

## Prediction of Dyadic adjustment by Sexual Satisfaction & Relationship Beliefs in Methadone Patients

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### Abstract

**Background:** While methadone maintenance therapy (MMT) in patients with opioid use disorder (OUD) decreases the risk of substance use relapses and criminal and risky sexual behavior, a major disadvantage is its negative impact on sexual function. Sexual satisfaction and marital adjustment are the important aspects of married life that strictly affect the quality and stability of the relationship between couples. The present study aimed to evaluate Prediction of Dyadic adjustment by Sexual Satisfaction & Relationship Beliefs in Methadone Patients.

**Materials and Methods:** Method was descriptive- correlation. This study examined people under treatment of methadone for at least six month. 74 addicts and their spouses took part in the study by completing questionnaires of relationship beliefs inventory (RBI), Larson sexual satisfaction inventory and revised dyadic adjustment. Demographic information and risk factors were recorded in a questionnaire for every patient. Using spss v.23 software, data were analyzed by descriptive statistics.

**Results:** drug abuse age and dysfunctional relationship beliefs negatively predicted dyadic adjustment. Sexual satisfaction was a positive and relationship beliefs was a negative factor for prediction of spouse's dyadic adjustment ( $01/0>P$ ).

**Conclusions:** Patients on MMT are associated with lower sexual desire when compared with patients on BMT. Erectile dysfunction is common in men receiving MMT. The severity of erectile dysfunction is related to the duration of MMT and is not dose-dependent. Therefore, subjects who are on long-term MMT need more frequent erectile dysfunction assessment. Therefore, Use of educational periods and family therapy sessions can be useful in deal with patients and their spouses in addiction treatment centers.

**Keywords:** Substance Abuse, Methadone Maintenance Therapy, Dysfunctional Relationship Beliefs, Sexual Satisfaction, Dyadic Adjustment

### Introduction

Addiction has been one of the biggest problems of human societies for long, negatively affecting the lives of individuals, families and community from different physical, behavioral, social and economic aspects. Few phenomena can be found that to have a profound destruction on the life of a community like addiction in a silent and gradual way. The scholars have always tried to discover the effects of smoking, heroin, alcohol, cannabis, and the like on different aspects of human health.

One of the most significant elements in substance abuse or avoidance is the family and its functioning. Studies have indicated that problems in family functioning are connected to antisocial behavior, aggression and addiction. Generally, the relationship between family dysfunction and addiction is significant.<sup>[1]</sup> Many family conflicts end in substance abuse and reciprocal substance abuse fuels them up. Among them, one can state the problems and disorders in having sex with one's spouse, which previous studies have shown the

importance of this dimension of family relationships and its effect on increasing conflicts and reducing dyadic adjustment.

Moreover, sexual and marital problems can also be counteracted by the phenomenon of addiction, with a variety of reasons given for the tendency to substance abuse: including the fact that some people try to be accepted in community and others try to show themselves more mature.<sup>[2]</sup> Previous studies like Zeinali et al.<sup>[3]</sup> have stated different reasons like nervous and psychological discomfort, physical pain, sexual problems, and so on as gateways to using drugs. Additionally, studies show that rejection and lack of warm and emotional relationships are very high among addict families.<sup>[4]</sup>

Barrientos<sup>[5]</sup> argues that couples' sexual satisfaction can be used as a means of measuring their interactions. Many studies show that couples have the potential and hidden conflicts over sexuality but consider it a secret and avoid revealing it.<sup>[6-8]</sup> Moreover, stress, failure, frustration, anger, and eventually boredom occur if the spouses do not raise their needs or do not realize the needs of each other in relation to each other and do not reach a positive solution to meet their needs.<sup>[9]</sup> Thus, another very important factor in having dyadic adjustment is

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the way spouses perceive and think logically about the relationship between them.

The present study tries to answer the question of what changes in methadone maintenance treatment (MMT) will cause in the behavior of addicts and their spouses regarding the above variables, as maintenance treatment with opioid agonists is the main treatment for addiction in many countries of the world.<sup>[10]</sup> Methadone belongs to a group of opioids and is mostly used to treat dependence on other opioids like heroin, codeine and morphine. Methadone is a synthetic opioid, produced from chemicals and in the laboratory. Methadone therapy is a method that works in long-term. The length of treatment varies from 1 to 20 years or more. This continuous treatment with appropriate dose is medically safe and is the most effective treatment for opioid dependence at present.<sup>[11]</sup>

