جامعة نايف العربية للعلوم الأمنية
Naif Arab University for Security Sciences

Naif Arab University for Security Sciences
Arab Journal of Forensic Sciences & Forensic Medicine
www.nauss.edu.sa
http://ajfsfm.nauss.edu.sa

الجمعية العربية لعلوم الأدلة الجنائية والطب الشرعي
Arab Society for Forensic Sciences and Forensic Medicine

Original Article

Alcohol and Substance Abuse in Riyadh, Saudi Arabia: A Hospital-based Survey

دراسة استقصائية قائمة على المستشفيات لإدمان الكحول والمخدرات في مدينة الرياض، في المملكة العربية السعودية.

Abdulaziz A. Aldlgan [1,*], Israa J. Hakeem [2], Mohammed N. Alandes [3], Majidah M. Alfahmi [4]

[1,*] *Security Forces Hospital, Ministry of Interior, Riyadh, Saudi Arabia.*
[2] *Biochemistry Department, Faculty of Science, University of Jeddah, Saudi Arabia.*
[3] *Medical Services Department, Ministry of Interior, Riyadh, Saudi Arabia.*
[4] *Saudi Ministry of Health, Riyadh, Saudi Arabia.*

Received 18 Mar. 2019; Accepted 02 Oct. 2019; Available Online 31 Dec. 2019

Abstract

The Government of Saudi Arabia has recognized and acknowledged substance abuse as a public health problem. As a result, specialized hospitals have been established in many regions to treat substance abuse.

The prevalence of substance abuse was investigated using a sample of 197 patients at Al-Amal Hospital, Riyadh, during a period of four months starting from May 2018 to August in 2018. The mean age of patients in the study was 26.5 years. The proportion of patients based on substances abused were as follows: amphetamines (30.9%), cannabis (30.1%), ethyl alcohol (22.9%), alprazolam (5.1%), clonazepam (2.1%), tramadol (2.1%), heroin (1.3%), cocaine (0.4%) and pregabalin (0.4%). Patients who used a combination of two or more substances constituted 4.7%. The mean duration of abuse was 8.8 years for all the patients. Health organizations should raise awareness about these drugs and the risks associated with their abuse, especially among young people. By conducting more research and developing a better understanding of the problem, treatment could be made more effective.

Keywords: *Forensic science, Alcohol, Substance abuse, Hospital, Saudi Arabia*

المستخلص

بينت وأقرت حكومة المملكة العربية السعودية بأن إدمان وتعاطي المخدرات يعتبر مشكلة صحية تواجه المجتمع. ونتيجة لذلك، أنشئت مستشفيات متخصصة في العديد من المناطق لمعالجة تعاطي المخدرات.

أجريت الدراسة حول مدى انتشار تعاطي المخدرات باستخدام عينة من ١٩٧ مريضاً في مستشفى الأمل بالرياض خلال فترة أربعة أشهر بدأت من أيار/مايو إلى أب/أغسطس في ٢٠١٨م. وقد تبين أن متوسط عمر المرضى في الدراسة ٢٦,٥ سنة. وكانت نسبة المرضى الذين يعالجون من تعاطي المخدرات على النحو التالي: الأمفيتامينات ٣٠,٩٪، القنب ٣٠,١٪، الكحول ٢٢,٩٪، البرازولام ٥,١ ٪، كلونازيبام ٢,١ ٪، ترامادول ٢,١ ٪، الهيروين ١,٣ ٪، الكوكايين ٠,٤ ٪، وبريغابالين ٠,٤٪.

كانت نسبة المرضى الذين استخدموا مزيجاً من اثنين أو أكثر من المواد تساوي ٤,٧٪. وكان متوسط مدة التعاطي ٨,٨ سنة لجميع المرضى.

وينبغي للمنظمات الصحية أن تذكي عملية الوعي بهذه العقاقير والمخاطر المرتبطة بالإدمان عليها، ولا سيما بين الشباب. كما يمكن جعل العلاج أكثر فعالية من خلال إجراء المزيد من البحوث وتطوير فهم أفضل للمشكلة.

الكلمات المفتاحية: علوم الأدلة الجنائية، الكحول، تعاطي المخدرات، مستشفى، المملكة العربية السعودية.

