

Quality of Life among Methadone Maintenance Patients after the 4th Wave of COVID-19 in Ho Chi Minh City, Vietnam

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Abstract

Introduction: This study aimed to assess the quality of life (QOL) of methadone maintenance patients in Ho Chi Minh City after the most devastating wave of COVID-19 and to explore factors that influence their QOL.

Methods: A cross-sectional study was conducted on 230 people who were in a methadone maintenance phase at the Tan Binh methadone treatment clinic using WHOQoL-BREF questionnaires. Ten in-depth interviews were carried out with patients and health staff, who were purposely selected.

Results: The overall QOL score of study participants according to the 100-point WHOQoL-BREF scale was 64.6 ± 9.8 , in which the highest average score was the physical health domain (68.3 ± 11.1 points) and the lowest was the social relationship domain (59.1 ± 13.5 points). MMT patients' employment was found to be strongly affected by the COVID-19 epidemic, with higher unemployment or unstable jobs that negatively influence their QOL. In contrast, the take-home dose policy applied during lockdown was reported as a positive factor and well accepted. Family support and marriage also positively affected their QOL scores, whereas those with positive urine test results reported lower QOL scores.

Conclusion: Employment and social support for MMT patients has emerged, and further studies should be carried out to provide adequate evidence for methadone treatment improvement, including a multi-day take-home dose initiative.

Keywords: Quality of life, methadone treatment, WHOQoL-BREF scale, COVID-19

1. Introduction

According to UNODC's report 2021, around 275 million people aged 15-64 used drugs worldwide, while over 36 million people suffered from drug use disorders. Globally, over 11 million people were estimated to inject drugs, with half living with hepatitis C, 1.4 million living with HIV, and 1.2 million living with both (United Nations Office on Drugs and Crime, 2021). In recent decades, Vietnam has experienced one of the fastest-growing HIV epidemics in Asia, driven mainly by injection drug use and sexual transmission. Methadone maintenance treatment (MMT) was introduced in Vietnam in 2008 for people with opioid dependence. It has been proven to be an effective therapy for heroin abuse because it helps reduce heroin use and criminal activity while increasing protection against HIV infection. After the pilot period, the program was rapidly scaled up in Vietnam (FHI 360, 2014; T. T. Nguyen, Nguyen, Pham, Vu, & Mulvey, 2012; T. T. Nguyen, Tran, Le, & Jauffret-Roustide, 2022; Nong et al., 2023). At the end of 2021, 344 MMT clinics in all 63 cities/provinces provided treatment for 52,560 outpatients nationwide (Vietnam Ministry of Health, 2021).

Quality of life (QOL) in MMT patients has been proven as a valuable indicator to capture the program's effectiveness. It is a multi-dimensional construct consisting of the physical, mental, emotional, and social functioning of an individual based on their perceptions. Therefore, in recent decades, studies assessing QOL have been conducted and are popular worldwide and in Vietnam. In the literature, generic instruments such as the WHOQoL-BREF were frequently employed to measure QOL among people who engaged in MMT (Chou et al., 2013; Guyatt, Feeny, & Patrick, 1993; L. H. Nguyen et al., 2017; Nong et al., 2023; Simirea et al., 2022; Skogen et al., 2023; Bach Xuan Tran, Moir, et al., 2020; Bach Xuan Tran, Nguyen, et al., 2020; Bach Xuan Tran et al., 2016; Bach Xuan Tran, Ohinmaa, & Nguyen, 2012; Tun, Balasingam, & Singh, 2022). Evidence from studies

