

**FACTORS INFLUENCING DROP OUT FROM TREATMENT AMONG
METHADONE MAINTENANCE THERAPY CLIENTS
IN CAN THO PROVINCE, VIET NAM, IN 2015**

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**Factors influencing drop out from treatment among Methadone
maintenance therapy clients in Can Tho province, Vietnam,
in 2015**

A thesis submitted in partial fulfilment of the requirement for the degree
of

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by

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Declaration:

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Signature: Nguyen Ai Hong



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LIST OF ABBREVIATIONS

AIDS	Acquired Immune-Deficiency Syndrome
ART	Antiretroviral Therapy
DOLISA	Department of Labor, Invalids and Social Affairs
FHI	Family Health International
FSW	Female sex worker
GDP	Gross Domestic Products
HBV	Hepatitis B Virus
HCV	Hepatitis C virus
HIV	Human Immune-deficiency Virus
HSPH	Ha Noi School of Public Health
IDI	In-Depth Interview
KIT	The Royal Tropical Institute
M&E	Monitoring and Evaluation
MMT	Methadone Maintenance therapy
MOH	Ministry of Health
MS	Micro Soft
MSM	Men Who Have Sex with Man
PAC	Provincial HIV/AIDS Control
PC	People's Committees
PHD	Provincial Health Department
PLWHIV	People Living with HIV
PWID	People Who injected Drug
SPSS	Statistical Package for Social Sciences
TB	Tuberculosis
UN	United Nation
UNODC	United Nation Officer Drug and Crime
US	United State
VAAC	Viet Nam Authority HIV/AIDS Control
VND	Vietnam Dong
WHO	World Health Organization

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ABSTRACT

Methadone Maintenance Therapy (MMT) is a multiple therapy used for opiate dependence. It is combined to psychological therapies that aim at supporting individuals, families, and communities in improving their health, reducing criminal activities, and minimising risky behaviours to HIV transmission.

Retention on treatment is associated to a successful outcome of MMT. Yet, dropout rates were reported to be high in MMT clinics. It was difficult for both clients and doctors to achieve success with programmes.

Evidence is insufficient to understand the factors that influence the dropout rates among MMT patients in Vietnam, and more especially in Can Tho province. There is an urgent need to better understand the reasons and the context in which MMT dropouts occur, in order to inform the development of policies and programmes that can help to improve adherence to MMT in Can Tho.

A literature review has been complemented with a primary study that combined quantitative and qualitative methods in order to answer the following questions: in 2015, among the people who inject drugs (PWID) who are enrolled in the MMT programme in MMT clinics in Can Tho province, what are the characteristics of the dropouts? and what are the factors influencing the decision to drop out from treatment?

Findings are that 92% of the dropouts were male, 55% stayed on treatment for ≥ 2 years, 36% had to leave the treatment because they have been arrested, 54% had a methadone dose ≤ 60 mg per day before leaving the treatment.

The factors influencing the decision to drop out among MMT clients could be individual, community, or institutional factors.

Keywords: Methadone maintenance, drop out, Can Tho, Viet Nam, factors influencing drop out patients.

World count: 13032

INTRODUCTION

Before pursuing my education with a master degree at The Royal Tropical Institute (KIT), I was working in Can Tho Provincial HIV/AIDS Control (PAC) with a background in social work. The HIV/AIDS prevention project I was working on since 2010 was funded by the World Bank. As a monitoring and evaluation staff (M&E), I strived to understand what the data I was dealing with meant. My tasks included monitoring the performance of the staff at district and offering technical assistance for peer educators among PWID and female sex workers (FSW).

While investigating MMT programmes in Can Tho, I realised that the number of patients who dropped out from the treatment has been high since the programme has been implemented.

MMT is one of the pillars in the harm-reduction programme. It was planned to scale up MMT between 2010 and 2014 (from 1 MMT clinic to 4), so that its coverage would be expanded to address the needs of the 1100 persons who use injecting drugs in Can Tho (Can Tho PAC 2014).

In the end of the year 2015, the first social marketing campaign for methadone will be piloted in Can Tho. Its aim is to build sustainability in the funding, and therefore effectiveness, of MMT programmes. Informing how to increase the effectiveness of MMT, and for that, how to improve retention to the programme, is necessary. Therefore, confident of the knowledge I gained during my training at KIT and my work experience, I was eager to challenge myself and investigate the factors contributing to drop out among MMT clients in Can Tho province.

CHAPTER I. BACKGROUND INFORMATION ABOUT VIET NAM

This part presents an overview of Viet Nam by describing its geography, demography, religion, socio-economic development, its population's health status, and its health system. It then briefly describes Can Tho province, where the study was conducted.

1.1 Geography and demography

Vietnam is located in Southeast Asia with the following neighbouring countries: Lao People's Democratic Republic, Cambodia, and China. According to the statistical handbook of Viet Nam in 2014, the population was 91 million persons in 2014, of which 64% lived in rural areas. Males constitute 49% of the population (General statistic officer 2013).

There are 54 ethnic groups in Viet Nam, Kinh ethnicity being the largest of them (86% of the population) (Central Population and Housing Census Steering Committee 2010).

1.2 Religion

there are more than 13 religions in Viet Nam, buddhism and catholicism being the most popular ones. In 2009, 43.5% of the population were buddhist and 36.3% catholic (Central Population and Housing Census Steering Committee 2010).

1.3 Socio-economic development

Following the "Renovation reform" of 1986, the socio-economic status of Viet Nam developed: the GDP grew from 6.4 billion USD in 1990 to 171.4 billion USD in 2013, while the poverty rate decreased from 58% to 9.8% (World Bank 2014).

The state budget revenue increased from 454,786 billion VND in 1990 to 734,883 billion VND in 2012. Of this, 65% was domestic (General statistic officer 2013).

1.4 The population's health status

With regards to the health status of its population, Viet Nam had an estimated maternal mortality ratio of 49 per 100 000 live births in 2012 (WHO 2014b) and an under-five mortality rate of 23.1 per thousand live births in 2013 (General statistic officer 2013). Life expectancy at birth is 71 years among males and 80 years among females in 2013 (General statistic officer 2013). The population growth rate was estimated at 1.05% in 2013, with a total fertility rate of 2.1 births per woman. Crude death rate was 7.1 per 1000 population in 2013 (General statistic officer 2013).

The majority of deaths are focussed on traffic accident injuries (10%) and cardiovascular diseases (33%). They are followed by cancer (18%), chronic respiratory diseases (7%), diabetes (3%), other non-communicable diseases (13%), and communicable diseases (16%) (WHO 2014b).

1.4.1 The HIV/AIDS situation

From the first case of HIV, that has been detected in 1990, the cumulative incidence was 224,000 cases of HIV, 69,617 cases of AIDS, and there has been 70,734 AIDS-related deaths. Every single year, 12,000 to 14,000 cases of HIV are detected. 32.5% of them are females (MOH 2014). HIV is a concentrated

epidemic in Viet Nam, with a high prevalence among key populations, such as PWID (10.3%), FSW (2.6%), and men who have sex with men (MSM) (3.7%) in 2013(Xuan Phuc 2014). 32.5% of the people living with HIV accessed antiretroviral therapy (ART) services in 2013(Xuan Phuc 2014).

1.4.2 Drug consumption

There is an increasing number opioid dependents in Viet Nam: from 165,000 in 2012 to 190,000 in 2015. Among these, 50% were engaged in heroin injection, 50% were under the age of 30, 96.2% were males, 62% were unemployed, and 53% became dependent during secondary school or even before(DOLISA 2012).

1.5 Health system

The health system in Viet Nam is decentralised, with four levels: national level, provincial level, district level, and commune level(Van Tien et al. 2011).

At the national level, the Ministry of Health (MOH) is a proxy that develops health policies, health planning, and health-related programmes(Van Tien et al. 2011).

At the provincial level, provincial health departments take the responsibility of implementing the health policies of MOH and of controlling the health services provided at provincial level (preventive, curative, and rehabilitation services) (Van Tien et al. 2011)

At the primary level, health district centres, commune health centres, and village health workers are providing primary health care to the population.

The total expenditure for health was 6% of GDP in 2013(WHO 2014a). The contribution of out-of-pocket payment was 55% among total health expenditure in 2010(Van Tien et al. 2011).The coverage of social health insurance among total population was 70% in 2013(MOH 2015).

Regarding to health labour, there were 7.5 doctors/10,000 citizens in 2012, (MOH 2013). It is noteworthy that 77% of health communes centres had doctors in 2013(MOH 2013).

Regarding the HIV/AIDS response, the system of HIV/AIDS prevention has 4 layers. At the central level, the Viet Nam Authority of HIV/AIDS control (VAAC) is the MOH department that is responsible for coordinating HIV/AIDS programmes and activities in the country. At the provincial level, Provincial HIV/AIDS Control (PAC) (under the management of the Provincial Department of health) is responsible for coordinating HIV/AIDS programmes and activities, including programmes in prevention, care and treatment, as well as support(Van Tien et al. 2011). At the district and commune level, HIV/AIDS programmes are integrated to the central- and commune-level prevention department. At this level, HIV/AIDS programmes are managed by provincial PAC.

1.6 Can Tho province, the location of the study

Can Tho is one of the provinces that belong to the Mekong river delta area of Viet Nam. The province has 1.2 million inhabitants, of which 49,6% were male in 2013(General statistic officer 2013). This province is divided into 4 districts and 5 quarters.

Regarding its response to HIV/AIDS, Can Tho has diverse services and attracted many HIV/AIDS projects, including Education Behaviour change and

communication, Needle syringe and exchange, 100% condom use, HIV/AIDS treatment, Voluntary counselling and HIV testing, prevention of HIV transmission from mother to child, and MMT (Can Tho PAC 2014).

CHAPTER II. PROBLEM STATEMENT, AIM, AND OBJECTIVES

2.1 Problem statement

Methadone is a medication used to treat opiate dependence. It is often combined to psychological therapies that aim at supporting individuals, families, and communities in improving their health, reducing criminal activities, and minimising risky behaviours to HIV transmission(MOH 2010).

Globally, drug injection is one of the causes of HIV transmission. In 2013, the United Nation Officer Drug and Crime (UNODC) estimated that 1.7 million PWID acquired HIV and that they accounted for 13.1% of the total number of people living with HIV (PLWHIV) globally, that is 35 million persons(UNODC 2015).

In Viet Nam, the estimated number of PWID was 270,000 people in 2013. Of the 224,000 PLWHIV in 2013, 39% were PWID (Xuan Phuc 2014).

In Can Tho, there are 5458 PLWHIV, and the prevalence of HIV among PWID was 24% in 2014(Can Tho PAC 2014).

To respond to the HIV/AIDS epidemic, programmes target PWID as a key population. The harm reduction programme include a needle syringe programme, the 100% condom use programme, and the MMT programme (Xuan Phuc 2014).

MMT has been initiated since 2008 in Hai Phong and Ho Chi Minh City(Xuan Phuc 2014). Based on the results a pilot programme has achieved, the Government has decided to expand the MMT programmes nationwide(Xuan Phuc 2014). By the year 2013, MMT programmes encompassed 88 clinics, covering 33 (out of 63) provinces, and serving 15,542 PWID(Xuan Phuc 2014).

MMT programmes started to be implemented in Can Tho City 5 years ago, in 2010. According to the data from the PAC of Can Tho in 2014, there were 1147 PWID registered for the MMT programme (delivered from 4 different sites), in which 987 PWID were enrolled for treatment. The cumulative dropout rate from treatment between 2010 and 2014 was 44%(Can Tho PHD 2014).

2.1.1 The consequences of dropping out from treatment

Dropping out from treatment can lead to a relapse in drug injection and changes in behaviour. A study indeed found that, out of 105 MMT clients, 68% among methadone clients reported a relapse in drug use about 7.2 months following their drop out. Furthermore, needle sharing practices among dropouts has also increased, with 48% of them reporting that they had shared needles 10-12 months following their dropout from MMT(Ball et al. 1988). Reasons for dropping out from MMT treatment which are known in the literature are methadone dose, duration of treatment, gender difference, and history of opiod dependence (Stark 1992).

There is inadequate evidence to understand the factors influencing the dropout among MMT patients in Vietnam in general and in Can Tho in particular. There is an urgent need to have a better understanding of the reasons and the context in which the decision to drop out from MMT occurs, in order to provide the evidence for policy makers and programmers who can help improve the success of MMT in

Can Tho province. This study will help to identify the factors contributing to the dropout rates from MMT and the characteristics of the MMT dropouts, in the context of Can Tho province.

2.2 Aim

The aim of this study is to identify the factors influencing the decision to drop out from MMT.

2.2.1 Specific objectives

1. To describe the opiate dependence situation and MMT, globally and nationally;
2. To describe the current situation of MMT drop out among clients on MMT program in 2 clinics of Can Tho province, in 2015;
- 3 To identify the influencing factors on the drop out from MMT among clients on MMT in 2 clinics of Can Tho province, in 2015;
4. To provide recommendations to policy makers, including the leader of PAC, to improve the quality of MMT programmes.

CHAPTER III. METHODOLOGY

This chapter describes the methods that have been employed to conduct this study. It has two components: a literature review, and a primary study. The primary study is made of two parts: a quantitative one, and a qualitative one.

3.1 Literature review

3.1.1 Methodology of the literature review

The search strategy included a search engine (Google Scholar), a peer-reviewed database (Pubmed), reporting papers from the Vietnamese health information system, and theses from the library of Hanoi School of Public Health and the library of Can Tho Medical University.

The key search terms were: Methadone maintenance therapy. Opiate dependence. Substance abuse, HIV epidemic and PWID, Drop out from MMT.

Inclusion criteria:

- Languages: Vietnamese and English;
- Topic: articles related to MMT treatment and opiate dependence and PWID;

Data extraction: titles and abstracts were used to assess the relevance of the documents. Full texts of relevant papers were then used to have more detailed information.

3.1.2 The conceptual framework

The conceptual framework was developed based on the environmental model of health. To understand the behaviour of people, it is necessary to contextualise it. Indeed, people tend to adapt their behaviour with their living conditions. Therefore, the conceptual framework presented by Stark(Stark 1992) is used in this paper to organise and analyse the factors influencing drop out among MMT clients. The factors can be grouped into 3 broad categories, namely: individual factors, community factors, and institutional factors.

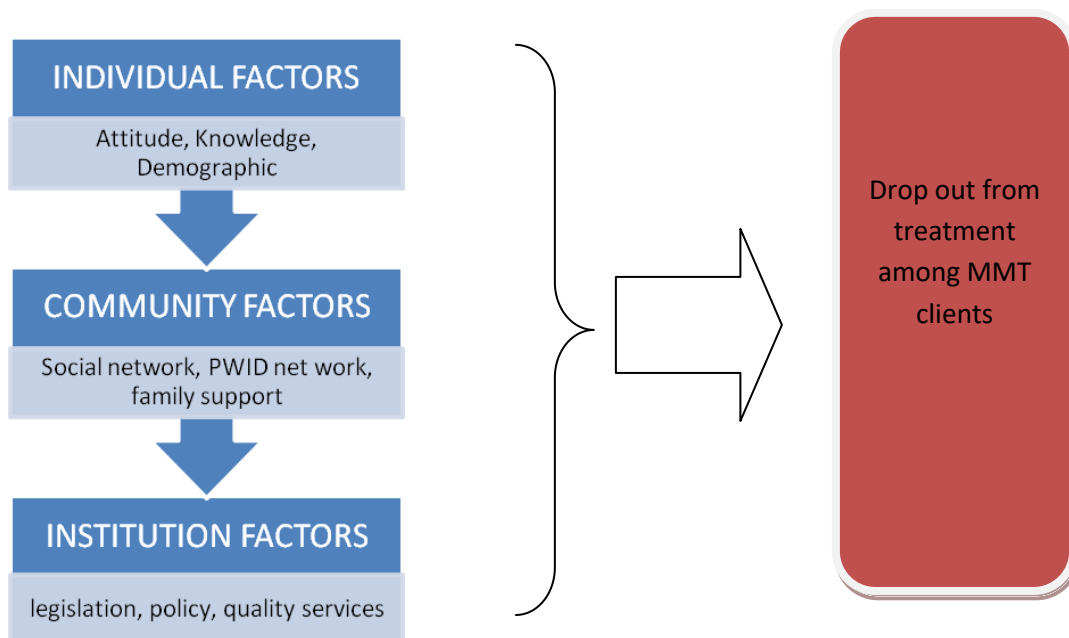


Figure 1: Modified framework on Dropping out of Substance Abuse treatments

3.2 Primary study

This chapter describes the two parts of the primary study: quantitative and qualitative. Each component is introduced separately.

3.2.1 Study sites

Can Tho province has 4 MMT clinics, of which 2 MMT clinics have been chosen as study sites: the one that is the nearest to the city centre (Ninh Kieu MMT site), and the one that is the most peripheral (O Mon MMT site). Besides convenience, this selection is justified by the knowledge that issues vary between central and peripheral areas of province.

3.2.2 Study design

The study used both quantitative and qualitative methods. The quantitative part has been used to get numerical data related to the dropouts group. The qualitative part involved in-depth interviews (IDI) with key informants: MMT clients who did or did not drop out, health care workers in MMT clinics, and MMT clients' relatives.

