler scale to assess psychological distress of the students which consisted of five levels and included 10 items (question No. 1- 10) these items include (frustration, hopelessness, depression, sadness, nervousness, worry, worthless, focus all your efforts on solving the problems, very angry and can't control yourself and fatigue).

A scoring system

Items were scored from one (none of the time) to five (all of the time). Scores of the 10 items were then summed, yielding a minimum score of 10 and a maximum score is 50.

- 10-19 likely to be well
- 20-24 likely to have a mild disorder
- 25-29 likely to have a moderate disorder
- likely to have a sever disorder

a) Physical health of students consisted of 16 items (question No. 11-26). Included (headache, insomnia, dizziness, hallucination, acidity and indigestion, vomiting, nausea, diarrhea, constipation, pain in the joints, muscles spasm, breathing difficulties, feel cold with sweat, imbalance, weak concentration and blurring of vision)

A Scoring system

Each healthy status scored as one point and each unhealthy status scored as zero, then all items summed up according to the number of questions and the scores were converted into percent score. Total score for all questions was 16 points which represent 100% and categorized into two levels as follows:

Healthy	>75%
unhealthy	< 75%

Part (2) knowledge of students about tramadol to assess the knowledge of students regarding to tramadol which include 10 questions (No. 27 –36) this

questions covered areas such as (Meaning of tramadol, symptoms of tramadol addiction, reasons for using tramadol, side effects of tramadol, most people are introduce to tramadol, other name for tramadol, treatment of tramadol addiction, role of society in reducing the spread of tramadol addiction)

A scoring system:

Each question had a group of answers a correct answer was scored (2), while (1) score for correct and incomplete answer and zero score for didn't know or wrong, the scores were converted into percent score. Total score for all questions related to knowledge was 20 points which represent 100% and categorized into three levels as follows:

Good	>75%
Average	<50%
poor	<50%

Instrument two

Likert scales consisted of 3 level scales which measured attitude of students toward non- medical use of tramadol It consists of 17 items (No.1-17) these items include (tramadol has become one of the most important, tramadol is analgesic pain and considered addictive problems among youth, the main reason for using tramadol is to escape from family problems and psychological , there is no specific category using

tramadol, i don't think that tramadol increase physical activity, i don't think that tramadol work to improve mood, i expect that the state is capable of eliminating this phenomenon during the coming years, i see that the role of the state is ineffective in the fight against tramadol addiction, i am saddened when accidents and crimes occur because of the tramadol, i don't feel a desire to abuse the tramadol for experience, i don't feel that tramadol cause feeling happy, i am sad when I find my friend taking tramadol, i am sad when tramadol is heavily abused in Egyptian society, participate in awareness programs against tramadol addiction, i advise my friend who is taking tramadol to treatment and stay away from tramadol, interested to follow up awareness programs against addiction and interested in knowing ways to prevent and treatment of tramadol addiction)

A scoring system:

Each question of attitude scored according to 3 levels included (agree which equal 2 points, sometime agree which equal one point and disagree which equal zero point).

Then total attitude questions are summed up, these score were converted into percent score. Total score for all questions related to attitude was 34

which represent 100% and categorized into three levels as follows:

Positive	<80%
negative	>80%

Content validity and reliability:

Content validity of tools to collect data from study sample was revised by five expertises from the Community Health Nursing staff to assure the tools content were relevant to the topic. Certain modification was done by removing unnecessary details. Relia was done. The reliability for knowledge was 0.61 and for attitude was 0.76.

Ethical considerations:

Approval and an informed oral consent from all study participants were obtained after explained the purpose of the study to gain their trust and cooperation, they were also reassured that all information gathered would be in confidential manner and used only for the purpose of the study. Each student has a choice to continue or withdraw from the study at any time without giving any reasons.

Pilot study: A pilot study was conducted at 32 students were excluded from the study sample. The pilot study was carried to assess the clarity and applicability as well as the time needed for the tools which was used in data collection

Assessment of Non- Medical Use of Tramadol among University Students

The obtained results from pilot study was used as a guide for necessary modifications of the tool, each sheet lasted about 20-30 minutes to be filled.

Statistical design

Computerized data entry and statistical analysis were fulfilling scored using Statistical Package for Social Science (SPSS) version 20.

Descriptive statistic was applied (frequency, percentage) for qualitative

data and using chi-square to determine significance, using mean and standard deviation for quantitative date and correlation coefficient was used to test "r".

Statistical significance was considered at:

- P- Value > 0.05. Not significance
 - P- Value < 0.05. Significance
 - p- Value <0.001. Highly significant
- Ability of tools

Results

Table (1): Frequency distribution of studied student's regarding their family characteristics (n=283).

