HEPATITIS C VIRUS TREATMENT STATUS AMONG PATIENTS IN METHADONE MAINTENANCE TREATMENT IN LONG BIEN DISTRICT MEDICAL CENTER, HANOI 2024

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Objectives: To evaluate the status hepatitis C virus (HCV) treatment among patients in methadone maintenance treatment (MMT) in Long Bien District Medical, Ha Noi City in 2024.

Methods: A cross-sectional descriptive study with analysis on 216 patients in MMT who had hepatitis C.

Results: The rates of untreated and discontinued hepatitis C treatment were high, at 69.4% and 2.8% of patients, respectively. Interviews with patients revealed that 33.3% reported inadequate equipment, medication, and treatment services at treatment facilities. The rate of health insurance coverage was low, with only 6.1% of patients being covered.

Conclusions: The rate of hepatitis C treatment in patients undergoing methadone maintenance therapy is still low, facing many difficulties, especially in terms of cost and treatment time.

Keywords: Hepatitis C, methadone maintenance treatment.

INTRODUCTION

Hepatitis C is a liver inflammation caused by the hepatitis C virus. The virus is transmitted through contact with infected blood. Currently, there are approximately 58 million people worldwide with chronic hepatitis C, with about 1.5 million new infections each year. The World Health Organization (WHO) estimates that in 2019, around 290,000 people died from hepatitis C, primarily due to cirrhosis and hepatocellular carcinoma[1]. In Vietnam, it is estimated that nearly 1 million people have chronic hepatitis C[2,3]. In Ho Chi Minh City, the rate is up to 3.6% depending on the population cluster[4], and in Binh Thuan province, it is 3.4%[5]. Along with hepatitis B, hepatitis C is the cause of approximately 80,000 cases of cirrhosis and hepatocellular carcinoma, with about 40,000 deaths annually, and this trend is increasing6. Among people who inject drugs (PWID), the rate ranges from 31% to 97.2%[7,8,9]. Currently, there is no vaccine for hepatitis C; treatment mainly involves the use of direct-acting antiviral (DAA) drugs, which can cure up to 95% of treated individuals[1,10].

In Vietnam, research on hepatitis C in patients in methadone maintenance treatment (MMT) is limited, especially studies on the current status of hepatitis C treatment in this group. The Long Bien District Medical Center, under the Hanoi Department of Health, is one of the first units to implement methadone maintenance therapy in Hanoi, with 395 patients, 252 of whom were infected with hepatitis C as of February 29, 2024. To understand the current status and find solutions for the prevention and treatment of hepatitis C in these patients, we conducted the study: "Hepatitis C virus treatment status among patients in methadone maintenance treatment in Long Bien District Medical Center, Hanoi 2024" in order to evaluate the status

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hepatitis C virus (HCV) treatment among patients in methadone maintenance treatment (MMT) in Long Bien District Medical , Ha Noi City in 2024.

SUBJECTS AND METHODS

Research Ssubjects: Patients with hepatitis C undergoing methadone maintenance therapy (MMT) and healthcare workers involved in examination, counseling, and treatment at Long Bien District Medical Center during the study period.

Research time and location

- Time: From November 2023 to October 2024. Data collection period: from May 2024 to June 2024.

- Location: Long Bien District Medical Center, Hanoi City.

Research design: A combined research method using both quantitative and qualitative research. The study design is a cross-sectional analysis, conducted in sequence: quantitative method first, followed by qualitative method.

Sample size

$$n = Z^2_{1-\alpha/2}\frac{p(1-p)}{d^2}$$

$Z_{(1-\alpha/2)}$ =1,96, is confidence at level α = 0.05.

p: Is rate of hepatitis C in patients with hepatitis C in MMT (since there are no studies on this rate in Vietnam, this study assumes p = 0.5).

d: Is absolute precision required, we selected d = 0,07.

Given that n = 196, we chose 216.

