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Is Opioid Dependency Related to Coping Strategies?

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Abstract

Using opioid for recreational purposes has a very long history in Iran. Social influence is a useful framework in understanding how the social environment affects the individual's behavioral choices to use drugs. We compared opioid dependents (n=149) with controls (n=221) on measures of coping strategies using the Jalowiec Coping Scale and some socioeconomic factors. The differences in 10 of 15 coping strategies were significant in the study groups (P<0.05). Although, the combined score of problem-oriented and affective-oriented items did not show any significant difference between the two groups. There was a significant relation between opioid dependence with smoking cigarettes (P<0.001), lower education (P=0.002), being employed (P<0.001), having children (P<0.001), and being married (P<0.001). Educational programs to improve problem solving and coping skills can be helpful to reduce the rate of dependency to opioid and smoking cigarettes.

Keywords: Opioid; Dependency; Coping; Jalowiec

Introduction

The use and abuse of legal and illegal psychoactive substances is a worldwide public health priority with repercussions on the individuals, their families, and society. According to the World Health Organization (WHO), alcohol subtracts 69.4 million of disability-adjusted life years (DALYs) [1]; tobacco, 59.1 million; and illicit drugs, 12.2 million [2]. From an economic perspective, the cost of substance use and SUDs (substance use disorder) in the United States is approximately $484 billion/year, which is comparable to the cost of diabetes ($131.7 billion/year) and cancer ($171.6 billion/year) [3,4]. Opium is consumed by various means (e.g. smoking, drinking and swallowing) in many parts of the world, including in Southeast Asian countries [5]. Studies in Iran have reported addiction rate in opioid between 2.1 to 20 percent in different social groups [6]. Opioid dependent patients are hospitalized frequently [7]. Previous studies indicate that over 90% of substance abusers start their experience in adolescence [8]. Alcohol and other drug use are a problem among adolescents [9], leading to numerous physical, social, and educational damages. For example, substance abuse in adolescence is associated with adverse outcomes in youth, such as addiction, depression, suicide, interpersonal problems with family and peers, driving-related injuries or death, and detrimental impacts on the economy of the family and society [10,11]. Currently, substance abuse is growing among adolescents worldwide [12,13]. Opium intake and opium dependence cause major damage to health, increase the risk of cancer, and can lead to injury, obesity, and a poor quality of life [14,15]. Addiction was historically viewed as a disease of "weak personality" and was not systematically addressed by the scientific and medical communities until the latter half of the 20th century [16]. Stress plays a major role in drug addiction and elevates drug craving. Stress-induced hypothalamus-pituitary-adrenal (HPA) axis activity predicted relapse to drug use and amounts of subsequent use, indicating that stress not only elicit craving, but also independently predicts relapse [17].

Effective coping is consistently cited as a key ingredient in relapse prevention, and as such, it has often been targeted as a component of treatment interventions [18]. Substance use itself is sometimes considered a maladaptive or avoidant coping strategy and may be used as such by those who go on to develop a substance use disorder [19]. While escape avoidance is typically viewed as a specific form of emotion focused coping, researchers have demonstrated that individuals with substance use disorders rely more heavily on emotion focused coping in general, and utilize less problem focused coping than other populations [20]. Self-report measures are the most common approach used by researchers to study coping [21], and several self-report measures have been developed or adapted for use with substance abusers [22]. This study aimed to answer this question that is opioid dependency related to coping strategies? Improving coping styles can help substance users to quit and decrease relapse. Also, with the coping training program, the people are at risk of substance abuse, May never lead to use and dependency.

Materials and Methods

In a case- control study, one hundred and fifty (150) male opioid addicts who were trying to quit, came to the 5th Azar rehabilitation clinic of Gorgan, Iran, and participated in our study. All the participants had an interview with a general physician, and psychotic disorder patients were excluded. Diagnosis of opioid dependency has been confirmed by a psychiatrist based on the DSM-IV-TR criteria for substance dependence [23]. The control group consisted of 225 males who did not have any history of substance abuse or any clinical psychiatric conditions, randomly selected from the family of the other patients. The entire control group participants were male, from the same region as the case group and they came to the hospital to visit their patients. Demographic data were recorded for both case and control groups. All participants received information about the research project and after full consent; filled the Persian version of Jalowiec Coping Scale Questionnaire [24]. Opium addicts entered the Methadone Maintenance Treatment program under the direction of a psychiatrist. There was no special ethical issue in this study. The

research ethics were approved by the council of Gorgan medical faculty, Golestan University of medical sciences.