Personal characteristics	No	%
Family number:		
Less than 5 person	109	38.5
From 3-5 person	110	38.9
More than 5 person	64	22.6
Father education		
Basic Education	61	21.6
Secondary Education	132	46.6
High education	90	31.8
Father's job		
Employee	144	50.9
Free business	118	41.7
Doesn't work	5	1.8
dead	16	5.7
Mother education		
Basic Education	70	24.7
Secondary Education	124	43.9
High education	89	31.4
Mother's job		
Employee	126	44.5
Free business	108	38.2
House wife	46	16.3
dead	3	1.1
Residence		
Rural	158	55.8
Urban	125	44.2
Monthly income		
Not enough	78	27.6
Enough	192	67.8
Enough and more	13	4.6

Assessment of Non- Medical Use of Tramadol among University Students

Table (1): Shows that 38.9% of students their family number were from 3-5 person, while 46.6% of fathers had basic education, 50.9% of fathers were employee while 43.9% of mothers had basic education, 44.5% of mothers were employee and 55.8% of students were living in rural areas and 67.8% of family monthly income was enough.

Table (2): characteristics of family student `s who tried or didn't try tramadol (n=283).

Items	Tried		Untried		X ²	P-value
	0	%	0	%		
Father education						
Basic education	9	56.3	123	46.1	12.68	0.034
Secondary education	2	12.5	59	22.1		
High education	5	31.3	85	31.8		
mother education						
Basic education	6	37.5	118	44.2	11.59	0.04
Secondary education	7	43.8	82	30.7		
High education	3	18.8	67	25.1		
Monthly income						
Enough	12	75.0	180	67.4	15.70	0.01
Not enough	3	18.8	75	28.1		
Enough and more	1	6.3	12	4.5		
Place of residence						
Rural	10	62.5	148	55.4	2.13	0.68
Urban	6	37.5	119	44.6		

Table (2): Shows that there were statistically significant relationships between family characteristics and tramadol trial at father education, mother education and monthly income. While there was no statistically significant relation at residence place (p- value>0.05).

Table (3): Correlation between students' total knowledge and their total attitude (n=283).

Items	Total knowledge	
	r	p-value
Total attitude	0.41	0.03

Table (3): Shows that there was positive association among students; total knowledge and total attitude with their characteristics.

Figure (1): Frequency distribution of studied student's regarding tramadol trails (n=283).

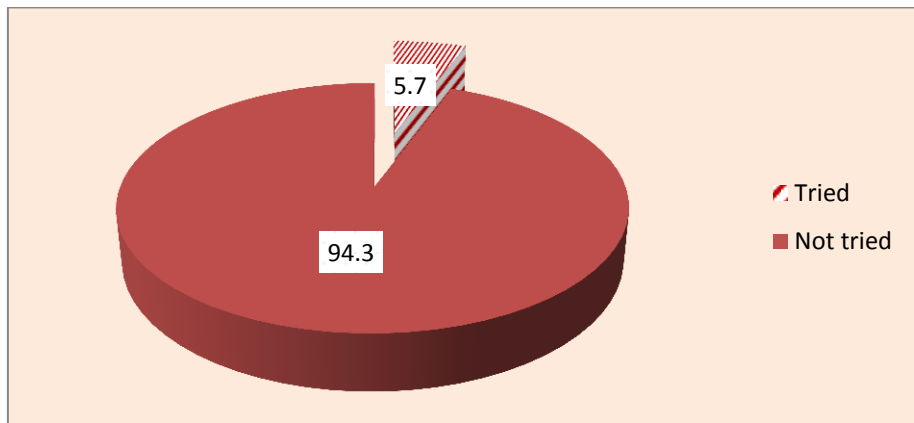


Figure (1): Displays that 94.3% of students didn't try tramadol before while 5.7% of students were tried tramadol.

Figure (2): Frequency distribution of studied student's regarding total knowledge score (n=283).

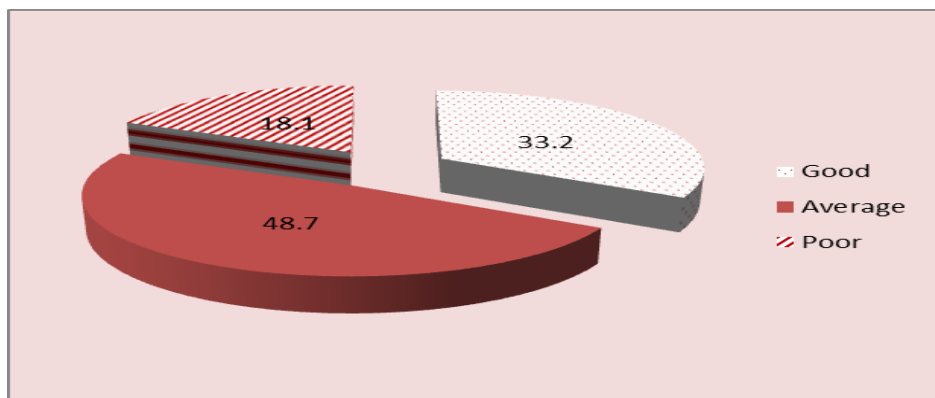


Figure (2): Shows that 48.7% of students had average knowledge about tramadol while 18.1% of students had poor knowledge about tramadol and 33.2% of students had a good knowledge about tramadol.

