

## Environmental and Personal Factors Associated with Addiction Relapse in Referral Patients to Marand Treatment Centers

**Morteza Haghighi<sup>1</sup>, Fariba Alizadeh<sup>2</sup>, Tayebeh Rezaei<sup>3\*</sup>, Hamed Rezakhani Moghaddam<sup>4</sup>,  
Habiballah Sodaei Zenoozagh<sup>5</sup>, Asghar Mohammadpoorasl<sup>1</sup>**

- 1- Tabriz Health Services Management Research Center, Health Management and Safety Promotion Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran
- 2- Department of Nursing, Lectureship of Nursing, Islamic Azad University, Marand, Iran
- 3- Department of Nursing, Marand Center of Higher Health Education, Tabriz University of Medical Sciences, Tabriz, Iran
- 4- Research Committee, Faculty of Health, Tabriz University of Medical Sciences, Tabriz, Iran.
- 5- Marand Health Center, Tabriz University of Medical Sciences, Tabriz, Iran.

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#### Corresponding Author:

Tayebeh Rezaei

tayebe.rezayi86@gmail.com

### ABSTRACT

**Introduction:** The problem of relapse makes addiction treatment complicated because almost 80% of addicts relapse after treatment completion during the first six months. The purpose of this study was to determine the factors affecting relapse in addicts referred to addiction treatment centers in Marand.

**Methods:** This study was a cross-sectional study that was performed on 306 patients in the city of Marand. The stratified sampling method was used. After collecting the questionnaire and determining its validity and reliability, questionnaires were distributed among an addicted group and as well as a non-addicted group. In the presence of the researcher, the patients answered the questions. Finally, the data were analyzed using statistical tests (chi-squared, independent t and ANOVA) applying SPSS software, version 21.0 for Windows.

**Results:** In this study, the majority of participants in the addicted group and in the non-addicted group had a lower diploma and diploma respectively (90.2% and 90.8%). The mean age was the non-addicted group for  $35.14 \pm 8.23$  years and in the non-addicted group and  $32.72 \pm 10.48$  for the addicted group. According to the findings of this study, in the addicted group, the main reasons addiction relapse was family insistence (25.5% of cases). The non-addicted group mentioned the social conditions as the most common reason of success in the last quitting (22.9%). Based on the findings, a significant difference was found between the two variables including family size, employment status, smoking, family disputes, person's hopes and obsession to use drugs.

**Conclusion:** For preventing and treating addiction, it is not enough to detoxify in treatment centers. It seems planning and interventions is necessary for preventing and reducing relapse, based on known major risk factors (such as employment status, smoking, family disputes, marriage, individual hope, and mental engagement with drug use).

**Keywords:** Addiction, Recurrence, Substance Abuse Treatment Centers

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### Introduction

Any problem which threatens the values of and spread throughout the society is called as a social problem. Addiction is one of the most important social issues which cause problems for the individual, family and society<sup>(1)</sup>. It is the problem of all societies, both industrial and non-industrial societies<sup>(2)</sup>. Addiction leads to physical and spiritual problems for the addict. Moreover, it causes economic, social, and cultural problems for the society<sup>(3, 4)</sup>. It has been a century since the human beings have started trying to find a solution for this problem due to its dangerous consequences. These include illnesses like AIDS-induced hepatitis due to intravenous infections, as well as long-term concerns about the harmful effects of pharmaceutical, social, legal and health-related substance abuse. The urgency of such issues catalyzes the push towards providing effective prevention strategies<sup>(5)</sup>.

Addiction is such an important problem that Leuodic, a toxicologist, states that “apart from food, nothing more than drugs has been able to easily enter into the lives of human”<sup>(6)</sup>. Due to the fact that Iran is a neighbor of Afghanistan, the biggest opiates producer in the world, the nation has become a big consumer of addictive substances<sup>(7)</sup>. This issue forces policymakers to deal with it by using the internal information<sup>(9, 8)</sup>. Although there has been much progress towards solving of this problem, but the relapse and rebounding of drug abuse are still common issues<sup>(10)</sup>. Relapse is a complex and dynamic phenomenon which the psychological and biological issues can have effect on it. The studies have indicated that it is not possible to say that the addict does not rebound to consuming drugs. Moreover, the studies show that over 80% of addicts return to consuming drug in less than 6 months<sup>(11)</sup>. In fact, the maintenance of an addict in treatment centers only results in his/her lack of access to the drug and causes detoxification and recovery during that period. After the addict is released, he or she rebounds to addictive substance<sup>(12)</sup>.