As one of the physiological needs, sexual satisfaction causes human health and high physical and psychological pressures caused by lack of it misguide the person, disturb his health and reduce his abilities and creativity sex.<sup>[12]</sup> Sexual instinct is one of the underlying factors of family formation and its satisfaction is very important and necessary. Satisfaction of this instinct not only calms man with a direct effect on the nerves and psyche, but also has known beneficial effects on the body.<sup>[13]</sup> According to some studies, 30% of the divorces are related to sexual incompatibility of couples.<sup>[6]</sup> Furthermore, Iranian experts have found that 50 to 60% of the divorces are due to sexual problems and disorders.<sup>[14]</sup> In the meantime, a concept called dyadic adjustment is introduced, which is the cause of happiness and well-being of spouses and its reduction is the cause of many divorces, and one can state that healthy, sufficient and enjoyable sexual relations are the most important causes of dyadic adjustment, followed by mental health and happiness in married life. The couples compatible and happy in this regard can easily ignore many of the inconsistencies in their lives, whereas life inconsistencies can have serious consequences for couples who are not sexually satisfied.<sup>[15,16]</sup>

Additionally, different studies have indicated that one of the most significant problematic factors in the family is a communication disorder or a disorder in the process of understanding. For instance, a report from a family counseling agency showed that the main problem for 78% of couples participating in the study was communication problems.<sup>[17]</sup> One of the most important parts of the communication system is noise. Noise is any component that distorts people's relationships, beliefs, or knowledge of each other.<sup>[18]</sup> Irrational thinking in many cases leads to neurosis and communication disorders and communication patterns that make the continuation of the relationship difficult.<sup>[19]</sup> Beck argues that the most important cause of marital and human relations problems is misunderstanding, and he believes that differences in people's attitudes lead to differences and the consequences. By emphasizing the correct relationship between husband and wife and by correcting their conclusions towards each other, by reducing the intensity of hostilities, more logical relations can be established between families.<sup>[20]</sup>

Although there are various perspectives in explaining the causes of communication problems, the cognitive approach has a specific status in this regard. As Ellis<sup>[19]</sup> argues the disruption in a couple's relationship is not related to the other party's behavior or severe life breakdowns, but rather to the couple's beliefs about such behaviors and failures. In this perspective, while considering the feelings and behaviors of couples, more emphasis is placed on the way of thinking and the type of beliefs as it is this thinking and belief that ends in widespread anger and chaotic relationships between couples. Thought, feeling, and behavior are fully interacting with each other, and each is constantly being affected by the other two processes.<sup>[21]</sup> Thus, the study tries to clarify whether the level of sexual satisfaction and dysfunctional communication beliefs between couples contribute to predicting the degree of dyadic adjustment and whether the duration of treatment can predict the increase in the level of dyadic adjustment, sexual satisfaction and dysfunctional communication beliefs.

One of the objectives of the study is to examine the relationship between sexual satisfaction and the level of dysfunctional communication beliefs of methadone addicts and the level of dyadic adjustment in them and their spouses. As sexual dysfunction caused by substance abuse usually does not return to normal easily with quitting and the passage of time, the study tries to examine the effect of the passage of time after quitting on improving sexual function and correction of their dysfunctional communication beliefs and, consequently, the dyadic adjustment of the individuals and their spouses.

## Literature review

In determining the relationship between sexual satisfaction and individual factors among the couples, Rahmani et al.<sup>[22]</sup> showed a statistically significant relationship between each of the factors of age difference between couples, duration of marriage and addiction status of men and women and sexual satisfaction. In another study, Rahmani et al.<sup>[22]</sup> showed that dyadic adjustment is significantly related to sexual satisfaction. Moreover, there was a statistically significant relationship between marital life satisfaction and age difference between couples. Vaziri and Lotfi Kashani<sup>[23]</sup> studied 194 female students of Roodehen Branch School of Psychology and stated that sexual self-efficacy had a significant relationship with dyadic adjustment and that sexual self-efficacy scores can be used to predict dyadic adjustment scores. Movahed and Azizi<sup>[24]</sup> showed an inverse and significant relationship between women's sexual satisfaction and conflicts between spouses: as women's sexual satisfaction increases, couples' conflicts decrease, and vice versa. In a study on the couples living in Yazd, Bakhshai and Mortazavi<sup>[25]</sup> showed that the correlation between sexual satisfaction and dyadic adjustment is positive. Furthermore, the duration of marriage was not significant with dyadic adjustment and general health, but had a significant and inverse relationship with sexual satisfaction.

