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Physical Effects of Methadone Maintenance Treatment from the Standpoint of Clients

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Abstract

Background: Studies have shown that methadone maintenance treatment (MMT) is effective in improving the client's quality of life and physical health. This study aimed to describe the nature and structure of drug dependents' experiences and the physical effects of MMT.

Methods: The present study is a qualitative and a phenomenology study on 32 clients referred to methadone clinics in the city of Kerman in 2008. Colaizzi's method was used for data analysis and to evaluate the data, validity and reliability criteria were used.

Findings: Encoded concepts were categorized in general groups of effectiveness on general health, sleep, appetite and weight, sexual desire, appearance and other effects. These six categories showed the main structure of experience and physical effects of MMT.

Conclusion: The clients' viewpoints towards this treatment had a role in their experience expression and feelings, but MMT had an overall positive physical effect on the clients.

Key words: **Methadone maintenance treatment, Physical effects.**

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Introduction

Methadone maintenance treatment (MMT) is a treatment used for drug dependents. Methadone is a weak agonist of narcotics with a long half life produced in the laboratory and prescribed as a treatment for dependency to narcotics. Methadone reduces the symptoms of narcotic withdrawal and also decreases the euphoric effects of other narcotics.[1] Currently, MMT is performed in a wide range in Iran and it is expected to be effective in various dimensions of health improvement including physical health in clients. This study investigated the effectiveness of MMT on the physical health of clients from their own point of view.

The study and review of evidence and findings show that MMT is effective in improving physical and psychological health. From the standpoint of clients also, there are various successes in this treatment, such as reducing the incidence of AIDS, hepatitis C and other blood diseases, improvement of family life, finding jobs and keeping them and having more support from their children.[2] Giacomuzzi et al also showed that after 6 months of using methadone, the general health of dependents increased significantly.[3] The study of Torrens et al, which used the Nottingham health profile to check the MMT clients' health level, showed that MMT was effective in the improvement of physical health.[4]

The number of heroin abusers in Iran has been increasing and nowadays it is estimated to be about 250,000. The nature of heroin dependency, due to the severity of euphoric and withdrawal symptoms, makes it impossible for the dependents to work. Since most abusers are young and in the best age of efficiency, it is not difficult to calculate the lack of such human resources due to drug abuse especially heroin and the harms it does to the society by excluding such people from the productive cycle.[2] Some objectives of MMT include improvement of patients' quality of life, helping them join the society and keeping them in treatment as long as it is useful for them.[2]

Methods

This is a qualitative study of phenomenology, which is a study of life experiences by interviews and descriptions of people who live the experience. In fact, phenomenology is the study of life experiences.[5]

The study sample was purposive and the samples were selected from the clients referred to methadone clinics in the city of Kerman from October 2008 to March 2009 and were interviewed. In this sampling, the researcher purposively goes to those who have the exact necessary data.[5-7]

In this study, clients who were referred to methadone clinics and were willing to explain their experiences and feelings about the physical effects of MMT were selected. The size of the sample was determined based on the data needed.[8] In this study, data were collected by interviewing and observing and taking notes and sampling was continued until data saturation. The sample size happened to be 32 and there was no more data needed to continue. To collect the data, deep open and semi-structured interviews were used. The interviews started with a general question of "What are the physical effects of MMT on you?" and the rest of the questions were based on the condition of the interview and the client's answers. The approximate length of the interviews was half an hour to one hour, more or less, based on the participant's state.

Informed consent, permission to record interviews, anonymity, data confidentiality, the right to quit at any time and ethical regulations were all considered through the interviews. The ethic committee of the Neuroscience Research Center approved the study. The interviews were all scheduled and performed face to face in a private room in the methadone clinics to assure the comfort of interviewees in expressing themselves,[9] and the quality of sound recording. All the interviews were recorded and transcribed and analyzed. The analysis was based on Colaizzi's method,[7] in which the main statements were identified after reviewing the transcribed interviews for several times, then the main themes and concepts were extracted from the statements and in the next step, the themes were categorized and the main themes and sub-themes were created. In the final step, a thorough description of the study phenomenon was prepared. Data reliability and credibility were evaluated. To increase the reliability of data, conformability, allocation of sufficient time, good communication, prolonged engagement and persistent observation, data collection method triangulation, time triangulation, peer check, peer debriefing, member check, searching for opposite evidences and negative case

analysis were used. To increase the credibility and subjectivity of the data, results and extracted codes, they were referred to a scholar of qualitative research, who approved all the findings.

