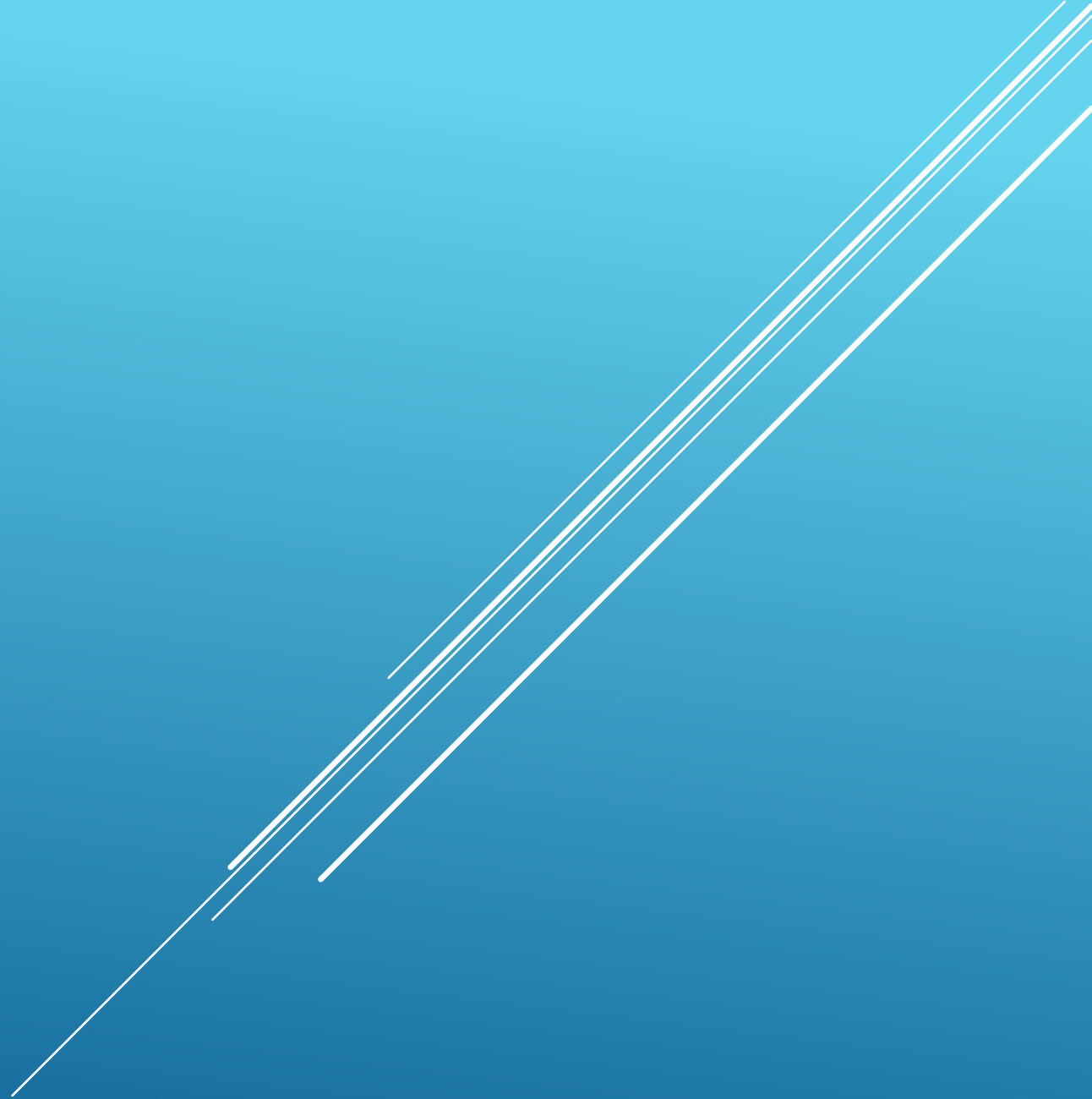


SUD



Science 1997; 278:45

FRONTIERS IN NEUROSCIENCE: THE SCIENCE OF SUBSTANCE ABUSE

## **Addiction Is a Brain Disease, and It Matters**

Alan I. Leshner



# ALCOHOL AND DRUG ABUSE IN POST-CONFLICT IRAQ

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## ABSTRACT

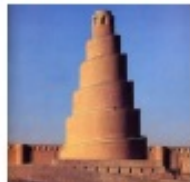
The 2006-2007 Iraqi Mental Health survey (IMHS) reported surprisingly low prevalence of alcohol and drug abuse in the Iraqi population, since then anecdotal and clinical reports have suggested that abuse of alcohol and drugs in Iraq has increased. To investigate this possibility, we conducted a survey of drug and drug abuse at youth centers in Baghdad. A total of 2678 survey respondents were randomly selected from youth centers located in different sectors in Baghdad. A fully structured questionnaire was used to generate diagnosis according to DSM-IV-TR. The interviewers were youth center staff who had trained by psychiatrists. Age, age of onset, sex, education, education of the parents, and marital status were also assessed. Number of rooms and persons in the household were included in the questionnaire to estimate the crowding index. Data collection was carried out on Dec. 2009. High rates of alcohol and drug abuse were recorded. A tendency in reduction in age of onset in alcohol and drugs was observed. High household density and low educational level are important factors in alcohol and drug abuse.