3.2.3 Quantitative part

3.2.3.1 Data source

The medical record of drops out clients in O Mon methadone clinic and Ninh Kieu methadone clinic were used to collect the data. Medical records were $\geq 30\%$ of the data was missing were excluded.

3.2.3.2 Selection criteria

Inclusion criteria were the following: medical records of clients who dropped out from MMT O Mon and MMT Ninh Kieu from 2010 to September, 2014, which was defined as clients who did not visit the clinics nor taken any Methadone there in

the last 30 days(MOH 2010). Excluded were medical records of dead clients, or of clients who have been referred to other clinics for treatment.

3.2.3.3 *Sampling*

Lists of all dropouts from the two clinics were obtained, and an exhaustive sampling of all the dropouts that fulfilled the selection criteria from these sites has been used. We had chosen the time point for sample size selection on September 2014 in order to unite the data.

3.2.3.4 *Data collection and analysis*

The research team collected the data from the participants' medical record, with the help of a data collection form. This data was then analysed with SPSS 13.0 software.

The data collection form was designed based on the medical record of methadone clients. This followed the MOH guideline. A unfilled copy of the data collection form can be found in Annex 2.

The variables were divided into 2 categories such as: Socio-demographic variables, Clinical variables. The variables are in alignment with the MMT guidelines of the MOH.

The following descriptive statistics have been employed with the variables: mean, frequency and proportion, the distribution of number of dropout clients, disaggregated by sex, economic status, and age group.

Table 1: The table of variables in quantitative component

Demographic variables	Clinical variables
Age	Date of registration on treatment
Sex	Date of starting treatment
Marital status	Date of dropout from treatment
Level of education	Frequency of injecting drugs before up taking MMT
Career status	Result of urine testing for heroin during treatment
History of being an injecting drug user	HIV status
Family support during on treatment	Hepatitis C, B Serostatus
	ARV treatment and TB treatment
	Reason of drop out
	Adherence to treatment

3.2.4 *Qualitative part*

3.2.4.1 *Data source*

Key informants of different groups were included, in order to gain a better understanding of the MMT clients, and the health care facility conditions that could affect their dropout. Key informants in the following groups were selected:

- Currently MMT clients who are treated in O Mon and Ninh Kieu clinics;
- The clients who had dropped out before September 2014;

- Relatives of MMT clients;
- Health workers in MMT clinics.

3.2.4.2 *Selection criteria*

- Informed consent: being 18 year of age and older, having civil abilities, and agreeing to participate to study;

- For specific group the criteria based on are:

- ★ Current MMT clients: clients currently under treatment during the study in MMT O Mon clinic and MMT Ninh Kieu clinic;
- ★ Dropouts: the clients who were enrolled in MMT O Mon clinic or MMT Ninh Kieu clinic but who did not visit their MMT clinic in the last 30 days, before September 2014;
- ★ Health workers in MMT clinics: doctors and administration staff in MMT O Mon clinic and MMT Ninh Kieu clinic;
- ★ Relatives of MMT clients: family member of methadone clients.

3.2.4.3 *Sampling and recruitment*

There were 17 participants had recruited to the study. Convenience sampling was used to get the participants for study.

Recruitment differed for the different groups of key informants:

- ★ Current MMT participants: were contacted by the administrators of the MMT clinics, as administrators have to contact their current clients regularly to remind them to come and take their drugs. After consenting to participate in the study, the participants were secondly contacted by the researcher in order to negotiate a time and a place for an interview.
- ★ Dropouts: invited to the research by peer educators group. This recruitment method has been chosen because evidence has shown that the relapse rates among dropouts is high, and therefore peer educators of harm reduction programme are key persons to reach them. Indeed, it has been estimated that 78% of PWID are reached by peer educators group through harm reduction programmes(Cần Thơ PAC 2014). In a meeting with the peer educators group, the objectives, methods and selection criteria for the participants were introduced. Then, the research team asked the peer educators to invite the dropouts they already know to join the study. After reaching an agreement with the dropouts, the peer educators informed the research team about the time and location to conduct in-depth interviews.
- ★ Health workers in MMT clinics have been informed through Can Tho Provincial HIV/AIDS Control and clinics. Doctors and Administrators were interviewed.
- ★ Relatives of MMT clients were chosen based on the preferences of the clients regarding who could participate in the study. The research team then contacted the relatives that were mentioned to arrange a time and place to conduct in-depth interviews.

3.2.4.4 *Data collection and analysis*

Data from key informants was collected with in-depth interviews

The interviews were tape-recorded and transcribed verbatim in a MS Word document. MS Excel has been used to manage the information. The data has

been coded based on specific objectives and themes, which have been identified in this study, mainly, the explanation of the difference between the current MMT clients and the dropouts. Data analysis was conducted through 3 stages: completion and management of data, analysis, and report writing. Both data collection and analysis has been conducted in Vietnamese, while the report has been written in English.

3.2.5 Ethical issues

The proposal of this study has been approved by the ethics committees of both the Royal Tropical Institute (the Netherlands) and Hanoi School of Public Health (Vietnam). The research proposal submitted to Research Ethical Clearance is presented in Annex 1.

As to the quantitative part, no name appeared in the data collection forms. No primary data has been given to any third party. All the data was kept in a locked cabinet and will be destroyed 6 months after the end of the study.

Regarding the qualitative part of the study, all the potential participants have been orally informed of the purpose of the research as well as its benefits and potential risks, before starting the interview. The participants' anonymity and confidentiality have been kept. The time and place for the IDIs have been negotiated between the participants and the researcher. Efforts were made to select a convenient and safe place for the interview to proceed smoothly and to ensure the safety of both the participants and of the research team. The record review was done before 6 pm every day to ensure the safe condition for interviewers. A defrayal of transportation has been provided to the participants.

CHAPTER IV. RESULTS

4.1 Literature review

This chapter aims at providing some background information related to the opiate situation, globally and nationally. The benefits of implementing MMT will be mentioned in terms of prevention of some diseases related to PWID, and rehabilitation purpose. Several factors influencing the MMT outcomes will also be mentioned. The characteristics of the articles included in the literature review are presented in the Annex 4.

4.1.1 Opiate dependence situation and HIV/AIDS epidemic among PWID

According to the estimation of UNODC, there were approximately 12.7 million PWID globally in 2014. Among them, 1.7 million were HIV positive. Globally, in 2013, the prevalence of Hepatitis C (HCV) among PWID was 67% (UNODC 2015).

According to the HIV sentinel surveillance in 2013, the HIV prevalence among the 270,000 PWID in Viet Nam was 10%, compared to 0.26% among the general adult population (Xuan Phuc 2014). In Can Tho, there is an estimated number of 1800 persons engaged in heroin injection (Can Tho PAC 2014). 40% of the PWID had secondary school as their highest level of education, 60% injected heroin 2-3 times a day (MOH 2011), and 20% were HIV positive (Can Tho PAC 2013).

Opiate abuse and injecting drug use results in physical and mental complications. 50% of drug abusers reported that they had some mental problems after engaging in drug use such as depression and insomnia, and are more vulnerable to stress (DOLISA 2011).

Blood borne diseases are related to opiate dependence: these people who injecting drugs are of high risk of contracting HIV, hepatitis B and hepatitis C, that are transmitted through needle and material sharing practices.

MMT is mentioned as a real strategy for individual, community, and social development(MOH 2010).

4.1.2 The benefits of up taking MMT

Opiate abuse can lead to both physical and mental dependence. Methadone is an opiate but unlike other types of opiate, it does not affect the nervous system of its user. The decomposition of Methadone takes 24 hours. Therefore, Methadone consumers only need one dose a day to avoid the craving for other opiates, such as heroin(MOH 2010).

MMT programmes have been implemented under overarching main objectives such as: prevention HIV transmission, prevention Hepatitis B virus transmission and prevention Hepatitis C virus transmission due to sharing needles and material during injecting heroin; reducing criminal behaviours due to opiate dependence; decreasing illicit drug consumption; improving health, occupational, and financing status of PWID(MOH 2010).

4.1.2.1 Reducing injection of drug

MMT plays a vital role in reducing the practice of injecting drug as well as some behaviour related to drug abuse. A cross-sectional study in China showed that the prevalence of heroin injection among PWID who enrolled in MMT programmes was reduced from 69.1% to 8.8 %(Pang et al. 2007). From 2004 to 2005, Pang et al had conducted the combination three cross-sectional surveys. The first survey included all MMT clients who attended treatment, the second included all clients who remained on treatment for ≥ 4 months, and the third included all clients who remained for ≥ 12 months. The frequency of heroin injection significantly reduced from the first survey (90 times per month) to the last survey (2 times per month) (Pang et al. 2007).

Other researchers followed 168 heroin addicts in China for 1 year under MMT, and documented a reduction in the number of heroin users from 61% to 40%(Li et al. 2011).

Both studies from China showed a reduction in heroin use among MMT clients. Nevertheless, such an impressive reduction can also be partly explained by the evolution of their sample. In the study of Pang et al, clients who dropped out were not included in the surveys anymore, therefore only participants that successfully adhered to the treatment, and were then also less likely to engage in drug injection than the ones who dropped out, remained in the study.

Yet, a study in Can Tho city showed that the prevalence of heroin consumption among MMT clients reduced from 100% to 3.5% in 36 months(Thanh Nam 2014). This study included MMT clients who were currently on treatment, and whose behaviour could have been positively influenced by such a long treatment.

4.1.2.2 Prevention of HIV transmission

By reducing the rates of heroin injection, MMT could consequently decrease the rates of HIV infection among PWID as well. Howard M. Rhoades and partners, in the US in 1998, the prevalence of sero-positivity at the beginning of their study

was 9% among PWID. After 6 months of follow-up, they did not detect any case of clients acquiring HIV (Rhoades et al. 1998).

Still in the US, a cohort study conducted by Metzger et al. followed 152 PWID who were attending MMT, and 103 PWID who were not attending MMT. After 18 months, HIV prevalence among the MMT clients was 3.5%, compared to 22% among those who were not attending MMT (David S. Metzger, et al 1993).

4.1.2.3 Hepatitis B and Hepatitis C prevention

Regarding the prevention of HBV and HCV, a study conducted in Switzerland between 1984 and 1995 indicated that there were differences in the prevalence of both diseases among Methadone clients before and during the MMT. Their 705 participants were divided into two groups: non heroin injection and heroin injection. After providing methadone for the injectors' group, prevalence of both diseases significantly decreased, from 85% to 28% for HBV, and from 94% to 42% for HCV (Broers et al. 1998). However, these figures might result from a bias: the number of injectors reduced as the treatment continued, and thereby so did high-risk behaviours related to HBV and HCV transmission. As to the incidence, the incidence of HBV was 2.1 per person-year and the incidence for HCV was 4.1 per person-year. In the last two years of study, not a single new infection of hepatitis has occurred, therefore showing a decreasing trend (Broers et al. 1998).

Another cohort was conducted in Amsterdam, the Neitherlands. It found that the risk of being HCV positive reduced by 6-7 times among people who participated in harm reduction programmes. Such programmes were fulfilled if the following criteria were met: received a dose of methadone ≥ 60 mg per day, no injection in the last 6 months, and participation in the needle and syringe exchange programme. However, this does not allow us to state that MMT is vital in HCV reduction since the very fact that the participants took part in the harm reduction programmes made them reduce high-risk behaviours for HCV (Van Den Berg et al. 2007).

4.1.2.4 Health improvement and improved quality of life

Thanks to the decomposition time of Methadone, clients can better control their behaviour and focus on their work after taking their methadone dose. Therefore, MMT contributes to the reduction of unemployment rates and increased effectiveness of labour. Thanh Nam 2014, the employment rate among methadone clients were increased from 48% to 75% after 3 years on treatment(Thanh Nam 2014).

The research in China has also indicated that the employment rate among methadone clients rose from 22.9% to 43.2%. Besides, it also showed that their power to develop relationships improved, with 65. 8% of the people on MMT reporting that they are satisfied with the relationship they have with their family(Pang et al. 2007).

As reported in 2011, the proportion of MMT clients reporting their satisfaction with their health increased from 32% at the beginning of the treatment to 55% after 24 months of treatment (Phi360 & Usaid 2011).

4.1.3 The factors related to dropout from treatment among methadone clients

Stark (1992), in his systematic review which examined factors influencing dropout from substance abuse treatments, identified different factors associated with dropout from MMT such as age, alcohol use, socio-economic factors, social factors, and social isolation(Stark 1992).

Regarding the influence of gender on retention among substance abuse treatment, women tended to have lower retention rate after 30 days on treatment (62%), compared to men (75%) (Arfken et al. 2001)

A six-year-long cohort study in China recruited 1511 MMT clients and categorised them into 3 groups, based on their daily methadone dose: the low dose group (≤ 30 mg per day), medium dose group (31-60mg per day), and high dose (≥ 60 mg per day). After 6 years of follow-up, the retention rates to MMT were 20%, 34% and 53% respectively (Cao et al. 2014).

A literature review conducted in China also showed that the dose of methadone could affect the time spent on MMT. Indeed, if the first dose of methadone given was greater than 15mg, then clients tended to stay longer on treatment. The higher the dose (≥ 15 mg), the longer the clients would stay on treatment(Zhou & Zhuang 2014). This is confirmed by another study conducted in China, in which an association was found between the doses of methadone, negative urine test for heroin, and longer time spent on treatment(Sullivan et al. 2013).

4.2 Results of primary study

This chapter is structured with two main parts, according to the study objectives: the characteristics of the dropouts, and the factors influencing the drop-out rate among MMT clients.

At the time of data collection, 309 medical records of clients who were not on treatment anymore were available. 20 of them belonged to clients who passed away, 28 of them did not contain enough information for this study. Eventually, 261 medical records were included in the quantitative part of the primary study. Clients were defined as "adherent" if they consumed their methadone dose for ≥ 28 days per month and had a good attitude towards the health workers. However, their attitude was considered "good" or "bad" by health workers' assessment, and there are not clear criteria to measure the clients' attitude. Therefore, even if a client visits a MMT clinic, it does not necessarily mean that he or she is adherent to the treatment.

4.2.1 Quantitative part: the characteristics of methadone drop out clients in O Mon clinic and Ninh Kieu clinic

4.2.1.1 Socio-demographic characteristics

Table 2: Table of socio-demographic characteristics of methadone dropouts

	Frequency	Proportion (%)
Sex		
Male	240	92.0
Female	21	8.0
Total	261	100.0%
Education level		
Illiterate	10	3.8
Primary	46	17.6
Secondary	139	53.3
High school	66	25.3
Total	261	100.0%
Marital status		
Single	123	47.1
Married	110	42.1
Separate	4	1.5
Divorced	24	9.2
Total	261	100.0%

The majority of MMT dropouts were males (92%), single (47.1%) or married (42.1%) (none of them cohabited with their partner without being married), and had secondary school as their highest education level (53.3%).

Table 3: Table of socio-demographic characteristics among methadone dropouts

	Mean	Standard Deviation	Min	Max
Age (years)	21.92	6.280	21	59
The age of first using Opiate (Years)	21.03	5.025	11	45

The mean age of the sample was 22 years old (SD=6.2 years), and the mean age at which they started opiate consumption was 21 years old (SD=5 years).

Table 4: The distribution of age group, occupation and family support among dropouts in two methadone clinics

	Total (n= 261)		Ninh Kieu (n=154)		O Mon (n=107)	
	Frequency	Proportion (%)	Frequency	Proportion (%)	Frequency	Proportion (%)
Age group (Years)						
<=19	0	0	0	0	0	0
20-24	17	6.5	5	29.4	12	70.6
25-29	61	23.4	28	45.9	33	54.1
30-34	87	33.3	51	58.6	36	41.4
35-39	70	26.8	50	71.4	20	28.6
>=40	26	10	20	76.9	6	23.1

Occupation						
<i>Unemployed</i>	152	58.2	108	71.1	44	28.9
<i>Part-time employed</i>	50	19.2	20	40	30	60
<i>Full-time employed</i>	59	22.6	26	44.1	33	55.9
Family support						
Yes	222	85.1	141	63.5	81	36.5
No	39	14.9	13	33.3	26	66.7

The age groups of 30–34, 35–39, and 25–29 years old represented the highest proportion among the dropouts, which are 33.3% and 26.8%, 23.4% respectively. None of the dropouts were under 19 year old. Dropouts who used to attend O Mon clinic tended to belong to the 25-34 age group, while dropouts who used to attend Ninh Kieu clinic tended to be aged between 34 and 39 years old.

More than half of the dropouts were unemployed at the time start to treatment. 22.6% had a full-time job and 19.2% had a part-time job. 70% of the unemployed dropouts used to attend Ninh Kieu clinic.

A minority of the sample (14.9%) did not have any support from their relatives during their MMT. Not having such a support was more common in O Mon clinic.

