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Mental health and quality of life of addicted individuals referred to Methadone Maintenance Therapy (MMT) centers, 2016

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ABSTRACT

Background: The study was conducted to identify the most important steps to prevention and reduction of the prevalence of drug addiction in the community and helping addicted people and determine their mental health and quality of life. The study aimed to evaluate the mental health and quality of life of addicted individuals referred to Methadone Maintenance Therapy Centers (MMT).

Materials and Methods: This study was conducted using descriptive and analytical methods in the year 2016; the study's sample included 351 addicted people who were selected as a targeted cluster from four different parts of the city and among the 4,000 affiliated of public and private addiction treatment centers. Data collection tools used were General Health Questionnaire-28 (GHQ-28) and SF-36 Questionnaire for the Evaluation of the Quality of Life. Data were analyzed using SPSS software for assessing our test results' significance level, which was $p \leq 0.05$.

Results: The average scores of the physical aspects of mental health were 17/69 ± 6/76, and the psychological dimension of mental health was 16/49 ± 9/42. Among the different dimensions of quality of life, physical function had the highest average score (5/67 ± 2/78) and social performance had the lowest average scores (2/07 ± 1/85). Increasing the length of treatment increased mental health (p = 0.003) but had negative impact on the quality of life of addicted individuals ($p = 0.3$).

Conclusion: Mental health and quality of life of this study's participants were at low levels, and this in turn can lead to other mental disorders and further reduction of their quality of life. Hence, our study findings show that it is important that officials need to pay special attention to this group.

Keywords: Mental health, Quality of life, Addicted individuals, Methadone, Behavior

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1. INTRODUCTION

Drug addiction is a physical, mental, and spiritual disease and because of its progressive nature poses threats and damages to all aspects of a person's life and health, including family and the society at large, in terms of social, economic, political, cultural, and health aspects.[1–4] Nowadays, addiction is widespread in many developed and underdeveloped countries, and these communities are faced with a dilemma as how to tackle this drug menace which threatens the life and security of citizens in these societies.[5] Addiction is a crisis and seriously affects the quality of life in more ways than one, including the spiritual and physical aspects of people's lives.[6]

Identification of quality of life and mental health status of addicted individuals is the first step to prevention and reduction of the prevalence of drug addiction in society as well as to help addicted individuals.[7] In recent years, the quality of life has become an important indicator in medical research to assess the health status of the individual and to ascertain the public health of the community.[8] The World Health Organization (WHO) defines quality of life as people's understanding from the living conditions in terms of culture and valuation methods in relation to the objectives, expectations, and conditions of a society and its people.[9] Quality of life includes two aspects: (a) mental and physical performance and (b) psychological damage and physical injury caused by addiction reduces the quality of life.[10] Results of the research conducted by Karow in examining the role of the social and clinical variables in the quality of life of addicted individuals showed personality disorders, individual conflicts, and mental and physical disorders were significantly associated with lower quality of life.[11]

According to the World Health Organization, mental health has been defined as the absence of any mental illness along with the social welfare state.[12] Mental health plays an important role in ensuring the dynamism and efficiency of the

society.[13] Ziaaddini et al.[14] and Hoseinifar et al.[15] showed the mental health level of addicted individuals is lower than the mental health level of non-addicts. Low tolerance levels, intense feeling of humiliation, and aggression and incompatible behavior are some side effects of drug abuse.[16] Finding the root cause of drug abuse and as a result its treatment is very difficult. Drug addiction treatment includes a wide range of therapeutic protocols and interventions, including behavioral and pharmacological approaches.[17] Methadone therapy is a maintenance treatment that addicted individuals receive in addiction treatment centers.[18]

Considering the importance of mental health and the role of mental illness in people's tendency toward drug abuse, it is important to note that untreated mental disorders play an important role in the failure of therapeutic intervention programs and recurrence of drug use and associated disorders.[19] In this regard, it seems necessary to study the different aspects of drug addiction, such as mental health and quality of life and numerous factors that affect an individual.[20,21] Addiction is a cause of concern for policymakers and has become a public health problem that require immediately appropriate interventions and programs.[6] The study aimed to evaluate the mental health and quality of life of addicted individuals referred to Methadone Maintenance Therapy Centers (MMT) in Babol city during 2016.