## INTRODUCTION

Substance use disorders (SUDs) are chronic relapsing conditions<sup>1</sup>. Formally diagnosed by signs and symptoms such as repeated failure to meet commitments, use in physically dangerous circumstances, legal problems due to use, and recurrent personal conflict due to use need to be found in a 12-month period<sup>2</sup>.

A number of risk factors for the development of SUDs have been established including age, family history of a SUDs, ethnicity and psychiatric disorders<sup>3,4</sup>. In addition, potentially traumatic events such as sexual abuse, physical abuse, as well as post-traumatic stress disorder (PTSD), consistently have been shown to confer increased risk for SUD<sup>5,6</sup>.

It is thus not surprising that trauma of war is a risk factor for SUD<sup>7-10</sup>. Iraqis faced Gulf wars in the last 3 decades and a widespread violence post 2003 Gulf war<sup>11,12</sup>. One would therefore expect a high rate of substance abuse in Iraq, but Iraq Mental Health survey (IMHS) reported prevalence of < 1% for both alcohol and drug abuse disorders. Since that time there have been growing anecdotal and clinical reports of increasing abuse of drugs in the population<sup>13</sup>. Therefore, updated information was sought using a survey carried out in Baghdad, Iraq.



## METHODS

A total of 2678 respondents were randomly selected to participate in this survey from youth centers in Baghdad (Al-Sader city, Al-Rasheed side and Al-Karshi side). A fully structured by administrative interview was used that generates diagnosis according to the definitions and criteria of DSM-IV diagnostic system. At least one of 4 criteria (legal, interpersonal, and social problems and hazardous use) was required to achieve diagnosis of alcohol or drug abuse. Alcohol and other drug use disorders were diagnosed in the recognition that abuse often is a stage in the progression to dependence. Dependence was not diagnosed in this survey. Retrospective age-of-onset (AOO) reports were obtained in the questionnaire designed to avoid the implausible response pattern. Independent variables included age, sex, and education (Illiterate, primary, intermediate, secondary, university graduate and postgraduate), crowding index (measured as persons in the household / number of rooms in the house), and marital status. Lifetime prevalence was estimated as the proportion of the respondents who had ever met criteria for alcohol or drug use disorder up to their age at interview. Chi-square was used to examine the association between lifetime prevalence (dependent variable) and age, crowding index, and education (independent variables). P value < 0.05 considered as significant.



## RESULTS

One thousand respondents were selected from each sector of Baghdad (Al-Rasheed, Al-Karshi and Sader city). They aged 11 to > 35 years with male to female ratio of 5:1. The response rate was 89.3%. No alcohol and drug abuse were reported among females. The reported figures were among males only. Lifetime prevalence were for alcohol and drug abuse 447 (17.8%) and 188 (7.02%), respectively.

Out of those below 18 years of age, 15 (2.1%) reported alcohol abuse, and 8 (1.1%) showed drug abuse. Lifetime prevalence of alcohol and drug abuse were significantly associated with age ( $\chi^2=36.7$ , d.f=4,  $p=0.0001$  and  $\chi^2=13.7$ , d.f=4,  $p=0.0001$ , respectively). In alcohol and drug abuse, a peak of lifetime prevalence noticed at 24-29 years.

AOO of alcohol and drug abuse were 21.7 ± 3.6 and 22.8 ± 5.8 years, respectively. Peak of AOO in both abuses was at 17 - 24 years (Fig.1).

Association of crowding index with alcohol and drug abuse is shown in Table 3. Out of those reported alcohol abuse, there were 282 (63.1%) had high crowding index. Alcohol abuse was significantly associated with high crowding index ( $\chi^2=4.9$ , d.f=1,  $p=0.026$ ). Drug abuse was not significantly associated with crowding index ( $\chi^2=1.8$ , d.f=1,  $p=0.17$ ).

TABLE 1. AGE AND SEX DISTRIBUTION OF ALCOHOL AND SUBSTANCE ABUSE

Variable	Alcohol abuse		Substance abuse	
	No.	%	No.	%
Age				
< 18	15	2.1	8	1.1
18 - 23	86	10.7	39	4.9
24 - 29	154	28.2	63	11.4
30 - 35	99	29.5	55	16.3
>35	93	34.4	23	8.6
Total	447	17.8	188	7.02
	$\chi^2=36.7$ , d.f=4, $p=0.0001$		$\chi^2=13.7$ , d.f=4, $p=0.0001$	

This study revealed no alcohol and drug abuse among females which may be attributed to the fact that females were frightened to report such abuse. The sample was drawn from youth centers which in turn were politically dominated by militia<sup>14</sup>. Stigma may have also contributed to this finding.