Figure (3): Frequency distribution of studied students regarding total attitude score (n=283).

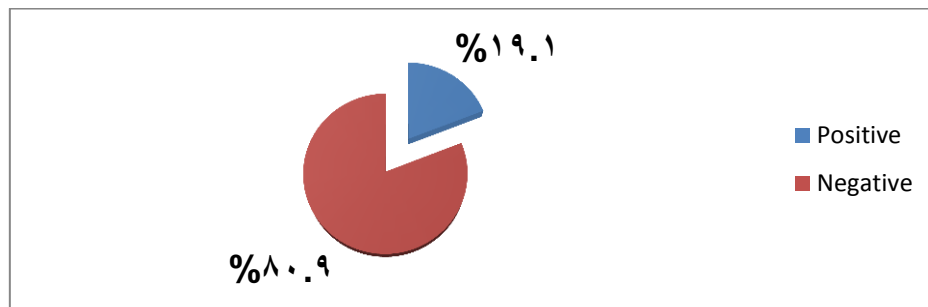


Figure (3): Displays that 80.9% of students had negative attitude toward tramadol where 19.1% of students had positive attitude toward tramadol.

Procedure

- 1) Official letters was obtained from Dean of Faculty of Nursing to Benha University. Other official letters was taken from Dean of Faculty of Nursing to each Faculty was selected concerned the title, objectives, tools and the study technique was illustrated to gain their cooperation which is needed to allow the investigator to meet the Benha University students.
- 2) Data were collected through three months from beginning of March 2017 to the end of May 2017 the investigator visited the selected universities (from 10 am to 12 pm), three days/week (Sundays, Thursdays, Tuesdays) to collect students data. The students were met in lecture hall

after their lecture. The field work was performed in the following sequence: Study aim and importance was clarified to students to gain their support and co-operation. The investigator explained the study purpose to each sample. The average time needed for the sheet was around (20-30 minutes), and the hand out was distributed for each students after collect the data.

- 3) Research explained the purpose and data collection methods for students, the average time needed for the sheet was around 20- 30 minutes and warning about non-medical use of tramadol were distributed between each student after data collection

Discussion

According to students total knowledge score the present study revealed that;

more than one third of students had good knowledge toward non- medical use of tramadol. This finding agreed with Heydarabadi et al. (2014), who reported that; one third of students had good knowledge toward drug use, while This finding disagreed with the study about "psychoactive substances use and associated factors among Axum University students" conducted in North Ethiopia by Gebreslassie et al., (2013), who reported that; more than half of students had good knowledge toward tramadol. This finding may be due to the subjects of study were students of medical sciences therefore they were aware of the consequences of drug abuse.

It was clear that, more than half of father's students had less than secondary education and more than one third of mother's students who tried tramadol had secondary education

The result showed that; there was a positive association among student's total knowledge and total attitude with their characteristics. This finding disagreed with a study about "prevalence and factor associated with the use of illicit substances among male university students" conducted in Kuwait by Ghoreishi, (2017), who reported that; more than two third of students had good knowledge and negative attitude regarding tramadol abuse. This finding may be due to

knowledge play important role for improving attitude and effect on student's prevention from tramadol use.

According to students total attitude score, the present study revealed that; more than three quarters of students had positive attitude toward tramadol .This finding was disagreed with the study about "substance use and its predictor among undergraduate medical students" conducted in Addis Ababa University in Ethiopia by Deressa & Azazh (2011), who reported that; more than half of students had negative attitude toward substances abuse. This may be due to difference in culture.

Conclusion

The majority of students didn't tried tramadol before, and more than three quarters of students had well psychological status without any distress. Most of students were healthy, and more than one third of students had good total knowledge toward non-medical use of tramadol, although more than three quarters of students had negative attitude toward non-medical use of tramadol.

Also the results showed that; there were statistically significant relationship between tramadol trial and family general characteristics in father and mother education, monthly income, but

there were no significant relationship between tramadol trial and general characteristics in residence place. There was a positive correlation between total student's knowledge and total attitude.

Recommendation

- 1) Health educational programs for students regarding non-medical use, side effects, precaution and prevention of tramadol.
- 2) Disseminate boosters in all Faculties to increase awareness regarding tramadol abuse
- 3) Further studied "educational health programs for university students regarding tramadol abuse".
- 4) Further studied need to be focusing on non-medical use of tramadol in Egypt to prevent our students from addiction.

