

# Effectiveness of Transactional Analysis Group Therapy on Addiction Intensity of Woman Patients Treated with Methadone

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## Original Article

### Abstract

**Background:** Addiction brings about severe and profound physical, psychological and social damages such as divorce, crime, and unemployment. The present study was to investigate the effectiveness of transactional analysis (TA) therapy on addiction intensity of woman patients treated with methadone.

**Methods:** The research design was quasi-experimental with a pretest-posttest and a control group. The statistical population consisted of all the addicted women who referred to any drug rehabilitation center of Tehran, Iran, in 2016. They were selected using available sampling. Forty addicted patients were placed randomly in both the experimental and control groups. Addiction severity index (ASI) and demographic questionnaires were used. Group therapy using TA approach was executed on the experimental group for 10 sessions, each session for 2 hours (one session per week).

**Findings:** The results of covariance analysis after controlling pretest showed that the difference between test and control group was significant for three subscales of psychological, drug abuse and alcohol consumption status ( $P < 0.001$ ). The difference between test and control groups was significant considering the seven-variable centroid ( $P < 0.001$ ). The difference in dimensions of addiction intensity between the two groups was significant ( $P < 0.001$ ). Also, analysis of the variables separately showed significant differences in psychiatric condition, drug and alcohol use dimensions ( $P < 0.001$ ).

**Conclusion:** Based on these findings, it seems that group therapy using TA approach is effective in reducing addiction intensity of woman patients treated with methadone. Therefore, it can be concluded that TA group interventions account for 76% of the changes in psychological status, 43% of the changes in drug abuse status, and 49% of the changes in alcohol consumption status in woman patients under methadone treatment.

**Keywords:** Transactional analysis approach; Addiction; Intensity; Methadone

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## Introduction

According to the Diagnostic and Statistical Manual of Mental Disorders-5<sup>th</sup> Edition (DSM-V), each type of drug addiction and its related disorders are characterized by a set of cognitive, behavioral and physiological symptoms, tempting the person with a drug dependence to use drugs despite the fact that drugs cause severe problems.<sup>1</sup>

Drug abuse not only can bring about severe and profound physical and psychological damages to the person, but also can result in multiple social damages such as divorce, crime, and unemployment. Studies have proved that most of the patients suffering from drug abuse are diagnosed with a handful of physical diseases. Studies also have shown that the rate of mortality is higher among people with drug abuse; on average, they live 13.8 years less than other people.<sup>2</sup> The aforementioned mental or physical diseases start with the abuse of one drug. Gradually, the person with drug abuse develops a dependence on that substance, finding it impossible not to take the drug even in order to proceed with simple daily tasks. As time passes, the person's exploratory behavior to find and take drugs become mandatory. Due to the long-term effects of toxic substances on brain functions, the person with drug dependence is prone to a wide range of behavioral, psychological, social and physiological dysfunctions. Moreover, drug dependence disturbed the normal behavior in family, workplace, and society.<sup>3</sup>

Drug dependence and addiction to narcotics are alarmingly spreading throughout the world. In 2010, United Nations Office on Drugs and Crime (UNODC) has estimated the number of people with drug abuse to be over 220 million. A study was conducted on women with drug addiction in Tehran, Iran, to evaluate the initiators of drug abuse among them. The results indicated that almost half of them (47.8%) started abusing drugs to have enhanced concentration, curiosity and sexual potency. Furthermore, some claimed that increased memory and mental powers, enhanced performance, having higher energy and ability to be awake at nights where the main reasons to take drugs. Quitting other drugs, improving depression, skin freshness and improving anxiety were among the least frequent initiators.<sup>4</sup> Some of the studies have shown that

negative forces among peer groups can affect girls and women behaviors more heavily, compared to boys and men. Considering mental disorders, the relationship between post-traumatic stress disorder (PTSD) and drug abuse in women and girls can be more prominent compared to men and boys.<sup>5</sup>