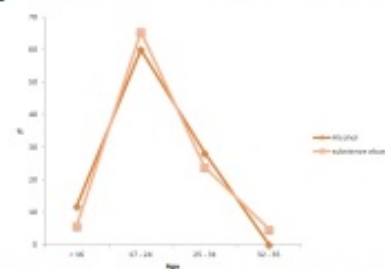
TABLE 2. ALCOHOL AND SUBSTANCE ABUSE ACCORDING TO OWN EDUCATION

Education	Alcohol abuse		Substance abuse	
	No.	%	No.	%
Illiterate	59	73.7	8	10.0
Primary	95	26.02	61	16.7
Intermediate	69	10.7	39	6.0
Secondary	72	8.5	15	1.8
Institute	77	23.1	49	14.6
Graduate	68	19.2	16	4.5
postgraduate	7	12.9	0	0.0
	$\chi^2=26.6$ , d.f=6, $p=0.001$		$\chi^2=16.3$ , d.f=6, $p=0.012$	

Fifty nine (73.7%) of illiterate respondents were alcohol abusers. Sixty nine (15.5%) of illiterates and primary school education were drug abusers. Alcohol and drug abuse prevalence was significantly with education levels ( $\chi^2=26.6$ , d.f=6,  $p=0.001$  and  $\chi^2=16.3$ , d.f=6,  $p=0.012$ ) (Table 2).

The observed significant association of own low education with alcohol and substance abuse is surprising on the ground of previous studies<sup>15</sup>.

FIG.1 DISTRIBUTION OF AOO IN THE STUDIED SAMPLE



In this study, AOO distributions are consistent with trends documented in literature<sup>16,17</sup>. In most countries, the period of risk for initiation of use was concentrated in the period from the mid to late teenage years. There was a slight older and more extended period of risk for alcohol and drug abuse, and in more recent cohorts, the period of risk was extended further into adulthood. In IMHS, AOO for substance related disorders was not estimated. That was because of low prevalence<sup>18</sup>.

TABLE 3. DISTRIBUTION OF CROWDING INDEX IN ALCOHOL AND SUBSTANCE ABUSE

Crowding index	Alcohol abuse		Substance abuse	
	No.	%	No.	%
>2	282	23.7	119	8.0
<2	165	11.1	69	4.6
	$\chi^2=4.9$ , d.f=1, $p=0.026$		$\chi^2=1.8$ , d.f=1, $p=0.17$	

The findings revealed that lifetime prevalence of alcohol abuse was significantly associated with crowding index i.e. high lifetime prevalence was associated with high household density. High household density has long been viewed as both an indicator of low socioeconomic status and as stressful situation of low socioeconomic status associated with high morbidity and mortality risks. Several decades of research have correlated a high crowding index with socioeconomically deprived urban communities and with range pathological health outcomes<sup>19</sup>. Socioeconomic status affects the lifetime prevalence of mental disorders<sup>20</sup>. Lifetime prevalence of drug abuse was not significantly associated with crowding index. More analyses are needed to challenge this finding.

## CONCLUSIONS

Lifetime prevalence of alcohol and drug abuse were 17.8% and 7.02%, respectively, which are much higher than that reported in IMHS<sup>14</sup> (0.9% and 0.7%, respectively). The difference could be attributed to limitations in IMHS (exclusion of internally displaced people, those who migrated out of Iraq, residents of areas deemed too dangerous, and completion of the survey during the period of ongoing violence 2006 - 2007). Quotations regarding alcohol and drug abuse are sensitive in Muslim countries such as Iraq, Muslim culture forbids the use of these substances, therefore, probably rates of alcohol and drug use were under-reported in IMHS. In Iraq stigma attached to alcohol and drug abuse was greater than that for mental disorder, especially at years of civil war<sup>21</sup> at which IMHS was carried out. That may have contributed to the low estimates in IMHS. This study was carried out at the end of 2009 after the militants control was diminished and secular social life returned to normal<sup>22</sup>. This change has brought open sale of alcohol to Baghdad. All over the Iraqi capital, liquor stores, which closed their doors in early 2006 when sectarian strife was raging, have slowly begun to reopen, which might have contributed to the high figure reported in this study.

