FEASIBILITY OF PROVIDING EDUCATIONAL COUNSELING IN NEEDLE-SYRINGE EXCHANGE PROGRAMS IN PENANG, MALAYSIA

by

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AA	Alcoholic Anonymous
AARG	AIDS Action and Research Group
ACASI	Audio Computer-Assisted Self-Interviewing
AHRN	Asian Harm Reduction Network
AIDS	Acquired Immunodeficiency Syndrome
AOR	Adjusted Odds Ratio
ARI	AIDS Risk Inventory
ART	Antiretroviral Treatment
ATS	Amphetamine Type Stimulants
BDRC	Behavioral HIV and Drug Risk Reduction Counseling
BHIVES	Buprenorphine and Integrated HIV Care Model Demonstration Project
BMT	Buprenorphine Maintenance Treatment
BNX	Buprenorphine Naloxane
BUP	Buprenorphine
BZO	Benzodiazepines
CAN	Cannabis
CBT	Cognitive Behavioral Therapy
CDC	Centre for Diseases Control and Prevention
CDR	Centre for Drug Research
CI	Confidence Interval
CM	Contingency Management
CSO	Concerned Significant Other

CRA	Community Reinforcement Approach
CRAFT	Community Reinforcement Approach and Family Training
DATOS	Drug Abuse Treatment Outcome Study
DU	Drug User
EC	Educational Counseling
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HRWG	Harm Reduction Working Group
IDU	Injecting Drug User
IOM	Institute of Medicine
MAC	Malaysian AIDS Council
MAP	Monitoring HIV/AIDS Pandemic
MET	Motivational Enhancement Therapy
MTH	Methamphetamine
MI	Motivational Interviewing
MMT	Methadone Maintenance Treatment
MOH	Ministry of Health Malaysia
MSM	Men who have Sex with Men
MTD	Methadone
N/A	Not Applicable
NA	Narcotic Anonymous
NADA	National Anti-Drug Agency
NDRL	Non Directive Reflective Listening
NEG	Negative
NGOs	Non Governmental Organizations

NIDA	National Institute on Drug Abuse
NSEP	Needle-Syringe Exchange Program
OE	Outreach and Education
OR	Odds Ratio
OST	Opiate Substitution Therapy
PASW	Predictive Analytics Software
PWIDs	People Who Inject Drugs
RM	Ringgit Malaysia
RCT	Randomized Clinical Trials
SD	Standard Deviation
SEA	South-East Asia
STAR	Skills Training for Adult Recovery
SVM	Syringe Vending Machine
TB	Tuberculosis
TCs	Therapeutic Communities
TCU	Texas Christian University
UK	United Kingdom
UNAIDS	United Nations Programme on HIV/AIDS
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
USM	Universiti Sains Malaysia
VCT	Voluntary Counseling and Testing
WDR	World Drug Report
WHO	World Health Organization

KEBOLEHLAKSANAAN UNTUK MEMBERI PENDIDIKAN KAUNSELING DALAM PROGRAM PENTUKARAN JARUM SUNTIKAN DI PULAU PINANG,MALAYSIA

ABSTRAK

Memberi pendidikan mengenai risiko kesihatan dan peluang rawatan yang boleh meningkatkan keberkesanan pengurangan kemudaratan melalui Program Pertukaran Jarum Suntikan (NSEP) dan meningkatkan penglibatan dalam rawatan penagihan dadah.

Untuk menilai kebolehlaksanaan dalam penyampaian Pendidikan Kaunseling (PK) secara terperinci dan berstruktur kepada penyuntik dadah aktif dalam NSEPs, menilai penyertaan dalam PK, penglibatan dalam rawatan ketagihan dadah dan tingkahlaku berisiko HIV.

Persampelan purposive dan oportunis telah digunakan dan sejumlah 124 penyuntik dadah jenis heroin yang menyertai NSEP telah disaring. Seramai 98 daripada mereka telah memenuhi kriteria penglibatan menyatakan minat untuk menyertai dalam PK berkumpulan yang diadakan secara mingguan untuk sebanyak 10 sesi dan diikuti dengan susulan 3 bulan dan perjumpaan berkala setiap bulan. Peserta dinilai pada garis dasar dan pada minggu ke 6 dengan menggunakan Inventori Risiko AIDS (ARI). Mereka menerima RM 10 untuk penyertaan dalam PK, RM 10 untuk setiap penilaian bulanan, dan RM 5 bagi setiap sampel air kencing.