Drug consumption dosage in teenage girls is alarmingly keeping up with their peer, boy teenagers. Interestingly, some studies have demonstrated that girls have overtaken boys in starting Heroin abuse.<sup>6</sup> Although women take more alcohol and drugs nowadays, there are still huge differences between two sexes regarding drug abuse. Women are less attracted to drugs in comparison with men; however, as soon as they take on drug abuse they show higher rates of a tendency toward drugs. In terms of a clinical standpoint, women experience drug side effects earlier. Moreover, different risk factors drive women to have addiction compared to men. Additionally, barriers to addiction treatment are more troublemaking in women with drug dependence.<sup>7</sup>

Another important indicator which affects drug abuse in women is geographical location. Different patterns of drug abuse heavily depend on the availability of drugs in a certain location. The combination of genetic, psychological and social factors can make some women more vulnerable to drugs compared with other peers. Researchers have concurred that some people are genetically and personally prone to drug abuse. Girls and women with drug and alcohol abuse tend to continue being affected by addiction throughout their lives.<sup>5</sup>

Methadone maintenance treatment (MMT) seems to be an effective substitute for narcotics to decrease the drug abuse. However, methadone effects decline by the time pass, making it necessary to use non-pharmacologic interventions to control deviations from treatment such as an increase in the consumption of the drug, in order to diminish the patients' relapse and to lengthen their abstinence period. Transactional analysis (TA) is one of the non-pharmacologic treatments, which is used to show healthy interpersonal relationships and grow intrapersonal abilities.<sup>8</sup> TA gives us a picture of a person's psychological structure and helps us understand how human beings act and behave. Furthermore, TA provides

us with a theory on how to communicate.<sup>9</sup> TA was introduced by Eric Berne for the first time; later on, it gained a huge acceptability in different psychotherapeutic scenarios and was known to be effective in enhancing peoples' mental health.<sup>8,10</sup>

Berne categorized this treatment based on four different levels as follows: 1) Social control. The first step in treating a patient is to control unhealthy social behaviors in society, no matter how the patient feels about the problems. 2) Treating symptoms. This level not only concerns the control of the patients' behavior, but also includes treating patients' sense of confusion and anxiety. 3) Transitional treatment. At this level, patients are patronized by the therapist. They look upon their therapist as a protective parent. The patients can use this transition to quit the role of an actor/actress in a play written by themselves throughout their growth stage. 4) Treating the play. At the end of the treatment, the patients become stable adults, who can substitute their transitional therapist with an inner therapist. They, at this phase, can always stay out of their previous "play" and can conceive themselves as a responsible and skillful people who can feel, think about and act independently toward the realities of life.<sup>11</sup>

Unfortunately, scientific resources lack a research concerning the efficacy of TA group therapy on reducing addiction intensity of woman patients under methadone treatment and we have to suffice the few related researches. Clayton and Dunbar<sup>11</sup> proved that the application of TA in alcohol prevention program for drunk-drivers can decrease the amount of alcohol consumption. According to this research, alcohol relapse rate is not different for this method compared to other treatments. In a research conducted by Kafi et al.<sup>12</sup> it has been indicated that TA group therapy can tempt detoxified patients to take drugs again. This can be of a great value for researchers to conduct additional studies and is explainable by the fact that groups can create interactive experiences in which the members can transfer them to their family, friends and society.<sup>13</sup>

Unfortunately, there are a few researches on the efficacy of different treatment methods, including the method of TA group therapy on women with drug dependence. With regard to the importance of TA in enhancing the

interpersonal and intrapersonal skills, the goal of the present research was to evaluate the effectiveness of TA group therapy on reducing the addiction severity in woman patients under methadone treatment.

## Methods

The present study was to investigate the effectiveness of TA therapy on addiction intensity of woman patients treated with methadone.