According to Fredrick et al. (1988), only 20% to 50% stop consuming addictive substance after a

year<sup>(13)</sup>. In another study by Xie over a ten-year period, the results showed that 25% of the addicts in the first year and 75% in the tenth year return consuming addictive substance<sup>(14)</sup>. According to Fadayi, in the best conditions and treatments 95% of the addicts return consuming addictive substance after a year, and the 5% return using it in the next two years<sup>(15)</sup>. It is for these reasons that some of the experts use the expression “chronic and recurrent disorder” for addiction<sup>(16)</sup>. Drug addicts who visited treatment centers usually are admitted more than 2 to 3 times<sup>(17)</sup>. The factors which cause the relapse can be divided into three categories: the micro level factors, such as the individual; the middle factors, such as the family; and the macro level factors, such as the society, policy, and economy<sup>(18)</sup>. Falahzadeh and Hosseini believe that some factors such as addicted friends, family aloofness, and returning to the previous locations can have effects on the returning to use of an addictive substance<sup>(19)</sup>. Sadegiye Ahari, in his research, spoke of family disputes, social problems, and short periods of not using drugs as a cause of relapse<sup>(20)</sup>.

Health policymakers play an important role in community member for health<sup>(21, 22)</sup>. Identifying effective factors in the return and relapse can be reduced by implementing policies, preventive measures and controlling the percentage of return<sup>(23)</sup>. Despite the importance of the issue, no study has been conducted in the northwest of the country. Considering the importance of the issue of addictive substances and return to drug abuse, and the lack of adequate studies on the rate of relapse in Eastern Azerbaijan and its causes, this study aimed to determine the factors influencing the relapse of addiction using the point of view of addicts referring to addiction treatment centers in Marand city.

### Methods

This study was a cross-sectional study that was conducted by Tabriz University of Medical Sciences with the ethics code of TBZMED.REC.2015.156. The statistical population of this study was all addicts referred to

addiction treatment camps (three addiction treatment camps), as well as non-addict people referring to them. In fact, the study compared the associated factors between addicted and non-addicted groups. Being in addicted or non-addicted group was done based on the list of treatment centers.

Sample size calculation was based on the previous study, Solati et al. <sup>(24)</sup> Based on a confidence level of 95%, a power of 90%, two tailed test utilizing G-Power software, at least a total of 306 subjects were calculated to recruit in the study (the sample size in each group was calculated to be at least 153).

The instrument to collect the data was a standard questionnaire with a validity of 0.8, validity and reliability of the questionnaire was done in men referred to treatment centers in Tehran <sup>(25)</sup>. The questionnaire consisted of two sections. Section one was included demographic information such as age, marital status, family affairs (number of people living together), and number of times that they have stopped using drugs. Section two was included other factors associated with the relapse such as individual, family, occupational and economic factors based on a Likert scale: (very low, low, moderate, high, very high), multiple options and two options (yes, no).

The criteria for including the study in the addicted group was to have at least one recorded period of at least three weeks from the start of the current treatment. In the non-addicted group, those who completed the treatment successfully and at the time of the study, at least one year had elapsed since the completion of their treatment.

After preparing the last version of the instruments and getting the necessary research certifications from the Tabriz University of Medical science, the researcher has visited the camps and after stated the aims of the study the questionnaire was distributed among addicted group (an addict person who had stopped using drugs at least one time either in the governmental or private centers and now refer to the camps and three weeks elapse from his/her treatment). Moreover, the questionnaire was distributed among

the non-addicted group (a person whose treatment was successfully done in the treatment centers and after one year the person return to the camp based on sampling was selected) and the participants provided their responses to the questionnaire in the presence of the researcher. It should be stated that the data analysis was done by using the chi-squared test, and independent t-test.

## Results

In this study, the majority of the participants both in the non-addicted and addicted groups had diploma and less than diploma degrees (90.2% and 90.8%, respectively) Furthermore, 28.8% of the addicted group and 14.4% of the non-addicted group were unemployed (Table 1). The results also revealed that 57% of the addicts in the addicted group and 43% of the non-addicted group had family disputes. 28.1% of the addicted group and 34% of the non-addicted group reported more than five attempts to stop drug abuse. 56.7% of the addicted group and 43.3% of the non-addicted group expressed that after they stop drug abuse their mental engagements were. 54.5% of addicts' families were not hopeful about the ability of their addicts to stop drug using.