RESULTS

General information of patients

Table 1. Information on age and gender of patients

Informations		No.	%
Age group	≤ 40	45	20.8
	41 - 60	159	73.6
	> 60	12	5.6
	Mean ± SD	46.4 ± 7.3	
Gender	Male	213	98.6
		3	1.4
Tổng		216	100

Comments: The youngest patient is 31 years old, the oldest is 71 years old, with an average age of 46.4 ± 7.3 years. The age group from 41 - 60 years accounts for the highest proportion at 73.6%. Males make up the majority of patients, with 98.6%.

Table 2. Status of methadone maintenance treatment and drug use

Informations		No.	%
Time of methadone aintenance treatment	< 3 months	10	4.6
	3 - 6 months	6	2.8
	6 - 12 months	9	4.2
	12 - 24 months	20	9.3
	> 24 months	171	79.2

Informations		No.	%
Currently using rugs	Yes	13	6.0
	No	203	94.0
Tổng		216	100

Comments: The majority of patients have been in MMT for over 24 months, accounting for 79.17%, while 6.0% of patients are currently using drugs.

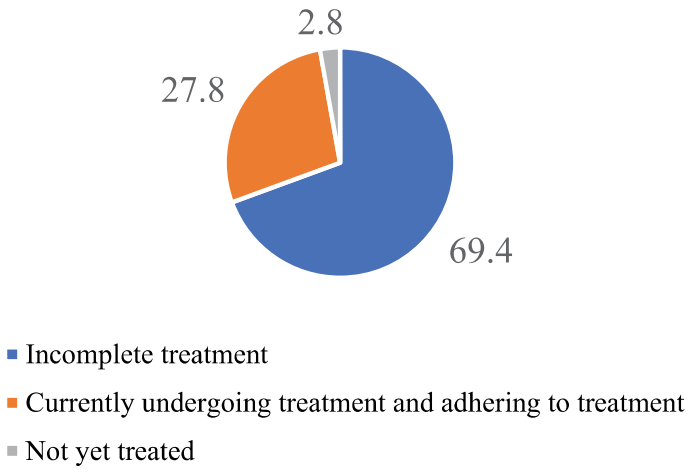

Chart 1. Hepatitis C treatment rate in patients in MMT (n = 216)

Comments: The number of hepatitis C patients who have not been treated is 150, accounting for 69.4%. Patients who started treatment but did not complete it number 6, accounting for 2.8%. Patients currently undergoing and adhering to treatment number 60, accounting for 27.8%.

Table 3. Treatment locations for hepatitis C Patients

Locations	No.	%
Private clinic/hospital	4	6.1
Clinic under District Medical Center/ District Hospital	30	45.5
City-level hospital	2	3.0
Central - leval hospital	30	45.5
Total	66	100

Comments: The treatment locations for hepatitis C patients at clinics under District Medical Centers/District Hospitals and central hospitals both account for 45.5%. Meanwhile, patients treated at private clinics/hospitals account for 6.1%, and those treated at city-level hospitals account for the lowest proportion at 3.0%.

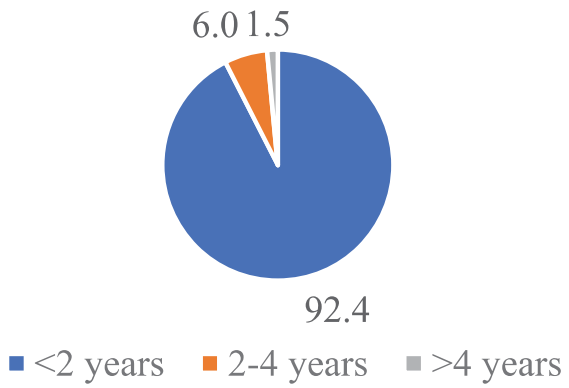

Chart 2. Time of hepatitis C virus detection in patients (n = 66)

Comments: The majority of patients detected their HCV infection within the last 2 years, accounting for 92.4%. The detection time from 2 to 4 years accounts for 6%, and the detection time over 4 years is the lowest at 1.5%.