Daripada 98 orang peserta yang direkrut, seramai 65 orang telah menyertai program PK. 47/98, 48% telah menghadiri 3 sesi atau lebih, dan 33/98, 33.7% telah menghadiri 5 sesi atau lebih. Kadar penglibatan rawatan ketagihan dadah yang lebih tinggi diperhatikan bagi peserta yang mengambil bahagian dalam sesi PK, serta pengurangan dalam beberapa tingkahlaku berisiko seperti kekerapan suntikan dan mengadakan hubungan seks dengan pasangan seks yang tetap di kalangan peserta kajian secara umumnya. Terdapat dua kekangan penting yang menyukarkan peserta untuk mengambil bahagian dalam PK ialah perasaan takut kepada polis dan penamatan penyertaan kerana penahanan oleh pihak polis. Kekangan untuk menyertai program MMT adalah tempoh menunggu yang lama untuk mendaftar dalam program ini dan kesukaran bagi mendapatkan pengangkutan.

Member Pendidikan Kaunseling kepada pengguna dadah bersuntik aktif yang terlibat dalam NSEP boleh dilaksanakan dan seterusnya dapat meningkatkan kadar penyertaan dalam rawatan ketagihan dadah serta mengurangkan beberapa tingkahlaku HIV mereka.

FEASIBILITY OF PROVIDING EDUCATIONAL COUNSELING IN NEEDLE-SYRINGE EXCHANGE PROGRAMS IN PENANG, MALAYSIA

ABSTRACT

Providing education on health risks and treatment opportunities may enhance harm reduction effectiveness of Needle-Syringe Exchange Program (NSEP) and lead to more engagement for drug addiction treatment.

To evaluate the feasibility of providing an extended and structured Educational Counseling (EC) program to active drug injectors in the NSEPs , and to assess their EC participation, drug treatment enrollment and HIV risk behaviors.

In a purposive-opportunistic sampling, a total of 124 active heroin injectors participating in NSEPs were screened, 98 met the entry criteria and expressed interest to participate in weekly group Educational Counseling for 10 sessions, followed by 3 months of follow-up in monthly intervals. Participants were evaluated at baseline and month 6 using AIDS Risk Inventory (ARI). They received RM 10 for EC participation, RM 10 for each of the monthly assessments, and RM 5 for each urine sample.

Of the 98 participants recruited, 65 initiated the EC program, 47/98, 48% attended 3 or more, and 33/98, 33.7% attended 5 or more EC sessions. We observed significantly greater rates of drug treatment enrollment in those who participated in EC sessions, and decrease in some risk behaviors such as injection frequency and having intercourse with a steady sex partner among all study participants in general.

Two important barriers to participate in EC were fear of the police and termination of participation due to detention by the police. Barriers to join MMT program were long waiting list to enroll in the program and difficulty in getting transport.

Providing Educational Counseling to active drug injectors in NSEP is feasible and may increase their drug treatment participation rates and decrease some of their HIV risk behaviors.

CHAPTER 1

BACKGROUND

1.0 Introduction

In this chapter the issue of drug use and Human Immunodeficiency Virus (HIV) in Malaysia and in the world will be reviewed with emphasis on the preventive and treatment strategies for the twin epidemic of drug use and HIV/AIDS.

Several approaches will be reviewed briefly in relation to pharmacological and behavioral interventions to treat drug dependency and lower HIV transmission among People Who Inject Drugs (PWIDs). Finally, the research questions, objectives and the importance of providing Educational Counseling (EC) to PWIDs will be discussed.

1.1 HIV among PWIDs

HIV contributes significantly to the burden of disease among PWIDs worldwide and it can spread to other population via sexual transmission. There are a set of interventions that decrease HIV transmission effectively among PWIDs including Needle-Syringe Exchange Programs (NSEPs) which provide clean needle and injecting equipments to prevent sharing of contaminated paraphernalia, opiate substitution therapy (OST) (e.g. methadone and buprenorphine), antiretroviral treatment (ART) for those PWIDs who are HIV positive, HIV testing and counseling, providing education, vaccination for hepatitis and diagnosis and treatment of tuberculosis. HIV prevention among PWIDs is more efficient when all these interventions are provided in combination (Mathers et al., 2010).

1.1.1 Global Epidemic of HIV and Drug Use

As of November 2009 there were 33.4 million [31.1 million-35.8 million] people living with HIV worldwide and despite important progress in preventing new cases of HIV infection (Figure 1.1), the number of people living with HIV/AIDS is increasing (United Nations Programme on HIV/AIDS [UNADIS], 2009).

