Original Article
http://mjiri.iums.ac.ir
Medical Journal of the Islamic Republic of Iran (MJIRI)

Med J Islam Repub Iran. 2017(12 Aug);31.45. https://doi.org/10.14196/mjiri.31.45

Experiences of substance abusers from methadone maintenance therapy

Abbas Shamsalinia[1], Kiyan Norouzi[2], Masoud Fallahi-Khoshknab[2], Ali Farhoudian[3], Fatemeh Ghaffari[1]*

Received: 6 August 2016 Published: 12 Aug 2017

Abstract

Background: Substance abusers are not able to withdraw drugs eternally despite the abundance of different treatments; therefore, withdrawal programs are not quite successful and notwithstanding all the successes of methadone maintenance therapy, there are some defects found in the manner this treatment is applied. Thus, this study was conducted to explore the experience of drug abusers regarding methadone maintenance therapy.

Methods: This is a qualitative study using content analysis methodology. The research community includes drug abusers admitted to the treatment centers of the western cities of Mazandaran Province, Iran in 2016. The sampling was purposive and the data were collected by face-to-face single interviews with 20 patients. The interviews were continued up to data saturation. Finally, the Lundman and Grenheim method was used to analyze the interviews and the four criteria of Guba and Lincoln were applied to check data integrity.

Results: "Buying time," "methadone dependence," and "looking from a narrow view to the patient" were the main three categories that fit the results.

Conclusion: Governmental free services for drug abusers; paying attention to different aspects of treatment such as mental, emotional, and social recovery; lifelong support of the family and society members; and balance in prescribing and following the treatment process prescribed by health care providers can enhance both the quality and safety of the treatment process. Psychological consultation alongside social services can facilitate the recovery process in methadone maintenance therapy.

Keywords: Methadone maintenance therapy, Substance abuse, Qualitative study

Cite this article as: Shamsalinia A, Norouzi K, Fallahi-Khoshknab M, Farhoudian A, Ghaffari F. Experiences of substance abusers from methadone maintenance therapy. *Med J Islam Repub Iran. 2017* (12 Aug);31:45. https://doi.org/10.14196/mjiri.31.45

Introduction

It is estimated that 230 million people (1 out of 20 adults) have used an illegal drug at least once a year and there are 1.7 beds for each 100,000 people to treat drug and alcohol use disorders. Using agonist opioid drugs as a treatment method for dependence on drugs has been announced by 30% of countries (1).

According to official statistics, there are 1.35 million drug abusers in Iran, which means that approximately 5 million people are directly involved with drug use disorders by considering Iran's average family size (3.6). According to Iranian Legal Medicine Organization (ILMO) statistics in 2013, 8 people die due to drug use every day and according to the Prisons Organization, about half of the crimes are related to drugs and more than half of the prisoners are addicted in Iran. By the spread of methamphetamines during recent years, the country is facing a change in consumption pattern, however, opioids like narcotics, crack, and heroin are the most prevalent drugs and are known as the main reason for the high number of addicts (2).

The main index of opioid dependency is losing control of drug use and continuity in consumption despite facing health, family, job, and legal problems (3). Consuming drugs becomes a priority in a man's life when drug dependency occurs and results in cravings and relapse even after spending a long period in withdrawal. To have reliable abstinence, opioid addicts need to overcome their steady temptation which changes their health (2).

Corresponding author: Dr Fatemeh Ghaffari, ghafarifateme@yahoo.com

[1] Ramsar Nursing Care Research Center, Babol University of Medical Sciences, School of Nursing and Midwifery. Babol, Mazandaran, Iran.
[2] Nursing Department, University of Social Welfare and Rehabilitation Sciences. Tehran, Iran.
[3] Substance Abuse and Dependence Research Center, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.

↑What is "already known" in this topic:
Despite methadone maintenance therapy is one of the easy-access methods for substance abusers the relapse rate is high.

→What this article adds:
The main reasons for high relapse rate are the ignorance of patients' needs, no long-term treatment follow-up and the miss of family in treatment process.

Despite the accessibility of different treatments, a large number of abstaining addicts have propensity to relapse if there is no protective treatment (4). Therefore, it seems that complete abstinence programs are not that successful since the mere focus is on harm reduction programs (5). One of the harm reduction methods is methadone maintenance therapy (6), which involves using agonist opioid drugs and mental-social interventions administered by a multidisciplinary treatment team. Using agonist opioid drugs as a sign preservative can remove withdrawal symptoms, remove or reduce the temptation and block the kef created from illegal drug use. Mental-social interventions are a group of psychological interventions and social support which help the patient build a new lifestyle without drugs (2).