Vaghei et al.<sup>[26]</sup> examined the factors related to the level of dyadic adjustment among the two universities staff in Birjand and found that the main level of dissatisfaction was among the nine components in the field of sexual relations and conflict resolution. In a study examining the relationship between communication beliefs and dyadic adjustment, Moller and Vanzeyl<sup>[27]</sup> showed significant correlations between the score of dyadic adjustment scale and the subscales of belief in destructive opposition (D) and sexual perfectionism (S) from the relational beliefs inventory (RBI). Sullivan and Shwebel<sup>[28]</sup> examined the relationship between young people's expectations and levels of irrational beliefs and their satisfaction with marital relationships. The results showed that dissatisfaction with current life is related to the levels of irrational beliefs and their expectations. Moreover, Soleimani<sup>[29]</sup> examined the effect of irrational thoughts on marital dissatisfaction in an Iranian sample. The findings indicated that the people with irrational thoughts have significantly lower dyadic adjustment.

### Research questions

Can the duration of substance abuse predict an individual's sexual satisfaction?

Can the duration of substance use predict an individual's dysfunctional communication beliefs?

Can the duration of substance abuse predict an individual's dyadic adjustment?

Can the duration of addiction treatment predict an individual's sexual satisfaction?

Can the duration of addiction treatment predict an individual's dysfunctional communication beliefs?

Can the duration of addiction treatment predict an individual's dyadic adjustment?

Can the duration of addiction treatment predict an individual's spouse's dysfunctional communication beliefs?

Can the duration of addiction treatment predict an individual's dyadic adjustment?

### Research hypotheses

Sexual satisfaction is a significant predictor of dyadic adjustment in people with substance abuse.

Dysfunctional communication beliefs are a significant predictor of dyadic adjustment in people with substance abuse.

Sexual satisfaction of a person is a significant predictor of dyadic adjustment of spouse in people with substance abuse.

Dysfunctional communication beliefs of the individual are significant predictors of dyadic adjustment of the spouse in people with substance abuse.

### Materials and Methods

### Population, sample and sampling method

The population was all the addicts attempting to quit using MMT in Shiraz in 2013. The sample was 74 married people (29 candidates for quitting and 45 undergoing treatment) admitted to Neshat Amin and Iman addiction treatment centers in Shiraz and their spouses.

The subjects were selected using convenient sampling method and information was collected through a questionnaire. The inclusion criteria were literacy and the ability of sight and hearing to complete the questionnaires and the exclusion criteria were chronic physical or mental illness and age over 60 years, as the sexual ability of people under the effect of these two factors greatly reduces.

### Research tools

#### *Relationship Beliefs Inventory (RBI)*

This scale has a 40-item questionnaire that has been developed by Eidelson and Epstein<sup>[30]</sup> to measure irrational beliefs about marital relationships and has 5 domains (irrational relationship beliefs). Cronbach's alpha coefficient for this scale has been estimated to be from 0.72 to 0.81 and all 5 subscales have a significant relationship with marital scales.<sup>[31]</sup> The Persian version was validated by Mazaheri and Pouratamad.<sup>[32]</sup> James et al.<sup>[33]</sup> reported an alpha coefficient from 0.58 to 0.83 for the five subscales of this scale. Heidari et al.<sup>[34]</sup> obtained the internal consistency for subscales from 0.47 to 0.70.

The 5 areas of irrational communication beliefs are:

- 1- Believing that disagreement is destructive, which means disagreement is harmful (questions 1, 6, 11, 16, 21, 26, 31, 36).
- 2- Mind reading is expected that means expecting the spouse to understand the feelings and thoughts and needs of the spouse without expressing them (questions 2, 7, 12, 17, 22, 27, 32, 37).
- 3- Partners cannot change that means the belief in the non-changing behaviors of the spouse and their repetition in the future (questions 3, 8, 13, 18, 23, 28, 33, and 38).
- 4- Belief in sexual perfectionism, which is expecting the spouse to have full sexual intercourse regardless of the spouse's circumstances and needs (questions 4, 9, 14, 19, 24, 29, 34, and 39).
- 5- The sexes are different, which is expecting a spouse without considering the cognitive and physiological differences between men and women or congenital differences as the cause of differences (questions 5, 10, 15, 20, 25, 30, 35, 40).

The answer sheet of this scale is of the Likert type and the subjects express their opinion about each item in form of one of the following options: 0 (completely wrong), 1 (wrong), 2 (probably wrong), 3 (probably right), 4 (right), and 5 (completely right). It has to be noted that questions 2, 7, 9, 13, 16, 18, 25, 28, 29, 31, 33, 34 and 36 are scored in inversely. A higher score on this scale shows more irrational communication beliefs.

#### *Larson Sexual Satisfaction Questionnaire*

This questionnaire has 25 questions, in the answers of which, there are five options - never, rarely, sometimes, most of the time and always. Based on the selected option, each question is given one to five points. It has to be noted that questions 4, 5, 6, 7, 8, 11, 14, 15, 18, 20, 24, and 25 are scored inversely. In Iran, Meshkabad Haghghi and Shams Mofreh (2001) used the content validity to determine its validity and the test retest method to determine its reliability, confirmed with a correlation coefficient of 0.98 (quoted by Rahmani et al.<sup>[22]</sup>). Rahmani et al.<sup>[22]</sup> used “test retest” method to determine the reliability of the instrument and  $r = 0.86$  was obtained.