2. PARTICIPANTS AND METHODS

This study used descriptive and analytical methods to study group of addicted people during 2016.

2.1. Study population, sample, sampling

More than 4,000 addicted individuals who were residents of Babol city and in the custody of public and private addiction treatment centers comprised our study's sample population. Due to the breadth of the environments and study population, sampling centers were selected as a targeted cluster from four different parts of Babol city. A final sample of 351 addicted individuals were recruited for the study, and we used the KREJCIE & MORGAN table to prepare the 430 questionnaires that were distributed among those receiving treatment in five treatment centers (one public center and four private centers) for greater certainty. Finally, 400 questionnaires were collected.

2.2. Inclusion criteria

The criteria for participation included consent to participate in the study, living with the family, and having at least a diploma-level education in order to be able read and answer the questions.

2.3. Research processes and the sample selection process

Researchers with an introduction letter from the university were referred to addiction treatment centers and asked to respond to questions. The duration of treatment for each individual as extracted from the history of the patient was recorded as number of months an individual received the treatment. Referring to addiction treatment centers was performed with permission of vice-president of research and information technology and in coordination with the Department of Treatment. The information of subjects has been kept confidential, and only the general results were published without disclosing the names of the participants recruited for this study. This study was approved by the Ethics Committee of Babol University of Medical Sciences.

2.4. Data collection tools

In addition to collecting demographic information (age, gender, marital status, education, and employment status), a GHQ questionnaire containing 28 questions about the mental and physical aspects was administered to the study sample population. This questionnaire is scored based on the Likert-type scale with anchors ranging from the 0 = *lowest level* to 3 = the *highest levels*. Unusual options chosen by the study participants were assigned a score of zero. In most cases options and unusual options and non-options were assigned a score of 12 and 3, respectively. The results of the investigation of mental health quality showed that the maximum score achieved by individuals was 84 and the minimum was 0. For this reason, scores obtained by people classified at various levels in the range of 0–28, 29–56, and 57–84 correspond to undesirable mental health level, somewhat favorable mental health level, and favorable mental health level, respectively. As for quality of life, people whose scores ranged from 0 to 33 were categorized as people with unfavorable quality of life, scores in the range of 34–66 indicate a somewhat favorable quality of life, and scores ranging from 67 to 100 indicate favorable quality of life. The SF-36 questionnaire has questions under nine categories, which includes assessing the quality of life in different dimensions, including physical performance, restrictions on activities due to physical injuries, restrictions on activities due to mental health impairments, low energy and fatigue, social performance or interaction, bodily pain, general health, and changes in health.[10,22] Data were analyzed using the SPSS (V.22) software. The following tests were used to compare the qualitative and quantitative variables:

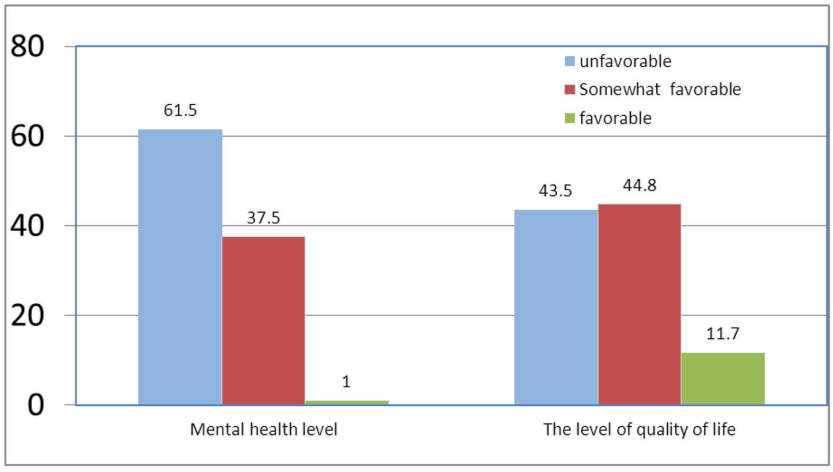

Figure 1 Percentage of addicted individuals based on the level of mental health and quality of life of addicted individuals referred to Methadone Maintenance Therapy Centers (MMT), Babol, 2016