While there are several differences between policies and the manner in which methadone maintenance therapy is applied, the method has brought positive results in most assessments (6, 7); however, 50% of clients leave the treatment process in the first year (8) and mostly relapse to consuming opioids. There are no definite statistics about the discontinuation of treatment in Iran, however, we face clients everyday who leave the process while they had applied to receive treatment services (9). Despite all the success this program has had, it seems that still there are defects and errors that need to be fixed. Iran has the biggest profile of applying methadone maintenance therapy but there are few research studies conducted in this field (10).

Therefore, using a qualitative content analysis approach we studied current understanding of methadone maintenance therapy from the viewpoint of substance abusers. We designed this study to gain a holistic understanding of the experiences of methadone maintenance therapy in substance abusers regarding their situations and circumstances.

Methods

Design

This study was conducted with a conventional content analysis qualitative approach.

Selection

The research community includes drug abusers admitted to the treatment centers of western cities in Mazandaran Province, Iran in 2016. Purposive sampling from drug abusers with the maximum variation (age, sex, level of education, drug he/she used, consumption time, and recovery time) was used.

Data collection

The data were collected using a semi-structural face-to-face single interviews. Each interview started with a general question such as “Could you please share your experience of methadone maintenance therapy with us?” and continued with probing questions to gain a deeper understanding of the phenomenon. The time of interviews depended on participants’ tolerance and patience for stating their experience, feelings, and perception about the phenomenon and varied from 45 to 50 minutes. There was an agreement between the researcher and participant regarding whether the location was to be in one of three methadone therapy clinics or their home as well as a fixed time for interviews. All the participants were interviewed face-to-face once in a calm and quiet location to ensure their privacy rights; thus, 20 interviews were recorded. The criteria for selecting the participants were their dependency on drugs (opioids, crack cocaine, and heroin), age of 20-40 years, spending more than 6 months in the recovery process, and their tendency to share their experiences with the researchers. All the interviews were recorded by a digital recorder and were continued up to data saturation.

Analysis

Conventional content analyses and continues comparing methods were applied to analyze the data simultaneously with the data gathering process (11). Content analysis is a research technique that is used to explore the subjective interpretation of written data. Systematic categorizing and identifying codes and themes are facilitated in this method (12).

Data were analyzed simultaneously with data gathering. Interviews were transcribed verbatim and reviewed several times. Participants’ words were used for initial coding and further interviews were subsequently recorded. Mean units were extracted from participants’ statements formatted by initial codes or open codes in interviews. The obtained codes were read out several times and were categorized by similarity and whether they indicated a known participant or not, keeping similar codes and separating that the ones that were different. We reviewed the codes and their categories to prevent any human error and formed the second-level coding. The categories were compared with each other and we merged similar ones to avoid having repetitive categories. Early notes and final categories were reviewed several times by the researcher and participants to attain a conceptual unity regarding each one. The researchers tried not to apply their assumptions in the data analysis process.

Data trustworthiness

The four criterions of credibility, reliability confirmability, and transferability were used to check the data integrity (13). For credibility, maximum variation sampling was applied, and an external supervisor was used for ensuring reliability of the study. To strengthen the confirmability, the participants reviewed parts of the transcripts and codes to check whether they were consistent with their real experiences and perceptions. In addition, the supervisor, advisor, and academic members reviewed the codes and findings. In order to support the study’s credibility, the transcripts of several interviews, codes, and extracted categories were reviewed by several qualitative researchers who did not participate in the research and an appropriate consensus was reached. The compilation of interviews and field notes was the main data gathering technique. All the activities including the research process was recorded carefully. To check the transmissibility of findings, two other substance abusers who were not among the participants helped in reviewing similar categories and the data

was approved by them.

Ethical Considerations

The study protocol was approved by the University of Social Welfare and Rehabilitation Sciences (USWR) Ethics Committee in Tehran, Iran. The ethics approval code is IR.USWR.REC.1392. 121. All the drug abusers who participated in this study were aware about the purposes of the research and the interviews were recorded by their testimonial. They were assured that the recorded data would be kept secret and that they could have the recorded file if they like and be informed of the results of the study. They also had the right to leave the study, although none of them did.