#### *Spanier Revised Dyadic Adjustment Scale (RDAS)*

The questionnaire was developed by Busby et al. (1995) (quoted by Isanejad et al.<sup>[35]</sup>). The main form of the scale was created by Spanier<sup>[36]</sup> and based on the theory of Lewis and Spanier<sup>[37]</sup> regarding the quality of marital relations. After proposing their theory of marital quality, Fincham and Bradbury<sup>[38]</sup> introduced this questionnaire as a suitable tool for evaluating marital life quality. This 14-item questionnaire is based on the original 32-item Spinner questionnaire, scored in a 6-option range from “0” to “5”: completely agree gets a score of “5” and completely disagree gets a score of “0”. It has to be noted that questions 7, 8, 9 and 10 are scored inversely. This tool has three subscales: “Agreement” (questions 1 to 6), “Satisfaction” (questions 7 to 10), and “Cohesion” (questions 11 to 14). Overall, high scores show higher marital quality.

Confirmatory factor analysis confirmed the three-factor structure of the questionnaire in the United States and showed its validity. The validity of the questionnaire was reported using Cronbach’s alpha method by Hotlist and Miller<sup>[39]</sup> from 0.80 to 0.90. The validity of the questionnaire was examined by Isanejad et al.<sup>[35]</sup> and its structural validity was confirmed using confirmatory factor analysis. Moreover, the reliability scores for satisfaction, agreement and cohesion factors were obtained using Cronbach’s alpha as 0.91, 0.89 and 0.86, respectively, and for the whole questionnaire as 0.92.

#### *Research Plan*

The study design was correlational and the statistical method used was regression. The researcher examined the predictive effect of sexual satisfaction and dysfunctional communication beliefs on dyadic adjustment by collecting information.

#### *Procedure*

From among the population, 100 married people admitted to two addiction treatment centers “Neshat Amin” and “Iman” were selected using convenient methods. After informing the subject, granting the subjects' consent, assuring them that the information is confidential and using the information of the questionnaires only for the present study, the questionnaire contains three scales related to the research variables at their disposal. And their spouses were presented with a questionnaire of communication beliefs and dyadic adjustment. Then the necessary explanations were provided to fill out the questionnaires. Out of about 100 pairs of questionnaires distributed, 74 completed questionnaires were returned to researchers.

In this study, after collecting the questionnaires and ensuring their completeness, their scores were calculated by the mentioned methods and using the statistical method of “calculating the regression coefficient between the time of use and withdrawal of substances” and the variables were analyzed. Moreover, the analysis was done in SPSS 21 and the significance level was determined as 0.05.

## **Results**

### **The results of research questions**

Question 1: Can long-term substance abuse predict sexual satisfaction, dysfunctional communication beliefs, and dyadic adjustment?

Table 1 shows the regression results of the predictive role of substance abuse duration in each of the variables of sexual satisfaction, dysfunctional communication beliefs, and dyadic adjustment and their subscales.

**Table 1. Regression of the predictive role of sexual satisfaction variables, dysfunctional communication beliefs and dyadic adjustment and their subscales by substance use duration**

	<b>R</b>	<b>R<sup>2</sup></b>	<b>F</b>	<b>Beta</b>	<b>Sig</b>
Sexual satisfaction	0.149	0.022	1.636	0.149	0.205
Dysfunctional communication beliefs	0.034	0.001	0.074	-0.034	0.773
Destruction of disagreement	0.258	0.066	5.115	-0.258	0.027
Mind reading is expected	0.162	0.026	1.948	-0.162	0.167
Partners cannot change	0.238	0.057	4.329	-0.238	0.041
Sexual perfectionism	0.255	0.065	5.011	0.255	0.028
The sexes are different	0.308	0.095	7.558	0.308	0.008
Dyadic adjustment	0.439	0.193	17.230	-0.439	0.000
Agreement	0.244	0.060	4.565	-0.244	0.036
Satisfaction	0.259	0.067	5.195	-0.259	0.026
Cohesion	0.308	0.095	7.565	-0.308	0.008

As is seen, the duration of substance abuse predicts dyadic adjustment at a significant level of 0.01 and negatively, yet predicting dysfunctional communication beliefs and sexual satisfaction by it is insignificant. However, the duration of substance abuse of each of the subscales of destructiveness disagreement, destruction of disagreement, partners cannot

change and sexual perfectionism at the level of 0.05 and the subscale sexes are different at the level of 0.01 are positively predicted. It is also reported that the duration of substance abuse of each of the subscales of dyadic adjustment (agreement, satisfaction and cohesion) is negatively predicted at the level of 0.05, 0.05 and 0.01.