The research design was quasi-experimental with a pretest, posttest and a control group. The statistical population consisted of all the addicted women who referred to any drug rehabilitation center of Tehran in fall 2016. In order to do the sampling, a list of drug rehabilitation centers was provided by the Department of Social Welfare of Tehran province and one center was selected randomly. Eighty patients of the center were selected as samples using judgmental sampling and were asked to answer addiction severity index (ASI), reported by Liang et al.<sup>14</sup> Forty patients (out of 80) were selected based on their higher scores compared to others and were divided into two 20-patient groups of test and control, using random selection. The samples were selected based on the following criteria: 1) Being a drug addict based on DSM-IV. The process of detecting drug abuse disorder and other related disorders happens at the initial point of patients' checking in the drug rehabilitation center by a therapist or a psychologist based on the criteria of DSM-IV. 2) Not having special psychological disorders such as psychosis and conduct disorder. 3) Patients who were already engaged within a range of 30 to 60 days of their treatment. This criterion helped the researcher to monitor the long-term process of patients' recovery via getting in touch with patients' nurse or therapist. 4) Daily usage of methadone. 5) Having average age of 35 years old (25 years on minimum and 50 years on maximum). 6) Having elementary education at least and holding a bachelor's degree at most. And 7) having unsuccessful attempts to quit drug abuse.

SPSS software (version 20, IBM Corporation, Armonk, NY, USA) was used to analyze descriptive statistics of mean and standard deviation (SD) and perform multivariate analysis of covariance (MANCOVA).

**Table 1.** Agendas for transactional analysis (TA) group therapy sessions

Session	Agendas
1	Group members had got acquainted with each other before the consultant explained the rules of TA group therapy. Using verbal and non-verbal messages, simple structure analysis of ego states (adult, parent, and child) was the main part of the treatment process. Patients were asked to give a brief description of their personal lives and how they make interpersonal relationships.
2	Evaluating homework. Caressing was explained (positive and negative caressing, conditional and unconditional, verbal and nonverbal and with inner or outer source) and how to use a technique to define caressing system. Giving assignments.
3	Evaluating homework. Consultant briefly explained the book titled as Final State, and four ego states. In this session, the focus of treatment was on the role of communication rules on self-respect, respect to others, and how to express one's self. Giving homework (drawing an egogram based on the complex structure analysis)
4	Evaluating homework. Patients were explained the communication patterns and their role in personal and social life. Explaining caressing, supplementary and crossover transactional relationships were of this session interventions.
5	Evaluating homework. Involuntary restoration of child state (the child ego), essential states of life were completely explained. Each member of the group was asked to read two pages of Mental Games (by Eric Berne). Then, restoration of self-parent states was explained via simple examples.
6	Patients were asked to talk about their mental occupations, such as being away from family, blindly following the leaders, group life, etc. The treatment process for this session consisted of restoration of adult ego state. Therefore, patients were asked to talk about their occupations and interaction with other members. This session also included an explanation of hidden relationships, doubled transactional relationships, homework for next session and some examples of hidden relationships.
7	Evaluation of the homework at the beginning of the session. Explaining four ego states, treating the child ego state via intervention. The patients were asked to analyze different states (child, adult, and parent). Supplementary/crossover transactional pattern was elaborated.
8	Evaluating homework, deterrent and impellent and their effect on relationships, personality disorders, and rejection. Assignments were given to the patients.
9	Evaluating homework. Defining a first draft of the life play, and then performing it, working on re-deciding, and giving assignments.
10	Introducing three parts of the brain and their effects on relationships, how to achieve healthy relationships; clarifying elusive subjects and evaluating the criterion of the treatment and therapy sessions. Performing the posttest.

TA: Transactional analysis

TA group therapy was performed once a week, each session was 2 hours long, and it lasted for 10 sessions, while the control group did not receive any intervention. TA group therapy was conducted after consulting the researcher. Posttest was taken after the test on both test and control groups, and the findings were analyzed. The agendas for treatment sessions are summarized in table 1.

Demographic characteristics questionnaire provides the researcher with useful data such as respondent's age, education, housing, marital status, profession, type of drug abuse, type of drug consumption, duration of drug dependence, and treatment history.