Results

Participant characteristics

Participant characteristics are depicted in Table 1.

Qualitative analysis

"Buying time," "Methadone dependence," and "Looking from a narrow view to the patient" were the main three categories in which the results were fit.

***Buying time*:** The "buying time" could be divided into two dimensions: effective and destructive. Having adequate time for recovering the participant's life in different ways is the most important reason why they select this treatment method and we call it "the effective dimension." Most of the participants believe that this treatment method can provide a chance of recovering their life in different

Table 1. Demographic characteristics of participants

Code	Sex	Age	Marital status	Education level	Drug he/she used	Consumption time (year)	Recovery time (month)
1	M	40	Divorced (2 children)	B.Sc	Opium Hashish Heroin	25	48
2	M	40	Married	High School	Opium Heroin	20	84
3	F	34	Married (1 child)	BSc	Opium	6	48
4	M	40	Married	High School	Heroin	25	96
5	F	36	Single	High School	Opium Crack Heroin	12	72
6	M	40	Married	Primary School	Opium Opium Resin	14	16
7	M (2nd interview)	20	Single	Primary School	Opium Crack	8	6
8	M	24	Single	College	Crack	3	10
9	M	40	Married	Primary School	Opium Heroin	10	206
10	M	28	Single	University student (B.Sc.)	Opium Opium Resin Heroin Crack Hashish	8	22
11	M	20	Single	Primary School	Opium Crack	8	6
12	M	37	Single	High School	Opium Crack Heroin	18	6
13	M	40	Married (2 children)	High School	Crack Hashish Opium Resin Heroin Cannabis	15	60
14	F	40	Divorced (1 child)	Primary School	Opium Crack	10	72
15	F	24	Married (1 child)	High School	Opium Crack	4	48
16	F	30	Married	High School	Heroin	9	12
17	M	40	Married (2 children)	Primary School	Opium Opium Resin Hashish	22	24
18	M	39	Married (2 children)	High School	Opium Hashish	18	96
19	F	38	Divorced 2 times (2 children)	High School	Opium Heroin Crack	11	84
20	M	40	Single	High School	Heroin	30	132

ways such as recovering both the family and society's trust. The outpatient services of methadone therapy makes most of the female drug abusers select this method in order to not face withdrawal syndrome and keep their addiction concealed besides achieving favorable results more rapidly. Other women selected this method due to emergency conditions such as marriage or pregnancy.

"*I don't want my kid to be my destiny. I decided to take methadone when I got pregnant and waited to see if it works. I will continue this method because I think of my daughter. What would her friends say if they learnt her mother had been an addict? I want to get better to create a better future for her* (code 17)"

The main motivations for selecting methadone therapy clinics have been the fear of inaccessibility to drugs, having a replacement, and preventing drug withdrawal syndrome, especially for those who have experienced failure with other withdrawal methods or arbitrary ones and have relapsed again. Participants believe that methadone therapy brings rapid changes in both family and society toward the patient and they would not only be accepted by society, but also can find jobs. Improved sexual relationships and reduction of withdrawal side effects are two consequences of fast recovery. This is why patients believe in this method and it has a direct relationship with their adherence to the treatment. The notable fact in most of the interviews is controlling the temptation of drug use by methadone therapy, which is the most important consequence of this method according to participants' viewpoint.

"*Taking methadone got me away from other drugs and they couldn't tempt me anymore* (code 1)."

Boosting the morale to maintain recovery and increasing the recovery time besides returning to one's job and severing connections with drug dealers and other drug abusers are among the other benefits of methadone therapy. Receiving educational and treatment support such as psychological consultation and addiction screening tests besides following up with both the patient and process are known as the key points in the success of this treatment method.

"*I don't take drugs right now but methadone is kind of a drug. I took heroin but now changed to methadone. At least people don't look at me as an addict. There are no dark circles under my eyes and at least I look better. The family has accepted me again and they behave well. I wasn't good 6 months ago. I was ill and I can say that I'm still ill and I will be ill up to the end of my life and as we NA10s say: we are ill forever and it will be with us physically and mentally. Thank God I am OK now and I can handle my job, get up early, and take no opioids anymore* (code 14)"

Buying time to fraud others and misusing the situation by selling medicines are among the participants' mentioned examples in the destructive dimension. They also mentioned the rapid appearance of changes that can be used in finding job, marriage, or preventing the divorce as the destructive facts created in methadone maintenance therapy centers.