Question 2: Can the duration of addiction treatment predict an individual's sexual satisfaction, dysfunctional beliefs, and dyadic adjustment?

Table 2 shows the regression results of the predictive role of duration of addiction treatment in each of the variables of sexual satisfaction, dysfunctional communication beliefs and dyadic adjustment and their subscales.

**Table 2. Regression of the predictive role of sexual satisfaction variables, dysfunctional communication beliefs, and dyadic adjustment and their subscales by duration of addiction treatment**

	R	R <sup>2</sup>	F	Beta	Sig
Sexual satisfaction	0.203	0.041	3.105	0.203	0.082
Dysfunctional communication beliefs	0.081	0.007	0.447	-0.081	0.492
Destruction of disagreement	0.214	0.046	3.467	-0.214	0.067
Mind reading is expected	0.054	0.003	0.211	-0.054	0.647
Partners cannot change	0.232	0.054	4.092	-0.232	0.047
Sexual perfectionism	0.341	0.116	9.459	-0.341	0.003
The sexes are different	0.139	0.019	1.416	0.139	0.238
Dyadic adjustment	0.125	0.016	1.143	0.125	0.289
Agreement	0.248	0.061	4.701	0.248	0.033
Satisfaction	0.065	0.004	0.306	0.065	0.582
Cohesion	0.017	0.000	0.020	-0.017	0.887

As is seen, the duration of addiction treatment does not significantly predict dyadic adjustment, dysfunctional communication beliefs, and sexual satisfaction in general. However, the duration of addiction treatment predicts some subscales of dysfunctional communication beliefs and dyadic adjustment, including sub-scales of partners cannot change and sexual perfectionism at the level of 0.05, and 0.01, respectively, in a negative and significant way and the subscale of the agreement in a positive way and at the level of 0.05.

Question 3: Can the duration of addiction treatment predict dysfunctional communication beliefs and dyadic adjustment of the spouses?

Table 3 shows the regression results of the predictive role of the duration of addiction treatment in the variables of dysfunctional communication beliefs and dyadic adjustment of the individual spouse and their subscales.

**Table 3. Regression of the predictive role of dysfunctional communication beliefs and dyadic adjustment of a spouse by the duration of addiction treatment**

	R	R <sup>2</sup>	F	Beta	Sig
Dysfunctional communication beliefs	0.345	0.119	9.714	-0.345	0.003
Destruction of disagreement	0.157	0.025	1.814	-0.157	0.182
Mind reading is expected	0.218	0.048	3.609	-0.218	0.061

Partners cannot change	0.031	0.001	0.069	0.031	0.794
Sexual perfectionism	0.392	0.154	13.092	0.392	0.001
The sexes are different	0.216	0.047	3.537	-0.216	0.064
Dyadic adjustment	0.044	0.002	0.138	-0.044	0.712
Agreement	0.178	0.032	2.344	0.178	0.130
Satisfaction	0.395	0.156	13.280	-0.395	0.001
Cohesion	0.067	0.004	0.323	0.067	0.572

As is seen, the duration of an individual's addiction treatment negatively predicts the spouse's dysfunctional communication beliefs at the 0.01 level. Moreover, the duration of addiction treatment can only positively predict the sexual perfectionism subscale at the 0.01 level. Another point is that although the duration of addiction treatment cannot predict the dyadic adjustment of the spouse, yet it can positively predict only the subscale of satisfaction out of the subscales of dyadic adjustment of the spouse at the level of 0.01.

## Results related to research hypotheses

Hypothesis 1: Sexual satisfaction is a significant predictor of dyadic adjustment in people with substance abuse.

Hypothesis 2: Dysfunctional communication beliefs are a significant predictor of dyadic adjustment in people with substance abuse.

Table 4 shows the regression results of the predictive role of sexual satisfaction and dysfunctional communication beliefs and their subscales in the dyadic adjustment.

**Table 4. Regression of the role of sexual predictor and dysfunctional communication beliefs and its subscales in dyadic adjustment**

	R	R <sup>2</sup>	F	Beta	Sig
Sexual satisfaction	0.093	0.009	0.623	-0.093	0.433
Dysfunctional communication beliefs	0.440	0.193	17.242	-0.440	0.000
Destruction of disagreement	0.527	0.278	27.700	-0.527	0.000
Mind reading is expected	0.483	0.233	21.894	-0.483	0.000
Partners cannot change	0.154	0.024	1.746	-0.154	0.191
Sexual perfectionism	0.045	0.002	0.145	0.045	0.704
The sexes are different	0.028	0.001	0.056	-0.028	0.813

As is seen, the role of dysfunctional communication beliefs in predicting dyadic adjustment is negative and significant at the level of 0.01, but sexual satisfaction does not have a significant role in predicting dyadic adjustment. Moreover, destruction of disagreement and mind reading is expected predict dyadic adjustment negatively thoughts at the level of 0.01.