The Jalowiec Coping Scale consists of 40 coping behaviors culled from a comprehensive literature review, which are rated on a 1 to 5 point scale to indicate degree of use. Twenty judges classified the items to permit analysis of the coping behaviors, according to a problem-oriented / affected-oriented dichotomy; 15 problem and 25 affective items resulted. Overall agreement by the judges was 85% with greater consensus on problem items. Evaluation of stability using a two-week retest interval (N=28) yielded significant Rhos of 0.79 for total coping scores, 0.85 for problem, and 0.86 for affective. With a one-month interval (N=30) coefficients were 0.78, 0.84, and 0.83, respectively. Alpha reliability coefficients of 0.86 (N=141) and 0.85 (N=150) supported instruments homogeneity. Content validity is substantiated by the systematic manner of tool development, by the large number of items used, and by the inclusion of adverse coping behaviors [24].

Variable	Opioid Addicts		Healthy Controls		Total		Correlation Between the Two Groups
	Number	Percent	Number	Percent	Number	Percent	P-Value
Occupation							<0.001
Worker	46	31.3	19	8.8	65	17.9	
Government Employee	10	6.8	7	3.2	17	4.7	
Farmer	11	7.5	22	10.1	33	9.1	
Unemployed	24	16.3	129	59.4	153	42	
Business	53	36.1	35	16.1	88	24.2	
Retired	3	2.0	5	2.3	8	2.2	
Education							0.002
Illiterate	22	14.8	13	5.9	35	9.5	
Primary School	32	21.5	35	15.9	67	18.2	
High School	84	56.4	136	61.8	220	59.6	
College and Higher	11	7.4	36	16.4	47	12.7	
Ethnicity							0.667
Fars (Persian)	146	98	184	83.3	330	89.2	
Turkmen	3	2.0	37	16.7	40	10.8	
Monthly Income							0.667
Low	66	51.6	40	48.2	106	50.2	
Mean	45	35.2	34	41	79	37.4	
High	17	13.3	9	10.8	26	12.3	
Smoking							<0.001
Yes	101	67.8	12	5.5	113	30.7	
No	48	32.2	207	94.5	255	69.3	

Table1: Demographic characteristics of the studied groups

The Persian version of coping scale was developed based on the Jalowiec Coping scale in 2003. It consists of 39 coping behaviors, 15 problem-oriented and 24 affective-oriented items. Items were rated on a 1 to 5 point scale with response options of always (5), often (4), about half of the time (3), occasionally (2), never (1). A high score indicates greater use of the particular coping strategy. The range of score changes from 15-75 in problem-oriented and from 24-120 in affective-oriented items. Validity and reliability of this questionnaire were assessed for Iranian population in several studies. The Alpha reliability coefficient was reported 0.65 and 0.84. Also content validity for items and total content was reported satisfactory [25-27]. The data were collected during the one year and computerized and verified using the SPSS (statistical package for social science) version 16.0 to perform tabulation and statistical analysis at 2013. Data were presented using descriptive statistics in the form of numbers and percentages. Qualitative variables were compared using the chi-square test and quantitative variables were compared by using the analysis of

variances (ANOVA) and multivariate linear regression. Statistical significance was considered at p-value <0.05.

Results

At the end, 5 patients excluded from the study because of incomplete information forms. 149 opioid addicts and 221 controls were analyzed. The mean age was 31.01 ± 10.96 (Age range 18.00-50.00). Demographic characteristics of the studied groups showed in Table 1.

