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Prevalence of Substance Use Disorder Among Jerusalem and Palestinian Citizens in Israel

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Abstract

Background: Substance use disorder is a Chronic relapsing brain disease characterized by a psychological and physical dependence on either substance like drugs or alcohol, and leads to significant impairment or tolerance, and withdrawal symptoms. It also applies to behaviors like gambling or video gaming. This study aims to provide an overview of substance use disorder among Jerusalem and Palestinian Citizens in Israel patients.

Study Methodology: A case-control study was conducted among 956 Patients admitted to the Palestinian National Rehabilitation Center from January 2021 to August 2024. We extracted all data: gender, age, marital status, duration of adduction, and type of substance abuse.

Results: The mean age of patients was 31 years old, (97.2%) of participants were male, 16.4% had completed university education, the mean duration of substance use was 13 years, and (34.7%) of patients were using for more than 16 years, (64.0%) of patient used cannabis, (21.0%) opioids, (18.9%) alcohol, (5.1%) cocaine. The multivariate analysis showed that the Jerusalem and Palestinian citizens of Israel patients were 1.32 times more likely to have a longer duration of substance use compared to the West Bank.

Conclusion: This is the first study that examines the relation between Substance use and place of residency in Palestine; Most of the study results are compatible with international studies with differences in numbers and percentage. However, investigating substance use among Jerusalem and Palestinian citizens in Israel requires an understanding of many factors including social, and economic conditions, the influencing of culture, and the effect of the political environment to improve prevention, treatment, and rehabilitation strategies in Palestine.

ABBREVIATIONS

SUD: Substance Use Disorder; PCI: Palestinian Citizen in Israel; UNODC: The United Nations Office on Drugs and Crime; NSDUH: National Survey on Drug Use and Health; NIAAA: The National Institute on Alcohol Abuse and Alcoholism; PCBS: Palestinian Central Bureau of Statistics; MoH: Palestinian Ministry of Health; PNRC: Palestinian National Rehabilitation Center; OST: Opioid Substitution Treatment; ATS: Amphetamines Type Stimulants; AOR: Adjustment Odds Ratio

INTRODUCTION

Background

Substance Use Disorder (SUD) is a chronic relapsing brain disease characterized by a psychological and physical dependence on either substances like drugs or alcohol. It leads to significant impairment or tolerance, and withdrawal symptoms. It also applies to behaviors like gambling or video gaming [1] (Zou et al., 2017).

According to the World Drug Report 2023 by the United Nations Office on Drugs and Crime (UNODC), about 5.3% of the global population aged 15-64 years used drugs in the past year, and approximately 36 million people worldwide suffer from drug use disorders [2] (UNODC, 2023). The 2021 National Survey on Drug Use and Health (NSDUH) reported that approximately 29.5 million people aged 12 or older had a substance use disorder in the past year, which represents about 10.5% of the U.S. population in that age group (NSDUH, 2021). The National Institute on Alcohol Abuse and Alcoholism (NIAAA) reported that in 2021, an estimated 9.5% of adults aged 18 and older had an alcohol use disorder [3] (NIAAA, 2021).

Substance abuse in Palestine includes the use of illicit drugs such as Cannabis Due to its widespread availability and relatively low cost. Also, Opioid Substance use disorder involves the misuse of Prescription drugs such as Tramadol or illegal opioids like heroin. As well as Cocaine Substance use disorder and Synthetic Drugs: such as amphetamines [4] (Massad et al., 2023).

Substance use disorder is influenced by a combination of Genetic Factors individuals with a family history of substance use disorder are at higher risk of developing similar problems due to inherited genetic variations. Also, Psychological Factors such as depression, anxiety, and trauma can increase the likelihood of substance use disorder as individuals may use substances or engage in compulsive behaviors as a form of self-medication. Additionally, environmental influences such as family dynamics, peer pressure, and socio-economic conditions also significantly impact substance use disorder risk [5] (Volkow & Morales, 2015).