Results

Demographic data and the health condition of the participants are presented in Tables 1 and 2. Analyzing the transcriptions of the clients about the physical effects of methadone maintenance treatment, six main themes were extracted: (Table 3)

1. Effect on health
2. Effect on sleep
3. Effect on appetite and weight
4. Effect on sexual desire
5. Effect on appearance
6. Other effects.

Discussion

1. Effect on physical health

In this study, MMT was found effective in improving the physical dimensions of the quality of life and most clients mentioned that they were generally feeling healthier. Feeling clean of drugs and not being addicted, feeling healthy in all dimensions of life were some of the effects mentioned by clients. Client number 6 said: "when you take methadone, everything is right. Things go right; everything follows in the right way." Improving the people's quality of life under MMT has been proved in various countries including Lithuania[10] China[11,12] Georgia[13]. These effects were even faster and better than Buprenorphine treatment.[14] There was also a reported reduction in the mortality rate of maintenance treatments. A study in Australia on 405 clients using MMT and Buprenorphine treatment showed reduction in the mortality rate by both treatments and there was no difference between the reduction rate of the two treatments, except the elderly who showed better results with Buprenorphine treatment.[15] In another study on 1487 methadone receivers between 1990 to 1997, the mortality rate reduced from 87 to 17 in a thousand.[16]

2. Impact on sleep

The positive effect on sleep was reported by some clients as more comfortable sleep, going to bed earlier and waking up earlier in the morning, higher quality of sleep, not being sleepy during the day. Client number 5 said: "I went to bed at 6:30 am before, but now I wake up at 6:30 am." Contrary to this, some clients had complains about lack of sleep, falling asleep late and frequent awaking. In one case, horrible nightmares about drugs and selling narcotics was also reported. Client number 29 said: "opium was so precious to me, like my parents. Now, it feels like I have lost my parents; I dream of opium all the time." In this study, most clients reported positive effects on their sleep, but in general, the attitude towards MMT had a role on the client's sleep. For example, clients who thought methadone was free of morphine and believed that their body was clean from morphine and reported a positive effect on their body. However, most others who complained about negative effects of methadone on their sleep, were suffering from other psychiatric disorders such as depression and personality disorders (Axis II) and most of these participants were taking Benzodiazepines to improve their sleep quality, which could lead to other problems, resistance to

Table 1. Demographic features of the clients who were referred to Kerman methadone clinics

Characteristics	Age			Material status			Education			Career		Addiction		
	<20	20-40	>40	Married	Single	Divorced/ widowed	<High School	High School	>High School	Unemployed	employed	Laborer	Opium	Heroin, etc.
Male	1	8	21	11	10	9	14	11	5	10	5	10	4	26
Female	0	1	1	0	0	2	1	1	0	2	0	2	1	1

Table 2. Treatment condition of the clients who were referred to Kerman methadone clinics

Treatment	Number of pills			Length of treatment (year)	
	< 10	10-20	> 20	< 1	> 1
Male	9	17	5	11	19
Female	1	0	1	2	0

Table 3. The list of extracted codes in the interviews of clients who were referred to Kerman methadone clinics

1	Feeling healthy	Feeling healthy	Effects on health
2	Feeling clean		
3	Changes, everywhere is chaotic		
4	Back to the work and life		
5	Not being clean, because methadone is a derivative of opium and heroin	Feeling not healthy	
6	Waking up early	Positive effects	Effects on sleep
7	No withdrawal symptoms when waking up after treatment		
8	More comfortable sleep		
9	Feeling sick during the day	Negative effects	
10	Lack of sleep		
11	Having more appetite	Positive effects	Effects on Appetite and Weight
12	Gaining weight		
13	No appetite	Negative effects	
14	No weight gain and stopping the treatment		
15	Increase in sexual desire	Positive effects	Effects on sexual Functioning
16	Improve of early ejaculation after treatment		
17	Lack of sexual desire	Negative effects	
18	Brightened face	Positive effects	Effects on Appearance
19	Better look		
20	No improvement in appearance	Negative effects	
21	Having the face of an addict		
22	No pain and withdrawal symptoms	Positive effects	Other effects
23	Being sedentary and out of breath at work		
24	Spots on the face and skin	Negative effects	
25	Swollen body and abdomen		
26	Urinary retention		
27	Constipation in the first week of treatment, dizziness, headache, physical pain		

Benzodiazepines and withdrawal symptoms in case of stopping them. Client 9 said: "every night I take 4 to 5 Clonazepam tablets. When I was an addict, I did not even take one pill." Therefore, lack of attention to sleep problems and psychiatric co-morbidities in these individuals, not only made addiction treatment ineffective, but also caused addiction to other drugs.