The fact that HIV incidence has decreased by 25% in 33 countries between 2001 and 2009 especially in 22 countries in sub-Saharan Africa as a result of increased coverage of antiretroviral therapy, increased awareness among youth, decrease mother-to-child transmission of HIV during pregnancy and breast feeding, is promising. New goals have been set: zero new HIV infections, zero discrimination and zero AIDS-related death, in the fight against HIV (UNAIDS, 2010).

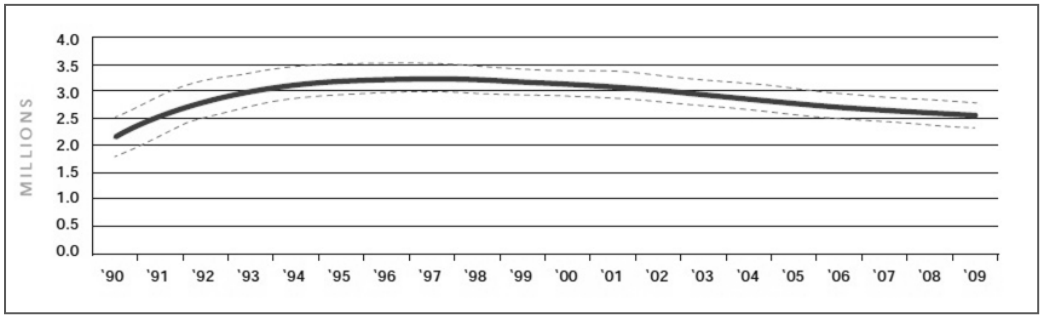

Figure1.1. The Number of New Cases of AIDS from 1990 until 2009
Source. UNAIDS Global Report, 2010

Injecting drug use is one of the most important routes of HIV transmission and data shows, outside sub-Saharan Africa, one in each 3 new cases of HIV is due to injecting drug use but this number is even higher in areas with rapid spread of the virus such as Eastern Europe and central Asia (Horton & Das, 2010; UNAIDS, 2008).

The first cases of HIV in People Who Inject Drugs (PWIDs) were reported by Center for Diseases Control and Prevention (CDC), Atlanta, USA in 1982 with 13% of HIV cases due to injecting drug use (Center for Diseases Control and Prevention [CDC], 1982). HIV epidemic was limited to North and South America and Western Europe for about 2 decades and it was only by the beginning of the 21st century, that it passed borders and caused a pandemic mostly due to injection drug use (UNAIDS, 2006a).

The HIV epidemic in most countries of Asia has remained concentrated among certain populations such as PWIDs, sex workers and Men who have Sex with Men (MSM) [UNAIDS, 2010].

From 16 million people injecting drugs worldwide, 3 million are at risk of HIV (Mathers et al., 2008). The scenario is even more catastrophic when knowing that HIV positive individuals who use drugs have less access to healthcare system, and are less likely to receive or adhere to Anti-Retroviral Therapy (ART) [Bruce & Altice, 2007].

1.1.2 Malaysia HIV/AIDS and Drug Problem

Malaysia has one of the highest prevalence of drug use globally with 1.33 percent of the population age 15 to 64, using drugs and relatively the same percentage are injecting it (Mathers et al., 2008).

In 1986, the first case of HIV was reported in Malaysia (Goh, Chua, Chiew, & Soo-Hoo, 1987) and since then despite the steady decrease in HIV incidence from 2002 until 2009, the number of people living with HIV is increasing (Figure 1.2). According to Ministry of Health, Malaysia (MOH) the prevalence of HIV among

PWIDs is as high as 22.1% (Ministry of Health Malaysia [MOH], 2010). HIV prevalence is reported to be 25% in drug users joining government MMT centers and 25 to 40 percent among street drug users who access NSEPs (Kamarulzaman, 2009). In another study conducted in Malaysia, it was found that HIV prevalence was 19.2% among opiate dependent patients in Muar, Johor, Malaysia (Chawarski, Mazlan, & Schottenfeld, 2006).

The World Health Organization (WHO) has categorized Malaysia as a country with concentrated HIV epidemic (MOH, 2007).