Patients' feedback on services at hepatitis C treatment facilities

Table 4. Counseling and treatment activities of hepatitis C treatment facilities

Index		No. (n = 66)	%
Patients are informed about their HCV infection status by healthcare workers	Yes	62	93.9
	No	3	4.6
	Don't know/ no answer	1	1.5
Patients are provided with treatment information by healthcare workers	Yes	56	84.9
	No	10	15.2

Comments: At the facilities where patients are treated for hepatitis C, 93.9% of patients were informed about their HCV infection status by healthcare workers, and 84.9% were provided with treatment information.

Table 5. Characteristics of CT and cranial magnetic resonance imaging

Index		No. (n = 66)	%
Patients are hesitant to discuss private matters with healthcare workers	Yes	2	3.0
	No	64	97.0
Patients trust that healthcare workers will maintain confidentiality at the treatment facility	Yes	57	86.4
	No	2	3.0
	Don't know/ no answer	7	10.6
Healthcare workers are friendly and approachable	Yes	65	98.5
	No	1	1.5

Comments: At treatment facilities for patients with hepatitis C, 3% of patients are hesitant to discuss private matters with healthcare workers; 86.4% of patients trust that healthcare workers will maintain confidentiality at the treatment facility; and 98.5% of patients find healthcare workers to be friendly and approachable.

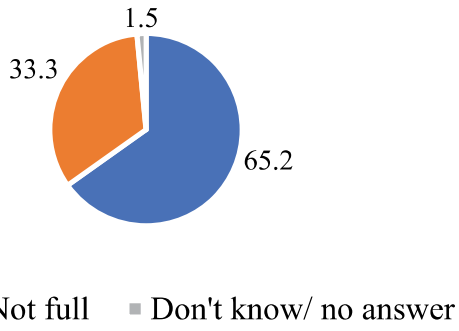

Chart 3. Evaluation of hepatitis C patients on the adequacy of equipment, medication, and services at the treatment facility (n = 66)

Comments: Interviews with hepatitis C patients at hepatitis C treatment facilities revealed that 33.3% of patients reported that the treatment facilities lacked adequate equipment, medication, and services, while 65.2% of respondents indicated that the treatment facilities were adequately equipped with equipment, medication, and services.

Challenges and treatment needs of hepatitis C patients in MMT

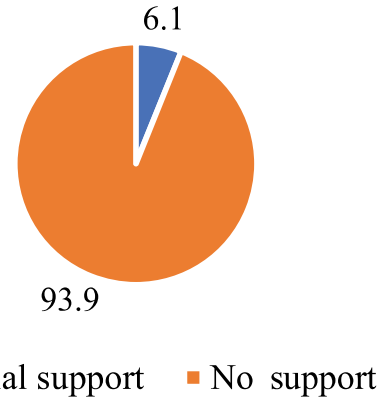

Chart 4. Health insurance payment for hepatitis C treatment (n = 66)

Comments: The treatment costs for hepatitis virus patients show that only 6.1% have health insurance, while the remaining 93.9% do not have health insurance.

Table 6. Financial support for hepatitis C patients from programs and projects

Financial Support	No. (n = 66)	%
Full support	19	28.8
Partial support	10	15.2
No support	37	56.1
Total	66	100

Comments: The costs supported by programs and projects for hepatitis C patients show that 28.8% receive full financial support, 15.2% receive partial support, and 56.1% receive no support.

Table 7. Challenges faced by hepatitis C patients undergoing treatment

Challenges	No. (n = 66)	%
High costs	21	31.8
Prolonged treatment duration	11	16.7
Far from home/treatment facility	7	10.6
Poor treatment response and many side effects	4	6.1
Complex treatment procedures	3	4.5

Comments: The challenges faced by hepatitis C patients undergoing treatment are primarily due to high costs, accounting for 31.8%. This is followed by difficulties due to prolonged treatment duration at 16.7%, distance from home/treatment facility at 10.6%, poor treatment response and many side effects at 6.1%, and complex treatment procedures at 4.5%.