showed that QOL among opioid users was lower than among the general population. Still, these indicators among those enrolling in MMT programs improved after a certain period of time. Studies in Vietnam consistently indicated dramatic improvement in the QOL score among MMT (Astals et al., 2008; Carlsen, Lunde, & Torsheim, 2019; Chou et al., 2013; Idrissi, Ahami, Ghaihlan, Azzaoui, & Mammad, 2018; L. H. Nguyen et al., 2017; Bach Xuan Tran, Moir, et al., 2020). A follow-up study conducted in three mountainous provinces in Vietnam in 2014-2015 showed a significant increase in the QOL level regarding physical, psychological, social relationships, and environmental aspects among people using drugs after 12 months of MMT. Findings from this study emphasize the role of continuously receiving methadone treatment among drug users to enhance their quality of life (Bach Xuan Tran, Moir, et al., 2020). Several studies have addressed negative factors that affect QOL, such as age, presence of comorbidities and drug use, etc. Meanwhile, having employment, receiving support from relatives, health insurance, and education were associated with higher QOL scores in Vietnam (Carlsen et al., 2019; L. H. Nguyen et al., 2017; Bach Xuan Tran et al., 2016; Bach Xuan Tran et al., 2012; Quyen, Nguyen, Phuong, & Hoang, 2020; B. X. Tran, 2012; Trang et al., 2021).

In two years since January 2020, Vietnam has undergone four waves of COVID-19 pandemic outbreaks, with more than 2 million infected cases and 29,000 death reported in total, mainly during the 4th wave (since May 2021). Ho Chi Minh City was the hardest hit due to the pandemic and had the highest number of infected cases and deaths (National Steering Committee for COVID-19 prevention and control, 2022). People who use drugs, as well as those enrolled in MMT, were identified as particularly vulnerable. They were at an increased risk for adverse health consequences from COVID-19 due to high rates of comorbidities. Also, COVID-19 exacerbated issues that this population were at a high risk of, such as overdose, housing instability, food insecurity, and unemployment (Alexander, Stoller, Haffajee, & Saloner, 2020; Baillargeon, Polychronopoulou, Kuo, & Raji, 2021; Mallet, Dubertret, & Le Strat, 2021; T. T. Nguyen, Hoang, et al., 2022; Slaunwhite et al., 2020). Given the few studies that addressed the impact of COVID-19 on QOL among the general population or on the risk behavior of people who inject drugs at the early stage of the epidemic, there is a scarcity of research among MMT patients at the later and also the most devastating period of the COVID-19 in Vietnam (T. T. Nguyen, Hoang, et al., 2022; Bach Xuan Tran, Nguyen, et al., 2020; N. K. Tran, Vu, & DeSilva, 2022). Therefore, we conducted this study to measure the QOL of MMT patients after the 4th wave of COVID-19 and to explore some factors affecting their quality of life at Tan Binh MMT clinic in Ho Chi Minh City.

2. Method

2.1 Study Design and Setting

A mixed research method was applied in the study. Quantitative data gathering was carried out before the qualitative component. We collected data from December 2021 to January 2022 at Tan Binh MMT clinic, Ho Chi Minh City. Ho Chi Minh City, located in the south of Vietnam, is the most developed and crowded city. Tan Binh district is in the central area of Ho Chi Minh City and covers 22,38 km² with an approximate population of 430,000 people. According to national guidelines, patients visited clinics in person every day to take methadone doses under the supervision of health staff. During the 4th wave of the COVID-19 pandemic in Vietnam, lockdown and social distancing measures at different levels were applied in Ho Chi Minh City from May 2021 till the end of 2021. Between August and September 2021 – the most severe period with the highest restriction of movement- to ensure uninterrupted access to methadone, patients received medication at home from health workers with a maximum dose of 7 days for stable individuals. At the end of 2021, there were 270 patients taking methadone treatment at the clinic; among them, 251 were in the maintenance phase (Tan Binh health center, 2022).

2.2 Sampling

Quantitative sample: the study recruited patients who were 18 years of age or older, on a methadone maintenance treatment period, and who voluntarily agreed to participate.

