



UNIVERSITI PUTRA MALAYSIA

***EFFECTS OF THREE DIFFERENT TREATMENT AND REHABILITATION
PROGRAMS ON QUALITY OF LIFE OF OPIATE ABUSERS IN KUALA
LUMPUR AND SELANGOR, MALAYSIA***

MOHD AZIZI BIN SALLEH

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By

MOHD AZIZI BIN SALLEH

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
Fullfillment of the Requirements for the Master of Science**

April 2016

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Abstract of thesis submitted to the Senate of Universiti Putra Malaysia in fulfilment of the requirements for the degree of Master of Science

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April 2016

Chair: Aidalina binti Mahmud (MBChB, Otago; McommHealth, UKM)

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Introduction: In 2014, the Malaysian government, through the National Antidrug Agency (NADA), spent RM 306 million for drug eradication activities in Malaysia. This fund also included the budget for providing the rehabilitation and treatment programs to ensure appropriate management of drug abusers. Among the goals of these programs was to improve the quality of lives of drug abusers so that they will be able to contribute to themselves and the society.

Objective: The objective of this study was to compare the changes in the quality of life of opiate abusers who were enrolled in different treatment and rehabilitation programs in Kuala Lumpur and Selangor.

Methods: A quasi-experimental was conducted to determine effects of different treatment and rehabilitation programs on the quality of life of three groups of opiate abusers in Kuala Lumpur and Selangor. Group 1 was the Cure & Care program participants in Cure & Care Clinic Sg. Besi, Group 2 was the Methadone Replacement Therapy program participants in Polyclinic Khafidz and Group 3 was the street drug users group in Chow Kit,. Data were collected using self-administered World Health Organization-Quality of Life (WHOQOL-BREF) questionnaire at the time of enrollment into the programs and six months later. Descriptive, bivariate and multivariate analysis were conducted using SPSS version 22. This study was approved by Medical Research Ethics Committee for Research Involving Human, Universiti Putra Malaysia.

Results: A total of 141 participants completed the questionnaire. The pre-test and post-test showed that the Cure & Care program participants had better improvement in domains' scores of quality of life (QOL) namely physical ($t=5.183$, $p=0.001$),

psychological ($t=8.352$, $p=0.001$), Social Relationship ($t=3.651$, $p=0.003$) and Environment ($t=4.414$, $p=0.001$) than Methadone Replacement Therapy (MRT) program participants and street drug users who did not undergo any interventions. Educational level had statistically significant association on the score of QOL in physical ($F=5.013$, $p<0.05$), social relationship ($F=3.652$, $p<0.05$) and environment ($\chi^2=6.014$, $p=0.05$) for Cure & Care program participants. Educational level also had statistically significant association on the score of QOL among the street drug user in the physical ($F=4.511$, $p<0.05$) and environment domains ($F=3.508$, $p<0.05$). The religion factor which was Hindu had statistically significant association on the score of QOL in the psychological domain ($F=3.720$, $p<0.05$) among MRT program participants at Polyclinic Khafidz. The multivariate linear regression analysis showed that education level was a significant predictor for changes in the QOL scores in the physical, social relationship and environment domains for participants in Cure & Care program and the street drug users.

Conclusion: This present study suggests that the Cure & Care Program carried out at Sg. Besi Cure & Care Clinic is better than MRT program at Polyclinic Khafidz and the no-intervention among drug abusers in Chow Kit in terms of improving the quality of life of the opiate drug abusers. The associated and predicting factors identified in this study can provide information to policy makers such as NADA in determining the suitable candidates for the programs to ensure improvement in their quality of life.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk Master Sains

**KESAN PERBEZAAN PROGRAM RAWATAN DAN
PEMULIHAN TERHADAP KUALITI KEHIDUPAN PENAGIH
OPIAT DI KUALA LUMPUR DAN SELANGOR, MALAYSIA**

Oleh

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Pengenalan: Dalam tahun 2014, Kerajaan Malaysia melalui Agensi Antidadah Kebangsaan (AADK) telah membenlanjakan RM306 juta untuk membasmi aktiviti dadah di Malaysia. Peruntukan ini meliputi perbelanjaan untuk menyediakan program rawatan dan pemulihan bagi memastikan pengurusan yang sesuai kepada penagih dadah. Di antara tujuan program ini adalah untuk menambahbaik kualiti kehidupan penagih-penagih dadah supaya mereka boleh menyumbang kepada diri sendiri dan masyarakat.