4.2.1.2 *Clinical characteristics of methadone dropouts*

Table 5: Table of clinical characteristics of methadone dropouts

Clinical characteristics (n=261)	Frequency	Proportion (%)
Frequency of injecting heroin per days		
Once	21	8.0
2 -3 times	181	69.3
≥4 times	59	22.6
Total	261	100.0%
Heroin positivity Urine test during treatment		
After 6 months	37	14.2
After 12 months	13	5.0
After 24 months	8	3.1
After 36 months	20	7.7
Total	261	100.0%
Adherence before dropping out from treatment		
Yes	165	63.2
No	96	36.8
Total	261	100.0%

Most of the sample (69%) used to inject heroin 2-3 times a day before starting MMT. The number of methadone clients who had positive with heroin in urine testing reduced as the treatment progressed. However, this trend did not hold true anymore after 36 months of treatment.

63.2% of the dropouts were attested as of good adherence by the health workers and 36.8% of them were considered non-adherent.

Table 6: The clinical characteristics among methadone drop out clients in two clinics

	Total (n=261)		Ninh Kieu (n=154)		O Mon (n= 107)	
	Frequency	Proportion (%)	Frequency	Proportion (%)	Frequency	Proportion (%)
Presence of related diseases						
HIV	73	28	42	57.5	31	42.5
HBV	44	16.9	20	45.5	24	54.5
HCV	163	62.5	97	59.5	66	40.5
TB	20	7.7	18	90	2	10
ART treatment among HIV positive clients (n=73)						
Treatment	32	43.8	24	75	8	25
Non treatment	41	56.2	18	44	23	56
History of amphetamine drug usage						
Yes	17	6.5	15	88.2	2	11.8
No	244	93.5	139	56.9	105	43.1

The prevalence of HBV and HCV were 16.9% and 62.5% respectively. 7.7% of the dropouts were tested positive with tuberculosis and 28% of them were HIV sero-positive. It is worth noting that 44% of the dropouts who were HIV-positive were following ARV treatment.

There were higher proportions of methadone drop out clients who were HIV positive and who acquired hepatitis B in Ninh Kieu clinic compare to the prevalence of HIV and HBV among clients in O Mon clinic.

Among the dropouts, 6.5% used both amphetamine and heroin before attending MMT. 93% only used heroin. More clients in Ninh Kieu clinic had used amphetamine before attending to MMT than those in O Mon clinic.

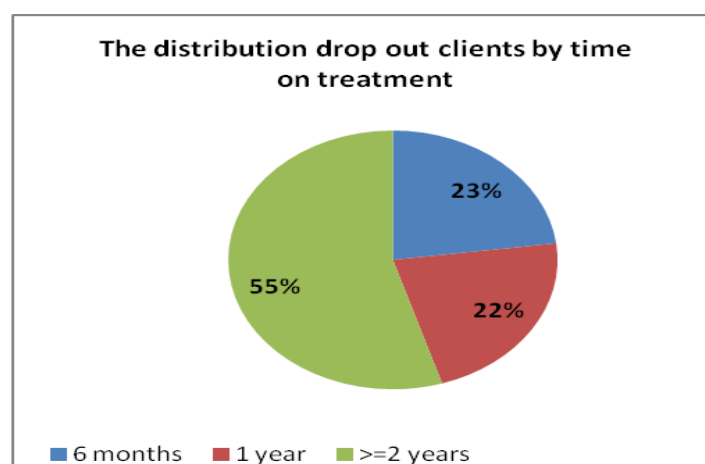


Figure 2: The distribution of methadone dropouts by treatment duration

Based on the criteria of FHI research on reason for drop out of daily methadone dose among methadone clients, the treatment duration of dropouts has been divided into 3 categories: drop out after 6 months, 1 year, and ≥ 2 years of treatment (Phi360 & Usaid 2011).

23% of the dropouts had followed the treatment during 6 months before leaving, 22 % had been on the treatment for 1 year, and 55% of them had been on treatment 2 for years or more before dropping out.

It is worth noting that the decision to drop out from treatment seemed to be associated with the time already spent on treatment. Indeed, more dropouts occurred after having spent 2 years or more on treatment, compared to a shorter treatment duration.

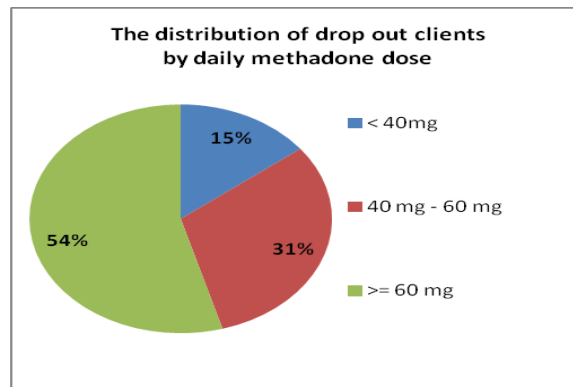


Figure 3: The distribution of methadone dropouts by daily methadone dose

Based on the MMT guidelines of the MOH, the daily dose of methadone has been divided into three categories: low dose(<40mg), normal dose(40-60mg), and high dose (≥60mg)(MOH 2010). The dosage is based on individual assessment: according to the MMT guidelines, each client has to go through 2 phases: the dose-finding phase, and the dose-maintenance phase. The dose-finding phase is at the beginning of the treatment and can last from 3 to 10 days, with a starting dose at 20mg(MOH 2010). Among the 261 dropouts, 14% received a low daily dose, 31% a normal daily dose, and 54% a high daily dose. There was no statistically significant association between the daily dose of methadone and treatment duration ($P>0.05$).

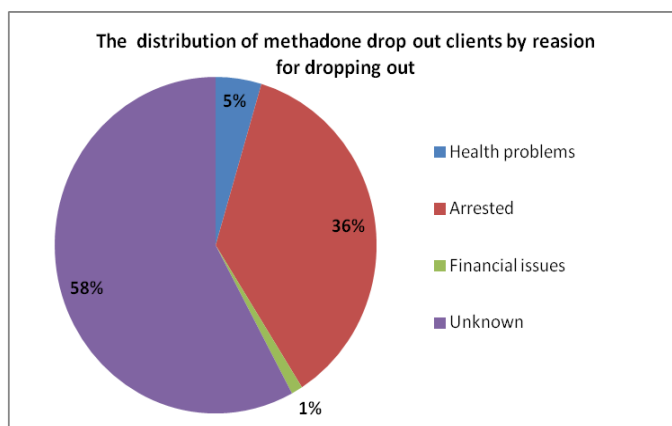


Figure 4: The distribution of methadone dropouts by reason for dropping out

36.4% of the MMT clients dropped out because of legal issues due to theft, robbery, or drug deal. 4.6% of them finished their treatment because of health

problems. Only 1% of them stopped the treatment because of financial issues. 57.9% had unclear reason for dropping out from treatment (health workers did not find them anymore or were unable to get any information).

4.2.1.3 *Factors related to time on treatment among methadone drop out clients*

To explore the factors that could influence the time spent on treatment before dropping out, the relation between non-adherence during treatment, the methadone dose, and treatment duration was tested with a Chi-square test with a 95% confidence interval.

4.2.1.3.1 *The relation between non-adherence and the time on treatment*

Table 7: The distribution of adherence among methadone dropouts by time on treatment

Time on treatment	Adherence	Non adherence
During 6 months	30.3 %	9.4%
During 1 years	19.4 %	28.1%
During >= 2 years	50.3%	62.5%
Total	100.0%	100.0%

Among the dropouts, while still attending their MMT, an average of 37% of them was non-adherent to the treatment. After disaggregating this result into different categories of time spent on treatment, it can be noticed that the more time the dropouts spent on treatment, the less adherent they became. A Chi-square test revealed that the difference in adherence between the different amounts of time spent on treatment reached statistical significance ($p=0.001$).

Relationship between age group and time on treatment, when we were looking at the relationship between age group and time on treatment, There were higher numbers among people aged 25 – 39 years old stay longer on treatment. There were no statistically significant ($p=0.7$).

4.2.1.3.2 *The relationship between the daily dose and time on treatment*

Table 8: The distribution of level of daily methadone dose during treatment of methadone dropouts

Time on treatment/methadone dose	< 40mg	40 – 60 mg	>=60mg	Total
6 months	13	22	25	60
1 years	9	19	30	58
>= 2 years	16	40	87	143
Total	38	81	142	261

Among those who stayed on treatment ≥ 2 years before dropping out, most tended to have a daily methadone dose greater than 60mg, compared to those who stayed a shorter time on treatment. However, this difference did not reach statistical significance ($p=0.121$).

4.2.2 Qualitative part: the factors influencing drop out from treatment among MMT clients

Regarding the recruitment of participants for the in-depth interviews, it has been difficult to find a female participant for the dropouts' category of key informants. Two women refused, because of lack of time, before a female participant could be found. The influence of gender was not discussed in detail with the participants.

4.2.2.1 Individual factors

4.2.2.1.1 The occupation

The occupations of the clients, by their characteristics and requirements, became barriers for clients to access MMT services. They usually worked far away from home, and it was especially difficult for the ones who had a mobile job to visit their clinic often and to consume methadone every day. Almost all participants said that their occupation affected their decision to drop out from MMT. A client who dropped out said that:

"Because I have to move to rural area for my work, I could not access the methadone treatment. We are not allowed to bring methadone doses to home and the methadone drug is liquid so it is difficult to bring it home, so I could not follow up the treatment"

(Drop out client – Man, 35 years old).

Related to financial catastrophes due to the purchase of heroin and other daily life expenses methadone clients had engaged to be debtors, they had to give up their treatment because they wanted to hide from creditors.

"Due to their debt, they had to run away from creditors because they could not have reimbursement. Hence, they had to leave out from treatment"(Health worker – Female)

4.2.2.1.2 Knowledge related to HIV and MMT

An inadequate knowledge about MMT and the risk of HIV transmission could lead to underestimating the role of MMT services and to keeping a risky behaviour for HIV transmission. Both dropouts and health workers shared the idea that misunderstandings and fear of side effects of methadone could contributed to drop out from treatment:

"Some of methadone clients thought that heroin was more satisfying than methadone. Other clients said that after 3 years of treatment, they could give up heroin and were successful in their methadone treatment, so that they dropped out without the permission of the doctors"

(Health worker- Female)

"Methadone helps us give up heroin injection but it can lead to some health problems such as insomnia and dementia" (Drop out clients – 35 year old)

Regarding their knowledge about HIV/AIDS, both dropouts and current clients knew about HIV transmission. Nevertheless, almost all of them believed that they were not at high-risk of being infected by HIV.

"I do not think I am at risk to acquire HIV because I did not share the needle and injections materials with any other drug users"(Current treatment client –Man, 38 years old)

Inadequate knowledge can be due to lack of information sources and unavailability of information channels related to HIV/AIDS and MMT. Common channels used by clients and their relatives were television, internet, health workers, and committee authorities. All participants shared a similar idea of the consequences of leaving the treatment against the health workers' decision: relapse in heroin usage, and appearance of health issues such as weight loss or insomnia.

4.2.2.1.3 Clients' self-determination

Self-determination seemed to be a motivation to stay longer on treatment. Indeed, visiting MMT clinics every day can affect the clients' patience. Also, giving up heroin is not easy and progress takes time. Moreover, according to the MMT guidelines, all clients have to start the treatment with a methadone dose of 20mg, so it is likely that the clients do not get satisfied at the dose-finding stage. The decision to give up heroin seemed to play a vital role regarding how long clients would keep on attending MMT:

"Due to a lack of determination for treatment and the fact that they thought they could not get high or satisfied with the methadone dosage, some of them gave up at the dose-finding phase, even if they attended the pre-treatment counselling and even if all the information related to MMT was provided to them" (Health worker- Female).

Besides that, depression in some clients who were HIV positive could have led to dropping out from treatment. Because HIV cannot be cured, some thought that they would die soon anyway and might as well enjoy their last days with heroin. They also thought that if they uptake both ARV and Methadone treatment, they will then get a "drug poisoning"

"The clients who have HIV positive, If they take methadone drug they will be die soon" (Dropout client – Man, 35 years old)

4.2.2.1.4 Unreadiness for treatment

Unreadiness for treatment could also be a factor influencing a drop out from treatment. In Viet Nam, the PWID, because of their use of drugs that are illegal in the country, will be under observation of the police or the community authority. If a PWID joined MMT, the observation by the police would be reduced. In other words, MMT can become a shield for the clients who want to avoid the observation. Under this protection, the MMT clients might actually not give up on their heroin injections. Some of them even got arrested by the police because of criminal activities.

"Some clients were suspected by the police or were under the management of the commune authorities because of illicit drug use. Hence, they attended MMT without wanting to get treated." (Health worker - Female)

4.2.2.1.5 Reason for health-seeking behaviours

Both dropouts and current clients said that the main reason for utilising MMT was to change their lifestyle from heroin injection, which they called "abnormal life", to "normal life", which a good health for a healthy life. They and their family felt tired of the heroin-injection life style and the related financial catastrophes. Despite that, if the reason for treatment was legal pressure, then clients tended to leave treatment earlier.

"I want to give up on the behaviours related to heroin injection. Before attending MMT, I visited some heroin detoxification centres several times but without success. Being a heroin user, I had to steal goods from other people to get money for heroin. I do not want to have a life like this anymore." (Current treatment client - Man, 35 years old)

4.2.2.1.6 Gender norm

Cultural norms are a pressure for MMT clients. This could be linked to their personal roles in their families, and gender-based stereotypes. During the in-depth interviews, male clients tended to say that they had to earn money for their family, while one of the female dropouts said that she could not stay longer on treatment because she had to take care of her family. The gender-based stereotypes underlying these statements are that males should go out and earn money for their families and that females should take care of their families. The decision to drop out seemed to be related to the individual responsibility they took:

"Sometimes I think that now that I have children and a husband to take care of, I do not want to follow up the treatment for a long time." (Drop out client - Female, 32 years old)

For a male dropout, being a father made him not want to harm his family:

"Because of my family and my child, I had to give up the treatment because I did not rumour to be brought to my child. What would people think if they knew his father was an addict that has to take methadone every day?" (Drop out client - Man 38 years old)

4.2.2.2 Community factors influencing drop out from treatment among MMT clients

4.2.2.2.1 Peer influence

Peers can influence the MMT clients in two ways: by encouraging them, or by constraining them. Current MMT clients explained that they got to know MMT from their friends and that the latter also advised them to stay on treatment longer. Health workers also confirmed these facts. All participants said that familial support plays a vital role for clients to stay longer on treatment. The

kind of familial supports that were mentioned were financial support, providing employment, support by helping with transportation, and mental support. Being disregarded by their family members could lead the MMT clients to depression, which can in turn lead to a drop out from MMT:

"I heard about MMT from some friends, who were PWID, they had attended the treatment before so they convinced me to join them" (Current treatment client – Man, 38 years old)

On the other hand, some clients' relatives affirmed that these peers sucked their son or their husband into relapsing in heroin injection, and that this was the reason why they wanted to keep them away from these peers:

Almost all of my husband's friends are PWID, so I tried to keep him away from them as much as I could. I know that some of them asked my husband to relapse into heroin injection, but he refused." (Relative's client – Female)

4.2.2.2.2 Stigma and discrimination

Stigmatisation and the fear of being stigmatised by the community is one of the obstacles to stay longer on treatment. PWID are usually familiar with stigma and discrimination because they suffered from it with the people who are living around them:

"I am a man; I have to work to earn money for my life and for my family. If they know that I am a MMT client, which means that I am a PWID, they will look down on me and my kids will be isolated from their friends because their father is PWID" (Drop out client – 38 years old)

Still in the theme of stigma and discrimination, all participants said that almost all PWID had suffered from stigma and discrimination. Moreover, they also explained that their family could also become a victim of stigma and discrimination:

"People look down on me and my family. I could feel the stigma, even if they did not talk. It is from their attitude toward me" (Relative's client- female)

4.2.2.2.3 Family support

Pressure from the family influenced the clients' decision to go on treatment. A client's relative said that the pressure from the family helps the clients understand what is good for them. Therefore, under the pressure from the family, especially under the one of being a "good father" or a "good son", clients stayed longer on treatment.

From the clients' side, the pressure from family can lead to unwillingness to get treated. They would just come and take the drug under the pressure from their family, without really wanting to stay longer on treatment:

"At the beginning, my parents pushed me to attend the treatment and they also forced me to take methadone. But I was not willing to get treated, I thought that methadone

and heroin were the same” (Drop out client – Man, 35 years old).

Inter-sectoral efforts at the community level are seen as a way to reduce the dropout rates from treatment and thereby increase the retention rate on treatment among MMT clients:

“We do need inter- sectoral efforts to mobilise the PWID to attend to treatment and stay longer on it. The police should force the PWID to attend the treatment. Besides that, we do need to have some career policy that helps clients have a stable life and a permanent job” (Health worker - Female)

4.2.2.3 The Institution factors influencing drop out from treatment

4.2.2.3.1 Daily methadone dose

The daily dosage can influence the drop out from treatment among MMT clients. According to the guidelines, the clients have to take a dose of methadone every day under the health workers’ observation. Almost all participants said that the dosage of daily oral methadone influenced their decision to drop out. Indeed, attending the MMT implied that, during their treatment time, the clients could not travel outside of the city and felt like their independence and freedom were restricted. Also, at the finding-dose phase of the treatment, the methadone doses were also not strong enough to stop their craving for heroin.