Hypothesis 3: Sexual satisfaction is a significant predictor of dyadic adjustment in spouses with substance abuse.

Hypothesis 4: Dysfunctional communication beliefs are a significant predictor of dyadic adjustment of spouses in people with substance abuse.

Table 5 shows the regression results of the predictor role of each of the variables and their subscales in dyadic adjustment of an individual's spouse.

**Table 5. Regression of the predictor role of each of the variables and their subscales in dyadic adjustment of the individual's spouse**

	R	R <sup>2</sup>	F	Beta	Sig
Sexual satisfaction	0.306	0.093	7.424	0.306	0.008
Dysfunctional communication beliefs	0.772	0.596	106.284	-0.772	0.000
Destruction of disagreement	0.472	0.223	20.611	-0.472	0.000
Mind reading is expected	0.305	0.093	7.379	-0.305	0.008
Partners cannot change	0.502	0.252	24.196	-0.502	0.000
Sexual perfectionism	0.225	0.051	3.846	-0.225	0.054
The sexes are different	0.444	0.197	17.633	-0.444	0.000

As is seen, the role of sexual satisfaction in predicting dyadic adjustment is positive and significant at the level of 0.01. The role of dysfunctional communication beliefs in predicting dyadic adjustment is negative and significant at the level of 0.01. Moreover, the predictor role of the subscales of destruction of disagreement, mind reading is expected, partners cannot change and the sexes are different is negative and significant at the level of 0.01.

## Discussion and Conclusion

Concerning the research question, “Does the duration of substance use significantly predict sexual satisfaction, dysfunctional communication beliefs, and dyadic adjustment?” the results showed that the duration of substance abuse is a negative and significant predictor of dyadic adjustment. This is to say that the more years people abuse drugs, the lower their dyadic adjustment will be. Long-term substance abuse and its problems and consequences affect communication, perception, socio-economic status, and the mental health of the individual and family, and married life can certainly be one of the very important aspects affected. Besides the physiological effects, addiction leads to family and social consequences like reduced intimate relations with the spouse, bad temper, disrupted social relationships, reduced income and increased family expenses, which increase over time. All these elements affect dyadic adjustment. However, the duration of substance abuse is not a significant predictor for dysfunctional communication beliefs and sexual satisfaction. However, the duration of substance abuse is a positive and significant predictor of partners cannot change, sexual perfectionism, and the sexes are different. In other words, the higher the number of years of substance uses, the more irrational beliefs there will be about issues with these subscales. This is in line with Aziz Mohammadi.<sup>[40]</sup> The study showed a significant relationship between the scores of personality traits, dysfunctional thinking and duration of substance abuse in both groups of opium and heroin addicts. Indeed, long-term substance abuse changes people's thoughts and mindsets about environmental issues, like relationships, and leads to create irrational thoughts and beliefs. On the other

hand, the reaction of people in the community, like friends, spouse and family, is a strong reason for creating this type of communication beliefs. The reason for the insignificance of the regression results of the general scale of dysfunctional beliefs can be the low sample size, in which case it has to be tested in future studies with a larger sample.

Concerning the second research question - “Is the duration of addiction treatment related to sexual satisfaction, dysfunctional beliefs and dyadic adjustment?” - it was found that the predictor effect of duration of addiction treatment was insignificant with any of the measures of dyadic adjustment, dysfunctional communication beliefs and sexual satisfaction. However, the correlation between duration and duration of addiction treatment with each of the subscales of partners cannot change and sexual perfectionism is negative and significant. This means that the longer one quits using drugs, the less irrational your belief in partners cannot change and sexual perfection will be. Over time and quitting addiction, the individual's lifestyle and communication significantly changes. It is natural that one's way of thinking and judging others, like one's spouse, will enhance over time. Moreover, improving an individual's sexual function during addiction treatment, as shown in previous studies,<sup>41,42</sup> can change a person thoughts about their expectations for having a desirable sexual relationship.

The results concerning the third research question - “Is the duration of addiction treatment related to dysfunctional beliefs and dyadic adjustment of the spouse?” - showed that the predictor effect of the duration of addiction treatment is negative and significant with the dysfunctional communication beliefs of the spouse. However, its correlation with the dyadic adjustment of the spouse is insignificant. This shows that the longer a person quits and does not become addicted, the less irrational their spouse becomes about their relationship. This is because over time and the improvement of family and communication functions of the person due to addiction treatment, reduction of problems and issues caused by the person's addiction, due to positive changes in the person's personality and improvement over time, the spouse's communication attitudes will change towards him. However, dyadic adjustment was not affected by the duration of withdrawal.