* Corresponding Author: **Abdulaziz A. Aldlgan**
Email: aziz5aziz@hotmail.com

doi: 10.26735/16586794.2019.032

1. Introduction

Saudi Arabia is well known to be an Islamic country that strictly follows and respects Islamic law. In Islam, it is forbidden to use ethyl alcohol and illicit drugs. However, some studies have revealed that drug abuse is more common in Saudi society than was previously thought [1]. Thus, it is important to study and determine the prevalence of illicit drug abuse and addiction in Saudi Arabia to help deal with this problem effectively. Previous studies could be useful to determine the scale of the problem in order to prioritize resources for prevention and treatment.

The exact prevalence of illicit drugs in Saudi Arabia is unknown, because of the absence of epidemiological population-based studies [1, 2]. However, it could be estimated indirectly by using different sources such as official statistics of illicit drug-related crimes, illicit drug seizures, illicit drug-related deaths, and treatment data [3].

In 2016, according to the United Nations Office on Drugs and Crime (UNODC) [4], 65% of amphetamine seizures worldwide were in the Near and Middle East and South-West Asia. Eighteen tons (39%) of these seizures were in Saudi Arabia. The use of drugs has a direct impact on non-drug-related crimes, for example theft of money and property which is used to purchase drugs, crimes such as child abuse, and driving under the influence of drugs [5]. Between 2010 and 2012, 60% of crimes in Saudi Arabia were drug related and 119,000 individuals were arrested [6].

Statistics from hospitals and psychiatric clinics show an increase in the number of patients seeking treatment for drugs and alcohol related conditions [7]. There are studies that have been conducted in Saudi Arabia which investigated the prevalence of drug abuse and associated clinical characteristics and socio-demographics among drug abusers and their treatment settings [7-17]. These papers report substance abuse based on patient interviews and indicate the prevalence of ethyl alcohol, amphetamines, cannabis and heroin abuse, which ranged from 9% to 70.3%, 10% to 73.3%, 1% to 60%, and 6.6% to 83.6%, respectively. However, these studies have several limitations such as having small sample sizes and including only male participants from specific regions of Saudi Arabia. Moreover, it is important to appreciate the dynamic and changeable nature of the problem, highlighting the need for in-depth and regular surveys. This would help understand the scope of the problem and would help formulate holistic solutions.

The Government in Saudi Arabia is trying to help drug abusers by providing preventive and rehabilitative programmes, indicating that key decision makers in the society are responding to the need for professional assistance. The purpose of the study was to find out the current situation with regard to the frequency and type of drugs abused.

2. Methods

Ethics approval for this study was provided by the Ethics Committee at the Security Forces Hospital and was also approved by Al-Amal Hospital.

Studies based on surveys allow the collection of information from a large sample of individuals within a relatively short duration of time and with the least expenditure. However, this process was not easy because in order to have valid and reliable results, careful planning, implementation, and analysis were required.

2.1 Planning

This study examined the prevalence of drug abuse and demographic characteristics of patients admitted to Al-Amal Hospital, Riyadh. A self-administered questionnaire was used to collect data. This method was chosen because of the sensitive nature of the topic; only a questionnaire can provide more anonymity than other techniques.

2.2 Identifying the population and sample

The estimation of sample size is an important part of survey study design because inadequate, excessive or inappropriate sample sizes might adversely influence the ac-

curacy and quality of research [18]. Inadequate sample size does not allow reliable insights and excessive sample size will lead to a waste of time and resources. The number of drug abusers in Saudi Arabia is not clear. The patients in Al-Amal Hospital in Riyadh undergo treatment for problems related to drugs of abuse and come from different walks of life; therefore, all patients in Al-Amal Hospital were considered representative of the target population.

2.3 Constructing the questionnaire

The questionnaire carried an introductory message together with the questions. It was a two-part questionnaire. The first part was used to collect demographic variables of the patients, e.g. sex, city, age, education, employment, income, marital status, number of siblings and smoking habits. The second part gathered the history of the patient's substance abuse e.g. substances abused, age at starting, reactions of the patient and his family, persons who influenced the start of abuse, the way of admission. A pilot study was conducted to detect any flaws in the questionnaire. The questionnaire was distributed to 20 academics. The feedback from the pilot questionnaire was useful and helped pinpoint flaws within the first draft.

2.4 Conducting the survey

The survey was conducted from May 2018 to August 2018 in Al-Amal Hospital. An information sheet was given to all participants, and they were asked if they would like to take part in the study. After they read the information and agreed to participate, the consent form was provided to sign, and the survey was completed.

