Original Article

DOI: https://doi.org/10.62143/4ffeyx83

Quality of Life Among Clients Under Methadone Maintenance Therapy in Methadone Clinics

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ABSTRACT

Introduction: *Methadone maintenance therapy has impacts on quality of life among opioid use disorder clients. It is a widely accepted treatment for opioid dependent clients. The study aimed to assess the quality of life among clients under methadone maintenance therapy in selected centers of Kathmandu.*

Methods: *A descriptive cross-sectional study was conducted among 162 clients recruited through probability and proportionate sampling technique from two methadone clinics of Kathmandu Metropolitan city. The data was collected from August to September 2022, through face to face interview using WHOQOL-BREF which included 26 items. The data was analyzed by using descriptive statistics to calculate frequency, percentage, mean, median, quartiles, and inferential statistics; Chi-square test and Fisher's exact test to assess association of quality of life and selected variables.*

Results: *The findings of the study showed that overall score of quality of life was 50. Majority of the respondents (68.5%) had above average quality of life. The highest score was in physical domain (51.61) followed by environment (48.57), social (46.66), and lowest score was in psychological domain (46.15). The study showed a statistically significant association between quality of life and age of opioid use (p=.032).*

Conclusion: *Majority of the clients under methadone maintenance therapy has above average quality of life. Quality of life is comparatively higher in physical domain and lower in psychological domain.*

Keywords: *Methadone maintenance therapy, opioid dependence, quality of life*

INTRODUCTION

Quality of Life (QOL) is defined by the World Health Organization (WHO) as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns".[1] Clients' self-assessment of health and ability to function physically, mentally and socially is known as HRQOL.[2] The QOL is generally poorer in individuals with opioid use disorder compared to the general population.[3]

Opioids are used for treatment as well as for recreational purpose. Palliative care, the treatment of opioid dependence, and the management of acute and cancer pain are its primary uses.[4] Opioids help to get relief from pain but they produce euphoria in addition to pain relief. As a result, they can be abused by being consumed improperly, in excess of what is recommended, or without a doctor's prescription. Routine use of opioids in large dose can lead to dependence, overdose crisis, and even deaths. [5]

Opioid-use disorder is a global issue characterized by the regular use of opioids within a 12-month period, leading to detrimental effects on physical and mental health, social and interpersonal relationships, reduced engagement in social or leisure activities, difficulties in fulfilling professional duties. Similarly, excessive time spent in obtaining or recovering from drug use, consumption of more opioids than intended, intense cravings, inability to reduce the amount used, development of tolerance, using opioids in dangerous situations, and experiencing withdrawal symptoms after reducing dosage or stopping drug use. Globally, 16 million people are affected by opioid use disorders and 120,000 deaths are occurred annually due to opioid use.[6] Opioid overdose deaths were increased from 46,802 deaths in 2018 to 49,860 in 2019.[5] In North America synthetic opioid overdose crisis rate was high in 2017 in which over 47,000 people died from drug overdoses.[7] According to the Government of Nepal, Ministry of Home Affairs Survey Report on Current Hard Drug Users in Nepal-2069, there were 91,534 current drug users in 2012-13 among them 85204 were male, and 6330 were female, that number was almost double of 46,309 in 2006-07. The average age of initial drug use was 17.2 years, with a mean age of 25.1 years. Total percentage of cannabis users were 90.5% of the total, opiates 93.5%, tranquilizers 83.5%, inhalants 12.7%, hallucinogens 8.7%, stimulants 5.2%, and other substances 1.2% of the total.[8]

Methadone is a type of long-acting full opioid agonist and is applied to treat opiate use problems. It helps to prevent withdrawal symptoms due to use of opioids and reduce craving.[9] Methadone Maintenance Therapy (MMT) helps to reduce the rate of harmful injection of drugs which helps to reduce HIV transmission, decreases the number of people who die from opioid dependence and the amount of crime committed by opioid users. In Hong Kong, clients with methadone program who attend the clinic on a regular basis have lower levels of drug injecting and HIV risk behaviors. Compared to clients who received dosages of methadone below 60 mg per day than those who got doses of over 60 mg per day were also less likely to use or inject narcotics.[10] The aim of this study was to find out the QOL among the clients under MMT.