"*I went for methadone therapy but I took drugs after a week. Methadone made me take long naps, and so, I reported my drug consumption three times greater to the doctor to prescribe more methadone and I sleep more* (code 5)."

***Looking from a narrow view to the patient*:** Addressing drug dependency as a one-dimensional phenomenon will result in a one-dimensional treatment in mind. Focusing more on physical withdrawal will result in the neglect of a patient's other needs. Keeping the patient in the recovery process needs more attention to different aspects of recovery such as the mental, emotional, social, and spiritual while he/she acquires life-long mental and social support. Moreover, ignoring his/her needs after the withdrawal process and solely focusing on addiction test results as a criterion of a successful treatment are known as two effective factors for the failure of the treatment process. Inattention to a patient's internal demands and his/her belief toward selecting this treatment method will end in early failure in a manner that there is fear of methadone therapy's side effects and a belief in the undesirable quality of pills, which results in non-adherence and making excuses to avoid taking them such as inability to pay treatment expenses. Participants often mentioned mental and behavioral disorders such as depression, anxiety, and being dissociable during their addiction in data analysis. Depression and being anxious are among the important factors for leaving the treatment process according to their viewpoint. The notable fact is that the consultants have no expertise in consulting the drug abusers.

"*I had to go and buy the pills every morning. I didn't like to go there at all. It was a long time that I hadn't gone out of my home and so, going there was hard. I left the treatment after some sessions* (code 17)."

We have found that patient's willingness to withdraw is directly related to the affordability in a manner that most of the drug abusers left the process due to the costs and especially due to the fees they had to pay for psychological counseling. Further, most of the participants used different drugs like opium, opium resin, heroin, and crack, for which this method seems to be useless for them.

"*I felt emptiness in my soul. Something like a defect or aversion. Taking drugs could fill them. Even if I withdraw physically, I don't know how to fill these things. There is nothing physically with you after 20 days but your thoughts will kill you mentally. I bought drugs after three years of my withdrawal* (code 20)."

Participants believed that strengthening nurses' role in the protocol of methadone maintenance therapy could help in the creation of a multidimensional outlook toward the patient. Nurses can perform services in different aspects of addiction treatment such as exploring the factors threatening the recovery process, consulting, following the consequences of treatment in patients and their families, although most nurses work in non-specialized fields.

"*I saw a nurse in the methadone therapy clinic who was responsible for giving methadone to us. It seemed that she couldn't do anything else. Well, even a secretary can do that* (code 12)."

Dependency to Methadone: Some of the participants believed that the methadone therapy had been a replace-

ment for the drugs and it has "dependency to methadone" despite the overall agreement of most participants toward the effectiveness of this treatment process.

"*I wished to withdraw narcotics by having methadone pills and it was like using another drug. I thought the problem is physical though I had mental problems, too. This was a physical replacement and I say that because when there was no drug, I could found kind of a spiritual imperfection in my soul* (code 5)."

Participants realize the dependence to methadone as one of the reasons for leaving the treatment and becoming hopeless. Feeling sick and spending considerable amounts of time in the clinic are among the side effects of dependency to methadone.

"*I don't count myself as a healthy man. Having methadone is an alternative. Taking heroin made me painful at 1-2 p.m. while methadone's pain starts at 10:30-11 a.m. First, the sore feet come and then the back ache starts and I feel icky. As soon as I have the methadone again, everything is all right just after 5 minutes* (code 2 and 14)."

Discussion

The gathered data show that outpatient services in this treatment method cause methadone maintenance therapy to be among the priorities of most female drug abusers while inaccessibility to drug rehabilitation centers for women, concealing the addiction, and achieving a rapid result for marriage or pregnancy make this method more suitable for them. Selecting this method has different reasons among men such as fear of withdrawal syndrome, having a replacement for drugs, keeping their job, and preventing social isolation. In addition to the factors mentioned above, methadone therapy has facilitated the recovery process especially for those who have experienced numerous failed withdrawals. Controlling thoughts of temptation has been among the notable consequences often mentioned by the participants. The results of other studies showed that methadone maintenance therapy is a reliable and well-known approach among different methods of opioid withdrawal that facilitate abstinence and prevent relapse after withdrawal (14, 15). Methadone prevents the emergence of withdrawal symptoms and reduces the enthusiasm toward taking drugs while being able to interrupt opioid receptors (16). Che (2010) states that the admittance of clients to the process of methadone maintenance therapy is a chance for entering the other stages of change (17).