3. Effect on appetite and weight

Improvement of appetite and gaining weight were the other effects of MMT in some clients. Moreover, in some clients, change in diet was also mentioned. Client number 21 said: "Since I feel healthy, I should also drink milk." Change in taste was also mentioned by some clients, for example, desire for sweets was increased in some clients. Client number 6 said: "I buy a liter of ice cream and eat it all. One day I even had two liters of ice cream."Nolan demonestrated higher consumption of sweets, higher eagerness to consume sweet foods in long term methadone maintenance.[17]

In a study in Poland, two months after starting treatment, the daily consumption of lipid fats, saturated fats and essential fatty acids, cholesterol, dietary fiber and certain minerals and vitamins was decreased, but 9 months after the beginning of the treatment their consumption was increased.[18]

However, some other clients mentioned that they lost their appetite after they started the treatment. These cases had also psychiatric co-morbidities including depression and personality disorders. In most of these clients abuse of some drugs such as cyproheptadine, dexamethasone and prednisolone were seen. Therefore, lack of attention to their appetite problems and lack of treatment for psychiatric co-morbidities had also caused increase of dependency to drugs in such patients. Client number 19 said: "I did not have an appetite in the beginning, so by some friends' advice, I took a prednisolone tablet every night."

Kolarzyk et al study the nutritional

condition of those undergoing MMT in the beginning of treatment and 4 years after. They found an average weight loss of 1.7 kg in women, whose BMI changed from 20.3 to 19.8 kg/m^2.[19] The percentage of body fat both in the beginning and during treatment was lower than standard. In men, the results were opposite and there was a mean 8.8 kg weight gain and an increase of BMI from 23.3 to 25.9 kg/m^2. Increase of arm circumference and muscle arm circumference and skin fat folds were associated with the decrease of body fluid and lean body mass.[19]

In another study, four years after MMT, women showed very low amounts of vitamin B1 and iron compared with the standard amount, while men showed low amounts of vitamins B1, B2 and C, niacin, and minerals such as calcium and magnesium and zinc.[20]

In addition, after four years of MMT, women showed increase in energy consumption, vitamins, minerals and main nutrition and men showed decrease in energy consumption, protein and carbohydrates. However, men were reported to have an increased consumption of fat especially unsaturated fatty acids.[20]

4. Effect on sexual functioning

Lack of sexual desire was among the problems mentioned in most MMT clients. Client 2 said: "These pills perhaps emasculate people; my wife says that when I was taking drugs I took care of her more than now that I am in so-called withdrawal."

Regarding the effects of methadone on sexual functioning, a study in Australia on 103 men undergoing MMT reported erectile dysfunction in 53% married men, in 26% of whom it was moderate to severe. In single men decrease in sexual desire and erection and sexual activities was reported.[21] Moreover, measurement of hormones and depression level was performed which showed that men undergoing MMT had a high prevalence of sexual problems due to hypogonadism and depression. Screening of men undergoing MMT for sexual disorders is recommended.[21] In a study on 100 male clients undergoing MMT in the city of Zahedan in 2007, 58% reported sexual problems, with a prevalence order of decreased sexual desire (31%), premature ejaculation (31%), impotence (9%), increase in libido (7%) and orgasmic dysfunction (2%).[22]

5. Impact on appearance

Changes in appearance such as a better look, a brighter face after treatment were mentioned by clients. In clients who thought methadone was a combination of opium and heroin or chemicals complained about their look and no improvement in their appearance was reported. Client 19 said: "because methadone is derived from opium and heroin, even now that I am taking methadone, most people who see me ask for drugs."