METHODS

This was descriptive cross-sectional study conducted in Sarathi Methadone Treatment Center, Kathmandu, which has two branches, one in Chetrapati and another in Chandol, Kathmandu. A total 162 clients under MMT were selected using simple random with proportionate sampling (89 clients from Chhetrapati center and 73 from Chandol). Socio-demographic and disease and drug related information was collected by researchers developed questions. QOL was assessed by standard tool the Short Version of WHOQOL-BREF, which consisted of 26 items rated on a Likert Scale of 1-5 (1-not at all, 2- a little, 3- moderate amount, 4- very much, and 5- extremely). Data was collected from August to September 2022 through face-to-face interview. Each interview lasted approximately 20-25 minutes. Pretest was done among 16 clients under MMT in Avash Samuha, Bhaktapur. No modification was required on the tool after pre-test. This study was ethically approved from Institutional Review Committee, Institute of Medicine, Maharajgunj, Kathmandu (No. 41{6-11} E2, 2079/80). Informed written consent was obtained from each participant before data collection. Data was coded and entered into SPSS 16 version. Descriptive statistics were used to calculate the frequency, percentage, mean, median and quartile and inferential statistics Chi-square and Fisher's Exact tests were used to determine the association between QOL and selected variables.

RESULTS

Table 1: Socio-demographic Characteristics (n=162)

Variables	Number	Percentage
Age in completed year		
20-29	56	34.6
30-39	80	49.4
40-49	21	13
50-59	5	3.1
Median(Q1,Q3)=32(28,37)		
Sex		
Male	156	96.3
Female	6	3.7
Education		
Primary level	37	22.8
Secondary level	84	51.9
Higher level	41	25.3
Marital status		
Married	100	61.7
Unmarried	57	35.2
Separated	3	1.9
Divorced	2	1.2
Type of family		
Nuclear	64	39.5
Joint	98	60.5
Occupation		
Homemaker	45	27.8
Agriculture	4	2.5
Service	64	39.5
Foreign employment	15	9.3
Business	31	19.1

Table 1 shows nearly half of the respondents belonged to 30-39 years of age group, 96.3% were male, 51.9% had secondary level education. The majority of respondents (61.7%) were married, 60.5% belonged to joint family, 39.5% respondents had business.

Table 2. Disease and Drug Related Information (n=162)

Variables	Number	Percentage
Chronic illness		
Yes	5	3.1
No	157	96.9
Age that opioid started (in year)		
10-19	88	54.3
20-29	63	38.9
30-39	9	5.6
40-49	2	1.2
Median(Q1,Q3)=19(16,23)		
Type of opioids use		
Heroin only	118	72.8
Multiple opioids	44	27.2
Duration of MMT		
6 Months - 5 years	140	86.4
6-10 years	16	9.9
>10 years	6	3.7
Median(Q1,Q3)=12(7,36)		

Table 2 depicts that 3.1% of respondents had chronic illnesses which includes hypertension, epilepsy, and asthma, 54.3% started using opioids at the age of 10-19 years, 72.8% used heroin only and 86.4% were using methadone for 6 months to five years.

Table 3: Respondents' Response on Quality of Life and Health Satisfaction (n=162)

Items	1 No.(%)	2 No.(%)	3 No.(%)	4 No.(%)	5 No.(%)	Median Q1,Q3
Perceived QOL	4(2.5)	5(3.1)	115(71.0)	35(21.6)	3(1.9)	3(2,4)
Satisfaction with own health	2(1.2)	16(9.9)	89(54.9)	46(28.4)	9(5.6)	3(2,4)

1: Very poor, 2: Poor, 3: Neither poor nor good, 4: Good, 5: Very good

Table 3 shows the majority of the respondents (71.0%) perceived that their QOL is neither poor nor good and 54.9% respondents had neither poor nor good satisfaction with their own present health condition.