Nevertheless, all the participants shared the view that the amount of methadone they were given at each dose did not affect their decision to drop out or to adhere to the treatment:

“Methadone dose did not affect to retention on treatment or drop out from treatment, it was based on the self-determination, whether they want to use heroin or not. For me, my methadone dose was 140mg per day but I was still using heroin.” (Drop out client – Man 35 years old)

4.2.2.3.2 Time open of clinic

Besides that, an inappropriate working time could also lead to a drop out from treatment. The opening hours of health facilities coincided with the working time of the clients that were employed. Those could therefore not leave their working place every day during their shift to attend their treatment at the MMT clinic:

“Due to the overlapping between my working shifts in my company and the time of methadone dose uptake, I could not stay longer on treatment even though I wanted to attend it. I am telling you that if the clinic would have been open during non-working time, I would not have given up my treatment.” (Drop out client – Male, 35 years old)

In order to reduce the drop out related to inappropriate working time, the MMT clients suggested that the clinic be open outside of regular working time (7AM to

5PM) to help its client to access their treatment. A health worker added that the procedure to deliver methadone should be simplified and be made more flexible:

"The opening time of methadone clinics was inappropriate, my working time starts at 7AM and the time of my appointment for methadone was also at 7AM. So I could not continue working if I was on treatment." (Drop out client- Male, 35 years old)

4.2.2.3.3 Long waiting time for obligation on treatment

The people who register for MMT must wait before getting the treatment. A long waiting time before treatment could also influence the decision to drop out among MMT clients. From the data collected from the clients' records, the mean waiting time for treatment was 53 days. After registration, some individuals dropped out because the waiting time was too long.

However, the waiting time has been reduced since, with the newest treatment procedure:

"The current treatment procedure is a new one, and the procedure has been simplified. In the past, clients had to wait for the confirmation from the commune before being allowed to attend the treatment. Now, with the application of the new policy, clients wait for less than 10 days before initiation of treatment" (Health worker- Female)

4.2.2.3.4 The attitude of health worker

Negative attitude was considered as a kind of stigma. Because they were addicted to heroin, MMT clients suffered from negative attitudes, not only in their community, but also from health settings.

The attitude that the clients and the health workers have toward each other was indeed mentioned as a factor that could lead to a drop out from treatment. The clients felt they were looked down on by the health workers:

"Because of the discrimination due to being a PWID, I decided to attend the treatment. However, when I was on treatment, the health workers looked at me like if I was a robber or an uneducated person. I have self-esteem and I am educated, I did not break the law, so why do they have this attitude toward me?" (Drop out client – Man, 35 years old)

4.2.2.3.5 Long distance from home to clinic

Health workers and current MMT clients shared similar views about the distance between home and MMT clinic being a barrier to adherence to treatment. In O Mon clinic, clients come from other district to get their dose. The long distance and the lack of means of transportation to go to the clinic every day could lead to non-adherence and drop out from the treatment. One of the clients said that

"The lack of vehicle can lead to dropping out because the clients don't have enough money to access to clinics and almost all the clients are so poor they don't have their own

motorbike to go to the clinics” (Current on treatment – Female, 27 years old)

4.2.2.3.6 Unclear treatment progress

Long treatment duration seemed to be confusing for clients. Having to spend more than a year to give up on drug dependence was considered to be too long for some people. For example, when being sick, people go to the doctor and know how much time their recovery will take. This is different with MMT.

From the perspective of a client’s relative, unclear treatment procedure that could vary between different clients can make the clients depressed. Consequently, they could not *stand the idea of staying in the treatment any longer*:

“My daughter has been attending the treatment for 4 years, but I don’t know when she will finish her treatment. The doctors must inform the clients about the treatment procedure. For instance: a creative treatment procedure for each client with which she will be done after 4 or 5 years, with a clear process for dose reduction. I saw my daughter. She had to take methadone doses of 20 mg per day for a long time, why have the doctors not given her the reducing dose? These things made us tired.” (Relatives’ client - Female)

CHAPTER V: DISCUSSION

This chapter will provide some discussion about some key findings of the study. From the basis result, some statements will be formulated to be compared to results from other studies on PWID and methadone clients. The discussion would be based on the conceptual framework which includes individual factors, community factors, and institution factors. Each section will combine the factors influencing drop out identified with different methods: the literature review, the quantitative part of the primary study, and the qualitative part of the primary study. Finally, the new conceptual framework will be presented.

5.1 Individual factors

5.1.1 Age and sex

From the clinical-psychological review, Stark et al had shown that the reasons to drop out could be divided into client's factors, social factors, and treatment factors. It is worth noting that, for the client factors, Stark had seen that there was a debate surrounding the statement that gender and age could be predictors of drop out from treatment. In his review, 19 studies had shown that the dropout rate was higher among female clients, and that the older clients were the ones staying longer on treatment(Stark 1992).

From the quantitative part of the primary study, the age and sex variable were tested to know whether there was an association between sex, gender, and time on treatment among drop out clients. We did not see any statistically significant association among these variables. in the research in China, Cao et al did not see any association between sex them either(Cao et al. 2014).

It is remarkable that the majority of drop out clients were males and that 33% of the drop out clients were aged 30–34 years old. These characteristics were homogenous with those of the PIWD in Viet Nam and in some other studies conducted among methadone clients. The 24- months-long cohort study on the effectiveness of MMT in Hai Phong and Ho Chi Minh City had indicated that 95% of the current methadone clients were males and 52% among sample were aged 30 and older(Fhi360 & Usaid 2011).

From the qualitative part, the factor categorised as individual factors was gender norms among drop out clients. Due to the responsibility to the family and to their children, female dropouts had to give up from treatment. For comparative purposes, we have not found any research shown that gender norm as a predictor of drop out from methadone treatment.

5.1.2 Marital status

Regarding the clinical review of Stark, marital status was used as a proxy variable to present the social factors in general. Stark had indicated that social factors could contribute to the decision to leave the treatment program. However, in this study, data collection was more oriented towards substance abuse, including alcohol, drug, and nicotine. Therefore, it is hard to say whether marital status can lead to drop out from methadone treatment. Another difference making comparisons difficult is that the characteristics of alcohol were different in Stark's review(Stark 1992).

In terms of marital status, the majority of the clients who dropped out were single (47%). A smaller proportion of the dropouts were single in the research of Dinh Thanh Nam (35%) ($p= 0.2$)(Thanh Nam 2014).

In our study, we did not see any statistically significant association between marital status and the time stayed on treatment among dropouts in the quantitative data. In the quantitative part, marital status and family influence could be factors influencing drop out. The pressure of being a "good father" or a "good husband" could be a motivation for staying longer on treatment.

5.1.3 Heroin use among methadone clients

From the quantitative and qualitative data, the finding is that MMT clinics still have methadone clients who consumed both methadone and heroin during their treatment. The quantitative part of the primary study showed that 7.7% of methadone clients who were still using heroin during the time on treatment after 36 months on treatment. From the qualitative results, the clients said that no matter the dose of methadone they received, they would still use heroin during the treatment.

Regarding urine tests, clients were randomly assigned to it during MMT. Yet, this study only collected urine test results at 6, 12, 24, and 36 months of treatment. This means that if a client had the test at another time than these points in time, the results would not be included in the study. Therefore, the true prevalence of heroin positivity in urine tests might be higher than the one found in this study. The research conducted among current clients of Luu Hoang Viet in Can Tho had shown similar results : there were 6% of current methadone clients who were both using methadone and heroin after 24 months on treatment (Hoang Viet 2014).

In the study of Luu Hoang Viet, it was also indicated that the number of clients with a positive result when their urine was tested for heroin has significantly reduced after 3 months, 6 months, 9 months, 12 months, and 24 months on treatment. It was 18.8%, 12%, 9.2%, 10.8% and 6% respectively (Hoang Viet 2014).

In another study, the rate of using heroin among clients who had less than two years of treatment was higher than the rate of those who had more than two years of treatment(Li et al. 2012).

In conclusion, MMT could be an alternative therapy but it could not help client give up heroin(Hoang Viet 2014).

5.1.4 Adherence during treatment

According to our study, 63% among drop out clients adhered to the treatment before leaving it. Nevertheless, adherence rates decreased as the treatment lasted. Clients who already dropped out tended to not adhere to the treatment anymore after spending a long time on it.

According to the qualitative findings, decreased adherence among dropouts can be due to their self-assessment. After a long time of treatment, clients may

think that they can give up heroin injection and that their treatment was successful. In consequence, adherence can be reduced. This idea was mentioned by health workers and current clients.

In the study of Dinh Thanh Nam conducted among clients who were currently on treatment, it was found that 99.5% of them adhered to their treatment(Thanh Nam 2014).

The study conducted in London to explore the pattern of non-adherence shares similar results: a small majority of the current clients were "adherent" to the treatment (58%), 24% of them were "partially adherent" and 18% of them were of "poor adherence"(Haskew et al. 2008).

In the study of Haskew, the level of adherence has been categorised into three scenarios such as "poor adherence" means that clients had consumed 1 – 2 methadone dose per month, "partial adherence" was the group of clients who consumed 3- 28 dose of methadone per month and "adherence" mean that client who were consumed 29 -30 methadone dose per month.

However, in our study, the term "adherence" was based on the guideline of methadone programmes in Viet Nam. Adherers are clients who consumed at least 28 daily doses of methadone per month and had good attitude toward health worker. The clients' attitude is considered "good" or "bad" based on the health worker's assessment and we did not have clear criteria for this definition in the health setting.

From the qualitative findings, other individual factors that could predict a drop out were the type of occupation, knowledge related to HIV and MMT, self-determination, unreadiness for treatment, reason for seeking health, and gender norm. However, there was no significant association between education level, occupation type, and time on treatment. Due to the data collection methods from the medial records, data related to the dropouts' self-determination and knowledge was not collected.

5.2 Community factors

5.2.1 Family support

From the quantitative part, there were 14.9 % of dropouts who reported that they were not supported by their family during their treatment.

From the qualitative part, almost all participants said that support from their family and their relatives could be a factor influencing drop out from treatment. Family could be a motivation for retention on treatment.

Family support implies both mental and financial support. This goes in line with the results of the cross-sectional study among 590 methadone clients that explored the relation between family support and the outcome of methadone program. The clients who received the support from family were less likely to keep using illicit drugs than those who were not supported by their family ($P < 0.01$)(Lin et al. 2011).

Currently, the involvement of family during the treatment is voluntary. Consequently, it might not be well coordinated with the clinics in their efforts to help clients stay longer on treatment and have a successful treatment.

5.2.2 Influence by peers

The personal perspectives shared during the interviews of this study revealed that the influence from the peers could be either negative or positive for the retention on treatment. The information related to peers among dropouts in the quantitative part had not been collected due to limitations of data from medical records.

According to the results of the study that took place in China among PWID who attended methadone treatment, the rates of retention to treatment were lower among the clients who had PWIDs as friends, compared to the clients who did not have this kind of friend ($P < 0.005$) (Booth et al. 2004). The utilisation of heroin rates were also lower among those who had family support, compared to those who did not have support from their family (OR 0.97, $P < 0.01$) (Lin et al. 2011).

5.3 Institutional factors

5.3.1 Daily oral dose

Daily liquid dose of methadone taken under the observation of a health worker is one of the requirements for running a methadone clinic. However, from the literature review, we learnt that Stark identified the dosage of methadone as an institutional factor influencing the retention on treatment. Here, receiving methadone in daily oral doses seemed to be a barrier to retention on treatment. From the qualitative part, consuming methadone drug at the clinics every day could lead to reduce freedom of clients so that it could be a constraint for a longer treatment duration. Participants suggested ideas such as receiving methadone at home, or being allowed to take their dose home.

A retrospective cohort study has been conducted in Italy. In this study, researchers compared two groups: one that had daily doses in the clinic, and another that was taking their dose at home and went to the clinic only once a week for a health check-up. Here, the results were different: the clients taking their dose from home had significantly higher rates of leaving the treatment for detoxification (23.2%), compared to the group who took daily doses of methadone in the clinic (3.6%) (Pani et al. 1996).

Taking doses at home can therefore be an obstacle to treatment. Nevertheless, this can still be a good way to help clients organise their daily life and avoid daily attendance in the methadone clinics. Daily visit to methadone clinic could be a factor influencing retention of clients.

Findings also showed that clients tended to stay longer on treatment when receiving high methadone doses ($\geq 60\text{mg}$) compared to those who got low doses ($\leq 40\text{mg}$) (Pani et al. 1996).

When looking at the association between the dose of methadone and heroin consumption, a higher dose of methadone could actually be a predictor of heroin usage during the treatment. Indeed, Luu Hoang Viet had shown that the

prevalence of heroin usage among the group of clients who consumed a methadone dose $\geq 80\text{mg}$ was 3.66 times higher than the group who received a methadone dose $\leq 80\text{mg}$ (Hoang Viet 2014).

The research conducted among Malaysian methadone clients in 2010 also found that the daily dose of methadone could contribute to the retention of the clients. Here as well, the retention prediction of clients who got the dose of more than 80mg was higher than those who got daily dose less than 80mg (Mohamad et al. 2010). The required dose to retention on treatment is 40mg/day. Nevertheless, and in line with the above mentioned studies, Mohamad recommended that a dose of 80mg was the most probable to lead to a successful treatment (Mohamad et al. 2010).

5.3.2 Distance from home to the clinic

From the in-depth interviews, the distance from home to clinic seemed to be barriers to access the services and it can also influence the decision to drop out among clients. It happened in O Mon clinic, where more clients came from other districts to attend the treatment.

A study conducted by Greenfield al. with 1753 clients attending methadone treatment in an urban area found that the clients who travelled less than 1 mile to reach the clinic were more likely to stay longer on treatment than those who had to travel for more than 1 mile (Greenfield et al. 1996).

Greenfield at al. also indicated that the retention rates among mobile methadone facilities were higher than those in fixed methadone facilities. Indeed, with a mobile facility, both time and cost of transportation is reduced for the clients, and it therefore leads to a greater service accessibility (Greenfield et al. 1996). However, the distance from home to clinics should be put into the context of whether public transportation is available or not. If the distance is far but transportation is available and the travel fee is reasonable, the long distance could not be a barrier, neither for accessing the services, nor for retention on treatment. In the context of this study, public transportation was not available, which could have been a constraint to stay longer on treatment.

5.3.3 Treatment progress

Unclear treatment progress for individual clients could lead to early leaving of treatment. This notion appeared during in-depth interviews. Clients were tired with the time their treatment took because it was time-consuming and they did not have any information about their progress. They needed to know when they would finish their treatment and wanted to see the treatment plans the doctors prepared for them.

The fact that the MMT clients tend to drop out after a long time spent on treatment is confirmed by the quantitative findings that says that more than half of the dropouts left the treatment after staying for ≥ 2 years.

Peterson et al. had conducted a research among clients who dropped out in Baltimore - Maryland with the purpose to explore the reason why PWID were out

of methadone treatment. The barriers included long waiting list, lack of health insurance, fear of side effects of methadone drug, and various requirements in the registration procedure (Peterson et al. 2010).

Compared to the findings from our research, there was the concordant finding: unclear treatment progress could lead to a drop out. Even though quantitative part only focused on clients who already dropped out, similar barriers related to the treatment progress were found to be leading to drop out, both during treatment and at a pre-treatment time.

Ball et al. conducted their study among 24 clients who had dropped out. The researchers developed a questionnaire in which different reasons to drop out from treatment were arranged into categories. Their results shared similarities with our study: transportation fees, the relationship between the clients and the health workers, their family relationships, and their individual perspective toward the programme were factors influencing their decision to drop out for their treatment. However, in their study, Ball et al. also found that fee for services in MMT clinics and stigma and discrimination were also predictors for dropping out of treatment, which was the case in our study. This difference is that in the context of Viet Nam, MMT is offered for free to all clients. Therefore, fee for services was not a predictor of drop out. As to discrimination and stigma, they seem as reasons for leaving the treatment, even though these phenomena have been experienced by some of the participants of our study (Ball et al. 2006).

Issues in the clients' health-seeking behaviour and finances could also be factors affecting their decision to drop out. Both qualitative and quantitative results of our study showed that drop outs from treatment occurred during financial catastrophes and/or legal issues. According to the data retrieved from the clients' records, 36.4% of them have been arrested by the police because of illegal activities, and 1% of them dropped out because of financial issues. Actually, these two factors are also linked to each other: the clients' criminal activities mostly occurred in a poor-income context, with a high cost of living and the financial consequences of the purchase of heroin. In order to reimburse the person they owe money to, clients had to borrow money from other persons.

In the cohort study conducted in Hai Phong and Ho Chi Minh City, reasons to drop out among 43% of the methadone clients was arrest (FHI), which was a higher percentage than the figures that resulted from our research (36%) (Fhi360 & Usaid 2011).

5.4 Discussion on the conceptual framework

After completion of the study, it has been noticed that the conceptual framework should be amended in order to be more specific in each category. Doing so would help in designing a questionnaire for further research, that would be conducted in both current MMT clients and MMT dropouts – so that differences between these groups can be identified. Also, more specific factors would help in knowing which factors should be prioritised to first improve the quality of MMT programmes, and then plan it.