Objektif: Objektif kajian ini adalah untuk membandingkan kualiti hidup di kalangan penagih opiate yang berada dalam program rawatan dan pemulihan yang berbeza di Kuala Lumpur dan Selangor, .

Kaedah: Kajian ini adalah kuasi-eksperimen yang dijalankan untuk menentukan kesan program rawatan dan pemulihan yang berbeza terhadap kualiti hidup tiga kumpulan penagih opiat di Kuala Lumpur dan Selangor. Kumpulan 1 adalah peserta program Cure & Care di Cure & Care Clinic Sg. Besi, Kumpulan 2 adalah peserta program Terapi Gantian Metadon di Poliklinik Khafidz, dan Kumpulan 3 adalah kumpulan pengguna dadah jalanan di Chow Kit. Data dikumpulkan melalui borang soal selidik yang diisi sendiri, menggunakan borang Pertubuhan Kesihatan Sedunia -Kualiti Hidup (WHOQOL-BREF), apabila peserta mendaftar ke dalam program dan 6 bulan kemudiannya. Analisis deskriptif, bivariat dan multivariat telah dijalankan menggunakan SPSS versi 22. Kajian ini mendapat kelulusan daripada Jawatan Kuasa Eika Penyelidikan Perubatan bagi Penyelidikan Melibatkan Manusia, Universiti Putra Malaysia.

Keputusan: Seramai 141 peserta telah melengkapkan soal selidik. Pra-ujian dan pasca-ujian menunjukkan bahawa para peserta program Cure & Care mempunyai peningkatan lebih baik dalam skor keseluruhan dan individu domain kualiti hidup (QOL) iaitu fizikal ($t=5.183$, $p=0.001$), psikologikal ($t=8.352$, $p=0.001$), hubungan social ($t=3.651$, $p=0.003$) dan persekitaran ($t=4.414$, $p=0.001$) berbanding peserta program Terapi Gantikan Metadon (MRT) dan pengguna dadah jalanan yang tidak menjalani sebarang program. Tahap pendidikan mempunyai hubungan statistik yang signifikan pada skor QOL dalam domain fizikal ($F=5.013$, $p<0.05$), hubungan social ($F=3.652$, $p<0.05$) dan alam sekitar ($\chi^2=6.014$, $p=0.05$) untuk peserta program Cure & Care. Tahap pendidikan juga untuk mempunyai hubungan statistik yang signifikan pada skor QOL di kalangan pengguna dadah jalanan di domain fizikal ($F=4.511$, $p<0.05$) dan alam sekitar ($F=3.508$, $p<0.05$). Faktor agama iaitu Hindu mempunyai hubungan statistik yang signifikan pada skor QOL dalam domain psikologi ($F=3.720$, $p<0.05$) di kalangan peserta program MRT di Poliklinik Khafidz. Multivariat analisis regresi linear menunjukkan bahawa tahap pendidikan adalah peramal yang signifikan perubahan dalam skor QOL dalam, hubungan sosial fizikal dan domain persekitaran untuk peserta dalam Cure & Care program dan pengguna dadah jalanan.

Kesimpulan: Kajian ini menunjukkan bahawa Cure & Care Program dijalankan di Klinik Cure & Care Sg. Besi adalah lebih baik daripada program Terapi Gantikan Metadon (MRT) di Poliklinik Khafidz dan tidak campur tangan di kalangan penagih dadah di Chow Kit dari segi meningkatkan kualiti hidup golongan penagih opiat. Faktor yang berkaitan dan factor peramal yang dikenalpasti dalam kajian ini dapat memberi maklumat kepada pembuat dasar seperti Agensi Anti Dadah Kebangsaan (AADK) dalam menentukan calon-calon yang sesuai untuk program bagi memastikan peningkatan dalam kualiti hidup mereka.

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I am grateful to my beloved wife Zaida bt Adnan and my sons for all the support, encouragement and sacrifices during 2 years of my studies. I would like to express apology to those persons, who helped me but may not find their names in my narration here.