Table 1 Relationship between the study variables and the mental health status of addicted individuals referred to Methadone Maintenance Therapy Centers (MMT), Babol, 2016

Mental health status Variables	Unfavorable N (%)	Somewhat favorable N (%)	Favorable N (%)	*p*-value
Marital status				
Single	65 (35.5)	90 (49.2)	28 (15.3)	0.007
Married	109 (50.2)	89 (41.0)	19 (8.8)	
Job status				
Employed	118 (44.9)	108 (41.1)	37 (14.1)	0.04
Unemployed	56 (40.9)	71 (51.8)	3 (7.3)	
Smoking				
Yes	131 (44.1)	133 (44.8)	33 (11.1)	0.79
No	43 (41.7)	46 (44.7)	14 (13.6)	
Education				
Below diploma	158 (43/8)	164 (45.4)	39 (10.8)	0.20
More than a diploma	16 (41/0)	15 (38.5)	8 (20.5)	
Duration of addiction				
1 year	118 (45.7)	117 (45.3)	23 (8.9)	0.04
2 years	56 (39/4)	62 (47.3)	24 (16.9)	
Number of times treated				
0–4 times	130 (45.1)	126 (43.8)	32 (11.1)	0.55
5–9 times	44 (39.3)	53 (47.3)	15 (13.4)	
Duration of treatment				
Less than a year	173 (45.1)	169 (44.0)	42 (10.9)	0.003
More than a year	1 (6.3)	10 (62.5)	5 (31.3)	

t-test, analysis of variance (ANOVA), chi-square test, and Man–Whitney *U* tests. A *p*-value that is less than 0.05 was considered significant.

3. RESULTS

The average age of the patients was 34.43 ± 8.78 years. The average duration of addiction of patients was 1.35 ± 0.47 years. The duration of their treatment was 5.18 ± 1.41 months.

The total average scores of mental health were fixed as 34.18 ± 14.80. Average scores of physical dimension of mental health (14 questions) reported a score of 17.69 ± 6.76, and average scores of the psychological dimension of mental health (14 questions) was 16.49 ± 9.42. In this study, 11.7% of patients had a favorable psychological level (Figure 1).

Study of the relationship between mental health status and studied variables showed marital status, jobs, duration of addiction, and length of treatment had a significant relationship with mental health (Table 1). Thus, unmarried individuals (those who were single at the time of this study) and those employed were observed to have a favorable mental health.

The results also showed there was a significant difference between physical and psychological dimensions of mental health in single and married addicted individuals ($p = 0.02$; see Table 2). As well, the average score of physical dimension in patients who received treatment for more than one year was higher, and this difference was statistically significant (Table 2).

Comparison between the quality of life and the different variables revealed there was no significant correlation between quality of life and other variables and that the quality of life of people who were referred to addiction treatment centers has also been reduced over time (Table 3).

Among the different dimensions of quality of life, physical performance had the highest average scores (5.67 ± 2.78), and social performance had the lowest average score (2.07 ± 1.85). Other indicators of quality of life and their average scores included general health (5.24 ± 3.28), restrictions on activities due to physical injuries (4.45 ± 2.84), restrictions on activities due to mental health impairments (3.57 ± 2.07), pain (2.20 ± 1.57), lack of energy and fatigue (3.42 ± 2.40), and current level of mental health (5.66 ± 2.98).

The average score of physical function in people who are married and employed was far more than others in the study sample, and this difference was significant ($p < 0.001$). The social performance of married and employed people whose duration of treatment was less than a year was more than the rest, and the score for the item measure 'pain' was far greater in married and employed people and people who had less than a year of treatment. Also, a significant difference was observed between marital status and duration of treatment with the lack of energy and fatigue (Table 4).