However, it is necessary to mention that most participants do not know methadone therapy as a satisfactory method while there is a significant relationship between the realized recovery and level of participants' satisfaction from the services they have received during methadone therapy (18). Research shows that 10-30% of drug abusers leave this treatment method (19). Another study has shown that most of the clients admitted to methadone therapy decide to leave it in the first year without completing the process (20). The data shows that one of the reasons for the failure of this program is the one-dimensional outlook toward the treatment process. As the treatment process is multi-dimensional and includes mental, emotional, and social aspects, a one-dimensional outlook brings challenges to the process and reduces the recovery time (9, 21). It is necessary for the patient to learn about the solutions that help him/her oppose thoughts of temptation for drug use; cognitive-behavioral treatment as an example of complementary medicine during methadone therapy is helpful for this purpose(22, 23). Other research states that only a maintenance dose of methadone cannot treat the patient and should be counted as a part of the entire process in which an opioid addict is treated. It is necessary to accompany medical and social support in order to consolidate and recover one's life during methadone therapy (9, 24). Some researchers believe that there are three main categories of the purposes of methadone therapy: first, ending physical dependence on drugs; second, ending psychological dependence and reducing the nonphysical consequences of drug use such as depression, anxiety, and lower quality of life; and finally, the last purpose is to prevent relapse. Neglecting each category would threaten the treatment process (25). Mokri et al. (2014) believe that therapists should encourage the clients uninterruptedly to have positive changes in their lifestyle. Fixing dedicated goals through agreement and monitoring the progress precisely is important in helping to draw a treatment plan. This approach helps in consolidating the treatment results by creating the concept of "Recovery Capital" and prevents the phenomenon of "stop in recovery," which is called "parking the patient in medicines." Treatment goals change according to recovery levels and the review and process of updating these changes should be done in a collaborative process with the patient. There should be an equilibrium between "access to treatment" and "the quality of treatment" in order to reach optimum results in the process (2).

Participants have numerously mentioned the mental and behavioral disorders such as depression, anxiety, and being dissociable during their addiction in data analysis. Depression and impatience have been among the main reasons for leaving the treatment process according to their viewpoint. Research shows that addiction to opioids is a chronic disease and that a mental illness often accompanies it. Behavioral disorders and especially depression are among the most prevalent disorders. The prevalence of major depression disorder is about 50-60% and that of minor depression is about 10%. If the addicted patient would have one of the mental or behavioral disorders, he/she will need drug therapy and psychotherapy while undergoing treatment with methadone maintenance therapy. Needless to say such disorders will affect methadone therapy negatively. Therefore, these clients need special psychotherapies such as cognitive-behavioral psychotherapy and psychodynamic treatments while he/she receives methadone maintenance therapy (26).

The other notable fact in the findings is that a lack of attention to the type of drug that patients have used can make methadone therapy ineffective. Accepting patients who do not take narcotic drugs will result in imminent failure (9). Research on heroin-addicted patients shows that increasing the methadone dose can be ineffective toward their drug taking behaviors, change their mood and

their voracity for taking more drugs, and increase their desire for using more opioids. These studies have proven that the prolonged use of methadone can cause withdrawal symptoms (27).

The data show that the other fact that brings challenges to methadone therapy is that it is a costly method. Participants complained about financial problems and said that they mostly face problems in paying the related costs such as for doctors, psychologists, consultants, and medicines. The findings of Karimi et al. (2013) showed that the reasons for methadone therapy withdrawal can be categorized into three categories: reasons related to the patient, reasons related to the treatment system, and the encountering of family and social network beyond the patient. The patient faces a lack of motivation, instability, and psychological disorders while the family is not aware about the treatment process, and therefore, cannot help the patient in the path to recovery. The treatment system is another factor that is costly in different ways such as inflexibility and wrong treatment regimen, treatment stigma, humiliating or hostile behaviors toward the patient, non-therapeutic and advanced relationship with him/her, not informing the patient, not spending the required time with him/her, and lack of empathy toward the patient. Quantity is more mentioned than quality in such a system and non-pharmacological treatment is rarely seen. This researcher believes that the lack of initial motivation, withdrawal under the pressure of the family or society (not self-imposed), and the fear of side effects of taking drugs or poisoning due to overdosing will make the patient leave the treatment process in most cases (9).