Regarding the first hypothesis - “Sexual satisfaction is a significant predictor of dyadic adjustment in people with substance abuse” - the results showed that sexual satisfaction is not a significant predictor of dyadic adjustment in them. Hence, the first hypothesis of the study is rejected. This was inconsistent with those of Bakhshaish and Mortazavi,<sup>[25]</sup> Movahed and Azizi,<sup>[24]</sup> Rahmani et al.<sup>[43]</sup>, Vaghei et al.<sup>[26]</sup>, and Vaziri et al.<sup>[44]</sup> that studied the relationship between sexual satisfaction and dyadic adjustment in normal individuals. In explaining this, one can state that one of the characteristics of substance abusers is their aggressive personality in many areas of behavior. Undoubtedly, sexual relationship is exposed to this behavioral trait. These individuals usually enjoy aggressive sexual behaviors like assault, violent behavior,

harm, and humiliation, especially at short intervals. Hence, they will find more satisfaction in this type of behavior, ending in harassment of the sexual partner and his dissatisfaction.

Another reason for this problem could be due to the possibility of misperception of sexual function and consequently different criteria for sexual satisfaction in addicts. Most drug abusers, especially stimulants such as glass, overestimate their pleasures, including sexual pleasure and sexual function. This is because after substance abuse, they have hallucinations in evaluating their joys and feelings and emotions. However, one has to consider that long-term use impairs sexual desire and satisfaction that people experience in the absence of drugs. On the other hand, the issue of estimating sexual inefficiency may be unrealistic, as these people become addicted to drugs over the years to achieve sexual pleasure and desirable performance. According to Siegel<sup>[45]</sup>, addicts have personality traits like weak self, low tolerance range, and anxiety. Consequently, one can expect to have very low self-esteem and self-confidence in relation to their sexual abilities, which sometimes even after leaving, this lost self-confidence does not return. According to Rahmani et al.<sup>[43]</sup> because of the harmful biological effects of drugs on human sexual desire and ability, an addict lacks self-confidence and his addiction has an adverse effect on his sexual relations even after quitting from a psychological point of view. Hence, they may make mistakes in evaluating and reporting their sexual performance and thus do not have the correct criteria to estimate sexual satisfaction. These possible factors can make the relationship between sexual satisfaction and dyadic adjustment insignificant.

The results of testing the second hypothesis of this study - "dysfunctional communication beliefs are a significant predictor of dyadic adjustment in people with substance abuse" - showed that dysfunctional communication beliefs are a significant predictor of dyadic adjustment among these individuals. Thus, the second hypothesis was confirmed. This is in line with those of Muller and van Zyl<sup>[46]</sup>, Soleimanian<sup>[29]</sup>, Stackert and Bursick<sup>[47]</sup>, Sullivan and Shwebel<sup>[28]</sup>, who examined the relationship between dysfunctional communication beliefs and the level of dyadic adjustment and relationship satisfaction in normal individuals. Biased thoughts, cognitive misunderstandings, and irrational beliefs about how a spouse behaves increase conflicts and problems in the context of a relationship and married life. Dysfunctional communication beliefs are related to a decrease in positive feelings towards the spouse.<sup>[34]</sup> Not having a proper understanding of the differences between men and women and having the same expectations of them, and perfectionism in sexual relations, cause unreasonable and irrational expectations of each other. Believing in the destructiveness of opposition and expecting the discovery of thoughts is completely irrational, ending in misunderstandings between spouses. Beck<sup>[20]</sup> claimed that even couples without serious difficulties in communication can face severe misunderstandings that usually lead to in despair and frustration. It is hostile and increases the severity of the relationship. According to Heidari et al.<sup>[34]</sup>, the concern about

the spouse's opposition increases the intensity of the defensive position. All these factors result in lack of hope for the future and the variability of the spouse's misbehavior and the lack of improvement in the relationship. Thus, the level of dyadic adjustment decreases in these conditions.