Table 4: Respondents' Quality of Life in Different Domains (n=162)

Domains	Possible score range of scale	Obtained score range of scale	Raw Median Score (Q1,Q3)	Transformed Score (0-100 scale)
Physical	7-35	7-31	23(21,25)	51.61
Psychological	6-30	6-26	18(16,20)	46.15
Social	3-15	3-15	10(9,11)	46.66
Environment	8-40	12-35	25(23,27)	48.57
Overall QOL	24-120	35-102	75 (70.75, 81)	50.00

Transformed score= [{(item value-lowest possible item value)/possible range}*100]

Table 4 shows raw and transformed score in different domains. Transformed median score was physical domain (51.61), environmental domain (48.57), social domain (46.66), and psychological domain (46.15). This shows that the higher QOL was in physical domain and lowest in the psychological domain. The transformed median score of overall QOL was 50.00.

Table 5: Respondents' Level of Quality of Life

Level of QOL	Number	Percentage
Above average QOL (>50)	111	68.5
Below average QOL (≤50)	51	31.5
Total	162	100

With reference to median value of 0-100 scale, the majority of the respondents (68.5%) had above average QOL and 31.5% had below average QOL **(**Table 5**)**.

Table 6: Association between Level of Quality of Life and Selected Variables of Respondents (n=162)

Variables	Quality of life		$\chi 2$	p-value
	Below average	Above average		
	No. (%)	No. (%)		
Age				
≤32	27(32.9)	55(67.1)	.161	.688
>32	24(30.0)	56(70.0)		
Sex				
Male	48(30.8)	108(69.2)		.380€
Female	3(50.0)	3(50.0)		
Education				
Primary/Secondary level	39(32.2)	82(67.8)	.125	.724
Higher level	12(29.3)	29(70.7)		
Marital status				
Married/ Separated/Divorce	33(31.4)	72(68.6)	.000	.984
Unmarried	18(31.6)	39(68.4)		
Type of family				
Nuclear	17(26.6)	47(73.4)	1.187	.276
Joint	34(34.7)	64(65.3)		
Occupation				
Business	19(29.7)	45(70.3)	.158	.691
Homemaker/Agriculture/Service/ Foreign employment/Labour/Student	32(32.7)	66(67.3)		
Chronic illness				
Yes	2(40.0)	3(60.0)		.650€
No	49(31.2)	108(68.8)		
Age of opioid started				
≤19	34(38.6)	54(61.4)	4.572	.032
>19	17(23.0)	57(77.0)		
Type of opioid use				
Heroin	37(31.4)	81(68.6)	.003	.955
Multiple opioid	14(31.8)	30(68.2)		
Duration of MMT				
≤12 month	34(37.0)	58(63.0)	.020	.889
> 12 months	17(24.3)	53(75.7)		
Chronic illness				
Yes	2(40.0)	3(60.0)	.650	
No	49(31.2)	108(68.8)		

€- Fisher's Exact Test

Above table 6 depicts that age when respondents started to use opioid has significant association with QOL (*p*=.032). There is no statistically significant association between level of QOL and other variables including age, sex, education, marital status, type of family, occupation, chronic illness, and type of opioids use.