Variable	Opioid Addicts		Healthy Controls		Total		Correlation Between the Two Groups
	Number	Percent	Number	Percent	Number	Percent	P-Value
Siblings Number							0.069
No Sibling	4	2.8	0	0	4	1.1	
1-5	89	61.4	139	65.3	228	63.7	
6-10	51	35.2	70	32.9	121	33.8	
11-14	1	7	4	1.9	5	1.4	
Birth Order							0.270
1-5	131	89.1	185	85.3	316	86.8	
6-10	16	10.9	29	13.4	45	12.4	
11-14	0	0	3	1.4	3	8	
Marriage Status							<0.001
Single	34	22.8	105	47.5	139	37.6	
Married	111	74.5	115	52.0	226	61.1	
Divorced	4	2.7	1	5	5	1.4	
Children Number							<0.001
No Child	53	35.6	136	61.5	189	51.1	
1-3	70	47.0	58	26.2	128	34.6	
4-7	24	16.1	26	11.8	50	13.5	
8-10	2	1.3	1	5	3	8	
Family History of Substance Dependency							<0.001
Father	21	23.9	2	2.7	23	14.3	
Mother/Sister	3	3.4	1	1.4	4	2.5	
Brother	11	12.5	7	9.6	18	11.2	
Uncle	17	19.3	9	12.3	26	16.1	
Aunt	2	2.3	0	0	2	1.2	
Grand Parents	6	6.8	4	5.5	10	6.2	
Friend	16	18.2	7	9.6	23	14.3	
Neighbor	12	13.6	43	58.9	55	34.2	

Table 2: Family characteristics of the studied groups.

There was a significant difference between the groups in occupation (P<0.001) and education level (P=0.002). For a better assessment each category of groups analyzed separately. Simple workers, people that were in business and financial operations occupations, and employed persons (versus unemployed) were significantly higher in opioid addict group (P<0.001 for all). Illiterate people were more in addicts

group (P=0.004). Opioid addict group were more smoker compared with control group too (67.8% versus 5.5%, P<0.001). Monthly income was registered based on the person's statement and divided into low, mean and high categories based on the current situation of society. Ethnicity and monthly income did not show any significant difference between the studied groups. Family characteristics of both groups were assessed by sibling number, birth order, marriage status, children number and family history of substance dependency (Table 2).

The two study groups did not show any significant difference in sibling number and birth order. The rate of married people in the case and control group was 74.5% and 52.0% respectively (P<0.001). The people in control group had significantly less children. Also, having no children showed a significant difference between the two groups (Both P<0.001). Addict group had a significant higher rate of opioid dependence in their fathers (23.9%) in comparison to control group (2.7%, P<0.001). Opioid addicts mentioned their reason of first use as friend's companionship (53.2%), curiosity (13.5%), availability of opioids (8.5%), parent influence (9.2%) and other reasons (15.6%). 9.0% claimed that they were alone at the time of first use and 91.0% accompanied by other people in their home or party. 64 of opioid addicts had a history of trying to quit (43%) and 85 were seeking treatment for the first time (57%). From that 64, 41(64.1%) had 1 time relapse, 13 (20.31%) had two times relapse, and 10 (15.63%) had three times or more. Current motivation to seek treatment in the opioid addict group were financial problems (35.6%), family disgust (28.7%), medical problems (14.9%), the decision to marry (5.9%), education problem (1.0%), job loss (6.9%) and legal problems (6.9%). The studied groups had no significant difference in the copying styles scores in general. In the problem-oriented items mean ± SD was 53.36 ± 8.23 in the addict group and 54.11 ± 7.41 in the control group (P=0.42). In the affective-oriented items mean ± SD was 81.14 ± 10.14 in the addict group and 79.20 ± 9.93 in the control group (P= 0.06). Also, the relapse times in addict group did not show any correlation with coping styles. All 39 coping strategies were analyzed separately (Table 3).