Justification

It's difficult to obtain accurate statistics about substance use disorder in Palestine due to the sensitive nature of the issue and the limitations of data collection. However, available data provides some brief idea about the problem. According to the Palestinian Ministry of Health (MoH) report in 2018, there were 26400 patients at risk of use of Substances and Alcohol, among them there were 1118 Intravenous (IV) [6] (MoH, 2018), but experts believe the actual number could be much higher due to underreporting and the stigma associated with substance use disorder. A 2020 report by UNODC highlighted a significant increase in drug-related arrests in Palestine, indicating a rise in drug trafficking and abuse (UNODC, 2020). Understanding these factors can help create effective prevention and treatment strategies in Palestine. This study aims to provide an overview of substance use disorder among Jerusalem and PCI patients.

METHODOLOGY

Study Setting

This study was conducted at the Palestinian National Rehabilitation Center (PNRC) a government organization focused on detoxification and rehabilitation, in addition to Opioid Substitution Treatment (OST), and harm reduction services to individuals in Palestine, particularly those affected by substance use disorders. It also offers various services to support recovery and rehabilitation, including psychological, and social approaches.

The Jerusalem district includes the city of Jerusalem, the capital of Palestine. It is located in the center of the West Bank, between Ramallah and Bethlehem, and has an area under Israeli administration. It covers approximately 125.1 square kilometers [7] (PCBS, 2022).

Palestinian citizens of Israel, also known as Arab Israelis, are Palestinians who hold Israeli citizenship. They constitute about 20% of Israel's population and primarily live in Arabic cities such as Haifa, Jaffa, and Acre [8] (Paul-Binyamin, 2024).

Study Design: A case-control.

Sample Frame

Cases were obtained from SUD patients from Jerusalem and PCI who attended PNRC from January 2021 to August 2024. We extracted all data: gender, age, marital status, duration of adduction, and type of substance abuse.

Statistical Analysis:

Data was analyzed by using SPSS version 20.0, Chi-squared test was used for categorical variables. Multiple logistic regressions were used for multivariate analysis.

RESULTS

Descriptive Analysis

This study was conducted among 956 patients, 124 patients living in Jerusalem or PCI whereas the rest living in the West Bank, half of them are from Bethlehem and Hebron.

Table 3.1 shows the characteristics of the study participants, the mean age of patients was 31 years old, (97.2%) of participants were male, (16.4%) of patients completed their university study, the mean duration of substance use was 13 years, (34.7%) of patients were using for more 16 years, (47.7%) of patients were married.

Table 3.2 shows the characteristics of a category of substance abuse, (18.9%) of participants were alcoholic, whereas (64.0%) were cannabis use, (5.1%) cocaine, (21.0%) opioid, and (19.9%) Amphetamines Type Stimulants (ATS).

UNIVARIATE ANALYSIS

Socio-Demographic Characteristics of Participants

Table 3.3 summarizes the association between age with the duration of substance use disorder and place of residence as there is a significant association between age and duration of

Table 3.1: Descriptive Socio-demographic characteristics of participants.

Variables		Count	Percent
Age Mean:31 Years	< 20	61	6.4%
	21-30	456	48.2%
	31-40	284	30%
	41-50	113	11.9%
	> 51	33	3.5%
Gender	Male	930	97.2%
	Female	26	2.8 %
Duration of Substance use disorder Mean:13 years	< 5	162	21.8%
	6-10	150	20.2%
	11-15	172	23.1%
	> 16	257	34.7%
Education	School	772	83.6%
	University	141	16.4%
Marital Status	Single	228	46.0%
	Married	237	47.6%
	Divorced	32	6.4%
Place of Residence	Bethlehem	203	24.1%
	Hebron	218	25.8%
	Ramallah	93	11.0%
	Jericho	19	2.3%
	Nablus	190	22.5%
	Jerusalem And PCI	124	14.3%

Table 3.2: Descriptive characteristics of substance abuse.

Drug category	Count	Percent
Alcohol	180	18.9%
Cannabis	612	64.0%
Cocaine	49	5.1%
ATS	198	19.9%
Sedative	73	7.3%
Opioid	201	21.0%

substance use disorder among West Bank patients (P value = 0.001), also there is a significant association between age and duration of substance use disorder among Jerusalem and PCI patient (P value = 0.019).