Most of the participants believed that nurses have a small and insignificant role during the treatment protocol. They mostly have a stereotypical role and are used for distribution of methadone pills or making appointments for doctors. This shows the necessity of strengthening the nurse's role in protocols of methadone maintenance treatment. Recovering the life of drug abusers is possible with the influence of education and consultation. The vision of care and holistic viewpoint of nurses can guide and keep the patient in the recovery process if they will be educated about addiction.

Using nurses in providing health care, consulting, and presenting home services can make follow-up of the treatment process possible. On the other hand, addiction nurses can be used in providing a variety of services for clients' families(28). It is recommended that the nurses should not only do their best in caring for drug abusers but also expand their knowledge in hygiene promotion, consultation, and human and legal support for this group of patients and their families (29). The National Nurses' Association and World Health Organization (WHO) have played an important role for nurses regarding education, prevention, addicted patient's assessment, appropriate behavior therapy, finding history, changing behaviors, and intervening to reduce the side effects (30, 31).

The gist here is that the replacement of methadone with other drugs can end dependency toward this substance, which is a notable event, whilst other studies have shown that the detoxification of methadone is difficult due to the long-term effects and its ability to be easily stored in the body (32, 33).

Conclusion

It is necessary to adapt the patient with the treatment environment by introducing him/her to the treatment team such as the consultant, psychologist, doctor, and psychiatrist and provide information about the services that each group member offers. The media should inform the society about the treatment and its probable side effects in order to reform false beliefs and increase the information about drug abusers. Governmental free services for drug abusers; paying attention to different aspects of treatment such as mental, emotional, and social recovery; lifelong support of the family and society members; and balance in prescribing and following the treatment process provided by health care providers can enhance both the quality and safety of the treatment process. Psychological consultation alongside social services can facilitate the recovery process in methadone maintenance therapy.

Nurse's efficient operation in the treatment protocol and holding professional courses on addiction for the consultants can lead to a more effective treatment process and cut costs, all of which can increase the patient's satisfaction with methadone maintenance therapy.

Acknowledgments

We are very thankful to the participants who cooperatively shared their experiences with us.

Conflict of Interests

The authors declare that they have no competing interests.

References

1. Wold health organization.management of substance abuse, Forum on alcohol, drugs and addictive behaviours. Available at: http://www.who.int/substance_abuse/en/. Accessed 06 June, 2017.
2. Mokri ANA. Protocol on Management of Opioid Dependence with Methadone, Prevention and Treatment of Substance Abuse's Office,Mental, Social, and Addiction Health Office, 3th edition. 2014.
3. Farahani MA, Ghaffari F, Fatemi NS. Opium addiction in patients with coronary artery disease: a grounded theory study. Med J Islam Repub Iran. 2015;29:267.
4. Shamsalinia A, Nourozi K, Khoshknab MF, Farhoudian A. Challenges of recovery in medium-term residential centers (camps). Med J Islam Repub Iran. 2014;28:106.
5. Banazadeh N, Abedi HA, Kheradmand A. Opiate Dependants' Experiences of the Established Therapeutic Relationship in Methadone Centers: Qualitative Study. JKMU. 2009;16(2):144-5.
6. Mattick RP, Breen C, Kimber J, Davoli M. Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. Cochrane Database Syst Rev. 2009;3(3).
7. De Maeyer J, Vanderplasschen W, Camfield L, Vanheule S, Sabbe B, Broekaert E. A good quality of life under the influence of methadone: A qualitative study among opiate-dependent individuals. Int J Nurs Stud. 2011;48(10):1244-57.
8. Ball SA, Carroll KM, Canning-Ball M, Rounsaville BJ. Reasons for dropout from drug abuse treatment: Symptoms, personality, and motivation. Addict Behav. 2006;31(2):320-30.
9. Karimi Talabari Z, Noori Khajavi M, Rafiei H. Reasons of methadone maintenance therapy drop out in clients of Iranian National Center for Addiction Studies (INCAS): A Qualitative Study. IJPCP. 2013;18(4):299-309.
10. Moradi M, Farnia M, Jafari S, Rahmani K, Shahbazi M. Mechanisms to Improve and Promote Methadone Maintenance Therapy in Prisons