The reported prevalence of SUD are higher than that reported from Lebanon<sup>23</sup> (1.3%). These high figures may be related to the Iraq's tragic recent history. The situation in Iraq is unique considering instability and stressful conditions for the last 3 decades (Iraq-Iranian war, invasion of Kuwait, 1991 Gulf war, sanctions, 2003 Gulf war and lastly civil war). Alcohol and drug abuse is highly correlated with PTSD and other disorders that might developed because of exposure to wars<sup>24,25</sup>. Exposure to wars and civil war in the last 3 decades might lead to high prevalence of PTSD. High prevalence of PTSD, IMHS reported low prevalence of PTSD (2.5%)<sup>14</sup>, however, other workers reported higher rate<sup>26,27</sup>. PTSD may further contribute for the reported high figures for SUD.

# Alcohol and drug abuse in post-conflict Iraq

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## Drug and Alcohol Use in Iraq: Findings of the Inaugural Iraqi Community Epidemiological Workgroup

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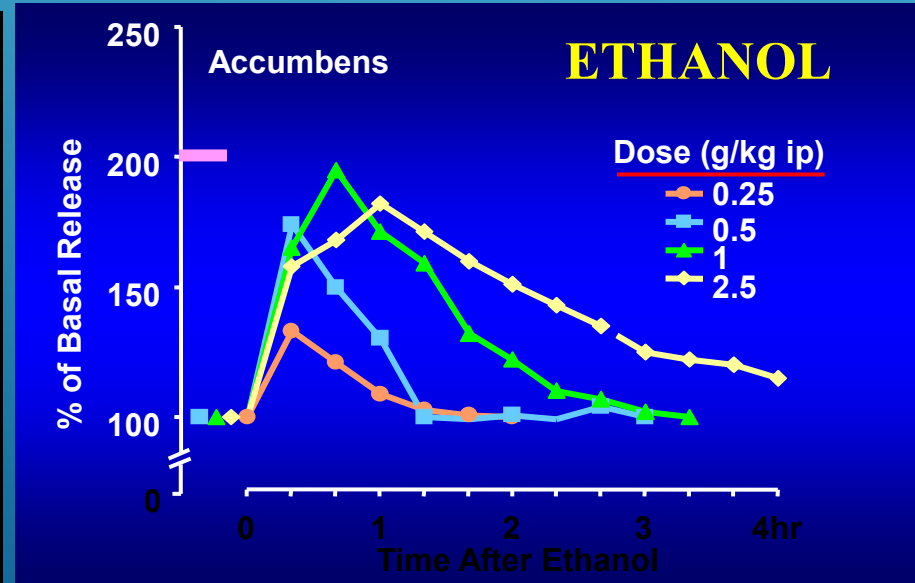
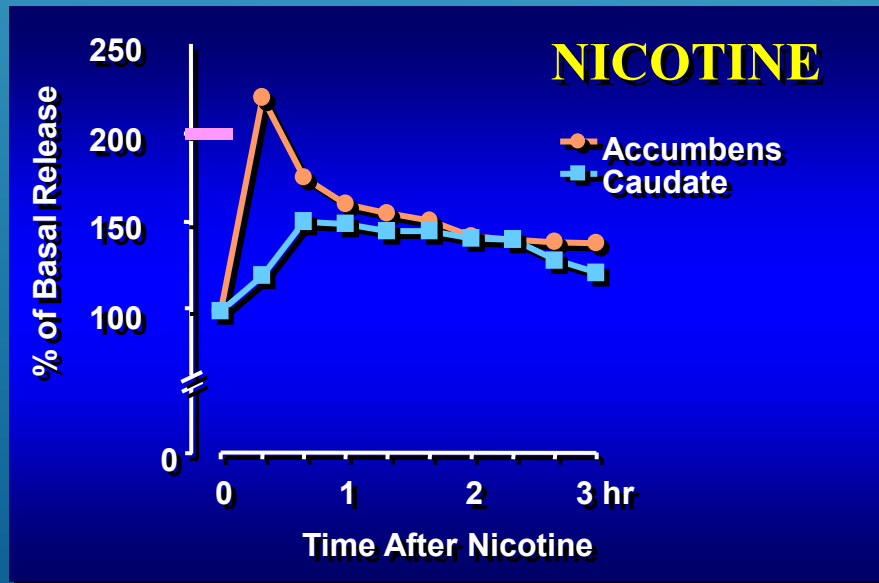
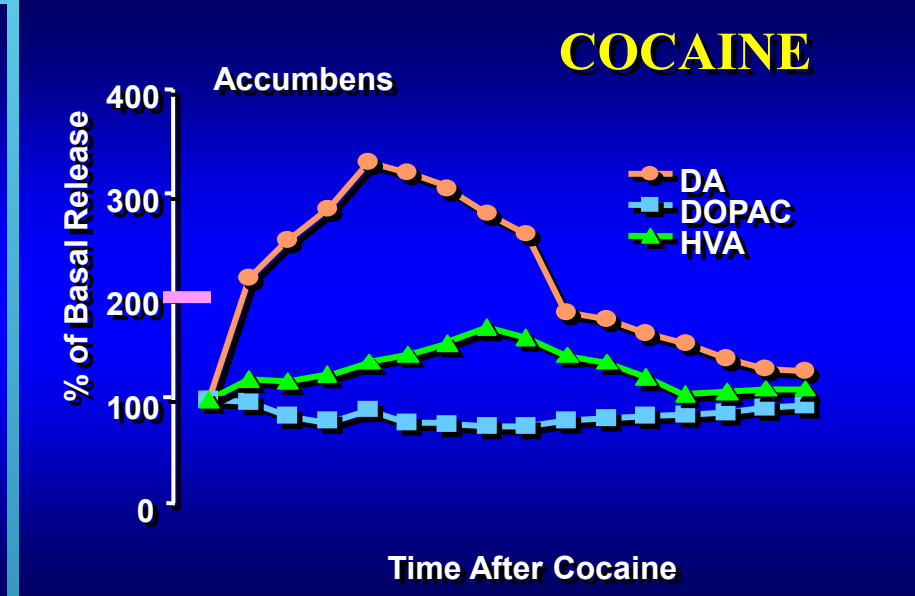
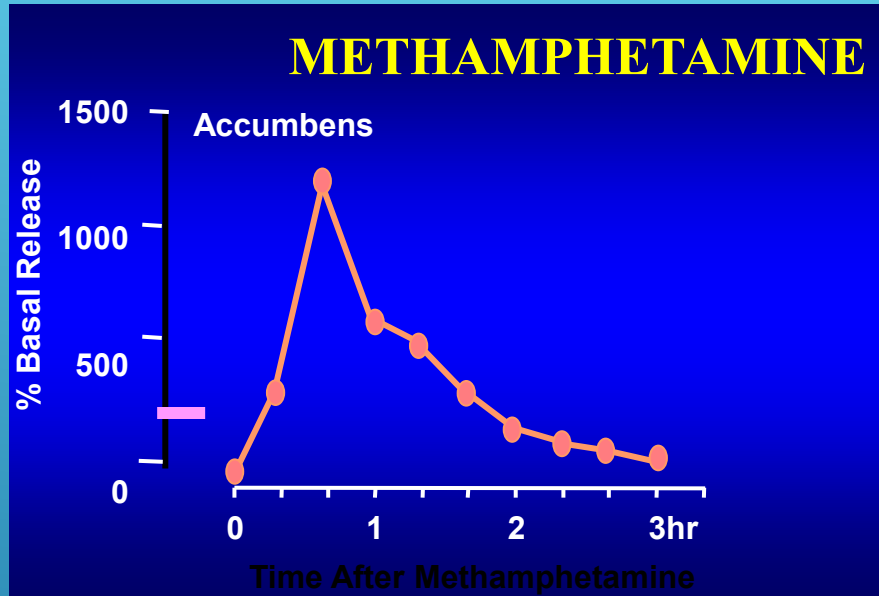
IF YOU CAN'T LEARN TO DO SOMETHING WELL,  
LEARN TO ENJOY DOING IT POORLY.