The factors that lacked in Stark's framework were the clinical characteristics of the clients, as well as the stigma and discrimination factors. These were not

mentioned in the initial topic guide either but after the pre-test of the research tools, we agreed that these factors should be included.

The new conceptual framework that results from these amendments is presented in the annex 5.

5.5 Limitations and Strengths of the study

The fact that convenience samples were used introduces a selection bias. Also, dropouts who have been arrested could not be reached by this study. This study fail to explore other factors related to dropouts that are not mentioned in the topic guide, such as cultural factors and gender issues.

Regarding to the convenience sampling, other criteria for purposive sampling are potentially relevant to gaining wide range of insight on the reasons behind dropping out, or staying-on, on treatment, for example: one could distinguish between the Rich/Poor family PWIDs, Young/Old PWIDs, Male/Female PWIDs, HIV status etc. Each of these criteria could form the basis for purposeful sampling – but given the constraints of time and resources, I have limited the scope of my enquiry.

This study met its objectives: characteristics of dropouts and the reasons to drop out from MMT were explored.

The sample size of the study was adequate and the participants were assured as research proposal. Criteria in terms of gender and number of participants were met.

CHAPTER VI: CONCLUSION

This chapter aims at summarising the main findings from the study in three parts: socio-demographic characteristics, clinical characteristics, and the factors influencing drop out among MMT clients.

Regarding the socio-demographic characteristics, 90% of the dropouts were males, more than 40% finished secondary school, 47% were single, and more than half were unemployed. 15% did not receive support from their family during treatment

As to the clinical characteristics, 70% of the dropouts used to inject heroin 2-3 times a day before starting MMT, 28% were HIV positive, and 68% had HCB.

The factors that could influence drop out from MMT were: inadequate of knowledge about methadone treatment and methadone dose, occupation-related and financial barriers, lack of family support, fear of stigma and discrimination, long distance from home to clinics, unclear treatment progress, daily oral dose of methadone, adherence during treatment, legislation of methadone clinics, and the attitude of health worker toward the clients.

CHAPTER VII: RECOMMENDATIONS

Based on the key findings, some implications will be listed and, from these, some recommendations for the programme and further research will be formulated.

7.1 Meaningful involvement of the clients' families during treatment

Underlying this situation is that there is a need for a meaningful familial involvement during treatment to help clients stay longer on treatment.

Therefore, a recommendation is that the administration staff should check the address and the information contact of the clients carefully when they start MMT. This information should be updated annually during treatment time. Administrators from the clinics could then get in contact with the clients' family regularly to exchange information.

For the MOH, groups for home care visits should be developed, along with a guideline for this process. The job description of peer educators among PWID would need to be expanded to include tasks related to home care visits. This would help in linking MMT and PWID peer educators.

Counselling for the clients' family should be planned. The contents of the counselling sessions should be changed according to the step of treatment at which the clients are, and based on the relatives' needs. MMT clinics must develop a plan and Can Tho PAC should take the responsibility to supervise it and offer technical assistance.

7.2 Strengthening the combination of HIV/AIDS services in health setting

HIV/AIDS services in the districts of O Mon and Ninh Kieu are still limited and are provided in different locations. It is recommended that the HIV/AIDS prevention services of both districts be combined and take place in Can Tho city rapidly, so that their target population (and especially MMT clients) can access them.

The health clinics should improve their referral system between MMT and ART as well as other services such as the ones for TB, HCV, and HCB, in order to avoid loss to follow-up. The referral letter should be developed and guide the clients, so that they know where they should go and what kind of services they should visit, based on their health problems. The MOH should train their health staff for referral skills and develop a new guideline for improving the referral system through a MMT-PWID network.

7.3 Improving the quality and the quantity of counselling sessions for clients and their family

A recommendation would be to include counselling sessions for clients who completed 1 year of treatment to discuss adherence and to remind clients that it is necessary to stay longer on treatment. Such counselling, as for the one dedicated to the clients' family, should have its content planned and should be assisted by Can Tho PAC.

Otherwise, there would be a need to apply a dose-reduction strategy for the clients who meet the criteria for withdrawing dose. However, the progress of dose-reduction should be strictly checked-up and should follow the guideline of MOH on MMT programmes.

The MOH should strengthen its guidelines on MMT, by putting monitoring and evaluation as a priority to improve the quality of the health staff's performance.

7.4 Enabling environment for clients

A friendly environment for MMT clients should be developed. In order to achieve this, the attitude of health workers and the satisfaction of MMT clients should be examined regularly. Can Tho PAC should take the responsibility to evaluate these indicators every 6 months.

The MMT clinics should strengthen their monitoring activities by implemented internal and external check-ups about the clients' progress and the quality of treatment. Regular meetings between the staff and the leaders of MMT clinics should be held in order to know the situation in the clinics, what was done, and what should be improved.

Local authorities should provide more support to the MMT clients in terms of occupational and financial support, so that MMT clients have a more stable life and thereby stay longer on treatment.

7.5 Recommendation for future research

There is a need to conduct further quantitative study in both current MMT clients and dropouts, in order to know the difference between these two populations. The magnitude of the differences could help in identifying the factors that lead to a high dropout rates among MMT clients.

Based on the limitation of this study, future research should also focus on the cultural factors, including the gender-related issues that can influence drop out or retention to treatment among MMT clients.

A case-control study should be the design to choose to have further evidence about the clinical factors that influence drop out from treatment.

ANNEXES

Annex 1: The research proposal

A study on exploring the factors influencing to drop out among Methadone maintenance therapy patients in Can Tho City, Vietnam, in 2015.

List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
HSPH	Ha Noi School of Public Health
MMT	Methadone Maintenance Therapy
MOH	Ministry of Health
PAC	Provincial HIV/AIDS Control
PDH	Provincial Department of Health
PWID	People Who Injected Drug
UN	United Nation
USA	United Sate of American
VAAC	Viet Nam Authority HIV/AIDS Control
WHO	World Health Organization

I. Introduction

Vietnam is located in Southeast Asia with the following neighboring countries: Laos, Cambodia and China. According to the 2009 Vietnam population and housing census, the population was 86 million persons. Males constitute 49% of the population. Approximately 70% of inhabitants reside in rural areas. There are 54 ethnic groups in Viet Nam, 86% among them is Kinh ethnic(1). Vietnam is a socialist republic country with a socialist - oriented market economy under state management. Following the “Doi moi” reform policy, social and economic status has shown some improvement. GDP for instance increased by 171.4 billion USD in the year 2013(2).

With regards to the health status, Viet Nam had an estimated maternal mortality of 49 per 100 000 population in the year 2012 and under five mortality rate of 23.2 per thousand in the year 2013(3). Life expectancy at birth is 71 among males and 80 among females (2012)(3). The fertility rate was 2.1 in 2013(3), with an estimated population growth rate of

1.06 %⁽⁴⁾. As a socialist country, health financing is based on general government revenue. Total health expenditure on health per capital is 6% of GDP⁽⁵⁾ and out of pocket payment is high, constituting 55% of health pooling⁽⁶⁾. About 70% of the general population had social health insurance in 2010⁽⁶⁾. The health system in Viet Nam is decentralized. The Ministry of health (MOH) has a responsibility of implementing Preventive, curative and rehabilitative care as well as pharmaceutical and traditional medicine provision.

The Viet Nam Authority of HIV/AIDS control (VAAC) is one of the MOH departments responsible for the coordination of HIV/AIDS programs and activities in the country. At the provincial level the Provincial HIV/AIDS control (PAC) is responsible for the coordination of HIV/AIDS programs and activities including prevention program, care and treatment and support program. This is under management of the Provincial Department of health (PDH). Can Tho is one of cities which belongs to MeKong river Delta area of Viet Nam. The city has 1.2 million inhabitants of which 49, 6% among them is male. This city is divided into 9 districts including 4 rural districts and 5 urban districts. Which cover a total area of approximately 1 409 square kilometres⁽¹⁾.

Methadone Maintenance Therapy (MMT) is one of the HIV prevention intervention strategies. It has been initiated in Vietnam since 2008 in two cities of Ho Chi Minh and Hai Phong. The government paid attention to expanding MMT services to the whole country by enacting a law on HIV and decree 108/2007/NC-CP and decrees No 96/2012/ND-CP on improving procedure and increasing access to MMT services.

The benefit of Methadone drug is reducing cravings of Heroin. Hence, the PWIDs can control their activities without taking heroin within 24 hours. Therefore, Viet Nam has been implementing MMT programs for three main purposes: Reducing number of illicit drug users, harm reduction which in relation to opiate abuse and drug injection, rehabilitation of individuals and community health as well as improving quality of life⁽⁷⁾.

The principles of MMT are voluntary treatment of PWID, sufficient of Methadone drug dose and the long time taking methadone drug to get the success from treatment⁽⁷⁾.

During on treatment, every day clients required to up take methadone drug under observing of health workers. Clients will be followed up during treatment time by health workers⁽⁷⁾. MMT clients cannot continue the similar dose in other MMT clinic without referral letter from doctors at MMT clinic.

Until now, this program has gained some results. The number of MMT sites increased from 41 sites to 88 sites from the year 2011 to 2013 and the number of patients increased from 6931 in 2011 to 15542 in 2013⁽⁸⁾. Similarly, there are 4 MMT clinics in Can Tho City, which have reported an increased in the number of clients to 987 in 2014⁽⁹⁾

II. Back ground

MMT has been introduced as an intervention in Can Tho since June 2010. This was done in order to help PWID group to overcome their addiction from injection of heroin and ultimately to improve their health and maintenance of life and employment situation.

The effectiveness of MMT is dependent on dosage, retention and adherence during treatment. According to the data from Can Tho PAC in 2013, there were 1146 PWID

registered for the MMT program in the 4 sites, of which 987 cases were enrolled for treatment. 44% of those enrolled on treatment dropped out from 2010 to 2013(9).

Dropout from treatment has been known to have consequences such as relapse of injecting drug and the changing of behaviours. Studies have indicated that 71 among out of 105 clients reported that they had relapsed drug use after about 7.2 months of stopping MMT. Furthermore, needle sharing among dropouts has also increased. 48% of them reported that they had shared needles after 10-12months of dropping out of MMT(10)

III. Statement of the problem

According to United Nations Office on Drugs and Crime (UNODC), it is estimated that there are 12.7 million people globally who use opiate in 2014(11). In 2013, the number of PWID in Viet Nam was estimated to be 271 000(8). Of these, 2400 PWID lived in Can Tho city(12).

Opiate abuse and injecting drug use results in physical and mental complications. 50% of drug abusers reported that they had some mental problems such as depression, insomnia and are more vulnerable to stress(13). PWID is one of the high risk groups for HIV transmission due to the sharing of needles. According to the 2013 survey the prevalence of HIV was about 10.3% among PWID nationwide compared to 0.26% among the general population(8). In Viet Nam, 40% of HIV infection is attributed to drug use(8). In Can Tho, HIV prevalence among PWID is as high as 31.9%(14).

In light of the absence of vaccine for HIV infection, prevention programs are an effective way of controlling the epidemic. MMT is considered as a safe and effective therapy for opiate abuse. It is an intervention to reduce injected drug use, improve rehabilitation and social functioning among PWID. MMT has contributed a vital role in reducing opiate abuse therefore leading to reduction of injecting drug practice and some behaviour related with drug abuse. A cross sectional study in China showed that when the prevalence of PWID was reduced by MMT from 69.1% to 8.8 %, employment rate was increased from 22.9% to 43.2%. And it also showed the power to develop relationships improved with 65.8% of people on MMT reported that they are satisfied with their relationships with their family(15).

Methadone therapy is shown to decrease the rate of HIV infection among PWID. A study of Howard M. Rhoades and partners in US (in 1998) shown that the rate of HIV sero positivity among PWID is higher among those who are not on MMT than those who are on MMT. The comparative analysis showed that for IDU, sero-prevalence of HIV increased from 13% to 21% for those under treatment while it increased from 21% to 51% for those not on Methadone(16).

The evidence shown that, methadone adherence has association with daily dose of methadone, time in treatment, pick up frequency. The study of Michael and partners has shown that the proportion of non adherence could be high among clients who getting high dose of drug(17). From this study, being an adherence to treatment, the clients have to consume drug no less than 28 days in a monthly on treatment(17). From the report guide of methadone program, the drop out clients defined that the clients who haven't visited methadone clinic within 30 days of treatment.

Stark (1992) in his systematic review which examined factors influencing drop-out from substance abuse treatments, identified different factors associated with dropout from

methadone treatment such as age, alcohol use and gender, social economic, social factors and social isolation(18). Furthermore Stark (1992) also identified that there is higher rate of drop out among females than males(18). But there is limited data in Viet Nam showing the factors influencing dropout; therefore this study is designed to explore factors influencing dropout among Methadone clients group in Can Tho city. Stark's (1992) framework will guide both the data collection and the data analysis of findings.

IV. Justifications

Drug injection is high risk behaviour with regard to HIV transmission, and it is the cause of stigma and discrimination of PWID in the society. Implementing MMT is a strategy of changing behaviours and rehabilitation for PWID groups.

From the data reported, information to determine accessibility and utilization of MMT is deficient to supply evidence to improve the quality of services in MMT clinics and improve utilization among PWIDs.

This study will help to answer the question about factors contributing to compliance to MMT and the characteristics of MMT dropout clients group in the context of Can Tho province. The questions are: What are the factors contributing to compliance to treatment among Methadone clients in Can Tho province, Vietnam. Are there any individual, community and institutional factors effecting adherence of MMT. What are the characteristic of MMT dropout clients in Can Tho province?

V. OBJECTIVES

1. To describe the characteristics of MMT dropout clients in MMT clinics, in Can Tho province in 2015.
2. To determine the factors influencing the Methadone adherence among people who inject drugs (PWID) who are enrolled in the MMT program in MMT clinics in Can Tho province in 2015.

VI. METHODOLOGY

5.1 Study design:

The study design consists of two linked components such as qualitative and quantitative study. The quantitative component aim at brief describing the characteristics of methadone drop out clients and the other component is exploring factors contributing to compliance to methadone treatment. The mixed study will be used to complement each other such as internal validity and generalize the contextual of phenomenon in quantitative and qualitative.

5.1.1 Qualitative study

Qualitative design will be employed to explore the factors contributing to compliance to MMT in Can Tho City. It is a small scale study to be completed in two months from June 2015 to July 2015

Main themes and issues of qualitative study:

The themes will be divided into three categories such as: Individual factors, community factors and institutional factors

Individual factors: Client’s attitudes towards MMT, client’s’ expectations from MMT, knowledge on HIV/AIDS transmission, employment status, occupation, working environment, fear of side effects, history of using heroin, perceived stigma and discrimination, awareness about MMT program and services,

Community factors: stigma and discrimination, peer pressure, family support, community support.

Institutional factors: Geographical accessibility, waiting time, responsiveness of health workers, daily oral dose, duration of treatment, availability of MMT, policy.

Data collection

Data will be collected by in depth interviews with methadone dropout clients and those currently on treatment as well as families and health care workers. Clients will be divided into two groups such as currently on treatment and currently dropout clients.

Health care workers are also interviewed as key informants to gain the understanding of clients, health care facility conditions affecting dropout.

5.2 Quantitative study:

The cross sectional study will be used to describe the characteristic of dropout among MMT clients in Can Tho.

The variables:

The variables will be divided into 2 categories such as: Demographic variables, Clinical variables. The variables are alignment with MMT guideline of MOH. The data collection form will be used to collect data from client’s record.

Demographic variables	Clinical variables
Age, sex Marriage status, Educational Carrier status, History of being injecting drug user	Date of registration on treatment Date of starting treatment Date of dropout from treatment Frequency of injecting drug before up taking MMT drug Result of Urine testing with heroin during treatment HIV status Hepatitis C, B virus status ARV treatment and TB treatment Reason of drop out Adherence on treatment Methadone dosage.

Data collection

To answer the question what characteristic of dropout among methadone clients are? Data from drop out client's record will be employed to describe the characteristics of dropout clients.

Study location

This study will be conducted in Can Tho province, where dropout rate is indicated to be high. To get the insights of compliance to treatment among MMT client's data will be collected from 2 districts which is Ninh Kieu district and O Mon district in Can Tho province, Vietnam.

VI. PARTICIPANTS

6.1 Age / Sex:

The participants in 2 clinics that included dropped out clients and clients currently on treatment. Among currently on treatment group: 02 female and 03 males will be recruited; among currently drop out clients group: 01 female and 04 male's clients will invite to participate to the study.

Health workers (2 females and 2 males) and 3 family members of clients will be invited to participate. People 18 years and older are chosen because they have reached civil capacity under the law.

6.2 Recruitment of participants

Participants who are under treatment will be contacted through administrators of MMT clinics. Administrators have to contact clients regularly to remind them to come and take drugs for those who are currently on treatment. After they consent to participate in the study, the researcher will have second contacts with patients to negotiate time and place to conduct interview.

The evidences shown that, the amount of dropout clients relapse into drug use is high. Otherwise, estimation of the proportion of PWID reached to harm reduction program through peer educators group in Can Tho is 78%(19). Therefore, peer educators will be employed to invite the participants who are currently dropout from treatment. The criterion of dropout clients is who did not visit MMT clinic at least 30 days by the year 2015.