Table 2 Differences between the physical and psychological dimensions of mental health in relation to the study variables

Variable	Physical dimension of mental health		Psychological dimension of mental health	
	Average ± standard deviation	*p*-value	Average ± standard deviation	*p*-value
Gender				
Male	17.69 ± 6.65	0.90	16.35 ± 9.35	0.16
Female	17.89 ± 6.77		19.50 ± 9.40	
Age group (years)				
0–30	17.97 ± 6.68	0.81	17.09 ± 9.28	0.44
31–60	17.52 ± 6.82		16.05 ± 9.50	
61–90	18.00 ± 6.98		19.17 ± 10.22	
Marital status				
Single	18.69 ± 7.59	0.02	18.18 ± 8.65	0.001
Married	16.85 ± 5.86		15.06 ± 10.02	
Job status				
Employed	17/01 ± 5.37	0.52	16.83 ± 7.03	0.18
Unemployed	18.05 ± 7.37		16.31 ± 10.46	
Smoking				
Yes	17.62 ± 6.71	0.69	16.41 ± 9.36	0.78
No	17.92 ± 6.91		16.71 ± 9.64	
Education				
Below diploma	17.58 ± 6.76	0.30	16.26 ± 9.25	0.13
More than a diploma	18.74 ± 6.76		18.62 ± 10.77	
Duration of addiction				
1 year	17.28 ± 6.52	0.09	18.11 ± 8.66	0.03
2 years	18.46 ± 7.13		15.60 ± 10.50	
Number of times treatment received				
0–4	17.58 ± 6.86	0.58	16.15 ± 9.10	0.25
5–9	17.99 ± 6.52		17.35 ± 10.20	
Duration of treatment				
Less than a year	17.50 ± 6.66	0.005	16.11 ± 9.30	0.00
More than a year	22.38 ± 7.69		25.56 ± 7.95	

Table 3 Relationship between quality of life and study variables

Quality of lifevariables	Unfavorable N(%)	Somewhat favorable N(%)	Favorable N(%)	*p-value*
Marital status				
Single	118 (64.5)	64 (35.0)	1 (0.5)	0.42
Married	128 (59)	86 (39.6)	3 (1.4)	
Jobs				
Employed	80 (58.4)	55 (40.1)	2 (1.5)	0.56
Unemployed	166 (63.1)	95 (36.1)	2 (0.8)	
Smoking				
Yes	176 (59.3)	117(39.4)	4 (1.3)	0.16
No	70 (68.0)	33(32.0)	-	
Educational status				
Below diploma	221 (61.2)	136(37.7)	4 (1.1)	0.90
More than a diploma	25 (64.1)	14(35.9)	-	
Duration of addiction				
one year	159 (61.6)	96(37.2)	3 (1.2)	0.96
Two years	87 (61.3)	54(38.0)	1 (0.7)	
Number of treatment				
0-4 times	177 (61.5)	108(37.5)	3 (1.0)	0.99
5-9 times	69 (61.6)	42(37.5)	1 (0.9)	
Duration of treatment				
Less than a year	239 (62.2)	141(36.7)	4 (1.0)	0.30
More than a year	7 (43.8)	9(56.3)	-	

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Table 4 Reviews of the component variables of quality of life of addicted individuals referred to Methadone maintenance therapy centers (MMT), Babol, 2016