I certify that a Thesis Examination Committee has met on 15 April 2016 to conduct the final examination of Mohd Azizi bin Salleh on his thesis entitled "Effects of Three Different Treatment and Rehabilitation Programs on Quality of Life of Opiate Abusers in Kuala Lumpur and Selangor, Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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LIST OF ABBREVIATIONS

UNODC	United Nations on Drug and Crime
WHO	World Health Organization
NADA	National Anti-Drugs Agency
NIDA	National Institute of Drug Abuse
WHOQOL	World Health Organization- Quality of Life
GDP	Gross Domestic Product
MRT	Methadone Replacement Therapy
TC	Therapeutic Community
NSEP	Needle Syringe Exchange Program
f	Frequency
SD	Standard deviation
Df	Degree of freedom

CHAPTER 1

INTRODUCTION

1.1 Background

1.1.1 Illicit Drugs Abuse

In medicine, drug refers to “any substance with the potential to prevent or cure disease or enhance physical or mental welfare”. In the context of international drug control, drug means “any of the substances listed in Schedule I and II of the 1961 Single Convention on Narcotic Drugs, whether natural or synthetic”. The United Nations drug control conventions do not recognize a distinction between licit and illicit drug, they describe only use to be licit or illicit. The term illicit drugs is used to describe “drugs which are under international control (and which may or may not have licit medical purposes) but which are produced, trafficked and/or consumed illicitly” (United Nations Office of Drugs and Crime (UNODC), 2015).

Illicit drug use includes the non-medical use of a variety of drugs that are prohibited by international law. These drugs include opiates, amphetamine-type stimulants, cannabis, cocaine, and ecstasy (Degenhardt et al. 2014).

Illicit drug use give rise to health and economic problems. Drug use, notably injecting drug use, is a significant vector for spreading HIV and hepatitis B and C. Of the estimated 16 million injecting drug users worldwide (Mathers et al. 2008), UNODC estimates that almost one in five is HIV-positive. Approximately the same proportions are infected with hepatitis B, whereas about half of all injecting drug users are infected with hepatitis C, with potentially fatal outcome. Drug-related deaths, whether by overdose, drug-induced accident, suicide or medical conditions associated with or exacerbated by illicit drugs, represent the most severe health consequence of drug use. About 0.2 million people die from drug use every year (World Health Organization (WHO), 2009) and in Europe the mean age for deaths from overdose is the mid-30s (European Monitoring Centre for Drugs and Drug Addiction, 2010).

Illicit drug use puts a heavy financial burden on society. About USD 200 billion-250 billion (0.3-0.4 per cent of global GDP) would be needed to cover all costs related to drug treatment worldwide in 2010 (United Nations Office on Drugs and Crime, World Drug Report 2011). Total US societal costs of prescription opioid abuse were estimated at \$55.7 billion in 2007 (USD in 2009). Health care costs consisted primarily of excess medical and prescription costs (\$23.7 billion). Criminal justice costs were largely comprised of correctional facility (\$2.3 billion) and police costs (\$1.5 billion) (Birnbaum et al. 2011). For example, costs associated with drug-related crime (fraud, burglary, robbery and shoplifting) in England and Wales were equivalent to 1.6 per

cent of GDP or 90 per cent of all the economic and social costs related to drug abuse (United Nations Office on Drugs and Crime, World Drug Report 2012).

According World Drug Report (2015), the United Nations Office on Drugs and Crime (UNODC) estimated that a total of 246 million people - slightly over 5 per cent of those aged 15 to 64 years worldwide - used an illicit drug in 2013. Some 27 million people are problem drug users, almost half of whom are people who inject drugs (PWID). An estimated 1.65 million of people who inject drugs were living with HIV in 2013. Men are three times more likely than women to use cannabis, cocaine and amphetamines, while women are more likely to misuse prescription opioids and tranquillizer. There was an estimated 187,100 drug-related deaths in 2013 (United Nations Office on Drugs and Crime, World Drug Report 2015).

1.1.2 Opiate Abuse

Opiate is “the generic name given to a group which includes naturally occurring drugs derived from the opium poppy (*Papaver somniferum*) such as opium, morphine and codeine, semi-synthetic substances such as heroin (the foregoing are opiates in the strictly correct definition); and opioids - 'opiate-like', wholly synthetic products such as methadone, pethidine and fentanyl. Opiates depress the central nervous system and are used medically as analgesics and non-medically as euphorants. The International Classification of Diseases by WHO defines problem opiate abuser as “harmful opiate abuse” which can damage the health including physical (e.g. organ damage) and psychological harm (e.g. drug-induced psychosis). (WHO-ICD-10, 2015)

Although opiates abuse in general population of the global scale is relatively lower than other illicit drugs, opiates abusers make up a disproportionately large percentage of heavy drugs users who seek treatment (UNODC, World Drug Report 2014). The same report also states that illicit drug use is largely a youth phenomenon in most countries. Opiates' annual prevalence ranged from 0.28 to 0.43 per cent of the population aged 15-64 years, the use of opiates (mainly heroin, morphine and opium). Prevalence rates gradually increase through the teens and peak among persons aged 18-25 years. Then the rates gradually decline to negligible levels for people aged 65 years and above (Degenhart et al. 2014; European Monitoring Centre for Drugs and Drug Addiction, 2011; Bastos et al, 2008; UNODC, 2010).