Health workers will be informed through PAC and clinics. 2 doctors and 2 administrators will be interviewed.

Family of client will be chosen based on the preference of clients whether they can participate; families will participate only if they know the condition of the client and if the client agrees that they will be interviewed.

VII. PROCEDURES

In depth interviews (IDI) will be conducted to get specific information to determine factors related to individual, community and institutional factors influencing retention among current and dropout clients. The researcher will get contact through MMT clinics. Places to interview will be available in clinics or places which clients prefer, to make sure that privacy and confidentially will be kept. IDI will be carried out using topic-guide and will be

completed around 60 minutes. Topic guide will be translated into Vietnamese and back-translated to check for consistency. Interview will be recorded.

Data from patient record will be collected by check-list which is prepared based on the client's record form. The data collection form will be translate into Vietnamese and translate back to English.

VIII. SAMPLING

8.1 sampling method

8.1.1 Qualitative study

The study participants will be selected by convenience sampling to get 5 clients currently on treatment and 5 dropouts. Clients currently under treatment are clients who are currently on treatment during study. Dropped out clients are those who did not visit MMT clinics at least 30 days before conducting the data collection study.

I recognize that purposeful sampling and many other criteria for purposeful sampling are potentially relevant to gaining wide range of insight on the reasons behind dropping out, or staying-on, on treatment, for example: one could distinguish between the Rich/Poor family PWIDs, Young/Old PWIDs, Male/Female PWIDs, HIV status etc. Each of these criteria could form the basis for purposeful sampling – but I have chosen to limit myself to convenience sampling because of the constraints of time and resources during my masters studies. I think my current sampling strategy and the insight I can gain from the study can provide a starting point, and give general insight into the subject; I hope this triggers my office to commission a more detailed study in the future. In each clinic there is one doctor and one administrator. All these will be included in the study from the two clinics and information will be obtained through IDI.

Sample size: Qualitative study: Total of 17 participants will be selected. This includes 10 clients (5 drop outs clients and 5 currently on treatment clients), 4 health workers and 3 clients' family members of client.

8.1.2 Quantitative study:

Entire sampling method will be used to get all clients' record of drop out clients in two methadone clinics. From the report of MMT program in 2014, the cumulative of drop out clients in Ninh Kieu and O Mon Methadone clinics was 261 clients(9). The sample size was selected on September of 2014.

Sample size: Quantitative study: 261 dropout clients' record in 02 MMT clinics will be collected with data collection form.

8.2 DATA ANALYSIS

8.2.1 Qualitative study:

Tape recording will be transcribed into word file and Excel will be used to manage information. Information would be coded based on specific objectives and themes which are identified in this study. Some themes developed during collecting data will be coded by the proper name and take note of them. Data analysis will be conducted through 3 stages. This includes completing and management of data; analysis and writing report.

Analysis of data will include management of data based on objectives and after that explaining difference between two groups of clients. Data will be analyzed in Vietnamese and a report written which will then be translated to English.

8.2.2 Quantitative study:

The data from client's records will be analyzed by SPSS 13.0 software. Descriptive statistics will be employed with indicators such as: mean, frequency and proportion, the distribution of number of dropout clients in term of sex, economic status, age group

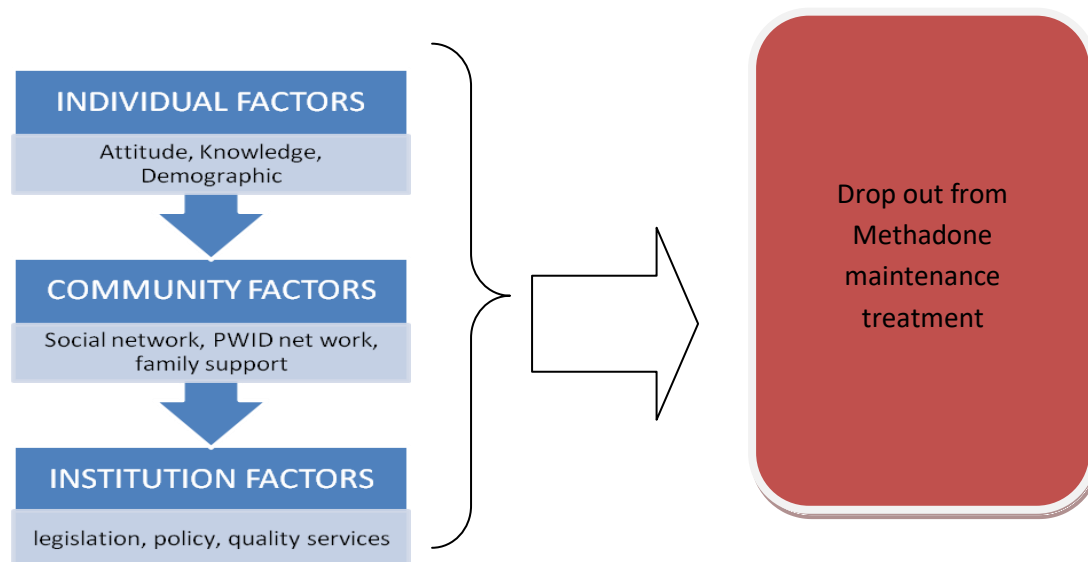
8.2.3 Conceptual framework:

Health seeking behaviours based on personal decision making, utilization or refusing health services could be linked to perceptions and the context that clients live in. This allows us to understand how behaviours had occurred and how decisions were made. Behaviours appear based on interactions between the individual and the society(20).

Stigmatization and discrimination of PWID and institutional issues were identified as barriers to accessing health services(21).

From supply side, low quality of services could be linked to low utilization among clients. Culture of providers was considered a factor that influences health care decision making in clients for example understanding the context where clients live in. This capacity is needed to scale up provision of health care. Client decisions would be based on their perception and experiences. If health provides lack of understanding of the perspectives of clients it can lead to negative outcomes.

The conceptual framework presented by Stark will be used to organize and analyses factors influencing the drop out among MMT clients. The factors can be grouped into 3 broad categories, namely: individual factors, community factors and institutional factors(18).



8.3 QUALITY ASSURANCE and STUDY LIMITATIONS

Quality insurance

Training will be given for research team on the objectives. The team includes 3 people who are Data collector from clients' record, note takers and interviewer for IDI. They are monitoring and evaluation officers of PACs and have working experience in conducting data and doing research among high risk groups. Note taker and data collector are bachelor and

master in public health. The main researcher will take responsibility to collect data through IDI. All experience gained through conducting the Integrated Biological and behaviours surveys and HIV sentinel surveillance, knowledge gained from qualitative research module at KIT will be used to conduct this study.

Data collection form and topic guide will be translated to local language and translated back to English to check for validity. Topic guide will be pre- tested before using to get full understanding and completely improved through suggestions. Data collection will be regularly monitored through daily meetings. Respondents will be assured of confidentiality of information that they provided. Data collected will be triangulated between data from client's records and in depth interview of different stakeholders to increase accuracy and reliability of information.

8.4 Limitations of the study

This study will not be able to get information from dropped out clients who are arrested. This study may fail to explore other factors related to dropout clients that are not mentioned in the topic guide. To deal with this problem through collecting data, open questions will be used as much as possible and giving time for respondents to explain other factors can influence dropout treatment. Data from client's records will be based on hand writing of health workers so there may be inadequate information. Missing information will be collected during IDI, such as some information related demographic, history of drug use, etc.... Regarding to the dropout clients, the rate of refusal to participate and lost to follow could be high because there may be some people who have moved to other places, or they are not glad to participate in the study. In this case, the other dropout clients will be enrolled in the study.

Finally, as mentioned earlier in sampling, many other criteria for purposeful sampling are potentially relevant to gaining wide range of insight on the reasons behind dropping out, or staying-on, on treatment, for example: one could distinguish between the Rich/Poor family PWIDs, Young/Old PWIDs, Male/Female PWIDs, HIV Status etc. Each of these criteria could form the basis for purposeful sampling – but given the constraints of time and resources, I have limited the scope of my enquiry.

IX. DISSEMINATION OF RESULTS

The research finding will be defended for master thesis for Master of Public Health in 2015 at Royal Tropical Institute and Hanoi School of public health. The meetings will be held to disseminate research results in Can Tho Department of Health, Can Tho Provincial HIV/AIDS control. Report will be printed and sent to all MMT clinics in Can Tho. And will be published in website of Can Tho Department of Health. Research finding will be used to recommend to Can Tho Provincial HIV/AIDS Control and MMT clinics to advocate for the improvement in MMT services and re allocation resources for MMT program

Planning and Time line

Activities	March			April				May				June				July				August				September			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Finalize proposal and toolkit	■	■	■																								
Submit to Ethical in KIT and in HSPH				■	■	■	■	■																			
Training interviewer and supervisors									■																		
Pretesting guideline and toolkit										■																	
Data collection and analysis											■	■	■	■													
Writing report															■	■	■	■									
Finalize reporting and translation in English																			■	■	■						
submit thesis																					■						
preparation for Defence and Dissemination meeting about result of study																						■	■	■			

A Financial implications and Budget

Budget will be provided by Can Tho provincial HIV/AIDS Control.

S. no.	Personals	Total cost(in VND)
1	Training of data collectors and pre testing	500,000
2	Printing topic guider and data collection form	200,000
3	Travel cost for participant	1,700,000
4	Beverages for IDI	300,000
5	Travel cost for investigators	300,000
	Total	3,000,000

SECTION B ETHICAL CONSIDERATIONS

CONSEQUENCE FOR THE LOCAL COMMUNITY/ENVIRONMENT AND PATIENTS

1. State the country and town/district where the work will be carried out.

Study will be conducted in Can Tho province, Viet Nam.

2. Describe the setting in which the study will be carried out (e.g. community centre / home / village / District Hospital / Health Centre).

This study will be conducted in community through MMT clinics. After that, the clients will be contacted and place and time for interview will be decided. All clients currently on treatment who comes to collect their MMT drugs and counselling will be interviewed in MMT clinics.

For the clients who are currently dropout of treatment, after having the contact through peer educators, time and place to conduct IDI will be negotiated between participants and researcher.

In addition, Families of PWIDs will also be interviewed at an appropriate time and place of their choice later.

Effort will be made to select convenient and safe place for the interview proceed smoothly to ensure safety of the participants and safety of the research team. The record review will be done at 6 pm every day.

3. Outline the potential adverse effects, discomfort or risks that may result from the study in the following areas:

This study will ask some sensitive questions related with drug user history and sharing injection practice that may cause discomfort among participants. Participants also have to spend at least one hour of their time for interview and data collections.

Clinic staffs will be engaged to trace client's record which might interfere with their routine clinic work.

3.1 Participants

This study may cause certain psychological discomfort to the study participants. Some kind of questions regarding drug user and sharing injection practice, discrimination and stigma may be sensitive and it can trigger pain full or distressing memory for the participants.

For family member of MMT client, during IDI, researcher will ask some questions related to the relationship with MMT clients. It could be distressful experience for family to talk about the past history or reflect back on the past issues related to injecting drug use of MMT clients.

For health worker, they will be involved in the study actively. It could be disturbing their routine work.

3.2 Investigators

The time and places to conduct IDI have to follow participations decision, so that time and place may not convenience for investigators. Some places may be risk for investigators if he/she goes alone because some of the places may be where the drugs users go and take their drugs.

3.3 Members of the public

It does not bring the potential adverse effects, discomfort or risks that may result from the study to member of community.

4 Outline what steps will be taken to minimize the adverse effects, discomfort or risks described above.

4.1 For participants

Informed consent will be taken before data collection. The objective and kind of question asked will be explained before interviewing. And interview will be take place at time and place appropriate for participants. If at any points of time, participants, including MMT

clients and client's family are feel distressed, they can stop the interview or professional counsellors support will be provided by the PAC professional counselling service. They are available full time for the study. In depth interview with health workers will be conducted after the working time to assure that their work will not disturbed

4.2 For investigators

At least a group of two people will be assigned to work together to make sure that at least 2 peoples will be available during interview. Time and place of interview will be arranged based on the convenience with the respondent and research team. And in case the place and time is not convenience for investigators, time and place will be considered to be re arrangement with participations. Interviews will not be conducted after 6 pm every day.

5.1 What demands will this research place on local health services?

Directly, this research will not place additional demand. However, in case some participants require professional counsellors. They will be called for this demand. But this is a part of regular work

6 What steps will be taken to ensure privacy and confidentiality for participants?

Participation is on voluntary basis and informed consent will be taken from all study participants. Data collection will be made private and no other person directly involved in selection of participants. Any issue rise from the participants will be discussed before the interview and the aim of the study will be explained to participants to assure that participant will not fear or suspicious thinking about interviewer. The aim of study will be explained to participants.

The participants will be grouped in three groups based such as clients, family and health workers and code will be given after they are selected. The data will not be used except for this research also will not be given to the third party. Information will be kept in security and only research team can reach on it. After 6 month all of notes takes and record will be destroyed. Personal identifier will not be recorded and used during data collection, in recordings and note taking as well as during analysis and write up.

7. SOCIAL AND CULTURAL SENSITIVITY ISSUES

7.1 Describe what cultural and or social sensitivities your research raises.

This study collects information relative with drug user, it is sensitive group in social because drug user is illegal in Viet Nam and drug user is stigmatized by community because injecting drug behaviour.

7.2 Explain how you plan to deal with cultural and social sensitivities within your research and how you will minimize potential risk.

This study conducted on sensitive group and some question will be related to sensitive issue that is mentioned. So that, confidentially will be assured and collecting information will be implemented in private places in suitable time. The objective of this study will be mentioned while taking consent form. Place and time to conduct IDI will be negotiated with participations.

8. GENDER ISSUES

8.1. Describe how the research addresses a demonstrated public health need and a need expressed by women and/ or men

The current evidence showed that the proportion of woman who is PWID is lower than men. 6% PWID estimated is woman and there are high prevalence of PWID who are street base sex worker 10% of female sex workers is PWID(22). The number of woman clients admitted

to treatment is lower than the number of woman who is PWID estimated in Can Tho city. But almost study did not focus on the gender disparities among man and woman in MMT treatment. This study with open question will be indicated whether there are gender differences between man and woman to entry to treatment and dropout treatment decision making. Besides that, study aim to explore gender norm is effected drop out among methadone clients.

8.2. Explain how the research contributes to identifying and/ or reducing inequities between women and men in health and health care.

This study will be implemented among male and female. Researcher intends to answer the question how differences among MMT clients are? And the gender factors could be a factors influencing dropout among MMT clients, is there the barriers to seeking MMT services among female? Opening question leading to gender differences will be used to get information required to answer these questions.

8.3. does the nature or topic of the research makes it important that the researchers are women rather than men or vice versa? Please explain. What is the sex composition of the research team and what are their duties and responsibilities in the proposed research?

The research is conducted among both sex groups and the research team will be composed both male and female. In case, the participant is woman, the interviewer will be woman to ensure that no barriers to participators explain their answers and making any discomfort.

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Annex 2: Research question for in-depth interview

2.1a TOPIC GUIDE FOR DROUP OUT FROM TREATMENT AND CURRENT ON TREATMENT “Study on factors influencing to drop out from treatment among Methadone clients in Can Tho, in 2015”

- I. The knowledge related to HIV transmission and Methadone maintenance therapy
Can you tell me the way of HIV transmission?
Do you think that you have risk to acquire HIV/AIDS? How and why?
- II. What were the reasons for enrolling to the MMT?
Which constraints did you get during attending for MMT?
- III. Reason for dropping out from treatment
 - a. Which individual reason for dropping out from treatment?
 - Financial issues
 - Occupation requirements
 - The self-determinations
 - Fear of side effects of Methadone drug
 - Transportations
 - Self-stigmatization
 - Other:
 - b. Which reasons from community lead to drop out from treatment?

- Family support
 - Peer influencing
 - Stigma and discrimination from community
- c. Which reason from institutional factors could lead to drop out from treatment
- The rules of health setting
 - The daily oral dose of methadone drug
 - The time working of clinic
 - The distance from home to the clinic
 - The attitude of health worker
 - The waiting time to get dose in the clinic
- IV. Do you think which factors should be improved to help clients stay longer on treatment?

Topic guide in Vietnamese

2.1b BỘ CÔNG CỤ PHÒNG VẤN SÂU DÀNH CHO NGƯỜI THAM GIA NGHIÊN CỨU LÀ BỆNH NHÂN ĐANG ĐIỀU TRỊ VÀ BỆNH NHÂN ĐÃ BỎ TRỊ

“Nghiên cứu các yếu tố ảnh hưởng đến việc bỏ trị trong nhóm bệnh nhân điều trị Methadone tại Cần Thơ, năm 2015”

I. Kiến thức liên quan đến HIV và Methadone

Anh/chị có thể mô tả các hành vi nguy cơ lây nhiễm HIV? Tại sao?

Theo anh/chị HIV có thể lây qua những con đường nào?

Theo anh/chị, mình có khả năng nhiễm HIV không? Như thế nào và tại sao?

II. Lý do tham gia điều trị methadone

Anh/chị có thể chỉ ra các lý do khiến anh/chị quyết định tham gia điều trị Methadone?

Anh/Chị có thể chỉ ra các khó khăn gặp phải trong quá trình tham gia điều trị methadone?