	General health		Physical performance		Physical limitation		Social Performance		The emotional Limitation		Pain		Energy / fatigue		mental health	
Variables	***average***	**P**	***average***	**P**	***average***	**P**	***average***	**P**	***average***	**P**	***average***	**P**	***average***	**P**	***average***	**P**
Gender:																
Male	5.23 ± 3.24	0.78	5.63 ± 2.57	0.17	4.47 ± 2.81	0.54	2.72 ± 1.67	0.07	2.06 ± 1.85	0.45	2.00 ± 1.13	0.57	3.42 ± 2.61	0.89	5.75 ± 3.00	0.04
Female	5.44 ± 3.29		6.56 ± 2.79		4.06 ± 3.35		3.61 ± 2.08		2.39 ± 1.75		2.21 ± 1.58		3.50 ± 2.43		4.33 ± 1.87	
Age group:(years)																
0-30	5.31 ± 3.36	0.51	5.83 ± 3.01	0.20	4.44 ± 2.87	0.99	3.51 ± 2.05	0.91	2.12 ± 1.90	0.95	2.24 ± 1.69	0.26	3.55 ± 2.52	0.62	5.69 ± 2.88	0.99
31-60	5.16 ± 3.21		5.63 ± 2.65		4.46 ± 2.84		3.60 ± 2.09		2.03 ± 1.78		2.20 ± 1.48		3.33 ± 2.40		5.68 ± 3.04	
61-90	6.67 ± 4.22		3.83 ± 0.75		4.33 ± 1.86		3.50 ± 1.87		2.67 ± 3.07		1.17 ± 1.47		3.83 ± 1.94		5.83 ± 2.78	
Marital status:																
Singles	4.98 ± 3.01	0.15	4.03 ± 2.13	0.00	5.58 ± 2.49	0.00	2.58 ± 2.49	0.32	0.82 ± 0.95	0.00	1.70 ± 1.07	0.00	4.02 ± 2.12	0.00	6.13 ± 3.10	0.006
Married	5.46 ± 3.48		7.06 ± 2.50		3.50 ± 2.76		3.50 ± 2.76		3.13 ± 1.76		2.63 ± 1.78		2.92 ± 2.65		5.31 ± 2.81	
Jobs:																
Employed	5.54 ± 3.73	0.58	6.43 ± 2.87	0.00	3.90 ± 2.97	0.005	3.00 ± 2.19	0.06	2.77 ± 1.96	0.00	2.58 ± 1.79	0.03	3.33 ± 2.49	0.57	5.55 ± 2.99	0.52
Unemployed	5.08 ± 3.02		5.28 ± 2.66		4.74 ± 2.73		4.24 ± 1.70		1.71 ± 1.68		2.01 ± 1.40		3.47 ± 2.41		5.75 ± 2.97	
Smoking:																
Yes	5.40 ± 3.47	0.31	5.64 ± 2.86	0.63	4.42 ± 2.85	0.67	3.57 ± 2.15	0.93	2.o7 ± 1.89	0.97	2.22 ± 1.60	0.67	3.49 ± 2.51	0.31	5.02 ± 2.93	0.008
No	4.79 ± 2.60		5.79 ± 2.56		4.55 ± 2.80		3.55 ± 2.02		2.07 ± 1.72		2.15 ± 1.46		3.21 ± 2.19		5.92 ± 3.01	
Educational status:																
Below diploma	5.33 ± 3.31	0.10	5.61 ± 2.82	0.19	4.48 ± 2.82	0.60	3.59 ± 2.08	0.56	2.06 ± 1.87	0.70	2.22 ± 1.59	0.52	3.45 ± 2.49	0.51	5.69 ± 3.00	0.87
More than a diploma	5.11 ± 3.03		6.23 ± 2.35		4.23 ± 2.97		3.38 ± 2.02		2.18 ± 1.65		2.05 ± 1.31		3.18 ± 1.86		5.62 ± 2.74	
duration of addiction:																
one year	5.31 ± 3.41	0.54	5.79 ± 2.85	0.26	4.37 ± 2.70	0.44	3.65 ± 2.08	0.27	2.03 ± 1.79	0.58	2.18 ± 1.58	0.67	3.43 ± 2.40	0.34	5.61 ± 2.96	0.51
Two years	5.11 ± 3.03		5.46 ± 2.65		4.60 ± 3.08		3.42 ± 2.04		2.14 ± 1.95		2.25 ± 1.55		3.58 ± 2.50		5.82 ± 3.01	
The number of treatment:																
0-4 times	5.14 ± 3.35	0.34	5.70 ± 2.70	0.76	4.44 ± 2.87	0.92	3.63 ± 2.07	0.32	2.11 ± 1.93	0.50	2.30 ± 1.67	0.21	3.48 ± 2.48	0.43	5.70 ± 3.03	0.83
5-9 times	5.49 ± 3.10		5.61 ± 2.99		4.47 ± 2.74		3.40 ± 2.07		1.97 ± 1.62		1.96 ± 1.23		3.27 ± 2.32		5.63 ± 2.84	
The duration of treatment:																
Less than a year	5.18 ± 3.27	0.12	5.71 ± 2.77	0.20	4.39 ± 2.84	0.02	3.55 ± 2.08	0.54	2.15 ± 1.85	0.00	2.24 ± 1.58	0.02	3.34 ± 2.42	0.00	5.67 ± 3.00	0.66
More than a year	6.56 ± 3.34		4.81 ± 2.92		6.00 ± 2.42		3.88 ± 1.74		0.31 ± 0.47		1.31 ± 0.87		5.50 ± 1.86		6.00 ± 2.36	

