

**Factors Related with Intention to Methadone Maintenance Treatment among Iranian Men Addicts**M. Ataee<sup>1</sup>, T. Ahmadi Jouybari<sup>2</sup>, M. Mirzaei Alavijeh<sup>3</sup>, A. Aghaei<sup>4</sup>, M. Mahboubi<sup>5</sup>, F. Zinat Motlagh<sup>6,\*</sup><sup>1</sup> Internist, Substance Abuse Prevention Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran.<sup>2</sup> Internist, Substance Abuse Prevention Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran.<sup>3</sup> MSc of Health Education, Department of Health Education, School of Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.<sup>4</sup> PhD Student of Epidemiology, Substance Abuse Prevention Research Center, Kermanshah University of medical sciences, Kermanshah, Iran.<sup>5</sup> PhD of Health Services Administration, Kermanshah University of medical sciences, Kermanshah, Iran.<sup>6</sup> PhD Student of Health Education and Health Promotion, Social Determinants of Health Research Center, Yasuj University of Medical Sciences, Yasuj, Iran.\*Corresponding Authors E-mail: [f\\_motlagh@yahoo.com](mailto:f_motlagh@yahoo.com)

**Abstract:** Drug abuse relapse could be cause avoid of daily activities, reduces confidence, accountability and efficiency of addict. The purpose of this study was to determine the actors related to methadone maintenance treatment among sample of Iranian addict based on theory of planned behavior (TPB) as a theoretical framework. In this cross-sectional study, conducted in Yasuj County, the south of Iran, during 2013, a total of 700 men addicts, were randomly selected to participate voluntarily in the study. Participants filled out a standard questionnaire. Data were analyzed by SPSS version 21 using bivariate correlations, and linear regression statistical tests at 95% significant level. Result showed the three predictor variables of 1) attitude, 2) subjective norms, and 3) perceived behavioral control, accounted for 49% of the variation in the outcome measure of the methadone maintenance treatment intention. Our findings suggest, coping skills training, and increased social support for addicts could be beneficial results for the methadone maintenance treatment persistence and relapse prevention.

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**Key Words:** Methadone Maintenance Treatment, Relapse, Theory of Planned Behavior

**1. Introduction**

Drug addiction is a main problem in society ruining the life and leading to use of national assets for combating addiction and its defects (1, 2). In this century, illegal smuggling of narcotics, psychotropic drugs, and substances has turned into a social crisis. Currently, more than 26 million annual deaths occur due to drug use worldwide and it will rise to more than 40 million within next 20 years that more than a third of it will occur in developing countries (3). Drug abuse is considered as one of the health, social, economic and political problem over the world. In addition, Iran for its specific geographical, social and cultural situations provided vulnerable situation for drug abuse. Research showed the 1.2 to 2 million people in Iran is addicts and 11 million people out of the population of Iran are struggling with their addiction or a member of their family (4, 5). In other hand, the one of most likely outcome of any given quit attempt is relapse and it's most common in the days after quitting and also it can happen for years after wards (6, 7). About treatment of all behavior disorders, relapse is a terrible challenge; and persons

engaging in behavior disorders are confronted with urges, cues, and automatic thoughts regarding the maladaptive behaviors they are attempting to change (8). Shiffman and colleagues described relapse is an instance of a previously cosseted behavior and it's highly probable when individuals attempt to change a problematic behavior. And relapse is a return to the previous problematic behavior pattern that possible, following the initial setback; and another possible outcome is prolapse that individual getting "back on track" in the direction of positive change (9). Relapse is a measure of the effectiveness of drug treatment (10). Relapse there was in all behavior that people are looking to change, but in cases such as drug addiction and obesity is much higher (11). Studies show that 20 to 90 percent of addicts duration treated, was relapse; also relapse could be cause avoid of daily activities, reduces confidence, accountability and efficiency of addict (12). According to prevalence of relapse, studies about effective factors on this behavior, based on psychosocial models of health behavior is necessary for planning of interventional programs. In this regard, several studies have reported theory of

planned behavior predictability to explain healthy behavioral such as methadone maintenance treatment and substance abuse (13-16).

The objective of this study was to determine factors related to methadone maintenance treatment among sample of Iranian addicts based on the theory of planned behavior.

## 2. Methods

This cross-sectional study was conducted on 700 sample of population aged 16 to 53 years old referred to methadone therapy center in Kohgiluyeh and Boyer-Ahmad province, the center of Iran, during spring and summer 2013. The sample size was calculated at 95% significant level according to the results of a previous study (17) and a sample of 700 was estimated.

To enroll the participants and collect data the following stages were done. First, each of cities of Kohgiluyeh and Boyer-Ahmad province was considered as a class (category) and different areas of the each city were classified based on the division of the geographical region, then based on proportional to size different methadone therapy center for each city were randomly selected. Then, subjects referred to the methadone therapy center for treatment, were enrolled into this study voluntarily. Finally, the volunteers were given the self-questionnaire, also for volunteers who reported literate education information was collected from interview.