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# Effects of Drugs on Dopamine Release

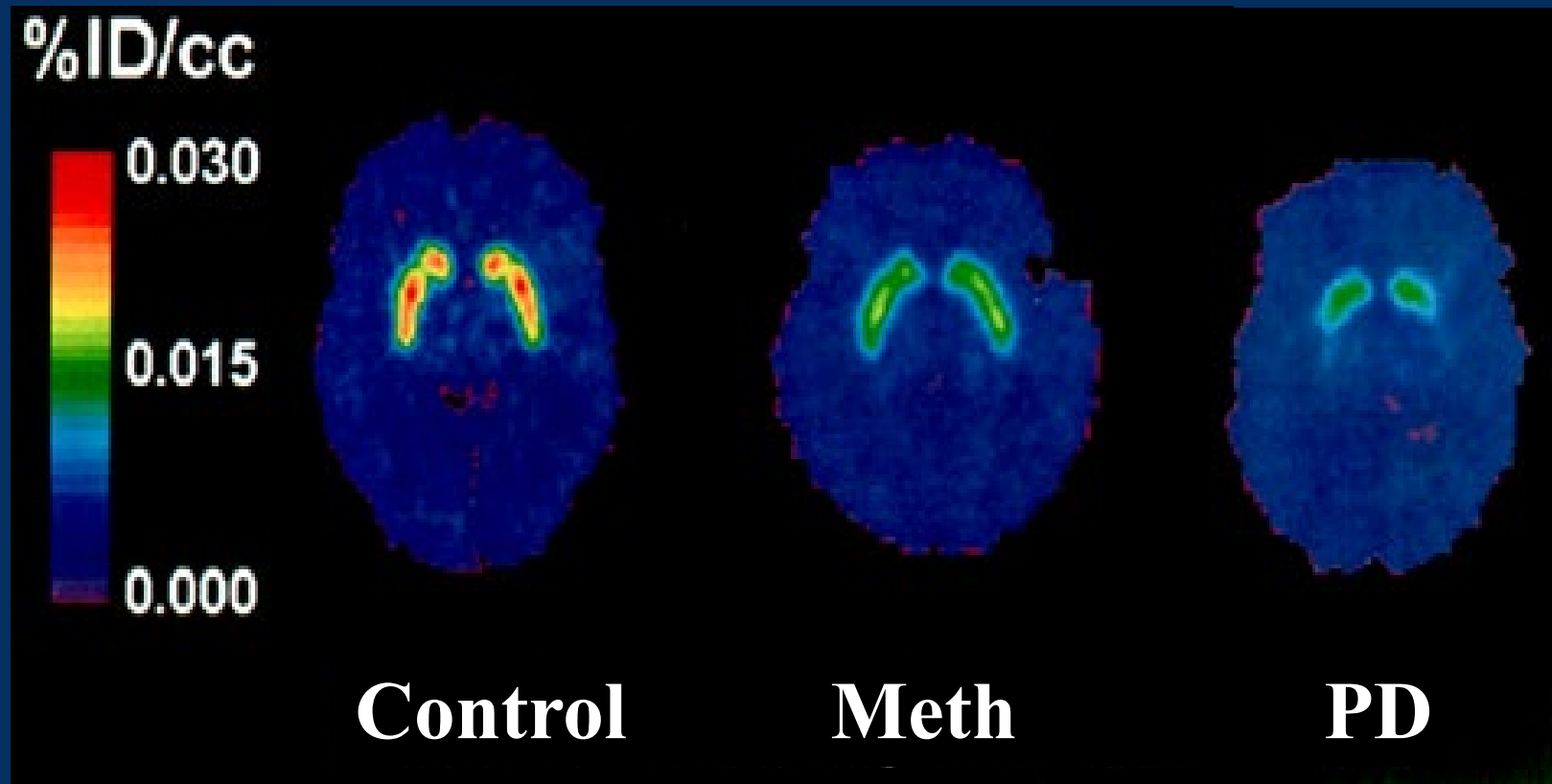


- ▶ Psychostimulants, (cocaine and amphetamines) directly increase available dopamine for post-synaptic signalling
  - ▶ increase release or
  - ▶ reduce reuptake (block dopamine agonist transporter)
- ▶ Alcohol, opioids, cannabis and nicotine increase dopamine activity indirectly
  - ▶ stimulating neurons that influence dopamine neurons
- ▶ Nicotine is atypical addictive drug
  - ▶ does not increase dopamine as much as psychostimulants and opiates