Opioid addicts showed significant difference in 10 of 15 (66.7%) problem-oriented coping strategies compared to the control group: Settle for next best thing (P=0.01), Maintain control (P=0.02), Information seeking (P=0.02), Consider different solution (P=0.005), View problem objecting (P=0.01), Handle problem piecemeal (P=0.002), Try different solution (P<0.001), Let others solve problem (P<0.001), Set goals (P=0.007), Discuss problem (P=0.012). Also, significant differences were observed in 12 of 24 (50%) affective-oriented strategies between the two groups: Pray/trust God (P=0.01), Worry (P=0.01), Humor (P=0.04), Put problem aside (P=0.002), Pessimism (P=0.01), Sleep (P=0.02), Don't worry (P=0.04), Situational withdrawal (P=0.02), Release tension on others (P=0.004), Blame others (P=0.008), Meditation/mind over matter (P=0.04), Get comfort/help from others (P=0.004).

Discussion

The main aspect of this study was to answer this question that is opioid dependency related to coping strategies? Although, the combined scores of two coping aspects did not significantly differ between the studied groups, but opioid addicts showed significantly more vulnerable in problem-oriented strategies compare to controls. Also, addict persons had lower education and lower capacity to encounter the life stresses such as marriage, having a job and children. These findings suggest that if these people learn how to cope with life situations more in problem-oriented aspects and less in affective-oriented aspects, maybe they can be more successful to quit the opioids or not to use or be dependent at the foremost time. Most studies investigating the role of personality as a risk factor for the development of opioid dependence compare dependent opioid users with healthy controls who never used heroin [28]. According to Sussman et al, adolescents can predict their future use, and abuse or dependence status. Also, instruction in prosocial coping (e.g., seeking social support) may help inhibit the transition from substance abuse to substance dependence [29]. Murphy et al. showed that diverted- and own-prescription opioid abuses among adolescents were evidenced to be relatively strong predictors of violent thoughts and subsequent violent behavior [30]. Rabani Bavojdan et al. showed that increased levels of general self-efficacy, problem-oriented coping strategy and internal locus of control will improve mental health in male drug abusers. In contrast, decreased general self-efficacy, emotion-oriented coping strategy and external locus of control would lead to decreased mental health in them [31]. Sugarman et al. found out as coping strategy use increased, drug use decreased, and this relationship was stronger for participants who received cognitive-behavioral therapy [32]. According to Revell et al. those people who attempt to solve their problems alone, were more likely to self-medicate with a wide variety of psychoactive substances [33].

In this survey, 53.2 percent of addict group claimed that the cause of their first use was friend's companionship. So, peer pressure, especially in young adults can be an important factor to lead opioid dependency. Kelly et al. also defined the importance of monitoring and responding to comparatively minor shifts in the proportion of peers who use alcohol, particularly among very young adolescents [34]. Scherrer et al showed Offspring nicotine dependence was associated with increasing offspring age, male gender, biological parents' divorce, high genetic risk from father and mother's nicotine dependence, maternal problem drinking, maternal rule inconsistency and sibling drug use, and friend smoking, alcohol and drug use. Friend smoking had the largest magnitude of association with offspring smoking. This effect remains after accounting for familial liability and numerous parent and sibling level effects [35]. This study showed father dependency to opioid had the largest association with offspring dependency. Also, Gharat et al. suggested that substance abuse in parents, siblings, and other relatives is likely to influence the behavior of the person towards it. Persons living in the same vicinity may also greatly influence the behavior of an individual [36].