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4. DISCUSSION

Mental health was significantly higher in unmarried addicted individuals, employed, people who had addiction for more than two years, and people whose treatment duration was more than one year. The physical and psychological dimensions of mental health had a higher average score in unmarried addicted individuals and in those whose duration of treatment was more than 1 year, and the psychological dimension of mental health had a higher average score in people whose treatment duration was one year. As much as 61.5% of addicted individuals in our study had an unfavorable quality of life, and about 1% of drug users had a favorable quality of life. Also, the quality of life of people who were referred to addiction treatment centers reduced over time.

Various studies suggest that drug abuse causes the inability to think, impairment in planning and judgment, and adverse effects on the quality of life and mental health of addicted individuals.[23–26] Variables such as physical location, treatment, physical and mental health, and age have a direct effect on the quality of life of addicted individuals.[27]

In this study, the average level of mental health of participants was equal to 34.18, a score lower than the average level of mental health reported in the study of Katybaie et al. (44.9).[28] Mahmoudi et al. reported that 70.1% of addicted individuals had a favorable mental health score; in the present study this number was 44.8. Also, in the study of Barzegar and colleagues it was reported that the mental health level of drug addicted individuals was lower than other case study participants.[6] Ali Moradi et al.'s (2011) study found that mental disorders are more common in drug users compared to their healthy counterparts.[29] The study results of Hossienifar and colleagues in 2011 showed there was a significant difference in the mental health level between addicted individuals and healthy people; in other words, drug abusers had poorer mental health status.[15] Our research findings showed that addiction generally lad to an increase in mental disorders in people. The findings of this study are consistent with the findings of many other studies.[30–32] According to the definition of mental health, it is important to enhance individual compatibility with the environment by proper psychological and emotional methods, as addiction implies the physical and psychological dependency to drug and its related disorders, which causes adversely affects the mental health and hampers the ability of individuals to interact with their surrounding environment.[23,24] Hence, all the above studies are consistent in terms of their findings and consistently report a a low level of mental health among addicted people.

Quality of life has different dimensions and includes physical, psychological, social, and spiritual status of people. Quality of life includes two components: ability to perform daily work that reflects a person's physical, psychological, and social status, and individual's satisfaction about his/her ability to control the disease and side effects of treatment.[7] As much as 61.5% of addicted individuals who participated in this study had unfavorable quality of life, and only about 1% of drug users had a better score on quality of life. Aghayan et al., Khosravi et al., and Khajedaluee et al.[18,33,34] showed that the quality of life in addicted individuals is lower than the quality of life of non-addicted individuals and as such as it is safer to assume that generally addicted individuals' quality of life is very low. Weiss and colleagues,[35] Schrimshaw et al.,[22] and Bizzarri et al.[10] stated that addiction leads to crisis in the lives of drug abusers.

The average age of drug users in this study was 34.43 years, and the average age of addicted individuals reported by Hoseinifar et al. in their study was 41 years.[15] As much as 95.5% of addicted individuals referred to Addiction Treatment Centers were male and only 4.5% of them were female. Mahmoudi et al.[7] reported findings similar to those reported in this study. Considering the social and cultural conditions of our country, it seems logical that the number of men who are addicted is way more than the number of women addicted to substance.

There are some limitations to the data and findings of this study, chiefly among them the failure to check the type of drugs used; in addition, there was no control group used in this study that consisted of non-addicted people in order to compare their characteristics with addicted individuals to gather more robust data that could have shed more light on the quality of life and other indicators which were used only to study the addicted individuals and the fact that addicted individuals gave very poor cooperation.

5. CONCLUSIONS

The mental health and quality of life of addicted individuals are at low levels, and this in turn can lead to other more severe form of mental disorders and drastic reduction of their quality of life; hence, it is imperative that government or other regulatory bodies or policymakers give special attention to this group.

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