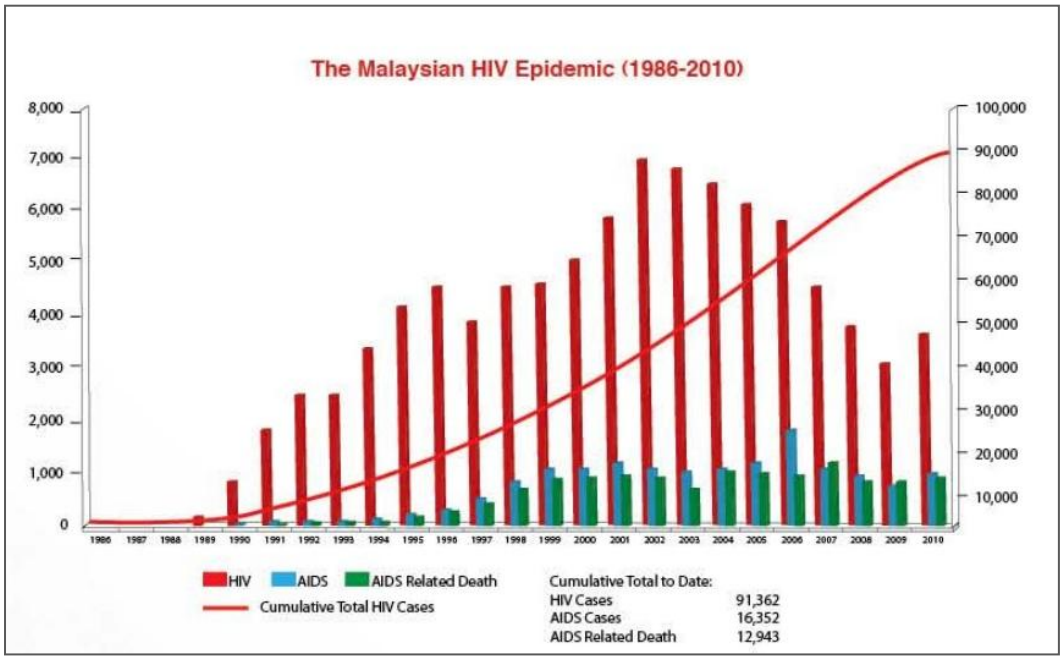

*Figure 1.2.*The Malaysian HIV Epidemic from 1986 to 2010

Source. MAC, 2010

Malaysian AIDS Council (MAC) reported that the cumulative number of HIV cases in Malaysia was 91,362 by December 2010. In 2010 alone 3652 new cases of HIV were detected by the national surveillance system and although a great number

of HIV cases still happen as a result of injecting drug use but there is a dramatic shift from the injecting mode toward heterosexual mode of transmission. However drug injection is still responsible for half of the HIV new cases in the country. The epidemic is male dominated with the majority of cases (87.1%) being male, Malay (71.4%) and between 20 to 39 years old (Malaysian AIDS Council [MAC], 2010). Figure 1.3 describes the risk factors for HIV infection from 2000 to 2010. As it is shown, heterosexual mode of transmission is on the rise which requires urgent interventions to prevent the spread of HIV in the general population.