## DRUGS AND DOPAMINE

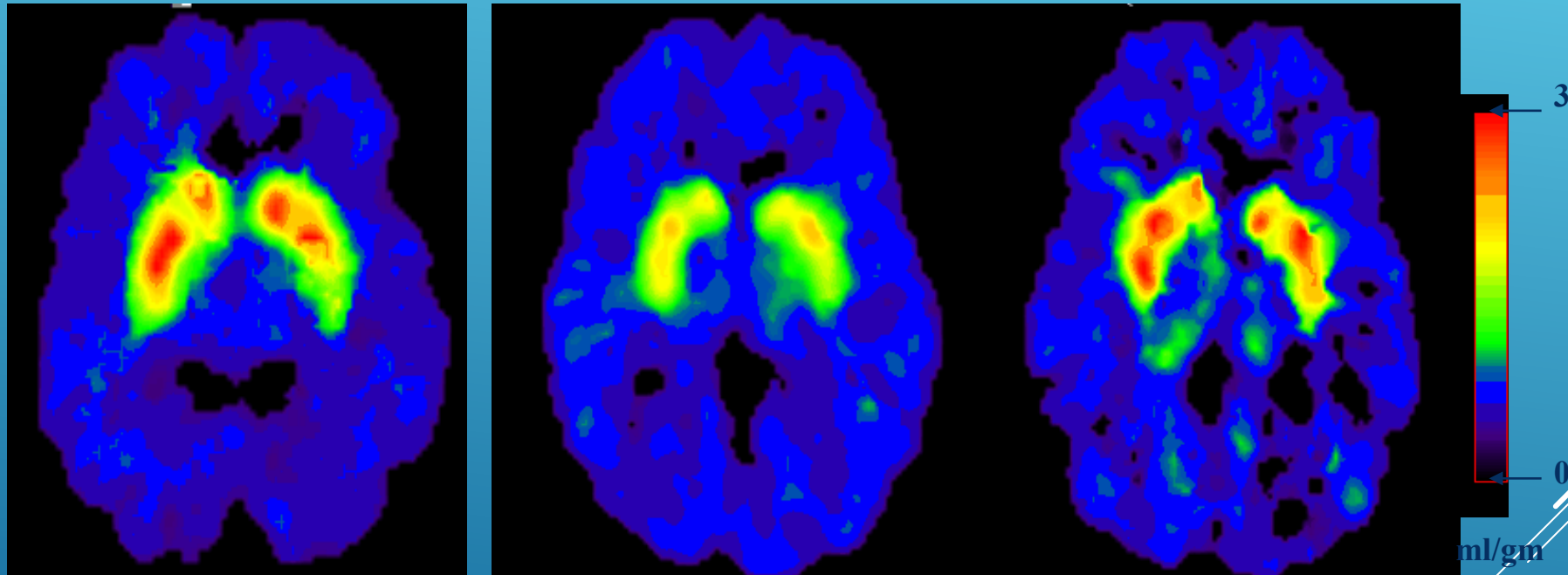


# DECREASED DOPAMINE TRANSPORTER BINDING IN METH USERS RESEMBLES THAT IN PARKINSON'S DISEASE



*Source: McCann U.D., et al., Journal of Neuroscience, 18, pp. 8417-8422, October 15, 1998.*

# Partial Recovery of Brain Dopamine Transporters in Methamphetamine (METH) Abuser After Protracted Abstinence



Normal Control

METH Abuser  
(1 month detox)

METH Abuser  
(24 months detox)

Source: Volkow, ND et al., *Journal of Neuroscience* 21, 9414-9418, 2001.

Conduct problems		Total	Mental health status					
			Flourishing		Moderate mental health		Languishing	
			No.	(%)	No.	(%)	No.	(%)
Skipping school	Yes	5289	282	(5.3)	986	(14.6)	4021	(76.0)
	No	3518	211	(6.0)	802	(22.8)	2505	(71.2)
Smoking	Smoker	3365	9	(0.27)	380	(11.3)	2976	(88.4)
	Occasional smoker*	2163	30	(1.9)	404	(18.7)	1729	(79.9)
	Never smoke	3279	454	(13.8)	1004	(30.6)	1821	(55.5)
Other conduct problems	Yes	5220	25	(0.5)	784	(15.0)	4411	(84.5)
	No	3587	468	(13.0)	1004	(28.0)	2115	(59.0)
Total		8807	493	(5.6)	1788	(20.3)	6526	(74.1)

## Psychological consequences of wars and terrorism in Baghdad, Iraq: a preliminary report

No. of events	Mental health consequences of exposure to conflict trauma											
	PTSD				Alcohol and drug abuse				Poor academic performance			
	University students		School children		University students		School children		University students		School children	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
>5	30	23.6	41	51.8	17	13.4	15	26.8	38	29.9	29	52.7
≤5	9	10.9	24	33.3	5	6.1	4	4.2	15	18.3	20	20.8
Total	39	18.7	65	43.0	22	10.5	19	12.6	53	25.4	49	32.4
	$\chi^2 = 16.2,$ d.f.=1, p=0.001		$\chi^2 = 18.9,$ d.f.=1, p=0.001		$\chi^2 = 38.3,$ d.f.=1, p=0.006		$\chi^2 = 30.3,$ d.f.=1, p=0.002		$\chi^2 = 5.2,$ d.f.=1, p=0.02		$\chi^2 = 17.5,$ d.f.=1, p=0.002	