ASI questionnaire was designed to collect data about patients' current clinical status, the quality of their current life status and its effects on their past.<sup>15</sup> McLellan et al.<sup>13</sup> believe that ASI is one the most powerful indices to predict the effectiveness

of therapeutic interventions on drug rehabilitation. This index includes 116 question about patients' medical, professional, legal, familial, psychological, drug addiction, and alcohol consumption status in the recent month, recent year, and whole life. Based on DSM-V, Britt et al.<sup>16</sup> proved that there is a positive correlation between subscale scores of addiction severity and diagnosing drug dependence. Their results indicated that ASI score can define drug dependence with a sensitivity of 85%. Regarding the scores of addiction severity reported by the questioner, McLellan et al.<sup>13</sup> have reported an internal consistency of 74-99%. Britt et al.<sup>16</sup> conducted a 2-year longitudinal study and reported that the ASI scores remain consistent during life. Reliability of internal consistency and validity of the Persian version of ASI has been accepted by Iran National Drug Studies Administration.

## Results

In this research, Cronbach's alpha coefficient was used to investigate the internal inconsistency of ASI and its subscales. These subscales included medical, employment, legal, family, psychiatric, and drug use status, and overall ASI. Cronbach's alpha coefficient indicated an acceptable level of reliability for this index (Table 2).

**Table 2.** Addiction severity index (ASI) reliability coefficients and its subscales in the current study

Statistical index	Reliability coefficients	
	Cronbach's alpha	Retest (after 4 weeks)
Questionnaire		
Medical status	0.89	0.90
Occupational status	0.85	0.88
Legal status	0.88	0.85
Familial status	0.89	0.91
Psychological status	0.90	0.89
Drug abuse status	0.83	0.87
Alcohol consumption status	0.91	0.90
Total of ASI	0.89	0.90

ASI: Addiction severity index

According to the demographic characteristics in test and control groups, woman patients in the test group with lower age, lower levels of education, and shorter period of drugs dependence showed more intense drug withdrawal symptoms and higher addiction severity in many aspects of ASI (Table 3).

Furthermore, psychological status had the highest mean of pretest (mean = 0.74) in the test group, while in control group, familial status holds the highest mean (mean = 0.60) in the posttest (Table 4).

In order to evaluate the efficacy of TA group therapy on reducing addiction severity of woman

patients under methadone treatment, the assumption of equality of variances in test and control group was initially tested. Considering the level of significance for all of ASI subscales ( $P > 0.050$ , based on Lewin's test), it can be concluded with a certainty of 0.95 that both test and control groups were significant for all of the seven ASI subscales and the homogeneity of variances was valid. Therefore, the following results of the study were reliable. This permitted the application of MANCOVA (Table 5).

**Table 3.** Mean of demographic characteristics

Characteristic	Test group (n = 20)	Control group (n = 20)
Age* (year) (mean $\pm$ SD)	22.88 $\pm$ 7.04	38.42 $\pm$ 13.01
Education (year) (mean $\pm$ SD)	6.12 $\pm$ 1.93	7.50 $\pm$ 4.23
Drug dependence period (mean $\pm$ SD)	13.00 $\pm$ 6.89	18.40 $\pm$ 13.23
Duration of abstinence period (mean $\pm$ SD)	2.49 $\pm$ 2.22	3.45 $\pm$ 2.06
Abstinence score** (0-98) (mean $\pm$ SD)	52.50 $\pm$ 23.96	19.45 $\pm$ 11.23

SD: Standard deviation

\* $P < 0.050$ , \*\* $P < 0.001$

The difference between test and control groups were significant considering the seven-variable centroid ( $P < 0.001$ ) (Table 6). The amount of effect size was 0.77; in other words, group intervention accounted for 77% of the changes in different aspects of ASI. Statistical power was an indicator of the sufficiency of sample volume.

The results of covariance analysis after controlling pretest showed that the difference between test and control group was significant for three subscales of psychological, drug abuse and alcohol consumption status ( $P < 0.001$ ) (Table 7).