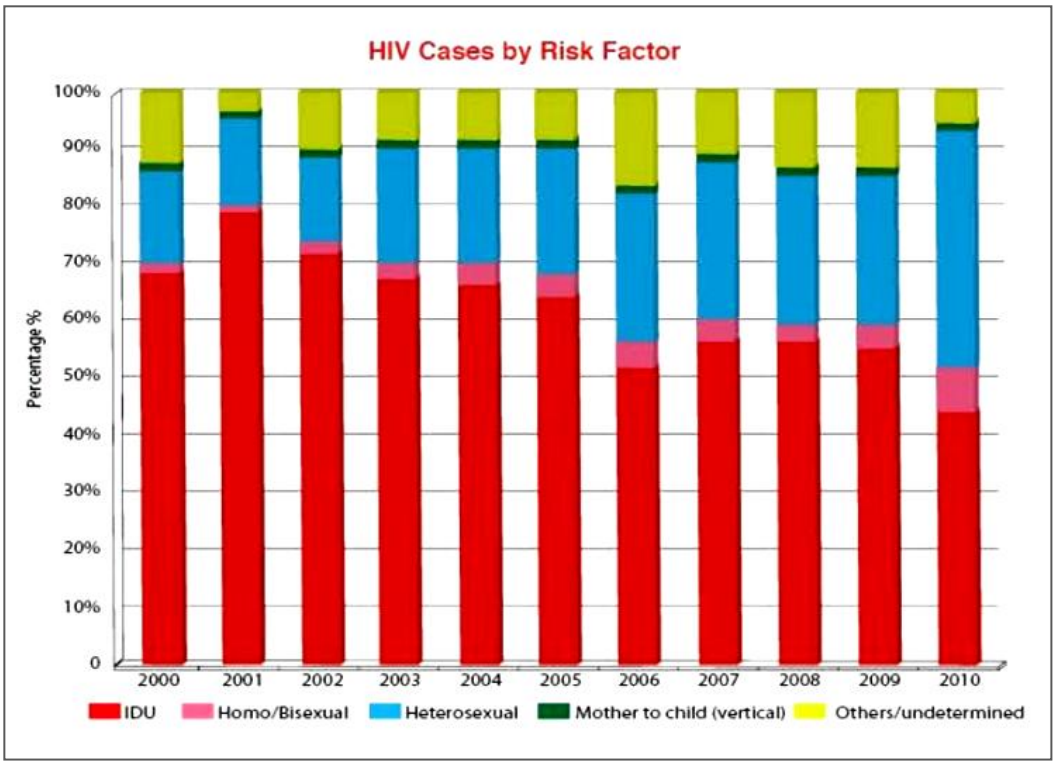

Figure 1.3. HIV Cases by Risk Factor from 2000-2010

Source. MAC, 2010

1.2 HIV Routes of Transmission in PWIDs

Sharing contaminated injecting equipments such as needles, syringes, cookers and other paraphernalia accounts for the spread of the disease in the majority of HIV positive injectors in Eastern Europe and Central Asia. However other two important routes which are sexual transmission from an HIV positive drug injector to their sexual partners and perinatal transmission of the infection from an HIV positive mother who might be female drug injector or the sexual partner of PWIDs to their children should not be under estimated (Grassly et al., 2003; UNAIDS, 2005, 2006b).

1.3 HIV Prevention in PWIDs and Harm Reduction Strategies

Based on the routes of transmission in PWIDs, preventive strategies are shaped to reduce injection frequency and other injecting risk behaviors as well as sexual risk behaviors. Drug dependency treatments, using pharmacological and/or psychosocial approaches aim to decrease the amount and frequency of drug use and injection. However they will also reduce sexual risk behaviors. Other approaches to decrease injection and sexual risk behaviors are NSEPs and education through outreach or healthcare clinics. Some interventions to prevent HIV in PWIDs based on the literature review by the Committee on Prevention of HIV Infection Among Injecting Drug Users (2006) is summarized in Table 1.1 (Institute of Medicine [IOM], 2006).

Prevention of HIV infection is possible and needs certain strategies to be implemented, combined and scaled up. Delay in interlocution of these strategies and scaling them up, will lead to more difficult and expensive prevention approaches in future (Degenhardt et al., 2010).

Table 1.1

HIV Preventive Interventions for PWIDs

Preventive Interventions		
Drug treatment	Pharmacotherapy	Opiate agonist maintenance treatment (e.g. , methadone maintenance treatment, buprenorphine maintenance treatment) Antagonist therapy (e.g., Naltrexone)
	Psychosocial treatment	Behavioral interventions (e.g., cognitive behavioral therapy, contingency management) Program models (e.g., therapeutic communities, 12-step programs)
Sterile needle and syringe access	Providing clean needles and other injecting equipments together or without education	Needle-Syringe Exchange Program (NSEP) Needles and syringes prescribed by physician Access through pharmacies
Outreach and education (OE)	Education delivered by local health workers or peers	HIV prevention education Guide to access healthcare and social services Providing bleach kits, injecting equipments or condoms

Source. IOM, 2006

1.3.1 Harm Reduction in PWIDs

Harm Reduction, refers to policies and programs to reduce the health, social and economic negative consequences associated with illicit drug use and psychoactive substances. It is done through variety of interventions including, provision of information on reducing harms associated to drug use, provision of services to increase safety of people who use drugs such as needle-syringe exchange programs (NSEPs) and supervised injecting facilities as well as drug dependence treatment including opiate substitution therapy (OST) such as methadone maintenance treatment (MMT) and buprenorphine maintenance treatment (BMT).

As drug dependency is a chronic medical disease with repeated cycles of remission and relapse, many challenges exist to find a treatment and to develop

suitable interventions and programs to effectively reduce HIV transmission in long term among PWIDs (Hser, Anglin, & Powers, 1993; McLellan, Lewis, O'Brien, & Kleber, 2000).

There is a hierarchy of goals for HIV prevention among PWIDs: Firstly, PWIDs are encouraged to stop drugs. Abstinent-based approaches are solely formed around this goal. In a harm reduction approach, although abstinent is the eventual goal, whenever it is not achievable, PWIDs are encouraged to stop injecting by switching to other forms of administration such as smoking or snorting and whenever it is not possible for them to stop injection, the goal is to discontinue sharing needles and injecting equipments which will prevent the transmission of HIV and other blood borne diseases (Asian Harm Reducation Network [AHRN], 2005) [Figure 1.4].