1.1.3 Quality of Life Effectiveness

Effectiveness evaluation of drug treatment and rehabilitation programs is important to ensure that program is successful. Effectiveness of these programs can be assessed by quantifying changes in the Quality of Life (QOL), Stages Of Changes (SOC), Treatment Outcome Prospective Study (TOPS) or Drug Abuse Reporting Program (DARP). Health research especially in disability studies and mental health care study has often applied quality of life for evaluation the treatment and rehabilitation program (De Meayer, 2008). There many instruments to measure quality of life, such

as the World Health Organization-Quality of Life (WHO-QOL), Short Form 36 (SF-36), Lancashire QOL Profile, Nottingham Health Profile (NHP) and McGill QOL Questionnaire (MQOL) (De Meayer, 2010).

For example, Giacomuzzi et al (2001) cited from De Meayer (2010) used Lancashire QOL to assess participants in the Methadone Replacement Therapy Program, while a study by Kohan et al (2014) used SF 36. In Malaysia, studies on drug abusers often use the WHO-QOL BREF as the study instrument (Lua and Talib, 2013; Ramli et al, 2009; Huang et al, 2009 and Nizam, 2012).

1.1.4 Illicit Drug Use in Malaysia

In Malaysia, there were 1,814 drug abusers detected every month on average in Malaysia in 2014 where 1,133 were new cases and 681 were relapse cases (National Anti-Drug Agency (NADA) Drug Information Book, 2014). According to same report, the state with the highest number of drug abuse cases was Penang (2,780 or 12.77% of the total number of drug abusers); there were more male drug abusers compared to female drug abusers (21,078 males versus 699 females); the majority of abusers were Malay (17,122 individuals) followed by Chinese (1,828) and Indian (1,657); and the youth group (19-39 years) was found to be most involved in drug abuse where total number of drug abusers coming from this group was 15,113 people. Summary of the types of drugs abused and the number of abusers between 2010 and 2014 in Malaysia is shown in Table 1.

Table 1: The types of drugs and the number of abusers in Malaysia (2010 and 2014)

Types of Drugs	2010 f (%)	2011 f (%)	2012 f (%)	2013 f (%)	2014 f (%)
Opiates	11,664(49.34)	9,629(49.30)	8,472(56.10)	16,035(75.07)	14,496(64.84)
Cannabis	3,011(12.74)	2,026(10.37)	1,427(9.45)	1,885 (8.82)	1,919 (8.58)
Methamphetamine	4,026(17.03)	7,034(36.01)	4,761(31.53)	2,901(13.58)	4,117(18.42)
Psychotropic pill	94(0.40)	58(0.30)	66(0.44)	46(0.22)	6(0.03)
Opium	31(0.13)	9(0.05)	9(0.06)	0(0)	0(0)
Amphetamine-Type Stimulants (ATS) Pill	4,525(19.14)	604(3.09)	286(1.89)	476(2.23)	1,774(7.94)
Others	291(1.23)	171(0.88)	80(0.53)	18(0.08)	43(0.19)
Total	23,642(100)	19,531(100)	15,101(100)	21,361(100)	22,355(100)

Source: National Anti-Drug Agency (NADA) Drug Information 2014

1.1.5 Current Program in Drug Treatment and Rehabilitation

Prior to July 2010, the approach used to manage drug abusers in Malaysia was the psychosocial approach. The psychosocial approach used in Drug Detention Centre or Pusat Serenti was the Therapeutic Community (TC), while for community-based rehabilitation, the method used was the Matrix Module.