Table 3.4 shows the association between gender with duration of substance use disorder and place of residence as there is no significant association between gender and duration of substance use disorder among West Bank patients (P value = 0.467), whereas there is a significant association between gender and duration of substance use disorder among Jerusalem and PCI patient (P value = 0.045).

Table 3.5 summarizes the association between marital status with the duration of substance use disorder and place of residence as there is no significant association between marital status and duration of substance use disorder among West Bank patients (P value = 0.964), also there is no significant association between marital status and duration of substance use disorder among Jerusalem and PCI patient (P value = 0.693).

Table 3.6 summarizes the association between level of education with the duration of substance use disorder and place of residence as there is a significant association between level of education and duration of substance use disorder among West Bank patients (P value = 0.008), whereas there is no significant association between level of education and duration of substance use disorder among Jerusalem and PCI patient (P value = 0.371).

Table 3.7 showed the association between substance abuse and duration of substance use disorder and place of residence as there is a significant association between the duration of substance use disorder with alcohol (P value = 0.008), cocaine (P value = 0.018), ATS (P value = 0.001), and opioid (P value = 0.039) among Jerusalem and PCI patient, whereas there is no significant association between the duration of substance use disorder with cannabis (P value = 0.118), and sedative (P value = 0.575) with among Jerusalem and PCI patient.

Otherwise, among West Bank there is a significant association between the duration of substance use disorder with alcohol (P value = 0.026), and cannabis (P value = 0.004), whereas there is no significant association between the duration of substance use disorder with cocaine (P value = 0.491), sedative (P value = 0.683), ATS (P value = 0.353), and opioid (P value = 0.414) among West Bank.

Multivariate Analysis

All the significant variables in univariate analysis were included in multivariate analysis to compare between place of residence and duration of substance use, the multivariate analysis showed that the Jerusalem and Palestinian citizens of Israel patients were 1.32 times more likely to have a longer duration of substance use disorder compared to West Bank. (AOR 1.32, CI=0.971-1.46).

Table 3.3: Shows the association between age and duration of substance use disorder.

Place of Residence Status			Duration of Substance Use Disorder				Total	P Value of Chi-Squire
			< 5	6-10	11-15	>16		
West Bank	Patient Age	< 20	58	0	0	0	58	0.001
		21-30	46	91	75	3	215	
		31-40	23	21	46	131	221	
		41-50	6	11	9	57	83	
		> 51	2	3	6	13	24	
		Total	135	126	136	204	601	
Jerusalem and PCI		< 20	3	0	0	0	3	0.019
		21-30	12	11	23	2	48	
		31-40	10	8	11	9	38	
		41-50	2	4	2	22	30	
		> 51	0	1	0	8	9	
		Total	27	24	36	37	124	

Table 3.4: The association between gender and duration of substance use disorder.

Place of Residence Status			Duration of Substance Use Disorder				Total	P Value of Chi-Squire
			< 5	6-10	11-15	>16		
West Bank	Patient Gender	Male	128	121	135	201	585	0.467
		Female	7	5	1	3	16	
		Total	135	126	136	204	607	
Jerusalem and PCI		Male	27	24	34	37	122	0.045
		Female	0	0	2	0	2	
		Total	27	24	36	37	124	

Table 3.5: The association between marital status and duration of substance use disorder.

Place of Residence Status			Duration of Substance Use Disorder				Total	P Value of Chi-Squire
			< 5	6-10	11-15	>16		
West Bank	Marital Status	Single	25	25	20	40	110	0.964
		Married	28	23	20	50	121	
		Divorced	4	5	3	5	17	
		Total	57	53	43	95	248	
Jerusalem and PCI		Single	8	14	9	18	49	0.693
		Married	8	7	10	17	42	
		Divorced	0	0	1	2	3	
		Total	16	21	20	37	94	

Table 3.6: The association between Level of Education with duration of substance use disorder.

Place of Residence Status			Duration of Substance Use Disorder				Total	P Value of Chi-Squire
			< 5	6-10	11-15	>16		
West Bank	Level of Education	School	95	95	117	158	464	0.008
		University	17	18	12	45	92	
		Post Graduated	1	1	2	1	5	
		Total	113	114	131	204	562	
Jerusalem and PCI		School	17	19	24	31	91	0.371
		University	2	5	1	6	14	
		Post Graduated	0	0	0	0	0	
		Total	19	24	25	37	105	

Table 3.7: The association between substance abuse and duration of substance use disorder.