DISCUSSIONS

General information of patients

Age affects many issues during the treatment process, such as the ability to work and earn money, mobility, health, and comorbidities. Therefore, age plays an important role when studying subjects undergoing hepatitis C treatment, especially those undergoing MMT. The age in our study is higher compared to the study by Vu Quoc Dat et al. (2023) on HIV/HCV co-infected subjects, where the average age of the 19 interviewed patients was approximately 41 years[11]. The gender of the patients aligns with the reality at the Long Bien District Medical Center, where most MMT patients are male. Our male ratio is much higher compared to the study by Vu Quoc Dat et al. (2023) on HIV/HCV co-infected subjects, where the majority of interviewees were male (73.7%)[11].

The study shows that most patients have been treated for a long time (over 24 months), which is the period during which patients can be counseled and provided with comprehensive information about hepatitis C and adherence to screening and treatment. The continued use of drugs by patients can affect mental disorders and health, thereby potentially impacting their treatment.

The current status of detection and treatment of hepatitis C among patients in MMT

The high rate of hepatitis C is attributed to the costly viral load tests and treatment expenses, including medication, which many patients cannot afford. As a result, patients often wait for projects from the Hanoi CDC. Additionally, the high rate is also due to patients' lack of concern or attention to their hepatitis C infection status.

Treatment Location for HCV Patients: Our study results differ from those of Vu Quoc Dat et al. (2023) on HCV and HIV co-infected subjects, where most patients were receiving hepatitis C treatment at the district level (79.9%), and 21.1% were receiving treatment at the provincial level[11].

Time of hepatitis virus detection: Qualitative research shows that most patients have known about their HCV infection for a long time but have not sought treatment. Patients often discover their HCV infection incidentally during health check-ups for other conditions, such as gallbladder polyps or blood tests for ARV medication. One reason for delayed treatment could be that HCV symptoms are not severe and do not significantly impact daily activities. Our study results are lower compared to those of Vu Quoc Dat et al. (2023), where 100% of HIV and HCV co-infected patients had completed the 3-month hepatitis C treatment regimen[11].

Patients' feedback on hepatitis C treatment facilities

Counseling and treatment activities at HCV treatment facilities: Our research results are similar

to those of Vu Quoc Dat et al. (2023) on HCV and HIV co-infected patients. During the HCV treatment process at medical facilities, 100% of patients rated the treating doctors and medical staff as enthusiastic from the pre-treatment screening consultation stage, supporting testing, assisting during treatment, and addressing reactions and symptoms during each medication collection. Patients were also advised to adhere to the medication schedule strictly. Additionally, patients appreciated the treating doctors' support in reminding them to adhere to treatment, including monthly reminders at the hospital and some patients receiving phone consultations. Furthermore, treating doctors provided comprehensive advice on limiting habits and behaviors that negatively affect the liver, such as drinking alcohol, smoking, and staying up late[11].

Patients' trust and perception of HCV treatment facilities: Our study results are similar to those of Vu Quoc Dat et al. (2023), where facilities also created favorable and flexible conditions for patients undergoing simultaneous HCV and ARV treatment. 100% of patients did not forget the schedule for taking ARV and HCV medications and the medication collection schedule[11].

Patients' evaluation of the adequacy of equipment, medication, and services at the treatment facility: Similar to the results of Vu Quoc Dat et al. (2023), the facilities' infrastructure was also rated well by patients, with clear treatment procedures, quick examination and testing procedures, and not too long waiting times[11].

Challenges and treatment needs of hepatitis C patients in MMT

Health insurance payment for hepatitis C treatment: Our study differs from the results of Vu Quoc Dat et al. (2023), which showed that using health insurance benefits reduces patient costs and increases access to services. In their study, 100% of the 19 patients had health insurance; most believed that their health insurance benefits during hepatitis C treatment included free medication and partial coverage of blood test costs, with some cases receiving full coverage, including blood tests[11].