DISCUSSION

This study assessed the QOL of clients who were under MMT. Findings showed that majority of the respondents (68.5%) have above average QOL. Overall QOL score is 50. This result is similar to the findings of a study carried out in Vietnam, where 57.4% of the participants expressed satisfaction with their present health condition, and 56.8% reported having a good QOL, and overall QOL was 66.1. [11]

In the present study the highest score is in physical domain (51.61) followed by environmental (48.57), social (46.66), and lowest score in psychological domain (46.15). A prospective follow up study of Nepal showed highest score in social domain (60.71±14.31), and lowest score in psychological domain (58.33±11.30).[12] A study from Vietnam had highest score in environmental domain (70.9±11.5) and lowest in social domain (61.1±13.5).[11]A longitudinal 18 month follow up study of Taiwan showed highest score in environmental domain (31.49±5.53), and lowest score in social domain (13.73±2.65).[13] Likewise, a study from Iran showed improvement in all four domains of QOL after enrolment in MMT for 3 months asphysical domain:86.21±12.85, psychological domain:70.07±15.62, social domain:38.7±9.44, and environmental domain:93.2±22.81.[14] Another study result showed the average scores for the physical domain, psychological domain, social domain, and environmental domain 57.6, 57.5, 63.6, and 63.9, respectively.[15] Another study showed improvement in QOL after MMT among opioid dependent clients where mean score of physical domain was 21.07±0.29, psychological 19.75±0.49, social 9.95±0.2, and environment 25.77±0.43.

The present study showed a statistically significant association between QOL and age of opioid use (*p*=0.032). Other variables age, sex, ethnicity, religion, education, marital status, type of family, occupation, chronic illness, type of opioids used, and duration of MMT had no statistically significant association with QOL. A study conducted in Vietnam, married clients had better perceived QOL, older age was associated with poorer QOL. There were no significant association found between other variables such as educational background, employment status, presence of additional chronic illnesses, and marital status, and perceived QOL.[11] A study from Taiwan showed no association between sociodemographic variables and QOL.[16] Similarly study conducted in Malaysia reported that patients who were aged 50 years old and below had a significantly greater improvement in QOL scores social (t=3.263, *p= 0.002*), environment (t=2.787, *p*= 0.006) domain, than aged above 50 years.[3] A study from different MMT facilities across the different geographical provinces of Myanmar clients' employment status had a significant impact on overall QOL score (*p*=0.0006) as well as all the domains of QOL including physical, psychological, environmental, and social health. Being unemployed was found to negatively affect all four domains of QOL. The participants' current leisure status also showed a strong association with all the domains, which contributed to the overall QOL domain (*p*<0.001).[17] Methadone had a significant impact on both QOL and marital satisfaction (*p*-value less than 0.001). [18]

CONCLUSION

The findings of the study show that the majority of clients with MMT has above average QOL. QOL is higher in the physical domain and lower in the psychological domain. The age when clients started to use opioids is associated with QOL.

Clients who are receiving MMT have an impact on their psychological health. Healthcare providers, families, friends, and other significant people have to support to improve their psychological health and improve the overall QOL. Further study can be conducted to explore the factors contributed to low QOL in psychological aspects.