We used the following formula for estimating the sample size for a mean:

$$n = Z^2 \frac{\sigma^2}{1 - \frac{\alpha}{2} d^2}$$

With n as the minimum sample size; Z : statistic for a level of confidence (for a significant - level of 95%, Z value is 1.96); α : 0.05; σ : Estimated standard deviation in the population. According to findings from a study conducted in Long An province, the average score of QOL among MMT patients using the WHOQoL-BREF scale was 66.1 \pm 6.6, so $\sigma = 6.6$ (Quyen et al., 2020); d : precision (chosen $d = 1$). With these values and a non-response rate of 10%, the minimum sample size was calculated to be 185 patients. We decided to invite all 251 eligible patients to participate in the study. Finally, 230 out of 251 (91.6%) patients agreed to participate in the research and completed

the interview.

Qualitative samples:

Patients: Based on preliminary analysis of quantitative data, six patients who were representative of different socio-demographic and treatment characteristics, including age, employment status, and treatment adherence level selected for in-depth interviews.

Health staff: Among a total of 11 clinic staff, four service providers were recruited purposely, including a clinic manager, a medical doctor, a nurse, and a counselor.

Totally ten in-depth interviews were completed for qualitative data gathering.

2.3 Instruments and Data Collection

To identify the QOL score, we used The World Health Organization Quality of Life Assessment-Brief version (WHOQOL-BREF) questionnaires with 26 questions. The WHOQOL-BREF instruments were adopted in 15 countries, including Vietnam. The WHOQOL-BREF questionnaire was divided into four domains, namely physical health (seven questions), mental health (six questions), social relations (three questions), and health satisfaction (one question). The questions were rated on a 5-point Likert scale, in which "level 1" is the lowest (very bad) and "level 5" is the highest (very good) (World Health Organization, 2012). The Cronbach's alpha of all domains was 0.81 which reflected good internal consistency reliability of the tool for Vietnamese MMT patients (Bach Xuan Tran, Moir, et al., 2020). QOL data were collected via face-to-face interviews with patients at the clinic. Also, essential demographic characteristics of respondents, such as age, gender, marriage status, employment, and monthly income, were gathered during the interviews. Drug use history and medical treatment information, including duration of opioid use, HIV testing, comorbidities, and other chronic diseases, and methadone treatment process, were collected from the participant's medical records.

In terms of qualitative data, ten in-depth interviews were conducted using guidelines to explore the influencing factors at the individual, community, and family levels and from health services to their QOL.

2.4 Data Analysis

Quantitative data was entered, checked, and cleaned using Epidata software version 3.1 and analyzed using SPSS version 22.0. Certain variables were descriptively analyzed, including participants' demographic characteristics, drug use history, MMT treatment, and the QOL score (main outcome variables). Domain scores for the WHOQOL-BREF were calculated by multiplying the mean score of all items in each domain by four. The original domain scores were transformed to a 0 to 100-point scale based on the equation in the published guidelines (World Health Organization, 2012). T-test, ANOVA, Wilcoxon nonparametric test, and Kruskal Wallis test were applied to find the difference between some demographic characteristics, methadone treatment, and mean QOL scores (p was set <0.05).

Data from in-depth interviews were transcribed and reviewed by the study's research group in accordance with notes in the field. Thematic analysis was applied to identify the factors possibly impacting the QOL of MMT patients.

2.5 Ethical Considerations

The study protocol was reviewed and approved by the Ethical Review Board of the Hanoi University of Public Health. The research subjects explicitly explained the purpose of the study, voluntary participation, and the right to refuse at any time. Written informed consent was obtained from each participant before the questionnaires were administered.

3. Results

3.1 Characteristics of MMT Patients Who Participated in the Study

Table 1. Socio-demographic and methadone treatment profiles of participants (N=230)