References

- Atwoli L., Mungla P., Ndung'u M., Kinotik L., & Ogote M. (2011): Prevalence of substances use among college students in Eldoret, Westren Kenya. *BMC*, 11(1): p.34.
- Bajwa H., Aturki A., Dawas A., Behbehandi M., Almutairi A., and Almohmoud S. (2013): prevalence and factor associated with the use of illicit substances among male university students in Kuwait. *Medical principles and practice*, 22(5): pp.458-463. Accessed on 21/2/2017.
- Bassiony M., Salah El-Deen G., Yousef U., Raya Y., and Abdel-Ghani M. (2015): Adolescents tramadol use and abuse in Egypt, the *American journal of drug and alcohol abuse*, 41(3) pp.206-211. Accessed on 15/1/2018.
- Deressa W., and Azazh A. (2011): Substance use and its predict among undergraduate medical students of Addis Ababa University in Ethiopia, *BMC Public Health*, (11): p.660. Accessed on 13/2/2017.
- Fathi Y., Bashrian S., Barati M., and Hazavei S. (2012): Tramadol abuse status and related factors among three college students in Hamadan. *Sci J Hamadan Uni Med Sci*, 19(3):pp.9-23. Accessed on 17/5/2017.
- Fudin H., Babin J., Hansen A., and Ray S. (2017): Drugs of abuse. In *side effects of drugs annual*. (39), pp. 31-55. accessed on 25/1/2018.
- Gebreslassie M., Feleke A., and Melese T. (2013): Psychoactive substances use and associated factors among Axum university students, North Ethiopia, *Bio medical central public health*, (13):p.693. Accessed on 12/5/2017.
- Goreishi A. (2017): prevalence and factor associated with the use of illicit substances among male university students in Kuwait. *Medical principles and practice*, 22(5):pp.458-463. Accessed on 25/2/2017
- Guo L., Deng J., and Gao X. (2015): Non-medical use of prescription pain reliever among high school students in China, *BMJ open*,(7), Available at: <http://bmjopen.bmj.com> Accessed on 23/1/2018.

- Hamdi E., Gawad T., Khoweiled A., Sidrak A., Amer, D., Mamdouh R., and Loza N. (2013): Lifetime prevalence of alcohol and substance use in Egypt: a community survey. *Substance abuse*, 34(2):pp. 97-104. Accessed on 2/3/2017.
- Hammond D., Ahmed R., Yang W., Brukhalter R., and Leatherdale S. (2011): Illicit substance use among Canadian youth: trends between 2002 and 2008. *Canadian Journal of public health/revue canadienne de sante'e publique*, pp.7-12. Accessed at 25/2/2017.
- Heydarabadi A., Ramezankhani A., Berekati H., Tavassoli E., vejdani M., and Kashfi S. (2014): Knowledge and attitude of dormitory students of shahid beheshti university of medical sciences about substance abuse. *Journal of paramedical sciences*, 5(3). Accessed on 23/3/2017.
- Kanyoni M., Gishoma D., and Nadahindwa V. (2015): prevalence of psychoactive substance use among youth in Rwanda. *BMC research note*.
- Lyman M. (2013): *Drugs in society: Causes, concepts, and control*. Routledge, seventh edition, chapter one the nature of drug problem pp.15-16. Available at: <http://books.google.com.eg/> accessed on 2/1/2017.
- Mahgoub R., El-Hadidy M., El Hoda M., and Atrouny M. (2016): A study of opioid dependence among Mansoura University students. *Egyptian Journal of Psychiatry*, 37(3):p.174. Accessed on 30/6/2017
- Mawaheb M., El-Galad G., Dawood A., and El-Sayed S. (2012): Drug abuse among students in (schools and colleges) in Fayoum city. MD thesis, Faculty of Medicine, Fayoum University, the Egyptian journal of community medicine.20 Accessed on 22/6/2017.
- McCabe S., Schulenberg J., O'malley P., Patrick, M., and Kloska D. (2014): Non-medical use of prescription opioids during the transition to adulthood: a multi-cohort national longitudinal study. *Addiction*, 109(1), 102-110. 8(1):p.19 Accessed on 25/2/2017.
- Miotto K., Cho A., Khalil M., Blanco K., Sasaki J., and Rawson R. (2017): Trends in tramadol: pharmacology, metabolism, and misuse. *Anesthesia & Analgesia*, 124(1): pp.44-51. Accessed on 3/2/2018.
- Osman T., Victor C., Abdulmoneim A., Mohammed H., Abdalla F., Ahmed A., and Mohammed W. (2016): Epidemiology of substance use among university students in Sudan. *Journal of addiction*; 2(47):pp.61-64 Accessed on 24/6/2017.