Furthermore, the findings of this study (using the chi-squared test and independent t-test) indicated that there was a significant difference among the variables such as family household, employment status, smoking, family disputes, marital status, person's hope, Mental engagement of the addicts in the addicted and the non-addicted groups (Table 2). However, the variables such as age status, level of education, duration of drug abuse, family hope, and presence of addict in the family did not indicate any statistically significant differences between the addicted and the non-addicted groups.

The regression test was used in this study. Table 3 displays predictors of addiction relapse, according fourteen variables (age, marital status, education, family size, having a job, housing, income, smoking, family disputes, chronic physical pain, mentality toward substance use, how hopeful the individual and family members are, and the

## Environmental and Individual Factors Associated with Addiction Relapse

presence of another addict in the family). Marital status, family size, having a job, smoking, family disputes, mentality toward substance use and hope status factors were significantly associated with addiction relapse (Table 3). All factors associated

with addiction relapse in Table 3 entered to a separate logistic regression analyses. Table 4 shows the final model of factors predicting the development addiction relapse.

**Table 1.** Demographic data of patients under study

Variable		The addicted group (153)		The non-addicted group(153)	
		number	percent	number	percent
Age	mean ± deviation	32.72± 10.48		35.14± 8.23	
Married	Married	61	39.9	52	34
	Single	60	39.2	80	52.3
	Isolated and dead wife	32	20.9	21	13.7
Level of education	Diploma and lower	138	90.2	139	90.8
	Top diploma	15	9.8	14	9.2
Employment	Unemployed	44	28.8	22	14.4
	Employed	109	71.2	131	85.6
housing situation	Personal	28	18.3	50	32.7
	Renting out	49	32	28	18.3
	Paternity	76	49.7	75	49
Income status	Weak	58	37.9	35	22.9
	medium	89	58.2	98	64.1
	Good	6	3.9	20	13

**Table 2.** Relationship between the variables studied in the addicted and non-addicted groups

variable	group	addicted		Witness		Chi-square test	
		number	percent	number	percent		
demographic information	Marital status	Non-married	92	60.1	73	66	0.029
		Married	61	39.9	80	34	
demographic information	education	Diploma and lower	138	90.2	139	90.8	0.845
		Higher than diploma	15	9.8	14	9.2	
demographic information	smoking	has it	148	96.7	126	82.4	0.001
		does not have	5	3.3	27	17.6	
Family factors	Family disputes	has it	126	82.4	95	62.1	0.001
		does not have	27	17.6	58	37.9	
Family factors	The presence of another addict in the family	has it	45	29.4	39	25.5	0.261
		does not have	108	70.6	114	74.5	
Individual factors	Mentality toward substance use	has it	140	91.5	107	69.9	0.001
		does not have	13	9.5	46	39.1	
Individual factors	chronic physical pain	has it	94	61.4	82	53.59	0.203
		does not have	59	38.6	71	46.41	

variable	group	addicted		Witness		Chi-square test	
		number	percent	number	percent		
Hope status	has it	109	71.2	80	52.28	0.001	
	does not have	44	28.8	73	47.72		
Hope status of the individual's family	has it	123	80.39	128	83.66	0.276	
	does not have	30	19.61	25	16.44		
occupational and economic factors	Income status	Weak	58	37.9	35	22.9	0.001
		medium	89	58.2	98	64.1	
		Good	6	3.9	20	13	
having a job	has it	109	71.2	131	85.6	0.002	
	does not have	44	28.8	22	14.4		
Age status	(Mean standard deviation)	33.72±10.04		35.14±8.23		0.178	
Family size	(Mean standard deviation)	4.89±2.39		4.08±2.31		0.003	
Duration of use	(Mean standard deviation)	96.05±75.44		94.21±64.47		0.812	

**Table 3.** Logistic regression models determining factors associated with addiction relapse

variables	OR	95% C.I.for EXP(B)		p-value
		Lower	Upper	
Age	1.017	0.992	1.042	0.178
Marital status	1.653	1.051	2.600	0.03
Education	.960	0.816	1.129	0.620
Family size	0.846	0.768	0.933	0.001
having a job	2.404	1.357	4.256	0.003
housing	0.811	0.611	1.0411	0.1
income	1.103	0.975	1.247	0.120
smoking	6.343	2.373	16.957	0.000
Family disputes	2.849	1.679	4.834	0.000
chronic physical pain	1.379	0.875	2.174	0.166
Mentality toward substance use	4.630	2.381	9.003	0.000
Hope status of the individual's family	0.801	0.446	1.438	0.457
Hope status	1.502	1.230	1.835	0.000
The presence of another addict in the family	0.821	0.496	1.358	0.442