Characteristics	Frequency (n)	Percentage (%)
<i>Gender</i>		
Female	13	5.7
Male	217	94.3
<i>Age</i>		
≤ 40 years old	103	44.8
> 40 years old	127	55.2
<i>Highest education level</i>		
Primary school	37	16.1
Secondary school	92	40.0
High school	98	42.6
College/university and higher	3	1.3
<i>Marriage status</i>		
Single	82	35.7
Married	138	60.0
Divorced/separated/widow	10	4.3
<i>Occupational status</i>		
Unemployment	20	8.7
Unstable jobs	181	78.7
Stable jobs	29	12.6
<i>Monthly income (VND)</i>		
< 2 million	44	19.1
2-5 million	120	52.2
> 5 million	66	28.7
<i>HIV positive (N=228)</i>		
Yes	63	27.6
No	165	72.4
<i>Hepatitis</i>		
Yes	50	21.7
No	180	78.3
<i>Other chronic diseases</i>		
Yes	72	31.3
No	158	68.7
<i>Length of time on MMT (N=229)</i>		
≤ 24 months	47	20.5
> 24 months	182	79.5
<i>Number of times having positive drug test results</i>		
None	73	31.7
Once	65	28.3
Twice	36	15.7
≥ 3 times	56	24.3

Of the 230 people on methadone treatment in the study, 94.3% were men, and 55.2% were 40 years old or older. Over half were married (60%), while single accounted for 35.7%. 8.7% of patients reported being unemployed, whereas 78.7% had unstable jobs. Around half had an average monthly income of 2-5 million VND (equal to 100-200 USD), and 19.1% earned less than 2 million VND per month (under 100 USD).

Regarding methadone treatment, 80% of patients have enrolled for over two years. The proportion of respondents who were HIV positive, had hepatitis virus infection (B and C), and had other chronic diseases was 27.6%, 21.7%, and 31.3%, respectively. One-fourth of patients reported at least three times positive drug test results during MMT treatment.

3.2 Quality of Life of MMT Patients

Table 2. MMT patients' quality of life score using the WHOQOL-BREF scale (N=230)

Components of quality of life	Points (in 100-scale)	
	Mean \pm SD	Min-max
Physical	68.3 \pm 11.1	35.7–89.3
Mental	66.3 \pm 11.9	25.0–95.8
Social	59.1 \pm 13.5	16.7–91.7
Environmental	65.0 \pm 10.5	25.0–90.6
<i>Overall</i>	<i>64.6\pm9.8</i>	<i>32.6–88.0</i>

Table 2 presents the results of patients' self-assessments about their quality of life. According to the WHOQOL-BREF scale (100-point scale), the overall mean score was 64.6 (SD = 9.8). The highest mean score was found in the physical component (68.3 \pm 11.1 points), while the lowest was in the social relationship (59.1 \pm 13.5 points).

3.3 Factors Affecting MMT Patients' Quality of Life

Socio-demographic, HIV status, and drug use of patients

Table 3. Mean score analysis of individual characteristics and perceived quality of life of 230 MMT patients at Tan Binh clinics, 2022

Characteristics	Components of quality of life				
	Physical	Mental	Social	Environmental	Overall
<i>Gender</i>					
Female	65.1 \pm 12.0	62.8 \pm 12.0	50.0 \pm 15.6	62.0 \pm 11.0	60.0 \pm 9.7
Male	68.5 \pm 11.0	66.5 \pm 11.9	59.6 \pm 13.2	65.2 \pm 10.5	64.9 \pm 9.8
<i>p</i> *	0.215 (a)	0.282	0.012	0.289	0.079
<i>Age</i>					
\leq 40 years	67.3 \pm 11.4	65.1 \pm 11.9	57.0 \pm 12.8	64.3 \pm 11.0	63.4 \pm 9.9
> 40 years	69.1 \pm 10.8	67.2 \pm 11.8	60.7 \pm 13.8	65.6 \pm 10.1	65.6 \pm 9.6
<i>p</i> *	0.293 (a)	0.175	0.040	0.339	0.097
<i>Marriage status</i>					
Single	67.2 \pm 10.0	63.4 \pm 11.5	58.3 \pm 13.9	63.3 \pm 10.8	63.1 \pm 9.6
Married	69.2 \pm 11.0	68.2 \pm 11.4	59.7 \pm 12.9	66.2 \pm 10.1	65.8 \pm 9.6
Divorced/separated/widow	65.4 \pm 18.0	62.5 \pm 15.7	56.7 \pm 17.9	62.2 \pm 11.9	61.7 \pm 13.1
<i>p</i> **	0.255 (b)	0.008	0.662	0.096	0.091