Coping Strategy		Opioid Addict Group		Control Group		P-Value
		Mean ± SD	Mode	Mean ± SD	Mode	
Problem Oriented Items	Consider different solution	3.88 ± 1.09	4	4.08 ± 0.85	4	0.005 *
	Let others solve problem	2.88 ± 1.45	4	3.35 ± 1.27	4	<0.001 *
	Try anything	3.36 ± 1.24	4	3.24 ± 1.06	3	0.141
	Discuss Problem	2.90 ± 1.45	1	3.10 ± 1.32	3	0.012 *
	Acceptance	2.87 ± 1.29	2	3.15 ± 1.26	3	0.107
	View problem objecting	3.88 ± 1.00	4	3.75 ± 0.99	3	0.010 *
	Maintain control	3.95 ± 0.98	4	3.76 ± 0.99	4	0.023 *
	Seek purpose/meaning	4.01 ± 0.97	4	3.89 ± 1.07	5	0.082
	Cry	3.43 ± 1.49	5	3.41 ± 1.40	5	0.234
	Information seeking	3.84 ± 1.13	4	4.05 ± 0.92	5	0.024 *
	Try different solution	3.12 ± 1.46	4	3.49 ± 1.11	4	<0.001 *
	Use past experience	3.68 ± 1.18	4	3.62 ± 1.17	4	0.292
	Handle problem piecemeal	3.70 ± 1.30	5	3.32 ± 1.18	3	0.002 *
	Set goals	3.28 ± 1.22	4	3.57 ± 1.07	3	0.007 *
	Settle for next best thing	4.11 ± 1.13	5	3.73 ± 1.20	5	0.015 *
Affective-Oriented Items	Worry	2.64 ± 1.48	1	2.53 ± 1.26	1	0.015 *
	Cry	3.43 ± 1.49	5	3.41 ± 1.40	5	0.234
	Activity exercise	3.36 ± 1.24	4	3.08 ± 1.22	4	0.106
	Optimism	3.11 ± 1.46	4	3.11 ± 1.42	4	0.069
	Humor	3.46 ± 1.34	4	3.35 ± 1.24	3	0.042 *
	Eat/smoke	3.73 ± 1.48	5	4.02 ± 1.29	5	0.073
	Drugs	3.99 ± 1.28	5	4.19 ± 1.23	5	0.339
	Put problem aside	3.61 ± 1.30	4	3.25 ± 1.32	4	0.002 *
	Day dream	3.48 ± 1.49	5	3.29 ± 1.42	5	0.103
	Set goals	3.28 ± 1.22	4	3.57 ± 1.07	3	0.007 *
	Get mad/curse	3.56 ± 1.43	5	3.48 ± 1.43	5	0.483
	Pray/trust God	4.37 ± 0.95	5	4.57 ± 0.86	5	0.009 *
	Get nervous	2.79 ± 1.42	1	2.71 ± 1.34	1	0.057
	Situational withdrawal	3.03 ± 1.36	4	2.67 ± 1.24	3	0.022 *
	Blame others	4.03 ± 1.45	5	3.98 ± 1.30	5	0.008 *
	Release tension on others	2.22 ± 1.37	1	1.90 ± 1.19	1	0.004 *
	Isolation	3.16 ± 1.56	5	3.42 ± 1.47	5	0.267
	Resignation/It's hopeless	4.15 ± 1.23	5	3.95 ± 1.26	5	0.141
	Let problem solve itself	3.65 ± 1.44	5	3.76 ± 1.35	5	0.080
	Get comfort/help from others	4.28 ± 1.10	5	3.86 ± 1.30	5	0.004 *
	Meditation/mind over matter	3.19 ± 1.39	3	3.19 ± 1.41	5	0.008 *

	Resignation/it's fate	2.40 ± 1.51	1	2.30 ± 1.40	1	0.331
	Sleep	3.29 ± 1.42	4	3.14 ± 1.33	4	0.022 *
	Don't worry	3.50 ± 1.22	4	3.16 ± 1.28	3	0.049 *

Table 3: Coping strategies in studied groups, *P-value < 0.05 was considered significant

In this study, opioid addicts had significantly higher percent of the employment. Other studies showed that unemployed persons are more at risk to be abusing drug particularly opioids [37,38]. To discuss our results, we have three hypotheses. Opioid addicts who are employed usually have more money and can buy the opioids easily. The job stresses may be a risk factor to lead them to substance abuse. Also, the employed persons have more chance to get married and have children that may be additional stresses to them. In general, learning coping skills can be useful to prevent the consequences.

Conclusion

Learning coping skills during the lower age can cause a person stronger to take on the life stresses and problems. Stronger people in coping skills may less be dependent on drugs and if so, may be more successful to rehabilitate. Also, the role of peer pressure and parental dependency, especially father as a role model for male offspring, should be considered.

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