**Table 4.** Logistic regression models determining factors associated with addiction relapse (Backward conditional method) Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1a	Marital status	.116	.361	.102	1	.749	1.122
	Hope status	.583	.282	4.269	1	.039	1.792
	having a job	-.808	.351	5.303	1	.021	.446
	Smoking	1.990	.555	12.857	1	.000	7.315
	Family disputes	.823	.309	7.074	1	.008	2.278
	Mentality toward substance use	.942	.396	5.656	1	.017	2.565
	Family size			9.567	4	.048	
	1	.709	.453	2.452	1	.117	2.031
	2	1.064	.468	5.182	1	.023	2.899
	3 & above	1.332	.529	6.348	1	.012	3.789
	0	.239	.501	.227	1	.634	1.269
	Housing			12.644	3	.005	
	Personal	-.170	.700	.059	1	.808	.844
	Renting out	-1.463	.733	3.984	1	.046	.232
Step 2 <sup>a</sup>	Paternity	-.200	.673	.089	1	.766	.818
	Constant	-4.324	1.202	12.932	1	.000	.013
	Hope status	.573	.280	4.181	1	.041	1.774
	having a job	-.807	.351	5.288	1	.021	.446
	Smoking	1.994	.555	12.932	1	.000	7.348
	Family disputes	.825	.309	7.118	1	.008	2.282
	Mentality toward substance use	.953	.394	5.841	1	.016	2.593
	Family size			11.966	4	.018	
	1	.749	.434	2.978	1	.084	2.116
	2	1.123	.430	6.828	1	.009	3.075
	3 & above	1.399	.486	8.280	1	.004	4.052
	0	.304	.458	.440	1	.507	1.355
	Housing			12.605	3	.006	
	Personal	-.150	.697	.046	1	.830	.861
Renting out	-1.436	.728	3.893	1	.049	.238	
Paternity	-.203	.673	.091	1	.763	.816	
Constant	-4.210	1.147	13.464	1	.000	.015	

**Discussion**

The current study was an attempt to investigate the view of addicts referring to Marand treatment centers.

The results of the study indicated that there was no statistical significant difference between the two groups (the addicted and the non-addicted groups) regarding age variable. In the current study the age mean of the non-addicted group was three years more than that of the addicted group. The findings of this study are in line with that of Fallahzade whose relapse had 32.5 year-of-age and Seraji <sup>(26)</sup> with relapse age of 32.8. Moreover, Jackson

indicated that, while there had no relationship between the age and treatment success of males it had a very weak relation exists regarding the female <sup>(18)</sup>. In the Xie’s study, no relationship was detected between age and relapse <sup>(14)</sup>.

Based on the findings of this study, there was a significant difference between the two addicted and non-addicted groups regarding household size. That is, the higher the household size, the higher the probability of the relapse, which was consistent with Rimaz’s study <sup>(25)</sup>. In Rimaz’s study there was a significant difference between the two addicted and non-addicted groups in

terms of household size. Perhaps the reason is that in high-income families, factors such as anxiety, life stress, family disputes, and parents' neglect of children can cause tension and anxiety after recovery and as a result of the relapse is inevitable<sup>(25, 27)</sup>. Therefore, for treatment, in the first step, it is necessary to reduce the tensions in such families and, as long as the severity of these pressures is not reduced, there may obtain no success in the treatment.

The findings of the current study also indicated that there was a significant difference between the two groups in terms of marital status, and those who were single were more likely to return to addiction. These findings are in line with that of the study of Washton<sup>(28)</sup>. However, this finding contradicts some studies. Maureen's study showed that marital status has no role in relapse<sup>(29)</sup>. Zhou also showed that there is no relationship between marital status and return to smoking<sup>(30)</sup>.

The results showed that there is a significant difference between the two groups (addicted and non-addicted) in terms of employment; employed patients has a greater chance of recovery. In the Seraji's study, unemployment has been the strongest indicator of relapse<sup>(26)</sup>, as various state. Furthermore, the unemployed are more likely to be addicted than those who work.

In fact, unemployment can lead to various deviations, especially addiction. Unemployment is not only due to lack of economic life and material and spiritual well-being for family members but also through disturbances in personality building, moral stability, dignity, and hope for the future and individual authority lead to various deviations such as addiction. Having job skills plays an important role in predicting the survival rate of treatment for those who have recovered from addiction. Regarding the important role of oppression in preventing the return to drug abuse, emphasis is placed on the need to create job opportunities to prevent the return to the addiction cycle<sup>(31)</sup>. The variable duration of drug abuse (addiction duration), there was no significant difference between the two addicted and non-addicted groups, which was

consistent with the Rimaz and Mattoo studies<sup>(25, 32)</sup>.