Theory of planned behavior scale was designed based on standard questionnaires (14-16). Prior to conducting the main project, a pilot study was carried out. Initially, the relevant questionnaires were administered to 30 addicts who were similar to study

population in order to estimate the duration of the study conduction and to evaluate the reliability of the questionnaire.

Of the population of 700, 598 (85.4%) signed the consent form and voluntarily agreed to participate in the study, which has been approved by the institutional review board at the Yasuj University of medical sciences.

## 3. Result

The mean age of respondents was 33.58 years [95% CI: 32.86, 34.29], ranged from 16 to 53 years.

The initiation age for drug use was 10. Regarding the educational status: 3.3% (20/598) had in literacy, 36.8% (220/598) elementary, 23.2% (139/598) middle, 29.9% (179/598) were diploma and 6.7 % (40/598) were academic educated. 46.8% (280/598) participants were married, 43.1% (258/598) were single, and 10.1% (60/598) were reported his wife dead or divorce.

Nearly 26.4% (158/598), 3.5% (21/598), 79.9% (478/598) of the respondents reported that their father, mother and friends were drug users, respectively.

In addition, result about history of substance abuse experience among participants indicated opium, marijuana and methamphetamine were most drug abuse respectively.

High risk behaviours analysis showed that, 37.5% (224/598) reported having unsafe sexual behavior (without using condoms, or having multiple sexual partners) in his life, and 14.4% (86/598) history of drug injection.

Table 1 shows bivariate correlations between the TPB constructs and resiliency, which were all statistically significant at either 0.01 level.

Table 1: Correlation between different components of theory of planned behavior

Component	Mean (SD)	X <sup>1</sup>	X <sup>2</sup>	X <sup>3</sup>
X <sup>1</sup> . Attitude	18.24 (4.83)	1		
X <sup>2</sup> . Subjective norms	11.29 (2.96)	0.351	1	
X <sup>3</sup> . Perceived behavioural control	12.06 (3.18)	0.341	0.329	1
X <sup>4</sup> . Intention	9.41 (2.46)	0.306	0.508	0.626

Linear regression analysis was performed to explain the variation of methadone therapy intention. As can be seen in table 2,

Collectively, TPB variable were accounted for 49% of the variation of methadone therapy intention.

Table 2: Theory of Planned Behavior Variables Predictors of the Intention to Methadone Maintenance Treatment

Variable	B	SE B	B	T	p-value
Step 1					
Attitude	0.007	0.016	0.014	0.430	0.668
Subjective Norms	0.278	0.027	0.335	10.457	0.000
Perceived behavioral control	0.395	0.025	0.511	15.998	0.000
Step 2					
Subjective Norms	0.282	0.026	0.339	10.985	0.000
Perceived behavioral control	0.397	0.024	0.515	16.670	0.000
Adjusted R squared = 0.49, P < 0.001					

#### 4. Discussion

Our findings are consistent with other studies about the experience of drug use in Iran (17-21), in addition, showed high prevalence of hazardous substances such as crack and methamphetamine among the Iranian addict. This result suggested in interventional substance abuse prevention program should be pay special attention on industrial drugs.

The mean age of respondents was 33.58 years; which also similar with other studies among Iranian addict. For example, Asayesh et al (18) stated that mean age of addicts who referring to addiction treatment centers in Golestan County was 34.2 years. Furthermore, Froghi and Abbasi in their studies, have reported partly similar results (20, 21).

Research carried out in this context indicates during the last two decades, the onset age of substance abuse in Iran was decreased and sometimes below 20 years and has 8 years (22). Therefore, recommended substance abuse prevention programs are designed and implemented for early age in the community.

Comprehensive preventative health education programs essential to underline on psychological factors that mediate and predict health-related behaviors (23). The aim of this study was to determine factors related to methadone maintenance treatment intention among sample of Iranian men addicts based on the theory of planned behavior. Linear regression analysis showed, attitude, subjective norms and perceived behavioral control were accounted for 49% of the variation of methadone maintenance treatment intention. Also the results of the present study indicated that subjective norms and perceived behavioral control was the most influential predictors to methadone maintenance treatment intention.

Our results revealed the family and friends approval of methadone maintenance have a achieved higher average score of subjective norm items. In this regard, Lai (14) and Tsai (24) in their studies are mentioned importance role of subjective norms, including friends and family support for methadone maintenance treatment.

The theory of planned behavior recommended that perceived behavior control of the focal person in a decision making situation may affect behavioral intentions (25). Furthermore, numerous research have reported perceived behavior control, is a good predictor for high risk behavior (26-29). In addition, Caron et al in their study indicated that changes in perceived behavioral control can have a positive role in reducing risk behaviors (30). Our result showed perceived behavioral control was a strong factor for predict methadone maintenance treatment intention.

It seems coping skills training, and increased social support for addicts could be beneficial results

for the methadone maintenance treatment persistence and relapse prevention.

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#### Conflict of interest statement

The authors declare that they have no conflict of interest.

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