As of July 2010, as a result of the National Key Result Area (NKRA) under the Government Transformation Programme, a new approach for managing drug abuse was started. This new approach was a combination of both treatment and rehabilitation and it has two main components - clinical and psychosocial. The elements of the clinical component are medical detoxification, Methadone Maintenance Therapy (MMT), screening and treatment of blood-borne diseases (HIV, Hepatitis C & B), psychiatric assessment and treatment, and case referral to government hospital for further management if need be. The elements of psychosocial are relapse-prevention and social support groups which aims to educate and motivate clients to abstain from further drug use; religious and spiritual programs, counselling, as well as psycho-education or seminars in various aspects of drug addiction such as anger management and relapse management. Family programmes are also carried out to ensure clients build good relationships with their family. One more important characteristic of the Cure & Care Clinic is the shortened duration of drug treatment and rehabilitation – which is three months compared to Pusat Serenti which detains drug abusers for two years (National Anti-Drug Agency, 2012). This new combined approach in managing drug abuse was carried out in facilities known as Cure & Care Clinic. Client entry process is voluntary, with no pre-requisites and no legal implications. Services offered to clients are decided based on Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) assessment score (National Anti-Drug Agency, 2012).

1.2 Problem Statement

Opiate is the most frequently abused drug in Malaysia – between 50-75% of drug abusers in Malaysia have been opiate abusers. The prevalence of opiate abuse has been generally in the increasing trend between the years 2010 (11, 664 individuals) and 2014 (14,496). As a result, the Malaysian government had established several approaches in handling the opiate abuse in the country, such as rehabilitation centers and programs. These programs include the psychosocial programs (example: Therapeutic Community Program, Matrix Module and religious programs), and the medical intervention programs (example: Methadone Replacement Therapy (MRT)). In addition, the the abusers are institutionalised in centers called Pusat Serenti while receiving rehabilitation programs. However, these drug treatment and rehabilitation programs were not free from shortcomings. Studies by Rusdi et al (2008) and Noor Zurani et al (2009) stated that Pusat Serenti can abstain drug abuser from drug taking but does not cure them of the drug addiction and comorbidity illness. The relapse rate after discharge from Pusat Serenti was also high, up to 85%. The consequences of this treatment failure in Pusat Serenti were very disturbing. Among the side effects were financial problems, the drug abuser losing

their jobs, stress among family members and also exposing the children of drug abusers are to higher risk of becoming drug abusers.

Unfortunately, the rehabilitation centers and programs require a large amount of funds to run. For example, in 2014, the Malaysian government through the National Antidrug Agency (NADA) spent RM 306 million drug eradication efforts. This expenditure included RM 35.00 per day spending for each drug abuser who underwent drug treatment and rehabilitation in rehabilitation centres. Additionally, a local study of patients at the methadone maintenance therapy clinics in Malaysia found that the average operations cost per month was RM391.30 (SD RM337.50), which is about 35% of employed patient's monthly income (Manan et al. 2015).

Research and reviews have been done to assess the effectiveness of the Matrix Model Module for community setting base rehabilitation by Mahmood et al (2009) and an article on the Malaysian drug treatment policy – how it evolved from total abstinence approach to harm reduction (Vicknasingam and Mahmud, 2008). Additionally, many studies have been done in evaluating of quality of life among Methadone Replacement Therapy patients (Nizam et al. (2012), Ramli et al (2011) and Huong et al. (2009).

However, to date there is no known research on the effectiveness of the combination of psychosocial program and MRT for drug abuse in Malaysia. Therefore, as a new approach in drug treatment and rehabilitation, a study should be carried out to evaluate the Cure & Care program especially in its effectiveness in changing the quality of life of the participants. This study shall assess the changes in the quality of life namely the physical, psychological, social relationship and environment among Cure & Care Program's participants and compare it with the MRT Program. These two programs will also be compared against the baseline data of the street drug users who do not undergo any treatment and rehabilitation programs.

1.3 Research Questions :

- i. What is prevalence of sociodemographic among drug abuser in present study ?
- ii. Which of the three programs is the best program in improving the quality of life domain (i.e. general QoL, general health, physical domain, psychological domain, social relationship domain and environmental domain) ?
- iii. What is the association between socio-demographic characteristics and changes in each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain)?

- iv. What is the relationship between socio-demographic factors and each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain)?

1.4 Significance of Study

The studies about quality of life among drug abusers for our country only focus on MRT patient in health facilities such as government health clinic (Nizam et al,2012) government hospital (Ramli et al 2011) and university hospital (Huong et al. 2009) but not in NADA facilities which is main agency to provide the drug treatment and rehabilitation. Therefore, this study can provides baseline data on the change in the domains of quality of life, namely the physical, psychological, social relationship and environment domains of the participants of the Cure & Care Program which organized by NADA and finally, that data can be used by the stakeholders to monitor or improve the programme and allocate the appropriate budget.