CONFLICT OF INTEREST: NONE

REFERENCES

1. World Health Organization. WHOQOL user manual. 2016. Retrieved from https://apps.who.int/iris/rest/bitstreams/110129/retrieve
2. Karow A, Reimer J, Schäfer I, Krausz M, Haasen C, Verthein U. Quality of life under maintenance treatment with heroin versus methadone in patients with opioid dependence. Drug and Alcohol Dependence. 2010 Dec 1;112(3):209-15. https://doi.org/10.1016/j.drugalcdep.2010.06.009
3. Fei JT, Yee A, Habil MH, Danaee M. Effectiveness of methadone maintenance therapy and improvement in quality of life following a decade of implementation. Journal of Substance Abuse Treatment. 2016 Oct 1;69: 50-56. https://doi.org/10.1016/j.jsat.2016.07.006
4. Degenhardt L, Grebely J, Stone J, Hickman M, Vickerman P, Marshall BD, Bruneau J, Altice FL, Henderson G, Rahimi-Movaghar A, Larney S. Global patterns of opioid use and dependence: harms to populations, interventions, and future action. The Lancet. 2019 Oct 26;394(10208):1560-79. https://doi.org/10.1016/S0140-6736(19)32229-9
5. National Institute on Drug Abuse. Opioids. *National Institute on Drug Abuse (NIDA)* (2016). https://nida.nih.gov/research-topics/opioids
6. Dydyk AM, Jain NK, Gupta M. Opioid use disorder. In StatPearls. PMID: 31985959. Accessed on 22 Feb 2024. Retrieved from: https://www.ncbi.nlm.nih.gov/books/NBK553166/
7. United Nations Office on Drugs and Crime. World drug report 2019: 35 million people worldwide suffer from drug use disorders while only 1 in 7 people receive treatment. Accessed on 22 Feb 2024 retrieved from: https://www.unodc.org/unodc/en/frontpage/2019/June/world-drug-report-2019_-35-million-people-worldwide-suffer-from-drug-use-disorders-while-only-1-in-7-people-receive-treatment.html
8. Shrestha DM, Aich TK, Gautam K, Bajracharya D. Opioid dependence and methadone maintenance treatment (MMT) programme in Nepal in three different decades: An exploratory/comparative study. Journal of Psychiatrists' Association of Nepal. 2020 Dec 31;9(2):3-11. https://doi.org/10.3126/jpan.v9i2.36278
9. Durrani M, & Bansal K. Methadone. *Stat Pearls Publishing*. 2023. https://pubmed.ncbi.nlm.nih.gov/32965887/
10. World Health Organization. Methadone maintenance treatment - clinical guidelines for withdrawal management and treatment of drug dependence in closed settings. 2009. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK310658/
11. Quyen BTT, Nguyen LT, Phuong VTV, Hoang LT. Quality of life in methadone maintenance treated patients in Long An, a Southern province of Vietnam. Health Psychology Open. 2020 Oct;7(2):2055102920953053.
12. Sapkota B, Tulachan P, Ojha SP, Chapagai, M, Dhungana, S. Changes in the quality of life of outpatients in methadone maintenance treatment clinics in Kathmandu Valley. Journal of Institute of Medicine Nepal, 2019;41(3):30-34. http://103.69.125.201/index.php/jiomn/article/view/777/623
13. Wang PW, Wu HC, Yen CN, Yeh YC, Chung KS, Chang HC, Yen CF. Change in quality of life and its predictors in heroin users receiving methadone maintenance treatment in Taiwan: an 18-month follow-up study. The American Journal of Drug and Alcohol Abuse. 2012 May 1;38(3): 213-219. 10.3109/00952990.2011.649222
14. Kobra L, Mohammad BN, Alireza SS. Quality of life in patients on methadone maintenance treatment: a three-month assessment. Journal of the Pakistan Medical Association. 2012 Oct 1;62(10):1003-1007. Retrieved from https://pubmed.ncbi.nlm.nih.gov/23866434/
15. Anggraini AB, Nadjib M. Quality of life among methadone maintenance treatment (MMT) patients with higher education. Health Science Journal of Indonesia. 2018 Dec 27;9(2):93-8.https://doi.org/10.22435/hsji.v9i2.810
16. Chou YC, Shih SF, Tsai WD, Li CS, Xu K, Lee TS. Improvement of quality of life in methadone treatment patients in northern Taiwan: a follow-up study. BMC psychiatry. 2013 Dec;13: 1-8. https://doi.org/10.1186/1471-244X-13-190
17. Tun S, Vicknasingam B, Singh D, Wai N. Client satisfaction to methadone maintenance treatment program in Myanmar. Substance Abuse Treatment, Prevention, and Policy. 2022 Dec;17(2). https://doi.org/10.1186/s13011-021-00429-z
18. Ghoreishi FS, Assarian F, Rezaei M, Kermanshah Z. The efficacy of methadone maintenance therapy on the quality of life and marital satisfaction among substance users. International Journal of Applied Behavioral Sciences. 2020, 7 (1). Journals.smbu.ac.ir/ijabs