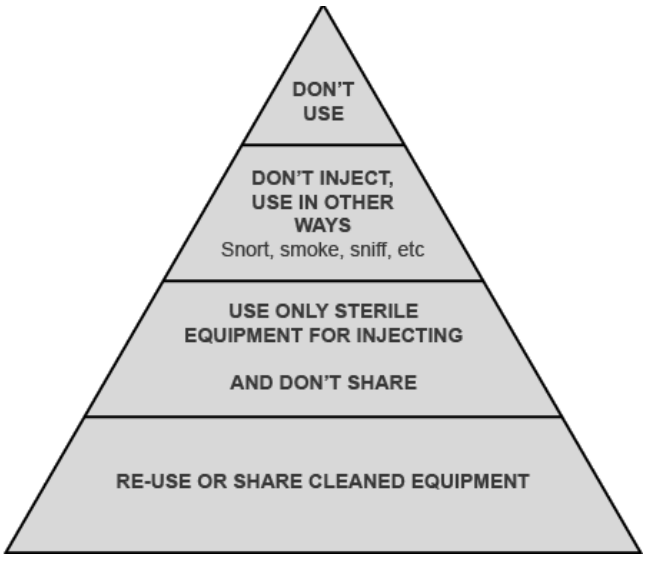

Figure 1.4. Hierarchy of Harm Reduction Goals
Source. AHRN, 2005

Harm reduction approaches are sometimes misinterpreted as opposite to abstinent-based approaches while this is not correct and as it was mentioned earlier, in the hierarchy of harm reduction goals, abstinence falls within harm reduction (World Health Organization [WHO], 2006).

Harm reduction approaches also intend to make changes in legislations and policies that increase the harms or stops provision of services to PWIDs (International Harm Reduction Association, 2008).

1.3.2 Harm Reduction in Malaysia

In Malaysia, despite having the twin epidemic of HIV and injecting drug use, harm reduction was neglected for long with the dominant abstinence-based policy supported by the government and religious lobbies believing that drug use is a deviant behavior. However, failing to achieve the millennium development goal to combat HIV/AIDS enforced the third group of actors in drug policy subsystem, Non-Governmental Organizations (NGOs) with the core belief of harm reduction approaches. Figure 1.5 shows the effect of different groups of actors shaping drug policy in Malaysia (Narayanan, Vicknasingam, & Robson, 2011).

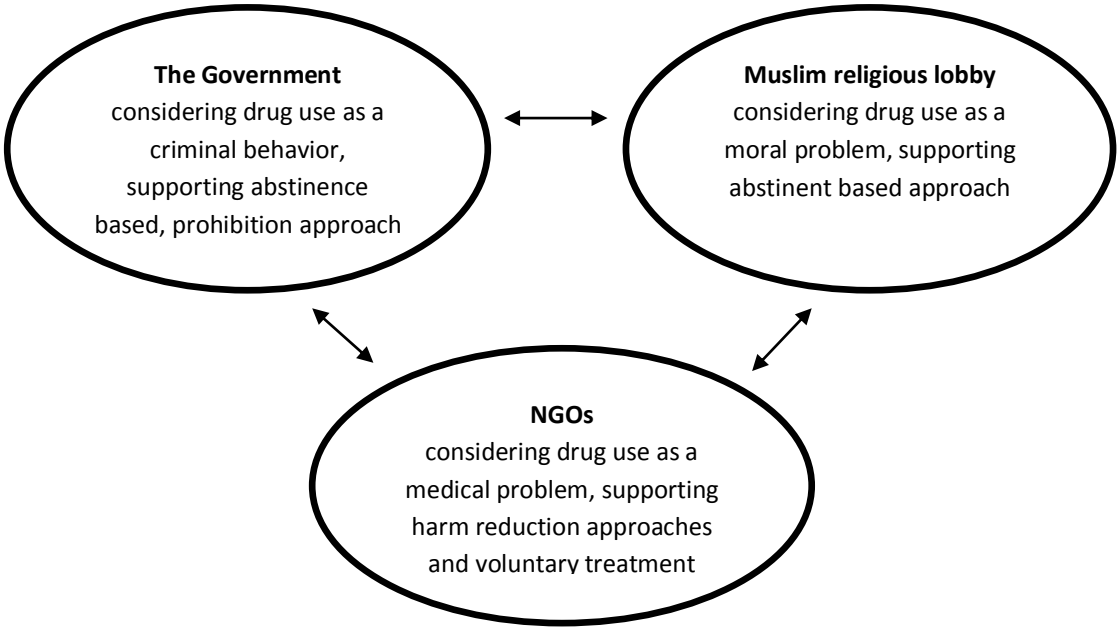

Figure 1.5. Three Main Groups of Actors in Drug Policy Sub-system in Malaysia
Source. Narayanan et al, 2011

The NGOs affiliated with the Malaysian AIDS Council, played a pivotal role in the transition from abstinence-based policies and law enforcement toward harm reduction policies. It was a slow and challenging shift started from a situation that offering alternative treatment, different from the conventional treatments offered by the government agencies under the Ministry of Home Affairs was banned and the activities of the NGOs was limited to providing information and HIV/AIDS counseling (Narayanan et al., 2011).