**Table 4.** Addiction severity index (ASI) aspects in test and control groups

Index	Test group		Control group	
	Pretest	Posttest	Pretest	Posttest
Occupational status (mean $\pm$ SD)	0.57 $\pm$ 0.59	0.51 $\pm$ 0.58	0.52 $\pm$ 0.49	0.58 $\pm$ 0.52
Legal status (mean $\pm$ SD)	0.11 $\pm$ 0.21	0.13 $\pm$ 0.22	0.14 $\pm$ 0.22	0.13 $\pm$ 0.13
Familial status (mean $\pm$ SD)	0.62 $\pm$ 0.13	0.58 $\pm$ 0.12	0.65 $\pm$ 0.11	0.60 $\pm$ 0.12
Psychological status (mean $\pm$ SD)	0.74 $\pm$ 0.18	0.25 $\pm$ 0.14	0.64 $\pm$ 0.18	0.58 $\pm$ 0.18
Drug abuse status (mean $\pm$ SD)	0.26 $\pm$ 0.02	0.11 $\pm$ 0.04	0.20 $\pm$ 0.06	0.17 $\pm$ 0.07
Alcohol consumption status (mean $\pm$ SD)	0.33 $\pm$ 0.03	0.20 $\pm$ 0.05	0.28 $\pm$ 0.08	0.25 $\pm$ 0.06
Medical status (mean $\pm$ SD)	0.39 $\pm$ 0.06	0.36 $\pm$ 0.07	0.46 $\pm$ 0.44	0.45 $\pm$ 0.42

SD: Standard deviation; ASI: Addiction severity index

**Table 5.** Lewin's test results regarding the assumption of addiction severity index (ASI) subscales in test and control groups

Index	F	df1	df2	P
Occupational status	0.005	1	38	0.820
Legal status	0.480	1	38	0.830
Familial status	0.180	1	38	0.950
Psychological status	0.410	1	38	0.560
Drug consumption status	0.430	1	38	0.680
Alcohol consumption status	0.420	1	38	0.520
Medical status	0.001	1	38	0.970

df: Degree of freedom

**Table 6.** The results of MANOVA for addiction severity in both groups

Index	F	df	P	Eta <sup>2</sup>	Statistical power
Wilk's	14.02	1.33	0.001	0.76	1
Lambda					

df: Degree of freedom

In other words, the amount of F for psychological status was 78.30 with an effect size of 0.76, which was statically significant. Moreover, the amount of F for drug abuse status is 27.86 with an effect size of 0.43, which was statically significant. The amount of F for alcohol consumption status was 30.42 with an effect size of 0.49, which was statically significant. For all these tests, the degree of freedom of 1 and level of significance ( $P < 0.001$ ) were considered.

Therefore, it can be concluded that TA group interventions accounted for 76% of the changes in psychological status, 43% of the changes in drug abuse status, and 49% of the changes in alcohol consumption status in woman patients under methadone treatment.

## Discussion

The current study aimed to evaluate the effectiveness of TA group therapy on addiction severity of woman patients under methadone treatment in 2016. The analysis of the findings

proved that aspects of addiction severity were significantly different for test and control groups. Moreover, analysis of specific variables indicated that psychological, drug abuse and alcohol consumption status were significantly different among the different aspects of ASI. Therefore, the current research concurs with Wickersham et al.,<sup>17</sup> and McHugh et al.<sup>18</sup> In other words, TA group interventions helps woman patients withdraw from and quit drug abuse via informing them about their mental states, principles, and roles of communication, how to express themselves, caressing, supplementary and crossover transactional relationships, involuntary restorations, essential states of life and the importance of trust in families. Furthermore, TA group therapy can create self-awareness about positive and negative interpersonal relationships via affecting the factor of the temptation of drug consumption in the test group.