<i>Occupation</i>					
Unemployment	60.5±13.0	59.6±10.3	52.1±15.7	58.1±13.1	57.6±11.7
Unstable jobs	68.9±10.8	66.7±12.1	59.0±13.4	65.5±10.3	65.0±9.7
Stable jobs	70.1±9.2	68.4±9.8	64.1±10.0	67.1±8.1	67.4±6.4
<i>p</i> **	0.015 ^(b)	0.023	0.009	0.006	0.013
<i>HIV (+)</i>					
Yes	66.7±11.9	63.9±13.3	57.4±15.0	61.8±12.6	61.5±11.4
No	68.9±10.8	69.5±11.4	59.8±12.9	67.5±9.7	67.1±9.2
<i>p</i> *	0.297 ^(a)	0.013	0.233	0.011	0.010
<i>Having positive urine test results</i>					
Yes	63.8±10.1	61.3±10.6	53.5±12.2	61.0±9.8	59.9±8.0
No	78.1±5.1	76.9±6.1	71.0±6.5	73.9±5.0	75.0±2.9
<i>p</i> *	< 0.001 ^(a)	< 0.001	< 0.001	< 0.001	< 0.001

Note. (*)T-test, (**)ANOVA (a) Wilcoxon test, (b) Kruskal Wallis test.

The occupation was found to be a factor that influenced QOL scores in all four areas, in which jobless patients had the lowest score and those with more stable jobs (driver, officer, etc) received the highest scores ($p < 0.05$). Similarly, patients with positive results in the drug urine test during MMT treatment had lower quality of life points at all components ($p < 0.01$). HIV status was also statistically associated with the level of QOL mean scores regarding mental and environmental facets and overall quality variables. In addition, women, younger patients (< 40 years old), and those living without partners were found to have lower mean scores with statistical significance in social and mental components (Table 3).

Family support plays a crucial role in patients' quality of life, particularly under the impact of the Covid pandemic.

"I think I would possibly have died if I had not moved to my mom's home just before the lockdown. I was sick and could not take care of myself. Even after restriction removal, it's harder to get a job. However, I still have food from my family..." (MMT patient).

"During individual visits and consultations, we found that patients with family support and encouragement often have better adherence and quality of life" (MMT clinic physician).

Support from clinic: During the fourth wave of COVID-19, all health staff focused on fighting against the epidemic. Therefore, the care and support for MMT patients were limited, which may have negatively affected their quality of life.

"Human resources at the health center were few, but during the epidemic, they had to be mobilized to fight the epidemic, so there were many gaps in supporting and caring for people on methadone treatment. Fortunately, the peer group in Tan Binh district is very supportive of people undergoing methadone treatment, so there are no cases of quitting or relapse after returning to a new normal" (MMT clinic physician).

During strict lockdown due to Covid, the clinic provided methadone for multi-days and delivered drugs to patients' homes. Many study participants highly appreciated these changes.

"In the past, going to the clinic every day made me often late for work, my boss complained a lot... so when I received medicine for multiple days, I felt much more comfortable" (MMT patient).

Findings from in-depth interviews with patients showed the critical role of peer educators that positively affect a patient's treatment, especially in the context of health staff shortage.

"During the epidemic, when I have a question or discomfort, I often call my peers first; if they can not answer, they will try to connect me with available health staff. Not only about health but also other problems, like stress or boredom, and depression. Talking with them makes me feel better" (MMT patient).