The findings of this study indicated that there was a significant relationship between cigarette smoking after recovery and relapse. In the study conducted by Rahmati, it was shown that about 91.4% of drug addicts had simultaneous cigarette smoking<sup>(17)</sup>. Hser reported that the deaths of opium addicts who were smokers were 4 times higher than those who did not smoke. Moreover, the smokers who were addicted to heroin will return to addiction after their recovery. However, people who do not smoke will tend less to return addiction. Furthermore, recovery from of nicotine addiction reduces many temporary abusive disturbances which are caused by drug abuse, including being worry, drowsiness, depression, concentration problems, impatience, and intolerance<sup>(33)</sup>. Marcle also showed that people who smoke regularly and those who stop using alcohol or marijuana and start to smoke had a higher chance of returning to the drug abuse. In those people, the chances of returning to alcohol are significantly higher than those who left smoking. Moreover, those who are constantly smoking as well as people who have recently started smoking, the period of relapse of marijuana occurs quite faster.<sup>(34)</sup> As previously reported, the drug abuse in behavioral and physiological aspects are the causes to use other drugs.<sup>(34)</sup> The results of current study are in line with the results of the studies showing the relationship between consumption and stopping the use of tobacco and the outcome of drug treatment<sup>(35)</sup>. The drug abuse, alcohol and tobacco using in adolescents aged 11 to 18, especially in high school, is still a major problem in different countries<sup>(12)</sup>. Therefore, addressing educational and awareness strategies in preventing drug abuse in the school can be an effective step in this field.

According to the findings of this study, there is a statistically significant relationship between family disputes and the return to addiction. Thus, it can be concluded that those who stop using drugs and experience family disputes tend to

relapse more to addiction than those who stop using drugs after dispute. This finding is in line with that of Rimaz, Chong and Golestan<sup>(25, 36, 37)</sup>. In the study of Seraji, also, 52.5% of returnees have had family disputes with their father or spouse<sup>(26)</sup>. The results of the study by Jackson also showed that there was a relationship between family disputes and the success rate of treatment<sup>(18)</sup>. In the study conducted by Madu et al. it was approved that family disputes are the causes of returning to drug addiction in opioids<sup>(38)</sup>. It is likely that other members of the family will be anxious due to the addiction of the members of the family and it will cause tension. A study of family members can help to investigate the causes of addiction; many studies have identified families as one of the most important factors in determining the risk of drug abuse among children<sup>(39)</sup>.

Based on the findings of this study, there was a significant relationship between income and return to addiction, which is probably due to the high unemployment rate in the addicted group and the presence of patients with a high probability job, which led to successful control in the non-addicted group with more unemployed people being exposed to many of the risk factors associated with relapse of drug abuse, there is a higher incidence of addiction<sup>(12, 32, 39)</sup>.

The results of the current study also revealed that there is a statistically significant relationship between the hope status and return to addiction. Thus, based on this, it can be concluded that those who stop using drugs and who are more hopeful about their recovery than those who are stop using and are less hopeful tend to return to addiction with less tendency. This find is consistent with that of Scott's study<sup>(40)</sup>, while in Jackson's study, there was no relation between the hopeful and the treatment success. Moreover, in the men's and women's groups,

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those with less hope were reported to enter the treatment with less rate of participation. Given that Taylor et al. suggested that hopeful thought has a relationship with spiritual health<sup>(41)</sup>.

The results of this study showed that from the perspective of another addict in the family, there is no statistically significant difference between the addicted and non-addicted group. However, in the study of Matto, there was a relationship between the family experience of addiction and relapse, especially if the addicted person is currently using drug.

### Conclusion

The results of this study showed that the individual, social, psychosocial, occupational and economic variables are factors influencing the relapse of substance abuse. Identifying the factors associated with the recurrence of substance abuse can be helpful in designing prevention and treatment programs for the relapse of drug use. Perform interventions is necessary based on identified key risk factors (such as employment status, smoking, family disputes, marital status, individual hope, etc.).

### Limitation of the study

One of the limitations of this study was all participants were men. This was due to the fact that there was no recovery camp for the women in Marand. Another limitation was the self-reporting method of the patients.

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### Conflict of interest

The authors have no conflicts of interest to report.

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