Eric Berne's analytical model consists of ego states, interactions, caressing, and first drafts of life play, everyday situations, and time organization.<sup>19</sup> This model aims to detect special types of interactive situations which help patient's recovery from rehabilitation. Therefore, its goal is to increase patients' awareness of their responsibilities for their actions and behaviors.<sup>12</sup>

**Table 7.** The results of the MANOVA of addiction severity index (ASI) subscales scores in test and control group

Source of change	F	df	Sum of squares	Mean of squares	P	Statistical power
Occupational status	1.84	1	0.14	0.14	0.180	0.26
Legal status	2.56	1	0.01	0.01	0.110	0.34
Familial status	1.29	1	0.06	0.06	0.260	0.19
Psychological status	78.30	1	1.46	1.46	0.001	1.00
Drug abuse status	27.86	1	0.07	0.07	0.001	1.00
Alcohol consumption status	30.42	1	0.08	0.08	0.001	0.99
Medical status	2.63	1	0.01	0.01	0.113	0.35

df: Degree of freedom

Group participation of patients with drug addiction in TA group interventions can help them with their interpersonal relationships, having a better understanding of their true self and planning appropriate communication methods and overcoming the temptation of taking drugs and relapse.

Analyzing different demographic characteristics and drug abuse in test and control groups showed that woman patients in the test group were younger, had lower levels of education, had shorter addiction period, and experienced more intense withdrawal symptoms and higher addiction severity in many aspects of ASI. These findings concur with Mokri et al.,<sup>15</sup> Guindalini et al.,<sup>20</sup> Fox et al.,<sup>21</sup> and Stewart and Joines<sup>22</sup> proving that duration of drug dependence in cocaine addicts is followed by experiencing higher craving. The inconsistency in the case of this drug can be explained by the fact that cocaine causes lesser physical dependence in addicts, compared to some narcotics like heroin. Moreover, it seems that drug abuse craving diminishes at one specific age. More recent theories on analyzing addicts' behaviors are based upon turning drug abuse from an impulsive process to a compulsive one. Based on this approach, enjoyable and rewarding parts of drug abuse diminish as one becomes more dependent on the drug. Therefore, the addict becomes involved in an obsessive-compulsive process to lessen the anxiety of not taking the drug. Moreover, the aforementioned investigation proved that heroin injecting addicts, who experience higher amounts of craving, reveal more intense withdrawal symptoms. Withdrawal symptoms occur as a result of an abstinence period between frequent occasions of drug consumption. Not only these symptoms make patients undergo physical and mental discomfort, but also give them more intense craving to take drugs. Thus, withdrawal symptoms are the main reasons behind the relapse of those who are willing to quit drugs with no help from others.

However, there are still some inconsistencies. Researches have shown that drug craving is possible to reoccur even after being completely treated. Mokri et al.<sup>15</sup> conducted a research to evaluate the relationship between drug cravings and different aspects of ASI in a heroin injecting

addict. They proved that some of the demographic characteristics such as age, sex, level of education, type of drug, a method of using, and history of previous treatments can affect drug craving, and subsequently, the success of the treatment.

The goal of TA is to lead the people to self-knowledge and to help them react better to different life situations.<sup>23</sup> Structural analysis has been performed in order to enhance patients' ego states functions and encourage them to experience and use the maximum of their ego states in any situation. The goal behind analyzing the patients' plays was to diagnose inappropriate life plans and help patients put an end to it by defining a new plan for a new life.<sup>24</sup> TA tries to closely analyze the people's first drafts of life and their history, and to inform them about the inner feelings and states. Therefore, it affects and enhances one's self-knowledge. TA can inform the patients about the presence of different feelings in them and others; in other words, TA asks the patients to pay attention to the characteristics of their own and of others. TA educates the people not to decide based on the appearances and to have the ability to change themselves while facing unpleasant facts of life.

It is noteworthy that MMT plan is not a cure, but a sectional treatment. It encourages the patients to be engaged in medical and social supervision to stabilize and recover their life situations and to continue the treatment if it is appropriate for them. Therefore, TA group interventions can be used beside the pharmaceutical treatment, as an effective non-pharmacologic therapy, to enhance patients' ability to quit drug abuse and diminish relapses.