In addition,the finding of the study can adds the current knowledge on effect of the Cure & Care program in changing the Quality of Life (QOL) of opiate abusers compared to other approaches such as the Methadone Replacement Therapy (MRT) Program.

1.5 Objectives

1.5.1 General Objectives

The main objective of this study is to compare the quality of life among opiate abusers of three different treatment and rehabilitation programs in Kuala Lumpur and Selangor.

1.5.2 Specific Objectives

The specific objectives of this study are

- i. To identify the socio-demographic characteristics of the opiate abusers in the Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users.
- ii. To compare the mean pre-intervention score and the mean post-intervention score of overall quality of life and general health. (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).

- iii. To compare the mean pre-intervention score and the mean post-intervention score of each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain), for each of the programs (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).
- iv. To determine which of the three programs is the best program in improving the quality of life domain (i.e. general QoL, general health, physical domain, psychological domain, social relationship domain and environmental domain) of opiate abusers.
- v. To determine the association between socio-demographic characteristics and changes in each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain), for each of the programs (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).
- vi. To determine relationship between socio-demographic factors and each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain), for each of the programs (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).

1.6 Hypothesis

H1: There are statistically significant differences in the mean pre-intervention score and the mean post-intervention score of overall quality of life and general health. (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).

H2: There are statistically significant differences in the mean pre- and post-scores in each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain), for each of the programs (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).

H3: There is statistically significant association between socio-demographic characteristics and changes of QOL scores in each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain), for each of the programs (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).

H4: There is statistically significant relationship between socio-demographic characteristics and changes of QOL scores in each quality of life domain (i.e. physical domain, psychological domain, social relationship domain and environmental domain), for each of the programs (Cure & Care Program, the Methadone Replacement Therapy Program and the street drug users).

1.7 Conceptual Framework

This study compared three different programs for drug treatment and rehabilitation. For every program, similar dependent variables and independent variable were evaluated. The dependent variable is changes in the Quality of Life (QOL). There were 4 domains of the QOL which were evaluated, namely the physical domain, psychological domain, social relationship domain and environment domain.

Based on available literature, independent variables were divided into two factors – sociodemographic factors and personal factors. Sociodemographic factors consist of age, ethnicity, religious, education level, occupation, income and marital status while personal factors consist of duration of drug abuse and age initiation of drug abuse.

As shown in the conceptual framework, this study can provide results about the socio-demographic and personal factors and also changes in the quality of life (QOL) among participants for each program. In addition, the results can show the association between socio-demographic and personal factors and changes in the quality of life for each domains for different drug rehabilitation programs.

The study only focused on socio-demographic and personal factors which are mentioned in the conceptual framework. Other factors such as family relationship, peer support, self-determination, personal development and participants right which may be confounding factors, were not assessed in the study because these factors need different sets of study instrument and different study protocols which were beyond the scope and resources of this study.