4. Discussion

Our study's findings showed no reduction in the QOL of methadone patients after the most devastating wave of the COVID-19 epidemic in comparison with results from previous studies in Vietnam in the context without the

influence of the pandemic (L. H. Nguyen et al., 2017; Quyen et al., 2020; Bach Xuan Tran, Moir, et al., 2020). In general, the study reported a mostly similar range of average QOL scores of methadone patients when compared to other studies in Asia using the WHO QOL-BREF tool (Aghayan, Amiri, Chaman, & Khosravi, 2015; Tun et al., 2022; Yen, Chou, Lin, & Deng, 2015). So changes due to COVID-19, including take-home doses and increasing distance counseling/consultation instead of in-person visits, did not negatively affect patients' quality of life. Our findings confirmed the results of an assessment of 22/23 MMT clinics in Ho Chi Minh City that more than 90% of participants were satisfied with the multi-day take-home dose program, and 98.7% desired to join this in the future (Vu et al., 2022). Among the 502 patients who participated in this study, no instances of overdose were observed, and very few patients reported missing or diverting doses (Vi et al., 2022). A similar situation has been addressed recently in the world. In Malaysia, a study found that while changes in medication dispensing protocols, including take-home doses, were meant to be temporary, in some locations, the modified/relaxed protocols were still in place and will continue to be utilized in the future. Neither healthcare professionals nor patients reported significant challenges resulting from the expansion of methadone take-home regimens at the study clinics (Tun et al., 2022). Researchers showed that take-home doses gave patients greater autonomy and normalcy, increased flexibility, and independence supported patients' treatment goals (Krawczyk, Fingerhood, & Agus, 2020; Krawczyk et al., 2022; Tun et al., 2022). It is worth noting that a study in Ho Chi Minh City prior to COVID-19 showed a proportion of nearly 20% of participants who reported being not satisfied with the service hours of the clinic (Nong et al., 2023). So changes in MMT service protocol implemented during lockdown to ensure uninterrupted methadone treatment while preventing the spread of Covid have positively influenced patients' quality of life since it's supposed to eliminate or reduce the barriers to accessing MMT service. Recent research has shown that obstacles, such as long transportation times, difficulty managing appointments around work and household responsibilities, and the stigma associated with waiting in long lines to access treatment impede initiation and retention in treatment (Krawczyk et al., 2020; Reisinger et al., 2009). These barriers have not only resulted in limited utilization of available treatment programs but have likely helped to sustain an illicit substance market (Carlson, Daniulaityte, Silverstein, Nahhas, & Martins, 2020). Future research should be carried out to provide adequate evidence to revise the treatment protocols to include a take-home doses policy, which is more sustainable, equitable, and accessible.

Our finding that social relationships were the poorest aspect among the four quality of life domains, according to WHOQOL-BREF, was also consistent with previous studies in Vietnam and the world. Although stigma and discrimination toward drug users were addressed in some studies as reasons for low scores in this domain, little is known about the impact of COVID-19 on drug use related to stigma (Quyen et al., 2020; Talebi, Zavar, Ghafari, & Poorandy, 2017; Bach Xuan Tran, Moir, et al., 2020; Tun et al., 2022). Similar to what previous works have stated, the study revealed patients with stable jobs had higher scores of QOL in all four domains. In contrast, those with unstable jobs and unemployment in the group had the lowest level of perceived quality of life. It could be explained that people with stable incomes and jobs are easier to access MMT services (Baharom, Hassan, Ali, & Shah, 2012; Carlsen et al., 2019; L. H. Nguyen et al., 2017; Quyen et al., 2020; B. X. Tran, 2012; Bach Xuan Tran, Moir, et al., 2020; Bach Xuan Tran et al., 2016; Trang et al., 2021; Yen et al., 2015). However, our study found that only 12% of participants reported having a stable job. In contrast, this rate among MMT patients in other studies just before the COVID-19 pandemic was much higher, reaching 46% in Ho Chi Minh City and 36% in another southern province of Long An (Quyen et al., 2020; Thao, Trung, & Hong, 2018). In addition, the percentage of unemployment among this study's participants was 8.7%, while among the general population during the same period was just 4.18% (General Statistics Office of Vietnam, 2022). The COVID-19 pandemic's effect on the economy and employment market seemed to create a more significant adverse impact on the occupational opportunity of this group, thus significantly influencing their quality of life (H. T. T. Nguyen et al., 2020; Bach Xuan Tran, Nguyen, et al., 2020). The study's findings presented the substantial influence of COVID-19 on the livelihood of vulnerable populations, such as MMT patients, with spillover effects on other aspects of life and treatment (Nong et al., 2023; Bach Xuan Tran, Moir, et al., 2020; N. K. Tran et al., 2022).