Sri Lanka

Afghanistan

South Sudan

Somalia

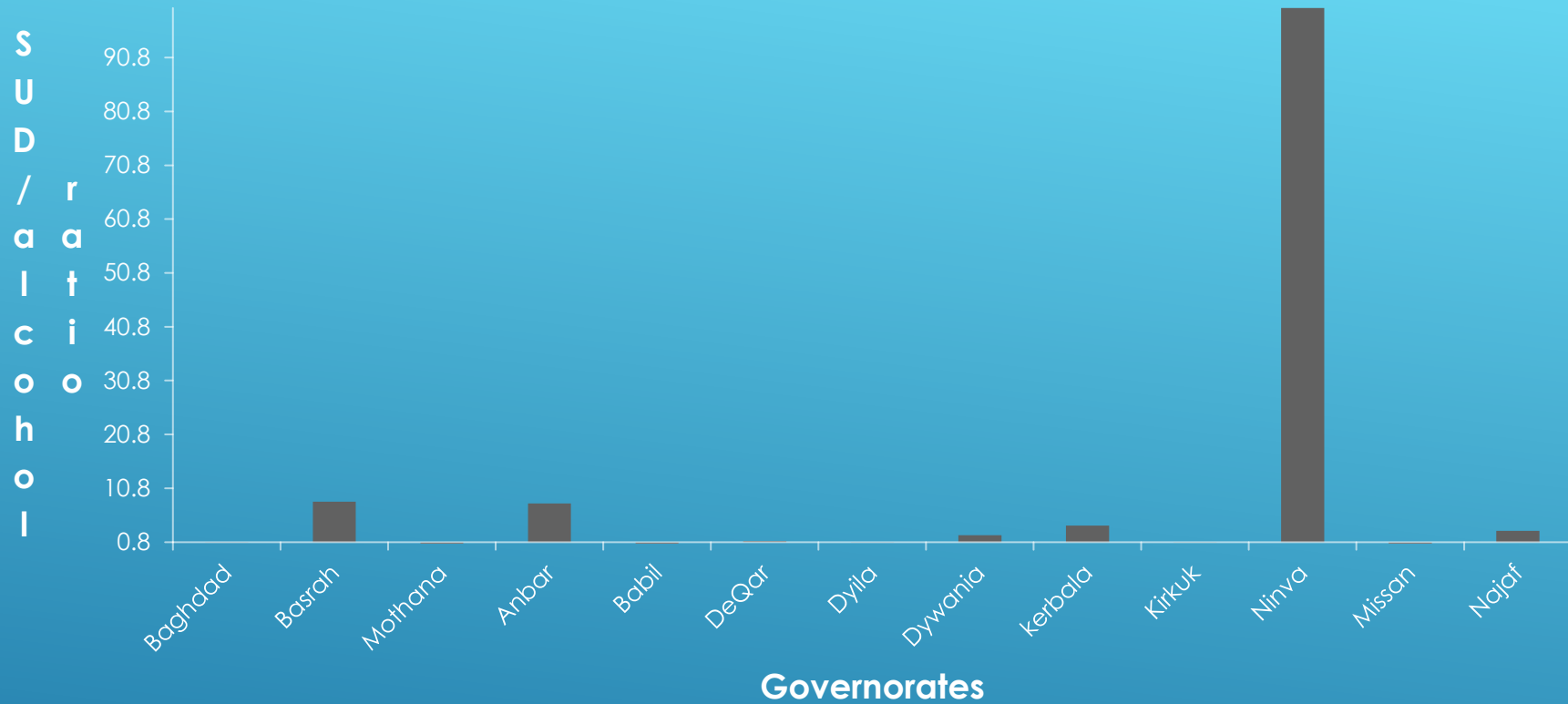
Uganda

Chechnya

Rwanda

Balkan

Cambodia



Distribution of USD /alcohol ratio in the governorates

Governorates	Outpatient SUD				Total
	< 17		> 17		
	No.	%	No.	%	
Baghdad	41	31.3	90	68.7	131
Basrah	5	1.2	42.3	98.8	428
Mothana	0	0	12	100.0	12
Anbar	0	0	16	100.0	16
Babil	0	0	52	100.0	52
DeQar	7	12.7	48	87.3	55
Dyila	2	14.3	12	85.7	14
Dywania	2	6.7	28	93.3	30
Kerbala	105	21.6	380	78.4	485
Kirkuk	1	33.3	2	66.7	3
Ninva	73	60.3	48	39.7	121
Missan	1	25	3	75	4
Najaf	3	2.6	114	97.4	117

# NEW DATA 2019

Types of substance	Lifetime	12 months	30 days
	No. (%)	No. (%)	No. (%)
Cigarette	758 (27.6)	446 (16.3)	356 (13.0)
Waterpipe	652 (23.8)	419 (15.3)	311 (11.3)
Alcohol	101 (3.7)	62 (2.3)	61 (2.2)
Un-prescribed tranquilizers or sedatives	39 (1.4)	24 (0.9)	24 (0.9)
Amphetamines	30 (1.1)	16 (0.6)	16 (0.6)
Methamphetamine	26 (0.9)	16 (0.6)	11 (0.4)
Marijuana (Hashish)	20 (0.7)	9 (0.3)	7 (0.3)
Unprescribed opioids	13 (0.5)	8 (0.3)	7 (0.2)
Solvents or inhalants	12 (0.4)	10 (0.4)	7 (0.2)
Ecstasy	11 (0.4)	7 (0.2)	3 (0.1)
Heroin	7 (0.3)	4 (0.1)	4 (0.1)
Cocaine	5 (0.2)	5 (0.2)	4 (0.1)
Crack	4 (0.1)	4 (0.1)	3 (0.1)

Youth Risk Behavior Surveillance system

YRBSS

Community Epidemiology Working

Group

CEWG

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the slide.



إنّا وقد جزنا المدى  
وتقاربت آجالنا  
وأمضنا التجريب  
وتخاذلت خطواتنا من  
فرط ما جدّ السرى  
والشدُّ والتقريبُ