In recent years, there is a positive and promising shift, from punitive approaches to harm reduction which is slowly replacing the mandatory treatment in the form of rehabilitation centers with no or minimal access to health care services, with voluntary and community based treatments such as “cure and care clinics” (International Drug Policy Consortium, 2010).

The Harm Reduction Working Group (HRWG) was established in 2004 and presented the information on HIV and drug use to the government, the religious groups and other related authorities involved and a year later to the Cabinet Committee. It was only then that the pilot projects of MMT and later NSEP began to take place and started to work in a small scale (Reid, Kamarulzaman, & Sran, 2007). NSEPs expanded from 3 pilot sites (Penang, Kuala Lumpur and Johor) in 2006 to 17 NSEP sites in 9 states of peninsular Malaysia by 2009 (MAC, 2010).

In 2008 the first MMT program in prison setting, began to operate in a pilot site and then was expanded to another 4 prisons and 3 drop-in centers, operated and supervised by The National Anti-Drug Agency (NADA). However, many obstacles to expand harm reduction approaches such as remaining punitive laws for drug charges, the lack of trained staff and finally the stigma and discrimination against drug users still exist and need to be addressed (Kamarulzaman, 2009).

1.4 Pharmacological treatments for drug dependency

As mentioned earlier, the most effective way to decrease the risk of HIV among PWIDs is to encourage them to stop using drugs in the first place. It can be achieved through detoxification from drugs and complete abstinence but whenever PWIDs fail to achieve abstinence, they shall be encouraged to stop injecting.

For opiate dependent individuals, pharmacological approaches are the most effective treatments available. Opiate Substitution Therapy (OST) is one of the most successful approaches that decreases drug use as well as HIV risk behaviors in PWIDs (WHO, 2005).

Agonist pharmacotherapy, agonist-assisted therapy and agonist replacement therapy, are other names for OST in which a prescribed and well controlled dosage of a less dangerous drug such as methadone or buprenorphine, is achieved and maintained under close supervision to achieve abstinence from more dangerous opiates such as heroin (WHO, 2004b).

In Malaysia as of 2009, 631 registered and accredited medical officers were providing MMT (International Drug Policy Consortium, 2010). In early 2010 there were more than 10,700 drug users enrolled in 211 free government-supported methadone service-provider outlets throughout the country as well as 10,000 enrolled in private fee-based services. By march 2009 the coverage of OST was estimated to be 8.9 % but there is still a long way ahead to achieve a status where treatment is available to all PWIDs who seek treatment (UNODC, 2010).

1.5 Psychosocial Treatments for Drug Dependency

Psychosocial interventions are important components in treating drug dependency. They can be provided alone or in combination with pharmacotherapy or other types of psychosocial interventions which will result in better treatment outcomes and higher retention rate in treatment programs (Mayet, Farrell, Ferri, Amato, & Davoli, 2004). Studies show that no behavioral intervention alone may be effective in treating drug dependency without pharmacotherapy in opiate dependency (IOM, 2006) but the role of psychosocial approaches is more evident in treating dependency for classes of drugs where no or unsatisfactory evidence of an existing pharmacotherapy approach is available (e.g. cocaine, cannabis) (Dutra et al., 2008). However, researchers are still exploring to find suitable and effective

pharmacological treatment for these classes of drugs (Kampman, 2008; Lima, Soares, Reisser, & Farrell, 2002; Weinstein & Gorelick, 2011).

There are a variety of psychosocial interventions among them four major behavioral approaches (contingency management, cognitive behavioral therapy, community reinforcement approach and motivational interviewing) as well as some less formal program models of psychosocial interventions such as therapeutic communities (TC) and Twelve-step self help groups, alcoholic anonymous and narcotic anonymous will be reviewed. The different characteristics of behavioral and psychosocial interventions used in drug dependency treatment are summarized in Table 1.2.