6. Other effects

A. Effect on pain

Elimination of physical pain and lack of drug deprivation symptoms, which were usual during drug consumption, was another effect of methadone. Client 22 said: "sleeping after taking methadone doesn't cause withdrawal symptoms, while when I was addicted, if I slept after taking drugs, I would yawn and felt chilly."

B. Constipation

Constipation is a problem that some clients reported to have after methadone consumption and therefore, these clients were consuming laxative during treatment. Client 29 said: "Since the first weeks of taking methadone, I had constipation and I would take a spoon of lactulose after every meal."

C. Skin lesions

Creating skin spots in the period of treatment was mentioned by some clients. In a study on 388 clients receiving methadone in Australia, the incidence of skin lesion was more seen in those who used street syrups of methadone, or those who forgot to take the right amount of their medicine or used Benzodiazepines, or recieved a high dosage of methadone syrup or were injecting methadone syrup. Furthermore, when a skin lesion became prevalent among a group of study subjects, the glass bottles of the distributed syrups were collected and following that the skin lesion subsided. These syrups were tested which were not polluted. So, it was guessed that the compounds of some syrups may be involved in the incidence of skin

problems prevalent in people consuming them.[23]

D. Edema of organs and body

Swollen body and stomach was among complains of some clients. Client 11 said: "methadone caused gas and made me swell; everyplace of my body I pressed would sag."

E. Feeling tired and being sedentary

Being tired and sedentary and feeling sick were other problems mentioned. Client 22 said: "I get out of breath when I go to work, now I get tired easily while I did not when I was taking drugs." However, it seems that such complaints are due to the clients' attitude toward methadone treatment. Clients who thought methadone has side effects mentioned such complaints more than others. Client 25 said: "I think this drug causes liver and kidney complications, that's why I have become sedentary."

F. Miscellaneous

Jerk movment, frequent urination, dark urine and urinary retention, dizziness, headache and body pain were other physical problems mentioned by MMT clients.

Conclusion

The interesting point is that feelings and experiences of the clients were dependent on their view and attitude towards this treatment. For example, those clients who thought methadone had no morphine said that all symptoms and experiences they had during addiction have all changed because their body was clean of morphine and they reported more positive effects. Vice versa, clients who thought methadone was similar to other drugs not only mentioned few positive effects for it, but also reported more complications compared to others. In addition, clients who had grown up with addiction since childhood, or in other words were children of addiction, or entered the treatment being obliged by military or others, were not satisfied by the treatment and were always worried about the decrease of methadone effect and frequently requested an increase in the dosage.

Conflict of interest: The Authors have no conflict of interest.

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مقاله پژوهشی

مجله اعتیاد و سلامت

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تأثیرات جسمانی درمان نگهدارنده متادون از دیدگاه مراجعین

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چکیده

مقدمه: مطالعات نشان داده است که درمان نگهدارنده متادون در بهبود کیفیت زندگی و ارتقای سطح سلامت جسمانی افراد مؤثر می‌باشد. این مطالعه با هدف توصیف ماهیت و ساختار تجربه حین درمان افراد وابسته به مواد افیونی از تأثیرات جسمانی نگهدارنده با متادون انجام شد.

روش‌ها: تحقیق حاضر، پژوهش کیفی از نوع فنومنولوژی است که در ۳۲ مراجع درمانگاه‌های متادون شهر کرمان در سال ۱۳۸۷ انجام شد. روش کلایزی برای تجزیه و تحلیل اطلاعات به کار رفت و جهت ارزیابی داده‌ها، از معیارهای روایی و اعتبار داده‌ها استفاده شد.

یافته‌ها: مفاهیم تدوین شده در دسته بندی‌های کلی تأثیرات روی سلامت عمومی، خواب، اشتها، وزن، میل جنسی، ظاهر و تأثیرات دیگر قرار گرفتند. این ۶ دسته بندی ساختار اصلی تجربه و تأثیرات جسمانی درمان نگهدارنده متادون را نشان داد.

نتیجه‌گیری: دیدگاه مراجعین نسبت به این درمان در بیان تجارب و احساسات آن‌ها نقش داشت، ولی به طور کلی درمان نگهدارنده متادون تأثیرات مثبتی در ابعاد جسمانی مراجعین داشت.

واژگان کلیدی: **درمان نگهدارنده متادون، تأثیرات جسمانی.**

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