In Vietnam, according to the Ministry of Health, the biggest barrier patients face is the cost of hepatitis C treatment. This is a significant obstacle to hepatitis C treatment in Vietnam because the cost is too high compared to the average income of the population, even for those who can pay through health insurance[12,13].

Challenges faced by hepatitis C patients: The patients in our study are quite sensitive, with many being freelance workers with low incomes and unstable mental states. Patients often react strongly to the regulations of support programs. Many patients also reported difficulties due to lack of money for treatment and travel distance. Interviews with healthcare workers revealed that patients face challenges in overcoming temptations related to substance use, as heroin addiction causes irreversible brain damage, requiring long-term treatment and presenting social and psychological difficulties. Patients may also have accompanying mental disorders, making it difficult for them to adhere to treatment.

According to Datta et al. (2014), Cullen et al. (2003), and Murtagh et al. (2018), factors affecting hepatitis C treatment include homelessness and social isolation[14,15]. Patients are unwilling to start hepatitis C treatment for various reasons, such as poverty, inability to pay treatment costs, lack of transportation, high travel costs to distant treatment facilities, and lack of health insurance[17,18].

Studies by Datta et al. (2014), Cullen et al. (2003), and Murtagh et al. (2018) also show that fear of tests before and during treatment is a barrier for this group[14,15,16]. Patients fear that treatment may cause more harm than good, fear liver damage, liver biopsies, and needles (with previous interferon treatment), and are not concerned about their health and treatment capabilities. They have heard about unsuccessful cases and do not want to start treatment[17,18]. According to Amoako et al. (2021) and Zeremski et al. (2013), fear of side effects from HCV medication can hinder the decision to start and maintain treatment. Another study showed that about 5.6% of people did not undergo treatment due to fear of potential side effects[18]. According to Amoako et al. (2021) and Asher et al. (2016), social stigma related to inject drugs and hepatitis C is a barrier to seeking

treatment. Belrhiti et al. (2023) found that lack of trust in healthcare workers and poor interaction with them in healthcare facilities also discouraged patients from seeking treatment. Similar to inject drugs patients in general, those undergoing MMT do not treat hepatitis C because they believe their health has improved or cannot afford medical costs. Additionally, according to Litwin et al. (2019) and Mravcík et al. (2014), the distance between hospitals and MMT clinics, prolonged treatment duration, fear of side effects, fear of legal repercussions, mandatory rehabilitation, and inability to stop drinking alcohol also affect hepatitis C treatment. According to Massah et al. (2018), other barriers include the misconception that HCV infection is not a serious health issue, family responsibilities, and discrimination against women with HCV.

CONCLUSIONS

A study of 216 patients undergoing methadone maintenance treatment who have hepatitis C virus infection revealed the following treatment status for hepatitis C:

- A high percentage of patients have not been treated or have discontinued treatment for hepatitis C virus, with rates of 69.4% and 2.8%, respectively. Treatment at district and central levels accounted for an equivalent proportion of 45.5%. The majority of treatment regimens lasted 12 weeks, accounting for 66.7%.

- Counseling and treatment activities were high, with 93.9% of patients being informed about their hepatitis C virus condition by healthcare staff, and 84.9% being provided with treatment information. Most patients trusted that their information was kept confidential by healthcare staff at the treatment site.

- Patient evaluations: 33.3% of patients reported that treatment facilities lacked adequate equipment, medication, and treatment services. The rate of health insurance coverage was low, with only 6.1% of patients receiving reimbursement.

- Patients faced many difficulties related to costs, prolonged treatment time, distance from home/ treatment facilities, poor treatment response, and many side effects.

RECOMMENDATIONS

The study results indicate the need for increased support in the prevention and treatment of hepatitis C virus infection among patients undergoing methadone maintenance treatment.

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