The study's results are congruent with previous works, which found people who were HIV positive and who had their urine toxicology test positive while on MMT had lower scores of QOL. These comorbidities contribute to lower QOL because they lead to poorer health status in accordance with stigma and discrimination related to HIV/AIDS and drug use. In addition to the financial burden of treatment and drugs, they are often faced with difficulty obtaining stable housing and employment, which directly affect their QOL (Korthuis et al., 2011; T. T. Nguyen, Hoang, et al., 2022; Palepu, Marshall, Lai, Wood, & Kerr, 2010; Quyen et al., 2020; B. X. Tran, 2012; Bach Xuan Tran, Moir, et al., 2020; Bach Xuan Tran et al., 2016; Yen et al., 2015). In line with the results of several studies among the general population and vulnerable groups in Vietnam, our analysis found that those who

are female have a lower quality of life (Thu, Quynh, Hai, Thanh, & Thanh, 2022; Bach Xuan Tran et al., 2012; N. K. Tran et al., 2022). In contrast to studies on QOL indicated QOL declined as they became older, our findings showed that those aged 40 years and over had higher quality of life scores (Le, Tran, Le, & Thai, 2022; Nong et al., 2023; Skogen et al., 2023; Bach Xuan Tran, Moir, et al., 2020). Since the causal relationship has not been confirmed, the correlations should be examined in other studies with larger sample sizes.

Our findings also reaffirmed the positive effect of family support and marital status on patients' quality of life (Chou et al., 2013; Lin, Wu, & Detels, 2011; Quyen et al., 2020; Talebi et al., 2017; Zhou et al., 2017). The COVID-19 pandemic was reported to cause the income of many Vietnamese households to decrease by 70%, so sharing with family was particularly important for the vulnerable groups to be able to cope with the social and economic crisis (General Statistics Office of Vietnam, 2022; H. T. T. Nguyen et al., 2020; Bach Xuan Tran, Nguyen, et al., 2020). Although studies conducted in Ho Chi Minh City before the appearance of COVID-19 reported that being single was associated with a higher QOL score or an adverse correlation between being married and MMT treatment adherence (Le et al., 2022; Trang et al., 2021), in the context of social isolation and income reduce/lost due to pandemic crisis, support from spouses or parents for essential needs such as food, shelter, and medication probably contributed to positive effects on MMT patient quality of life.

4.1 Limitation

Our study contains several limitations that should be considered when interpreting the findings. First, the measurement of participants' QOL was based on their self-report; thus, the assessment results, to a certain level, were subjective by nature. Second, as a cross-sectional survey, the associations found in the study could not be interpreted as causal relationships. Finally, since all the participants were recruited from one clinic in Ho Chi Minh City, the results may not be generalized for MMT patients in other clinics and other areas.

5. Conclusion

The study's results showed no reduction in the QOL of MMT patients at a central clinic in Ho Chi Minh City just after the most devastating wave of COVID-19. Average QOL scores measured in our study were similar to findings in other domestic and international studies using the WHOQOL-BREF tool without the emergence of COVID-19, reaching 64.6 ± 9.8 on the 100-point scale. While job status and income have been confirmed as one of the most significant factors in vulnerable groups' quality of life, MMT patients' employment was found to be disproportionately affected by the COVID-19 epidemic. In contrast, service procedure changes due to COVID-19, including take-home doses and increasing distance consultation instead of in-person visits, were highly appreciated as positive influences. Therefore, MMT patients' employment and income support should be prioritized in the post-COVID-19 period. Further studies should be carried out to thoroughly measure and examine new positive and negative influences introduced by COVID-19 to QOL of MMT patients as well as provide adequate evidence for revised methadone treatment protocols, including the multi-day take-home dose policy.

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Data Availability Statement

The data that support the findings of this study are available on request.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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