The current study encountered several limitations including lack of adequate research results related to the subject of the study, the fact that the research sample consisted of only woman patients, not having a follow-up study to evaluate the results in long-term, and not having introductory sessions for patients' families. We hope further studies be able to overcome the mentioned limitations and add to the generalizability of the current results.

## Conclusion

The results showed that group therapy using TA approach is effective in reducing addiction intensity of woman patients treated with methadone.

### Conflict of Interests

The Authors have no conflict of interest.

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## اثربخشی گروه درمانی با رویکرد تحلیل ارتباط متقابل بر کاهش شدت اعتیاد بیماران زن تحت درمان با متادون

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### مقاله پژوهشی

### چکیده

**مقدمه:** اعتیاد منجر به بروز آسیب‌های جسمانی، روانی و اجتماعی بسیار شدیدی مانند طلاق، بزهکاری و بیکاری می‌شود. پژوهش حاضر با هدف بررسی اثربخشی گروه درمانی با رویکرد تحلیل ارتباط متقابل (Transactional analysis یا TA) بر کاهش شدت اعتیاد بیماران زن تحت درمان با متادون انجام شد.

**روش‌ها:** این تحقیق از نوع نیمه آزمایشی همراه با پیش‌آزمون و پس‌آزمون و گروه شاهد بود. جامعه آماری را کلیه زنان وابسته به مواد مخدر که در سال ۱۳۹۴ برای درمان به یکی از مراکز ترک اعتیاد شهر تهران مراجعه کرده بودند، تشکیل داد که با استفاده از روش نمونه‌گیری هدفمند انتخاب شدند. ۴۰ نفر از بیماران زن تحت درمان با متادون به صورت تصادفی در دو گروه آزمایش و شاهد قرار گرفتند. داده‌ها با استفاده از شاخص شدت اعتیاد (Addiction severity index یا ASI) و پرسش‌نامه ویژگی‌های جمعیت‌شناختی جمع‌آوری گردید. برنامه مداخله گروه درمانی با رویکرد TA بر روی گروه آزمایش به مدت ۱۰ جلسه ۲ ساعته (در هر هفته یک جلسه) برگزار شد.

**یافته‌ها:** ابعاد شدت اعتیاد بین دو گروه تفاوت معنی‌داری را نشان داد ( $P < 0/001$ ). تحلیل متغیرها به تفکیک بیانگر آن بود که در ابعاد وضعیت روان‌پزشکی، مصرف مواد و مصرف الکل تفاوت معنی‌داری وجود داشت. همچنین، تفاوت معنی‌داری بین دو گروه آزمایش و شاهد از نظر سنتروئید هفت متغیره مشاهده شد ( $P < 0/001$ ). شاخص ASI بین گروه‌های شاهد و آزمایش دارای تفاوت معنی‌داری بود ( $P < 0/001$ ). تحلیل متغیرها به صورت جداگانه تفاوت معنی‌داری را در شاخص وضعیت روان‌پزشکی، دارو و الکل نشان داد ( $P < 0/001$ ).

**نتیجه‌گیری:** می‌توان نتیجه گرفت که گروه درمانی با رویکرد TA، بر کاهش شدت اعتیاد بیماران زن تحت درمان با متادون مؤثر است. بر اساس نتایج به دست آمده، می‌توان گفت که ۷۶ درصد از تغییرات وضعیت روان‌پزشکی، ۴۳ درصد از تغییرات وضعیت مصرف مواد و ۴۹ درصد از تغییرات وضعیت مصرف الکل، ناشی از مداخله گروهی TA بر روی بیماران زن تحت درمان با متادون می‌باشد.

**واژگان کلیدی:** رویکرد تحلیل ارتباط متقابل، اعتیاد، شدت، متادون

**ارجاع:** اعتمادی چهارده نیلوفر، متین پور بهمن، حشمتی رسول. اثربخشی گروه درمانی با رویکرد تحلیل ارتباط متقابل بر کاهش شدت اعتیاد بیماران زن تحت درمان با متادون. مجله اعتیاد و سلامت ۱۳۹۶؛ ۹ (۳): ۱۵۵-۱۴۶.

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