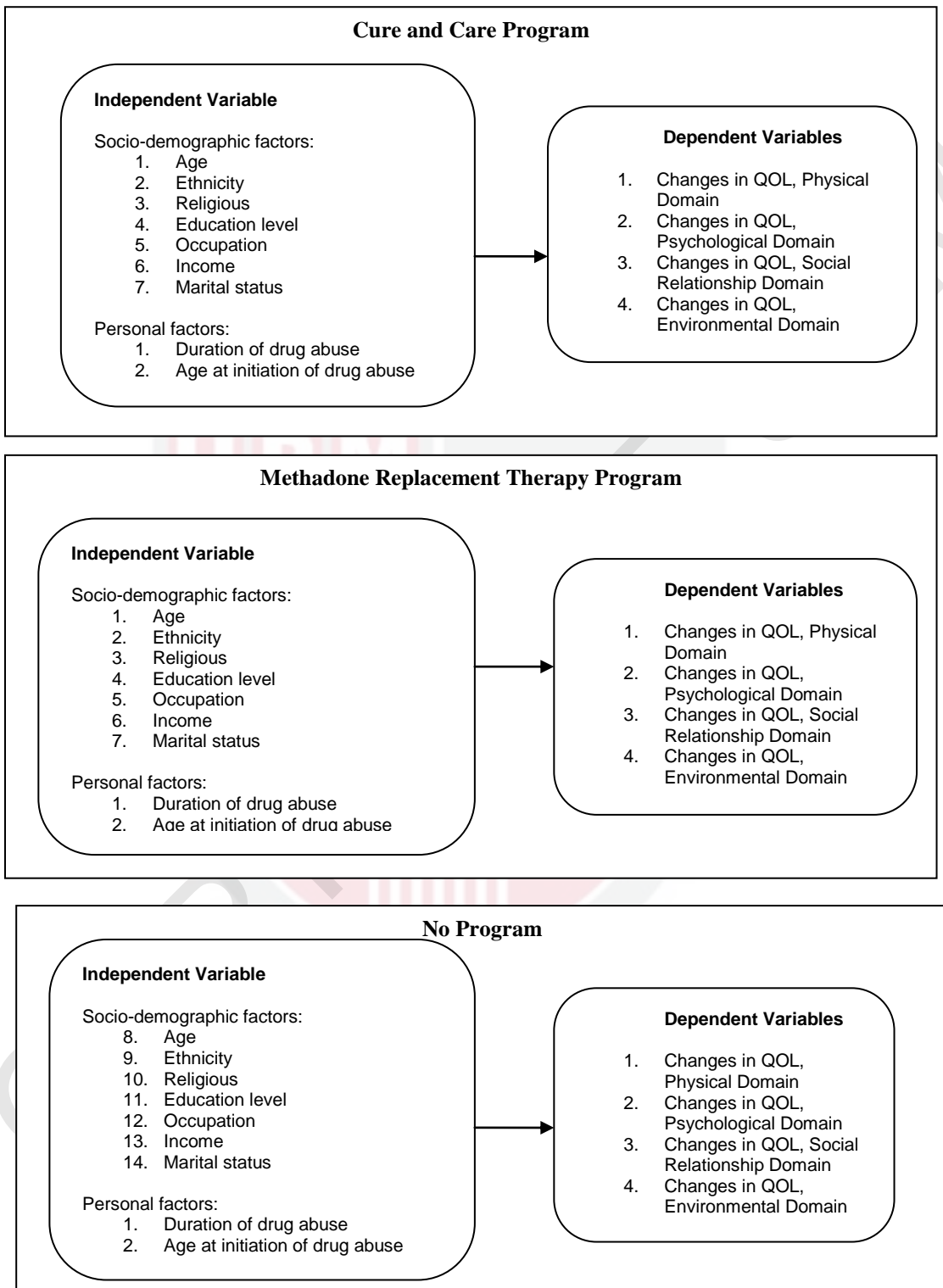


Figure 1.0 Conceptual Framework

1.8 Operational Definition

1.8.1 Drug

Drug refers to natural or synthetic substance used illicitly (i.e. non-medical use and are prohibited by international law), which can bring about detrimental changes, physically, psychologically or biochemically to the person who uses it. The main categories of drugs are: opiates, central nervous system depressants, central nervous system stimulants, hallucinogens and cannabis.

1.8.2 Opiate

Refer to morphine, opium, heroin and codeine

1.8.3 Abuse

Abuse refers to the prolonged (more than 2 years), persistent, excessive drug use which is inconsistent with or unrelated to accepted medical practice.

1.8.4 Dependence

Dependence refers to the condition when a drug addict has three out of seven criteria of substance abuse defined in the International Statistical Classification of Diseases and Related Health Problems, tenth revision (ICD-10). These indicators are – (1) a strong desire to take the substance; (2) impaired control over the use; (3) a withdrawal syndrome on ceasing or reducing use; (4) tolerance to the effects of the drug; (5) requiring larger doses to achieve the desired psychological effect; (6) a disproportionate amount of the user's time is spent obtaining, using and recovering from drug use; and (7) the user continuing to take other drugs despite associated problems.

1.8.5 Cure & Care Program

This program treatment refers to drug abuse treatment and rehabilitation program conducted at Cure & Care Clinic 1Malaysia, located in Sg. Besi, Kuala Lumpur.

1.8.6 Methadone Replacement Therapy

Methadone Replacement Therapy (MRT) takes place when a patient is prescribed with Methadone by a Medical Officer, and the consumption is supervised by a Pharmacist. In this study MRT program involved is the one at Polyclinic Khafidz in Kajang, Selangor.

1.8.7 Street Drug Users

Street drug users refer to drug addicts who do not undergo any rehabilitation programs and are located in Chow Kit, an area in the heart of Kuala Lumpur.

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