III. Nguyên Nhân bỏ trị

a. Theo anh/chị nguyên nhân nào xuất phát từ bản thân anh/chị đã tác động đến việc bỏ trị của anh/chị?

- Kinh tế
- Việc làm
- Quyết tâm cai nghiện
- Lo sợ về tác dụng phụ của thuốc
- Phương tiện đi lại
- Các nguyên nhân khác:

b. Theo anh/chị nguyên nhân nào xuất phát từ cộng đồng đã tác động đến việc bỏ trị của anh/chị

- Sự ủng hộ và giúp đỡ của gia đình
- Sự lôi kéo từ phía bạn bè
- Sự kỳ thị và phân biệt đối xử

c. Theo anh/chị nguyên nhân nào xuất phát từ cơ sở dịch vụ, quy định của phòng methadone đã tác động đến việc bỏ trị của anh/chị

- Những quy định của phòng khám

- Liều methadone hằng ngày anh/chị uống
 - Thời gian làm việc của phòng khám
 - Khoảng cách từ nhà anh/chị đến cơ sở methadone
 - Thái độ của nhân viên Y tế
 - Thời gian chờ để được uống thuốc, được điều trị
- IV. Theo anh/chị yếu tố nào cần được cải thiện để giúp bệnh nhân duy trì điều trị
Anh/chị có góp ý gì thêm không?

2.2a TOPIC GUIDE FOR RELATIVE OF METHADONE CLIENTS

“Study on factors influencing to drop out from treatment among Methadone clients in Can Tho, in 2015”

What did you think when you know the opiate abuse behaviour of clients?

What was the first thing come to your mind when you see the people who injecting drug user? Why?

- a. Which individual factors from clients for dropping out from treatment?
 - Financial issues
 - Occupation requirements
 - The self-determinations
 - Fear of side effects of Methadone drug
 - Transportations.
 - Self-stigmatization
 - Other:
- b. Which reasons from community lead to drop out from treatment?
 - Family support
 - Peer influencing
 - Stigma and discrimination from community
- c. Which reason from institutional factors could lead to drop out from treatment
 - The rules of health setting
 - The daily oral dose of methadone drug
 - The time working of clinic
 - The distance from home to the clinic
 - The attitude of health worker
 - The waiting time to get dose in the clinic

Do you think how importance of having support from family during treatment time of methadone clients

Which constraints did you and your family adapt during your relative attending treatment?

Do you think which factors should be improved to help clients stay longer on treatment?

2.2b BỘ CÔNG CỤ PHỎNG VẤN SÂU DÀNH CHO NGƯỜI THAM GIA NGHIÊN CỨU LÀ NGƯỜI NHÀ BỆNH NHÂN

“Nghiên cứu các yếu tố ảnh hưởng đến việc bỏ trị trong nhóm bệnh nhân điều trị Methadone tại Cần Thơ, năm 2015”

Khi anh chị biết được hành vi tiêm chích ma túy của bệnh nhân, điều gì anh/chị nghĩ đến đầu tiên? Tại sao?

Khi nghĩ đến một người nhiễm HIV hoặc người nghiện chích ma túy, tính cách nào của họ mà anh/chị nghĩ đến đầu tiên? Tại sao?

Theo anh/chị những yếu tố cá nhân nào thuộc về bệnh nhân khiến họ quyết định bỏ trị?

- Kinh tế
- Việc làm
- Quyết tâm cai nghiện
- Lo sợ về tác dụng phụ của thuốc
- Phương tiện đi lại
- Các nguyên nhân khác

Theo anh/chị yếu tố gia đình và bạn bè có tác dụng như thế nào đến việc bỏ trị của bệnh nhân?

- Sự ủng hộ và giúp đỡ của gia đình
- Sự lôi kéo từ phía bạn bè
- Sự kỳ thị và phân biệt đối xử

Theo anh/chị, những yếu tố nào thuộc về các quy định của phòng khám, thủ tục, chất lượng dịch vụ khiến bệnh nhân bỏ trị

- Những quy định của phòng khám
- Thời gian làm việc của phòng khám
- Khoảng cách từ nhà anh/chị đến cơ sở methadone
- Thái độ của nhân viên Y tế
- Thời gian chờ để được uống thuốc, được điều trị

Anh/chị và gia đình có gặp những khó khăn gì trong quá trình bệnh nhân tham gia điều trị methadone không? Tại sao

Theo anh/chị yếu tố nào cần được cải thiện để bệnh nhân có thể tiếp tục điều trị lâu dài hơn không?

2.3 a TOPIC GUIDE FOR HEALTH WORKER

“Study on factors influencing to drop out from treatment among Methadone clients in Can Tho, in 2015”

Which constraints did you face during when you were working with people who injecting drug users? Why?

- a. Which individual factors from clients for dropping out from treatment?
 - Financial issues
 - Occupation requirements

- The self determinations
- Fear of side effects of Methadone drug
- Transportations
- Self stigmatization
- Other:
- a. Which reasons from community lead to drop out from treatment?
 - Family support
 - Peer influencing
 - Stigma and discrimination from community
- b. Which reason from institutional factors could lead to drop out from treatment
 - The rules of health setting
 - The daily oral dose of methadone drug
 - The time working of clinic
 - The distance from home to the clinic

How do you think about the current methadone guideline?

How do you think about the availability of medical materials during your work?

2.3.b BỘ CÔNG CỤ PHÒNG VẤN SÂU DÀNH CHO NGƯỜI THAM GIA NGHIÊN CỨU LÀ CÁN BỘ Y TẾ

“Nghiên cứu các yếu tố ảnh hưởng đến việc bỏ trị trong nhóm bệnh nhân điều trị Methadone tại Cần Thơ, năm 2015”

Anh/chị có thể chỉ ra một số vấn đề mà anh/chị phải đối mặt khi tiếp cận điều trị cho bệnh nhân là người nhiễm HIV và người nghiện chích ma túy? Tại sao?

Theo anh/chị những yếu tố cá nhân nào thuộc về bệnh nhân khiến họ quyết định bỏ trị?

- Kinh tế
- Việc làm
- Quyết tâm cai nghiện
- Lo sợ về tác dụng phụ của thuốc
- Phương tiện đi lại
- Các nguyên nhân khác:

Theo anh/chị yếu tố gia đình và bạn bè có tác dụng như thế nào đến việc bỏ trị của bệnh nhân?

- Sự ủng hộ và giúp đỡ của gia đình
- Sự lôi kéo từ phía bạn bè
- Sự kỳ thị và phân biệt đối xử

Theo anh/chị, những yếu tố nào thuộc về các quy định của phòng khám, thủ tục, khiến bệnh nhân bỏ trị?

- Những quy định của phòng khám
- Thời gian làm việc của phòng khám
- Khoảng cách từ nhà anh/chị đến cơ sở methadone
- Thời gian chờ để được uống thuốc, được điều trị

Anh/chị nghĩ như thế nào về quy trình hướng dẫn thực hiện điều trị Methadone hiện nay?

Anh/chị nghĩ như thế nào về tính sẵn có về vật tư trang thiết bị tại phòng khám của anh/chị đang làm việc?

Những đề xuất nào để thúc đẩy bệnh nhân duy trì điều trị? Tại sao?

II. Data collection form

3a Data collection form

“The study on exploring the factors contributing to drop out from treatment among Methadone maintenance therapy patients in Can Tho City, Vietnam, in 2015”

Date: ____/____/____

Collector:.....

1. Number of patient's record: _____

2. Year of birth:

3. Sex:

1. Male

2. Female

4. Marriage status

1. Single

2. Married

3. Separate

4. Divorce

5. Co- habilitation

5. Educational

1. Illiterate

2. Primary

3. Secondary

3. High school

4. College and higher

6. Carriers status

1. Unemployment

2. Par time job

3. Having job

7. age of being an opiate abuser (years old):

8. Using amphetamine: Yes No

9. Date of registration on treatment:/...../.....

10. Date of initial to treatment:/...../.....

11. Date of dropout://

12 Family support: Yes No

13. Frequency of injecting drug before up taking MMT drug

- 1. One time per say
- 2. 2 – 3 times per day
- 3. 3-4 times per days
- 4. >=4 times per day

14. Result of urine testing with Heroin

- | | Positive | Negative |
|-------------------------------------|--------------------------|--------------------------|
| 1. After 6 months under treatment: | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. After 12 months under treatment: | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. After 24 months under treatment: | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. After 36 months under treatment: | <input type="checkbox"/> | <input type="checkbox"/> |

- | | | |
|------------------------|----------|----------|
| 15. HIV status | Negative | Positive |
| 16. Hepatitis B | Negative | Positive |
| 17. Hepatitis C | Negative | Positive |

18. ART treatment: Yes No

19. Tuberculosis treatment: Yes No

19. The reason of drop out:

- 1. Health problems
- 2. Being Arrested
- 3. Financial issues
- 4. Unknown

20. Adherence during treatment: Yes No

21. The highest methadone dose before leaving from treatment:

3b Bảng thông tin thu thập từ hồ sơ bệnh án

“Nghiên cứu các yếu tố ảnh hưởng đến bỏ trị trị trong nhóm bệnh nhân điều trị Methadone tại TP. Cần Thơ năm 2015”

Ngày: ____/____/____

Người thu thập số liệu:

1. Mã số hồ sơ bệnh án: _____

2. Năm sinh:.....

3. Giới tính

- 1.Nam
- 2.Nữ

4. Tình trạng hôn nhân

- | | |
|-----------------------------|--------------------------|
| 1. Độc thân | <input type="checkbox"/> |
| 2. Đã kết hôn | <input type="checkbox"/> |
| 3. Li thân | <input type="checkbox"/> |
| 4. Li hôn | <input type="checkbox"/> |
| 5. Sống chung không kết hôn | <input type="checkbox"/> |

5. Trình độ học vấn

- | | |
|---------------------------------|--------------------------|
| 1. Mù chữ | <input type="checkbox"/> |
| 2. Tiểu học | <input type="checkbox"/> |
| 3. Trung học cơ sở | <input type="checkbox"/> |
| 4. Trung học phổ thông | <input type="checkbox"/> |
| 5. Cao đẳng, đại học và cao hơn | <input type="checkbox"/> |

6. Tình trạng việc làm

- | | |
|------------------------|--------------------------|
| 1. Thất nghiệp | <input type="checkbox"/> |
| 2. Có việc làm thêm | <input type="checkbox"/> |
| 3. Có việc làm cố định | <input type="checkbox"/> |

7. Năm bắt đầu sử dụng ma túy :.....

8. Sử dụng amphetamine: Có Không

9. Ngày đăng ký điều trị :...../...../.....

10. Ngày bắt đầu điều trị :...../...../.....

11. Ngày bỏ trị :...../...../.....

12. Gia đình hỗ trợ:

- | | |
|----------|--------------------------|
| 1. Có | <input type="checkbox"/> |
| 2. Không | <input type="checkbox"/> |

13. Tần xuất sử dụng ma túy trước khi điều trị MMT

- | | |
|-------------------------|--------------------------|
| 1. Một lần trong ngày | <input type="checkbox"/> |
| 2. 2-3 lần trong ngày | <input type="checkbox"/> |
| 3. 3-4 lần trong ngày | <input type="checkbox"/> |
| 4. hơn 4 lần trong ngày | <input type="checkbox"/> |

14. Kết quả xét nghiệm Heroin trong nước tiểu

- | | Dương tính | Âm tính |
|---------------------------|--------------------------|--------------------------|
| 1. Sau 6 tháng điều trị | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Sau 12 tháng điều trị | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Sau 24 tháng điều trị: | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Sau 36 tháng điều trị: | <input type="checkbox"/> | <input type="checkbox"/> |

15. Tình trạng nhiễm HIV

Dương tính

Âm tính

16. Tình trạng nhiễm Viêm Gan B

Dương tính

Âm tính

17. Tình trạng nhiễm Viêm Gan C

Dương tính

Âm tính

18. Điều trị ARV	Có	Không
19. Điều trị Lao	Có	Không
20. Lý do bỏ trị:		
1. Do tình trạng sức khỏe không đảm bảo		
2. Do bị bắt		
3. Do các vấn đề về tài chính		
4. Không thu thập được thông tin		
21. Tuân thủ trong quá trình điều trị:	Có	Không
22. Liều methadone cao nhất trong quá trình điều trị:		

Annex3:

III. Consent from **4a Consent form in English**

Informed consent form for respondents for study

“Exploring the factors contributing to drop out from treatment among Methadone maintenance therapy patients in Can Tho City, Vietnam, in 2015”

Good morning/good afternoon. My name is _____ I am a member of researching team working from Prevention HIV/AIDS centre.

Purpose of the study: The aim of this study to explore factors influencing dropout among methadone maintenance patients in Can Tho City, Vietnam to recommend improving quality of services. Therefore we would be grateful if you are honest and truthful in interview.

Discomfort and risk: Some of the questions we will be asking might be considered too personal. Your permission to participate in this study is completely voluntary. You are free to ask me to stop discussion you are uncomfortable with, or decline to answer any single question if it upsets or makes you uncomfortable.

Duration of participation: The interview will last about one hour. Your participation in this study is entirely voluntary. You do not have to participate if you do not want to. If at any time you feel like not wanting to answer questions or to discuss any issue, feel free to let me know. You are free to withdraw from study at anytime. The decision about whether or not to participate in this study or to answer any specific question will not have any impact on you and your family’s access to any Health program in your area, working environment, and relationship in your work Whatever you decide is up to you, and you will not get into any trouble if you decide to ensure that you both have consented to do so. To get accuracy information, IDI will be recorded during interview.

Confidentiality: The interview with you will be strictly confidential. Your name will only be recorded on this form, which will be kept separate from the interviews. Your responses will be combined with responses from other people and no one will be able to identify your specific responses. The information gathered will only be used for the stated purpose. We

will need to keep a record of your name and where you live. We will use this information to locate you to verify that you consented to participate in the study. If I discover that you are in any danger, I may have to report some of the things you tell me with your permission, in which case necessary action will be taken to protect you. This includes when I discover that you are being subjected to physical and psychological abuse, neglect and any other form of exploitation including sale, trafficking, or abduction by any person.

Benefits and compensation: study is expected to contribute toward more satisfying clients of methadone maintenance therapy. We will be asking you to spare a bit of time for the interview which may interfere with either your free time or leisure time. Study will modestly compensate you for this convenience and also will offer you with transport to attend any pre arranged interview meetings. During IDI, if you have any require to visit professional counsellor. Referring will be implemented for you.

Who to call in case of a need: If any problem arise, or if you have any question, please contact: Telephone.....

I will answer truthfully to any questions you may have. If do not have the information you require, I will tell you so and if you wish, I will try to get an answer for you.

Do you have any question? 1: YES 2. NO.

Respondent Deceleration: We will require you to write your name and degree to participate in the by singing or writing your name in the spaces provided below:

“I have been given an opportunity to ask any questions or inquires have been answered to my satisfaction. I have been informed orally and in writing of whom to contact in case I have questions. Hereby consent to participate in this study”

Participation name:_____

Signature:_____Date:_____

Or Witness signature:.....Date:.....

(Signature of witness/interviewer in case the respondent cannot write certifying that informed consent has been given verbally).

Interviewers Declaration:

I.....Date.....Hereby declare that I have explained clearly to the respondent the objectives, benefits, and risks of participating in the study. I have received her/his consent.

Question asked (if any):

.....
.....
.....

Counselor provided:

Name: Luu Huynh Bao Chau

Telephone number: +81 7103830676

Address: Nguyen Van Cu Street – An Binh Ward – Ninh Kieu district – Cantho city, Vietnam.

Reference “Obare, Francis et al, HIV positive adolescents in Kenya, Access to sexual and reproductive health services, Amsterdam, KIT publishers, 2010”

4b Consent form in Vietnamese.

Phiếu thỏa thuận tự nguyện tham gia nghiên cứu dành cho đối tượng nghiên cứu “Nghiên cứu các yếu tố ảnh hưởng đến việc bỏ trị trong nhóm bệnh nhân điều trị Methadone tại Cần Thơ, năm 2015”

Xin chào. Tôi tên làhiện đang làm việc tại Trung tâm phòng, chống HIV/AIDS thành phố Cần Thơ.

Mục đích nghiên cứu: Anh/chị đang được mời tham gia một nghiên cứu nhằm tìm ra những yếu tố liên quan đến việc bỏ trị trong nhóm bệnh nhân điều trị Methadone tại thành phố Cần Thơ. Do đó, chúng tôi vô cùng biết ơn nếu anh/chị hoàn toàn trung thực trong khi trả lời các câu hỏi.

Những vấn đề có thể xảy ra: Trong quá trình phỏng vấn, anh/chị sẽ được hỏi một số câu hỏi liên quan đến các vấn đề riêng tư. Sự đồng ý tham gia của anh/chị vào nghiên cứu này là hoàn toàn mang tính chất tự nguyện. anh/chị có thể ngừng trao đổi hoặc trả lời các câu hỏi mà anh/chị không muốn trả lời.