in Iran: a Qualitative Study. J Soc Work Pract Addict. 2016;2(6):45-62.
11. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today. 2004;24(2):105-12.
12. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. QHR. 2005;15(9):1277-88.
13. Polit DF, Beck CT. Essentials of nursing research: Appraising evidence for nursing practice: Lippincott Williams & Wilkins; 2013.
14. Grüsser SM, Thalemann CN, Platz W, Gölz J, Partecke G. A new approach to preventing relapse in opiate addicts: a psychometric evaluation. Biological psychology. 2006;71(3):231-5.
15. Shamsalinia A, Nourozi K, Fallahi Km, Farhoudian A. Factors effective on the decision to quit among substance abusers: a qualitative study. J Qual Res Health Sci. 2013;2(2):111-24.
16. Faggiano F, Vigna-Taglianti F, Versino E, Lemma P. Methadone maintenance at different dosages for opioid dependence. The Cochrane Library. 2003.
17. Che Y, Assanangkornchai S, McNeil E, Chongsuvivatwong V, Li J, Geater A, et al. Predictors of early dropout in methadone maintenance treatment program in Yunnan province, China. Drug Alcohol Rev. 2010;29(3):263-70.
18. Perreault M ,White ND, Fabrès É, Landry M, Anestin AS, Rabouin D. Relationship between perceived improvement and treatment satisfaction among clients of a methadone maintenance program. Eval Program Plann. 2010;33(4):410-7.
19. McKellar J, Kelly J, Harris A, Moos R. Pretreatment and during treatment risk factors for dropout among patients with substance use disorders. Addict Behav. 2006;31(3):450-60.
20. Coviello DM, Zanis DA, Wesnoski SA, Lynch KG, Drapkin M. Characteristics and 9-month outcomes of discharged methadone maintenance clients. J Subst Abuse Treat. 2011;40(2):165-74.
21. Shamsalinia A, Norouzi K, Khoshknab MF, Farhoudian A. Recovery based on spirituality in substance abusers in Iran. Global journal of health science.١٥٤:(٦)٦;٢٠١٤ .
22. Trinkoff AM, Storr CL, Wall MP. Prescription-type drug misuse and workplace access among nurses. J Addict Dis. 1999;18(1):9-17.
23. Barnett PG, Hui SS. The cost-effectiveness of methadone maintenance. Mt Sinai J Med. 2000;67(5-6):365-74.
24. Lin C, Wu Z, Rou K, Yin W, Wang C, Shoptaw S, et al. Structural-level factors affecting implementation of the methadone maintenance therapy program in China. J Subst Abuse Treat. 2010;38(2):119-27.
25. Beigi A, Farahani MT, Mohammad-Khani S, Mohammadi-Far MA. The Discriminative Role of Quality of Life and Hope in Narcotic Anonymous and Methadone Maintenance Groups. Journal of Clinical Psycology. 2011;3(3):75-84.
26. McGovern MP, Fox TS, Xie H, Drake RE. A survey of clinical practices and readiness to adopt evidence-based practices: Dissemination research in an addiction treatment system. J Subst Abuse Treat. 2004;26(4):305-12.
27. Fox HC, Talih M, Malison R, Anderson GM, Kreek MJ, Sinha R. Frequency of recent cocaine and alcohol use affects drug craving and associated responses to stress and drug-related cues. Psychoneuroendocrinology. 2005;30(9):880-91.
28. Wolff AC, Pesut B, Regan S. New graduate nurse practice readiness: Perspectives on the context shaping our understanding and expectations. Nurse Education Today. 2010;30(2):187-91.
29. Peckover S, Chidlaw RG. Too frightened to care? Accounts by district nurses working with clients who misuse substances. Health & social care in the community. 2007;15(3):238-45.
30. Pinikahana J, Happell B, Carta B. Mental health professionals' attitudes to drugs and substance abuse. NHS. 2002;4(3):57-62.
31. Rassool GH, Villar-Luis M, Carraro T, Lopes G. Undergraduate nursing students' perceptions of substance use and misuse: a Brazilian position. J Psychiatr Ment Health Nurs. 2006;13(1):85-9.
32. Bourgois P. Disciplining addictions: The bio-politics of methadone and heroin in the United States. Cult Med Psychiatry. 2000;24(2):165-95.
33. Ward J, Hall W, Mattick RP. Role of maintenance treatment in opioid dependence. The Lancet. 1999;353(9148):221-6.