2.5 Data analysis

The Statistical Package for the Social Sciences (SPSS) was used to analyse the data. Statistical significance was tested using a Chi-square test. This test is generally employed to investigate relationships between variables. In the current scenario, it was used to figure out if different respondents gave significantly different survey responses. The p-value was considered significant if it was less than 0.05.

3. Results

The missing data from participants was negligible, accounting for only 1.1%. Female participants were excluded based on instructions given by the Al-Amal Hospital. It was found that almost two thirds (65.3%) of patients were living in Riyadh, whereas approximately 18% were living in the south of Saudi Arabia. In terms of age, patients ranged from 15 to 57 years with the mean age calculated as 26.5 years. It was observed that approximately 70% of respondents turned out to be 20-38 years of age. The mean age at first exposure was found to be 17.5 years (range 12-31 years).

One hundred and twenty-five (63.4%) of patients were educated to high school level or less, and the rest of the patients were university educated. Respondents who were employed at the time of admission were 66.9%, out of which 63.3% were employed with the government sector. 60.1% of the patients who took part in the survey came from families with fewer than five children. Nearly half (53.2%) of patients were married.

It was noted that among 197 patients, 59.7% had discussed their addiction problems with their family members. Patients who came to the hospital by themselves were found to be 61.7%, whereas 29.5% came with a family member. 6.6% came to the hospital accompanied by the police.

Smokers constituted 70.9%. Amphetamines were used by 30.9%, cannabis 30.1%, ethyl alcohol 22.9%, alprazolam 5.1%, clonazepam 2.1%, tramadol 2.1%, heroin 1.3%, cocaine 0.4% and pregabalin by 0.4%. Single substance abuse was seen in 95.3%, whereas the remaining 4.7% used a combination of two or more substances (Table-1). One to thirty-nine years was the duration of abuse for all patients, while the mean duration was found to be 8.77 years.

Table 1- *Type, percentage of drug abusers, and duration of substance abuse.*

Abused substance	%	Mean duration of abuse (years)
Amphetamines	30.9	14.8
Cannabis	30.1	13.9
Ethyl alcohol	22.9	15.4
Alprazolam	5.1	3.5
Clonazepam	2.1	3.9
Tramadol	2.1	4.5
Heroin	1.3	9.1
Cocaine	0.4	8.5
Pregabalin	0.4	3.7
Multiple drugs	4.7	10.4
Total	**100**	**8.77**

4. Discussion

The mean age of patients (26.5 years), was found to be lower than the mean age given in previous studies [7, 9, 10, 12]. The mean duration of drug abuse was 8.77 years, which was longer than the mean duration found by researchers in previous studies [9, 12]. The most abused substances in this study were found to be amphetamines, cannabis and ethyl alcohol. The duration of abuse was found to be longest for ethyl alcohol and amphetamines, followed by cannabis and heroin.

Amphetamines were found to be the most abused substances. These findings were compatible with several official reports. For example, according to UNODC [19], in the Near and Middle East and South-West Asia, more than 12 tons of amphetamine seizure were reported in 2012, representing 56% of global seizures. The largest seizure was reported from Saudi Arabia.

According to the General Directorate for Narcotic Control (GDNC), between 2010 and 2012, around 181 million captagon tablets (fenetylline: a combination of amphetamine and theophylline) were seized in Saudi Arabia [6].

Surprisingly, the heroin abusers in this study (1.3%) were noted to be less than found among drug-abusers in earlier studies [7,9]. This is perhaps due to the scarce availability of the drug and/or the emergence of new psychoactive substances (NPS). The abuse of more than one drug (poly-drug intoxication) among 4.7% of participants was less than found in previous studies [7,9].

The number of substance abusers showed significant increase among unemployed patients ($p<0.02$) and among those who turned to abuse due to peer pressure ($p < 0.04$). These findings were similar to the many studies around the world [21].

5. Limitations

In spite of the fact that great care was taken to make sure that the present study was as accurate as possible, several limitations might have affected the accuracy. The sample size may not be representative of the whole population. Several constraints affected sample size such as time, willingness of participants to share their experiences and the sensitivity of the topic given; drugs are a taboo subject in the society. The study can be considered statistically vi-

able, but the above-mentioned factors could have limited its overall acceptability.

6. Conclusion

New drugs of abuse appear in Saudi Arabia, so it is important to realise that results of a study of this type are changeable; therefore, it is recommended to repeat the survey on a regular basis (e.g. annually) and study the changes. Economic and social development in Saudi Arabia during the last few years might have had an effect on the increase in the number of drug abusers.