Thời gian tham gia nghiên cứu: quá trình phỏng vấn sau sẽ được diễn ra trong vòng 60 phút. Anh/chị có thể từ chối tham gia ngay từ lúc đầu hoặc bất cứ thời điểm nào trong suốt quá trình anh/chị tham gia nghiên cứu. Sự quyết định tham gia hay không tham gia vào nghiên cứu này của anh/chị sẽ không gây bất kỳ ảnh hưởng nào tới việc tiếp cận và sử dụng các dịch vụ y tế trên địa bàn nơi anh/chị đang sinh sống. Để thông tin được thu thập chính xác và đầy đủ, quá trình phỏng vấn sẽ được ghi âm lại.

Tính bảo mật: tính bảo mật thông tin sẽ được đảm bảo. Tên của anh/chị duy nhất được xuất hiện trong phiếu này để chứng minh rằng anh/chị đã đồng ý tham gia nghiên cứu. Tuy nhiên, phiếu thỏa thuận đồng ý tham gia nghiên cứu sẽ được lưu trữ riêng biệt với các thông tin được thu thập trong quá trình nghiên cứu.

Lợi ích tham gia nghiên cứu: Nghiên cứu này được thực hiện với mong muốn cung cấp bằng chứng về độ hài lòng của bệnh nhân methadone để góp phần nâng cao chất lượng dịch vụ tại các phòng điều trị methadone trên địa bàn thành phố Cần Thơ. Chi phí đi lại sẽ được hỗ trợ trong quá trình anh/chị tham gia nghiên cứu. Nếu anh/chị có nhu cầu muốn được gặp các chuyên gia tư vấn, chúng tôi sẽ giới thiệu anh/chị tới đúng dịch vụ để có thể trực tiếp gặp các chuyên gia tư vấn của Trung tâm phòng, chống HIV/AIDS TP. Cần Thơ theo nguyện vọng của anh/chị.

Trong trường hợp cần thiết hoặc anh/chị có bất kỳ câu hỏi nào. Anh/chị hãy liên lạc với chúng tôi theo số điện thoại sau:.....

Anh/chị có vấn đề nào còn băn khoăn và muốn hỏi thêm nữa không? Có Không

Cam kết tham gia nghiên cứu: anh/chị sẽ được yêu cầu ghi họ tên và ý kiến đồng ý tham gia nghiên cứu vào các dòng sau:

“ Tôi đã được đưa ra các cơ hội để hỏi tất cả các câu hỏi liên quan. Tôi cũng đã được

cung cấp địa chỉ liên lạc khi có bất cứ vấn đề nào liên quan đến nghiên cứu có thể sẽ xảy ra. Tôi đồng ý tham gia nghiên cứu này:

Tên người tham gia nghiên cứu:.....

Chữ ký:....., ngày:.....

Người ký thay:....., Ngày:.....

(chữ ký của người ký thay sẽ được áp dụng trong trường hợp người tham gia nghiên cứu không có khả năng để ký vào bản này)

Cam kết của điều tra viên:

Tôi tên là :.....Ngày.....

Tôi cam kết đã diễn đạt đầy đủ về mục tiêu nghiên cứu, lợi ích và các vấn đề có thể gặp phải trong quá trình tham gia nghiên cứu và tôi đã nhận được phiếu đồng ý của người tham gia nghiên cứu.

Các câu hỏi thêm (nếu có):

.....
.....
.....

Chuyên gia tư vấn

Name: Luu Huynh Bao Chau

Telephone number: +81 7103830676

Address: Nguyen Van Cu street – An Binh Ward – Ninh Kieu district – Cantho city, Vietnam.

Reference:“*Obare, Francis et al, HIV positive adolescents in Kenya, Access to sexual and reproductive health services, Amsterdam, KIT publishers, 2010*”

Annex 4

Table 9 Table of characteristics of the studies included in the literature review (Including 21 researches)

Title of studies	Year conducting	The Authors	aims	Main findings	Study design	Population	Sample size	Research instrument
"Dropping out from substance abuse treatment: A clinical oriented review"	Michael John Stark	1992	To explore the factors influencing drop out from substance abuse	<p>-Prevalence: In the free clinic, there were 80% of clients dropped out from treatment after 3 months</p> <p>-There were 50% had left treatment in the first time of registration</p> <p>Reason for dropping out:</p> <p>*Client factors:</p> <ul style="list-style-type: none"> - Age could be factors influencing drop out - Drop out from treatment were more common among young people compared to older people -Drop out were more common among females client <p>*Social factors:</p> <p>Marital status, income, occupation, criminal activities could be factors affects to drop out</p> <p>*Treatment factors:</p> <p>Methadone dose considered factors for drop out occurred. Low dose low retention rate.</p> <p>Clients prefer to stay longer in small clinics and having 1 hour for counselling from health workers</p>	- Clinical Psychology review			
"Effectiveness evaluation of the pilot program for treatment of opioid dependence with methadone in Hai Phong and Ho Chi Minh cities in Viet Nam"	FHI 360	2013	To examine the effectiveness of implementing MMT program	<p>-17% clients were quitted out from treatment after 2 years.</p> <p>-Heroin use were reduced in line with the time on treatment (From 100% to 20% after 6 months on treatment)</p> <p>-The quality of life were increased from 16% to 55% from baseline and after 3 months rerolled.</p> <p>-Needle sharing reduced from 2% to 0% after 1 years on treatment</p>	A 24-month prospective cohort study	Methadone clients in Hai Phong and Ho Chi Minh	965 patients	Questionnaire and blood sample and urine test

				-Employment rate increased from 42% to 54% from the started time compared to 24 months on treatment				
“Retention and its predictors among methadone maintenance treatment clients in China: A six-year cohort study”	Xiaobin Cao, et al	2004 - 2010	To explore factors influencing retention rate among MMT clients	Higher dose higher time stay on treatment they were The high dosage was >60 mg/day, p < 0.0001) -The distance from home to clinics were more than 5 Km could lead to drop out compared to the distance less than 5 km (37% vs 31%)	A six-year cohort	Drug users attending for MMT	1511 participants	Questionnaire and data from clinic
“Better retention of Malaysian opiate dependents treated with high dose methadone in methadone maintenance therapy”	Nasir Mohamad		To explore the predictor of retention among MMT clients	clients got the dose more than 80mg per day, they tend to stay longer on treatment	quantitative	Drug user attending MMT	64 participants	Data were collected after 6 months
“Patterns of adherence to oral methadone: Implications for prescribers”	Michael Haskew, et al		To describe the pattern of adherence on treatment	-58% full adherence -Client who got methadone dose more than 30mg per day tend to low adherence.	Quantitative	Methadone client in London	91 participants	Face to face interview.
“Concurrent heroin use among methadone maintenance clients in China”	LiLi, et al	2010	To measure the time stay on treatment and perceive the side effects among clients	-Time on treatment associated with the concurrent heroin use status. Short time stay on treatment for those still consumed heroin - Using heroin on treatment time were more popular among those have friend or relative consuming heroin (71% vs 35 % among males, 50% vs 21% among females). the risk of using drug during treatment among group have friend using drug 2 times higher than those who did not have friends using drug -The risk of using heroin during treatment among group got the dose less than 60mg 1.6 time higher than those who got dose more than 60mg (Odds=1.6)	Quantitative	Methadone clients	178 participants from 8 methadone clinics	Face to face interview.
“Distance travelled to outpatient drug treatment and client retention”	Kyle Beardslay, et al	1998	To explore the influencing of retention rate and the distance from home to clinics	Clients who had to travel more than 4 miles far from home to clinic were finished treatment earlier than those who travelled less than 1 mile. P<0.05	Quantitative	Methadone clients	1735 participants	Data were collected from medical record

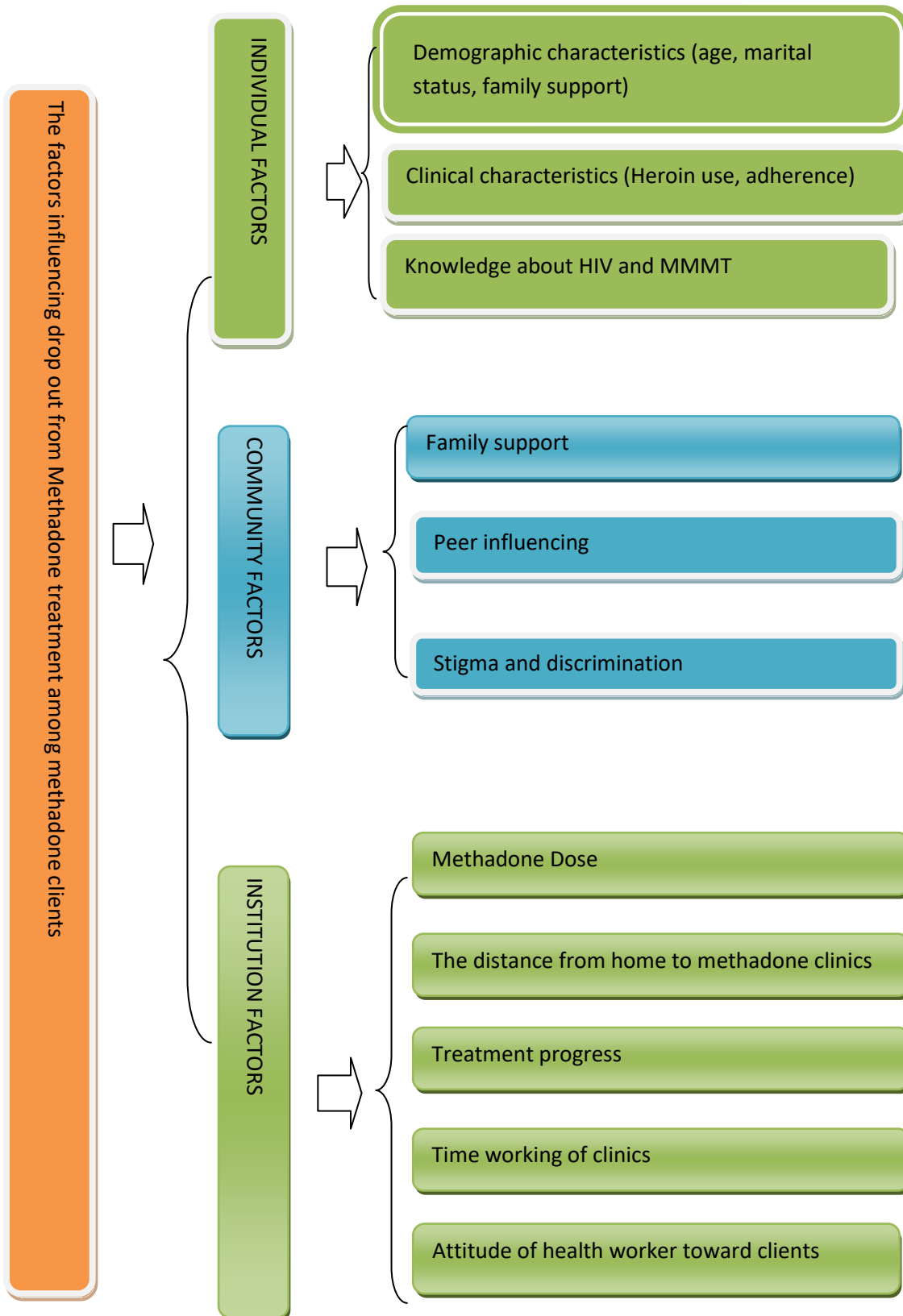
“Effectiveness of first eight methadone maintenance treatment clinics in China”	Lin Pang, et al	2004	To describe the effectiveness of the first 8 methadone clinics in China	The frequency of using heroin reduced from 90 times per month to 2-3 times per month after 12 months on treatment	Cross sectional	Methadone clients	585, 609 participated the first, second and the third survey	Interview and medical record
“Factors associated with methadone maintenance treatment retention among street-recruited injection drug users”	Robert E. Booth, et al	1996 - 2000	To examine the factors effect to retention rate	-Retention has related with having friend who use heroin and there were associated between frequency of heroin injection and retention on treatment. - clients who got the dose more than 76mg per day stayed longer (>= 90 days on treatment) than those who got the dose less than 76mg - There were 4times higher to stay longer on treatment among group who got free on treatment compared to group have to pay for treatment	Quantitative	Drug user enrolling to MMT treatment	577 participants	Interview and data from clinics setting
“Human immunodeficiency virus sero conversion among intravenous drug users in and out treatment: an 18 months prospective follow - up”	David Merger		To measure the prevalence and incident of HIV among clients	-HIV incident were lower in the methadone group compared to non methadone group(1.7 per 100 person year vs 3.3 per 100 person year) -HIV prevalent among in treatment groups were 3.3% vs 22% among those out treatment after 18 months follow	Case control	Drug user recruited and dividing in to two groups on treatment and non treatment	152 in treatment and 103 out of treatment	Interview and data from clinic
“Patient retention in mobile and fixed-site methadone maintenance treatment”	- Lawrence Greenfield	-1995	Comparing the retention rate among mobile group and fixed group	Staying longer among mobile group compared to fixed group (the average time on treatment were 16 months vs 6 months)	Cross sectional	Methadone clients were divide into two groups Mobile group and fixed group	1588 participants	Clinic data and interview
“Prevalence and incident rate of HIV, hepatitis B, Hepatitis C among drug user on	Barbra, et al	1998 - 1995	To measure the prevalence and incident of HIV, HBC, HCV	-The incident rate among methadone group were 0.6% per 100 person year for HIV, 2.1% per 100 person year for HBV and 4.2% per 100 person	Cohort study	Drug users and non drug	700 participants	Clinics data

methadone maintenance treatment in Geneva, Switzerland between 1988 and 1995”				year for HCV		users		
“Kết quả điều trị nghiện các chất dạng thuốc phiện ở người nghiện chích ma túy tại quận Cái Răng, TP Cần Thơ giai đoạn 2010-2013” (The result of implementing MMT among PWID in Cai Rang, Can Tho, Viet Nam from 2010 to 2013)	Dinh Thanh Nam	2014	To evaluate the results of implementing MMT program among PWID in Cai Rang districts, Can Tho, Viet Nam from 2010 to 2013	-The unemployed rate was reduced from 36% to 18 % after 3 years on treatment. -The prevalence of using heroin were reduced from 100% to 3.5% after 36 months on treatment	Cross sectional	Methadone clients	200 participants	Medical record. Face to face interview
“Nghiên cứu đặc điểm, đánh giá kết quả can thiệp bằng điều trị methadone ngoại trú ở người nghiện chích ma túy tại quận Ninh Kiều, TP Cần Thơ giai đoạn 2010 -2013” (the study on describe the characteristics of PWID, evaluation of result of implementing MMT program in Ninh Kieu, Can Tho, Viet Nam from 2010 to 2013)	Luu Hoang Viet	2014	To describe the characteristics of PWID in Ninh Kieu The evaluate the result after 3 years implementing MMT program in Ninh Kieu Explore the factors influencing to implement MMT program in Ninh Kieu	-Heroin use prevalence were reduced from 100% to 6% after 24 months on treatment -The average weight of clients were decreased from 52.3 kg to 57kg after 24 months on treatment -There were higher heroin use prevalence among clients aged more than 30 or older(12% vs 3%) p<0.05	Cross sectional	Methadone clients	250 participants	Medical record and face to face interview
“Multiple substance use among heroin-dependent patients before and during attendance at methadone maintenance treatment program, Yunnan, China”	Li et al		Describe the rate of using heroin during treatment and factors associated to using heroin during on treatment	High risk of using heroin during MMT treatment presented among those who had high education and have long time of heroin use. The heroin use rate were decreased from 60% to 43% after 1 year on treatment	Quantitative	Methadone clients who stayed at least 1 year on treatment	168	Questionnaire, medical record and database of clinics
“Family support, quality of life and concurrent substance use among methadone maintenance therapy clients in China”	C. Lin et al		To explore the associate the family support and quality of life of MMT clients	Family support have positive associated with physical health and mental health. Good quality support reduce substance abuse	Cross sectional study	Methadone clients	560	Face to face interview

“Prohibition of take-home dosages: negative consequences on methadone maintenance treatment”	Pier Palo Pani et al	1991	Explore difference between take home dose group and uptake get methadone drug at clinic	High proportion clients dropped out from treatment among group take home dose (23% vs 4%)	Cohort study	Methadone clients	221 take home dose; 220 take MMT in the clinics	Clinical data
“Why don’t out-of-treatment individuals enter methadone treatment programmes?”	Peterson et al	2007	Explore the barriers of health seeking	The barriers could be long waiting list, they not want to change their lifestyle, don’t want to follow the long time treatment progress	Quantitative study	Methadone clients	26	In-depth interview
“Time to first treatment interruption in the Chinese methadone maintenance treatment programme”	Sheena G. Sullivan, et al	2004	Describe the retention rate and to explore factors influencing retention rate	53%, 66%, 77% had dropped out after 6 months, 1 year and 2 years. The methadone dose could be influenced to retention rate.		Methadone clients	107740	Data system of MMT program
“Retention in methadone maintenance treatment in mainland China, 2004– 2012: A literature review”	Kaina Zhou, Guihua Zhuang	2004-2012	To explore factors influencing retention rate	The factors could be HIV status, Awareness about MMT, location of clinics and drug use	Literature review	Research on MMT	31 study included	Research on MMT

Annex 5

Figure 5: The new conceptual framework



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