Place of Residence Status			Duration of Substance Use Disorder				Total
			< 5	6-10	11-15	>16	
West Bank	Alcohol	Yes	31	26	26	33	116
		No	83	88	103	171	445
		Total	114	114	129	204	561
Jerusalem and PCI		Yes	6	8	7	19	40
		No	13	17	19	18	66
		Total	19	25	26	37	106
West Bank	Cannabis	Yes	80	92	104	120	396
		No	34	23	25	84	166
		Total	114	115	129	204	562
Jerusalem and PCI		Yes	14	13	11	21	59
		No	5	11	15	16	47
		Total	19	24	26	37	106
West Bank	Cocaine	Yes	4	5	3	4	16
		No	110	110	126	200	456
		Total	114	115	129	204	562
Jerusalem and PCI		Yes	3	2	7	17	29
		No	16	22	19	20	77
		Total	19	24	26	37	106
West Bank	ATS	Yes	18	11	12	25	66
		No	96	104	117	179	496
		Total	114	115	129	204	562
Jerusalem and PCI		Yes	7	5	13	25	50
		No	12	19	13	12	56
		Total	19	24	26	37	106
West Bank	Sedative	Yes	8	6	7	19	40
		No	106	109	122	185	522
		Total	114	115	129	204	562
Jerusalem and PCI		Yes	1	4	3	4	12
		No	18	20	23	33	94
		Total	19	24	26	37	106
West Bank	Opioid	Yes	21	14	17	48	100
		No	93	101	112	156	462
		Total	114	115	129	204	562
Jerusalem and PCI		Yes	7	15	15	23	60
		No	12	9	11	14	46
		Total	19	24	26	37	106

Table 3.8: Multivariate analysis for the association between place of residence and duration of substance use disorder after adjustment of the odds ratio (AOR).

Place of Residence	Duration of Substance use disorder				Total	P Value	AOR	95% CI Min-Max
	< 5	6-10	11-15	>16				
West Bank	135	126	136	204	601	0.021	1.32	0.971-1.46
Jerusalem and PCI	27	24	36	37	124			

DISCUSSION

Age: In general substance use disorder among teenagers is often influenced by hormonal change and friendship pressure, stressful home relationships can contribute to experimenting a new substance or being involved in high-risk behaviors that can increase susceptibility to substance use disorder, whereas older age often suffer from chronic diseases so they are likely to addict on alcohol abuse or medication misuse, in this study, age was considered as a confounder variable.

Gender: Males are more likely to develop a higher rate of substance use disorder due to struggles with risky behaviors, differences in culture, and social expectations, whereas the prevalence of substance use disorder is less among female patients due to some barriers such as stigma, difficulty in seeking help, lack in support institutions, or cannot access to treatment services. It was difficult to do gender matching due to a shortage in female patient numbers.

Marital Status: Single patients might suffer from loneliness, community isolation, and lack of partner support and responsibility these factors can contribute to a higher level of substance use disorder among them, as well as married and divorced individuals often face emotional, and psychological stress, and unstable family relationships can lead to increased drug abuse.

Education Level: Patients with a lower level of education are more at risk for substance use disorder compared to a higher level of education due to many factors such as less knowledge about drug abuse, economic and job instability, limited social support, and lack of understanding about the rehabilitation process.

The Substance of Abuse: In Jerusalem various substance abuse is present such as alcohol consumption vary among cultures and religious societies, cannabis, cocaine, and opioids, political instability may even facilitate the drug trade, further aggravating substance use disorder problems. This study's results were similar to most studies regarding substance abuse.

CONCLUSION

This is the first study that examines the association between substance use and place of residence in Palestine, most of the study results are compatible with international studies with differences in percentage. However, investigating substance use disorder among Jerusalem and Palestinian citizens in Israel requires an understanding of many factors including social, and economic conditions, the influence of culture, and the effect of the political environment to improve prevention, treatment, and rehabilitation strategies in Palestine.

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