Conflict of Interest

Nill

References

1. Bassiony, M., Substance use disorders in Saudi Arabia: review article. J Subst Use. 2013. 18(6): 450-466. https://doi.org/10.3109/14659891.2011.606349
2. AlMarri, T. and Oei, T., Alcohol and substance use in the Arabian Gulf region: a review. Int J Psychol. 2009. 44(3): 222-33.https://doi.org/10.1080/00207590801888752
3. Overseas Security Advisory Council- U. S. Department of State, Saudi Arabia 2015 Crime and Safety Report Bureau of Diplomatic Security 2015. [Accessed 03 September 2019]; Available from https://www.osac.gov/pages/ContentReportDetails.aspx?cid=17707
4. United Nations Office on Drugs and Crime, World Drug Report 2018. Global Overview of Drug Demand and Supply. [Accessed 19 Febraury 2019]; Available from: https://www.unodc.org/wdr2018/prelaunch/WDR18_Booklet_2_GLOBAL.pdf
5. Office of Justice Programs- U.S. Department of Justice, Promising Strategies to Reduce Substance Abuse. 2000. [Accessed 27 December 2018]; Available from: https://www.ncjrs.gov/pdffiles1/ojp/183152.pdf
6. Council of the European Union, Regional Report on the Near East. 2013. [Accessed 19 November 2018]; Available from: https://eeas.europa.eu/cfsp/docs/st14924_en.pdf
7. Osman, A., Substance abuse among patients attending a psychiatric hospital in Jeddah: A descriptive study. Ann Saudi Med. 1992. 12(3): 289-293. https://doi.org/10.5144/0256-4947.1992.289
8. Iqbal, N., Substance dependence. A hospital-based survey. Saudi Med J. 2000. 21(1): 51-57.
9. Al Nahedh, N., Relapse among substance-abuse patients in Riyadh, Saudi Arabia. 1999.
10. Qureshi, N. and Al-Habeeb, T., Sociodemographic Parameters and Clinical Pattern of Drug Abuse in Al-Qassim Region--Saudi Arabia. Arab J Psychiatr. 2000. 11(1): 10-21.
11. Al-Umran, K., Mahgoub, O. and Qurashi, N., Volatile substance abuse among school students of eastern Saudi Arabia. Ann Saudi Med. 1993. 13(6): 520-524. https://doi.org/10.5144/0256-4947.1993.520
12. Hafeiz, H., Socio-demographic correlates and pattern of drug abuse in Eastern Saudi Arabia. Drug Alcohol Depend. 1995. 38(3): 255-259. https://doi.org/10.1016/0376-8716(95)90001-X
13. Iqbal, N., Problems with inpatient drug users in Jeddah. Ann Saudi Med. 2001. 21(3/4): 196-200. https://doi.org/10.5144/0256-4947.2001.196
14. Bassiony, M., Stages of progression in drug abuse involvement across generations in Jeddah, Saudi Arabia. Neuroscience. 2008. 13: 37-40.
15. Ageely, H., Prevalence of Khat chewing in college and secondary (high) school students of Jazan region, Saudi Arabia. Harm Reduct J. 2009. 6(11): 1477-7517. https://doi.org/10.1186/1477-7517-6-11
16. Abalkhail, B., Social status, health status and therapy response in heroin addicts. E Mediterr Health J. 2001. 7(3).
17. Hafeiz, H., Socio-demographic correlates and pattern of drug abuse in Eastern Saudi Arabia. Drug Alcohol Depend. 1995. 38(3): 255-259. https://doi.org/10.1016/0376-8716(95)90001-X
18. Kotrlik, J. and Higgins, C., Organizational research: Deter-

mining appropriate sample size in survey research appropriate sample size in survey research. Information Technology, Learning, and Performance J. 2001. 19(1): 43.

19. United Nations Office on Drugs and Crime, World Drug Report 2014. [Accessed 19 December 2018]; Available from https://www.unodc.org/documents/wdr2014/World_Drug_Report_2014_web.pdf
20. Santor, D., Messervey, D. and Kusumakar V., Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abus. J Youth Adolescence. 2000. 29 (2). https://doi.org/10.1023/A:1005152515264
21. United Nations Office on Drugs and Crime, ANALYSIS OF DRUG MARKETS Opiates, cocaine, cannabis, synthetic drugs. [Accessed 02 November 2018]; Available from: https://www.unodc.org/wdr2018/prelaunch/WDR18_Booklet_3_DRUG_MARKETS.pdf