The results of testing the third hypothesis - "Sexual satisfaction of an individual is a significant predictor of dyadic adjustment of spouses in people with substance abuse" - shows that the sexual satisfaction predicts a significant predictor of dyadic adjustment of a spouse. Thus, the hypothesis was confirmed. This is not line with the results of Bakhshaish and Mortazavi<sup>[25]</sup>, Movahed and Azizi<sup>[24]</sup>, Rahmani et al.<sup>[43]</sup>, Vaghei et al.<sup>[26]</sup>, and Vaziri et al.<sup>[44]</sup> examining the relationship between sexual satisfaction and dyadic adjustment among the normal individuals. Most studies have indicated that sexual issues are among the most important issues in married life. Problems with sex can even indicate other problems in a marriage. Hence, it is natural that the level of dyadic adjustment in these conditions decreases. One of the most important functions of marriage is to satisfy the sexual needs of the couple through legal and legitimate means. In married life, good life quality and pleasurable sexual relations are of the factors of blessing, as its unsatisfactory nature leads to deprivation, failure and insecurity in spouses.<sup>[48]</sup> In comparing the first and third hypotheses, satisfaction is a mental concept that indicates an individual's perception of sexual behaviors and the degree of response of his wife in a sexual relationship as already stated. It is natural that the level of cooperation and efficiency of the spouses in sexual intercourse shows the degree of their satisfaction with cohabitation and predicts his dyadic adjustment.

Regarding the fourth hypothesis - "dysfunctional communication beliefs are a significant predictor of dyadic adjustment of spouses in substance abusers" - the results showed that dysfunctional communication beliefs significantly predict dyadic adjustment of a spouse. Thus, the fourth hypothesis was confirmed in line with the second hypothesis. This is in line with the results of Moller and Vanzeyl<sup>[27]</sup>, Soleimanian<sup>[29]</sup>, Stackert and Bursick<sup>[47]</sup>, and Sullivan and Shwebel<sup>[28]</sup> who studied the relationship between dysfunctional communication beliefs and the level of dyadic adjustment with relationship satisfaction in normal individuals. The findings showed the significance of couples' cognitive beliefs and beliefs in shaping adaptation in married life. Communication beliefs have a significant role in satisfaction and dissatisfaction with the married life. This means that changing these beliefs can pave the way for couples to continue their conjugal life.

One can expect that by making positive changes in couples' communication beliefs, one of the main areas of drug addiction, i.e. marital conflicts and incompatibilities, will be prevented, and this is a significant element in providing and developing mental and social health. Correcting dysfunctional beliefs called for a program that teaches couples that misconceptions are created by their incorrect predictions.

Knowing this can help couples solve their communication problems. They have to be aware of their irrational beliefs and take responsibility for their thoughts, and the existence of these thoughts does not mean that they need to be reacted to quickly. Thus, changing these beliefs can pave the way for couples to continue living.

The significance of the study is its findings to accurately understand the individual and marital problems of people with substance abuse and even during and after the withdrawal period. This is because the test results of the hypotheses and the non-confirmation of some of them interestingly show that these people have special needs and psychological, social and family conditions different from normal people in community. The results of Heidari Pahlavian et al.<sup>[49]</sup> have shown that addicts are a heterogeneous group and not all can be included in one spectrum. The typology of addicts has to be based on both sociological variables and psychological base; thus, one can state that addicts can not only be classified into relatively separate groups, but also these groups differ in terms of prognosis and the types of responses to different therapies. One type of treatment may be very effective for one group and destructive or ineffective for another. For instance, treatment for addicts with mental illness should differ from treatment for addicts with more severe mental illness. Such an understanding of addiction has been confirmed by Nurco et al.<sup>[50]</sup>

Moreover, the results are used in the development and completion of family counseling programs in addiction treatment centers, couples' awareness of marital issues related to addiction, and strategies to increase mental and sexual health of people with substance abuse. Strain et al.<sup>[51]</sup> argue that solving patients' sexual problems during addiction treatment can help them last longer in treatment.

The limitations of the study were that the study was done only on men with substance abuse and its generalizability is limited for all male and female addicts. Furthermore, the sample size was limited and some addicts refused to cooperate due to cultural issues. Several were dissatisfied with their spouse's presence at the clinic and did not cooperate. The non-separation of the leaving and treated applicant group limits us in explaining some of the results, as the explanation of some results may be different in the two groups.

It is suggested that the study should be conducted with a larger sample size so that the research results can be relied on more confidently, as the reason for not confirming some hypotheses can be the small sample size and the results may change as the sample size increases. Additionally, treatment programs for addicts could differ based on the scientific typology of addicts. It is essential to study and identify demographic and psychological characteristics, starting age, and different personality problems before starting treatment. Probably, overlooking the above is of the major causes for the failure of preventive and therapeutic measures. It is suggested that weekly counseling sessions should be held during and after treatment and followed up regularly by a psychologist.

Moreover, family therapy sessions have to be established besides treatment centers and the presence of the spouse and family has to be utilized for treatment purposes.

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The authors declare that they have no conflict of interest.

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### Ethics statement

None. Studies involving humans and animals must have been performed with the approval of an appropriate ethics committee and provide the reference number.

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