Each of these psychosocial interventions will be explained later in this chapter and their basic theories in psychology will be discussed together with special characteristics that mean each of them suitable for a certain situations and populations. While some of these approaches are focused and structured (e.g. community reinforcement approach) some are more general (e.g. self-help groups) not. Of their important characteristics are the ease of training these methods to healthcare professionals or counselors as well as their educative focus on HIV and risk reduction.

Table 1.2

Characteristics of Psychosocial Interventions in Drug Treatment

	Supporting Theory/belief/ principle	Based on motivation change	Structured and focused	Easy to train counselors	Educates on HIV and risk behaviors	Main techniques and methods
Contingency Management	Operant conditioning	some	structured	no	no	Providing reinforcement (e.g. vouchers)
Cognitive Behavior Therapy	Cognitive theory	some	structured	no	no	Cognitive therapy, skill training
Community Reinforcement Approach	The role of environmental contingencies in encouraging or discouraging behavior	some	Structured and focused	no	no	Problem solving, couple therapy, skill training
Motivational Interviewing	Motivational Psychology, Interpersonal relationship (e.g. empathy), stages of change	yes	no	no	no	Changing ambivalence, empathy, rolling with resistance
Self-help Groups (AA and NA)	Group psychotherapy	some	no	yes	no	equality of members, voluntarily participation

Note. AA= Alcoholic Anonymous; NA= Narcotic Anonymous

1.5.1 Behavioral Interventions

Contingency management (CM) is an intervention, consistently rewarding patients (with vouchers or other forms of reinforces) for staying abstinent or completing different treatment objectives and withholds reward when they do not abstain or achieve the objectives (Higgins et al., 1994; Higgins et al., 1993; Higgins et al., 2003).

The conceptual framework of contingency management, in drug and alcohol related disorders is based on "operant conditioning" which means that the use a reinforce or punishment for certain behaviors will alter the behavior where in the case of addictive behavior, drug and alcohol use is considered a form of operant

behavior that is maintained in the person by reinforcement of certain biochemical in the brain causing a pleasurable feeling as well as environmental influences such as peer pressure (Higgins & Petry, 1999).

Cognitive behavioral therapy (CBT) which roots in cognitive psychology is a structured behavioral intervention and has been implemented in treating drug dependency based on the principle that addiction is a learned behavior that can be changed and modified like other behaviors. Cognitive approaches are used to change false cognition or dysfunctional belief that fix and maintain the behavior or by emphasizing positive cognitions such as self-efficacy or motivation to change behavior (Beck, 1993).

As mentioned earlier according to CBT scientists, most emotions and behavioral reactions are learned so the goal of the therapy is to assist patients to unlearn their unwanted reactions while learning new and healthier ways of reacting. Patients learn to recognize different forms of triggers such as environmental, interpersonal, stress-related or psychological triggers that lead them to craving or relapse and they learn how to make changes in their lifestyle to avoid that and support a long term abstinence while they are taught how to avoid high risk situations (Carroll et al., 1994).

Community reinforcement approach (CRA) is a broad-spectrum behavioral treatment, based on the theory that certain drug- related reinforces such as positive effect of drugs or social network of drug user friends and lack of non-drug related activities stabilize the relapse or make it happen. Thus, behavioral counseling is used to help patients develop activities or friendships or social interactions unrelated to drugs. It also uses the components of cognitive behavioral therapy and provides

vocational counseling and job seeking-skills and helps to involve PWIDs in other productive activities. It uses social, vocational, recreational and familial reinforces to help drug and alcohol dependent individuals to adopt a drug/alcohol-free like style (Meyers & Smith, 1995).

CRA is benefiting from a variety of techniques not only job-seeking skills but also social/leisure counseling, behavioral marital therapy, problem-solving, drug refusal training and many other techniques added to it later for example for alcoholic patients disulfiram therapy was included in CRA (Meyers & Miller, 2001).

Motivational interviewing (MI) is a brief intervention that helps patients to identify and change areas of ambivalence and decide whether to continue or stop using drugs, enhancing their desire or motivation to change. It is based on the 5 stages that people follow to access steady change: pre-contemplation (prior to think about the problem of drug use), contemplation (beginning to think about the benefits and losses due to stopping drugs), preparation for change, action, and maintenance. MI is using an emphatic, non-confrontational approach to recognize the harmful effect of drug use and understand the discrepancy between the way they are with what they want to be (Miller & Rollnick, 1992).

MI is a client-centered yet directive method and benefits from various techniques to enhance intrinsic motivation to change by exploring and changing client ambivalence. Four basic principles of MI are expressing empathy, developing discrepancy, rolling with resistance, and supporting self-efficacy (Miller & Rollnick, 2002).

1.5.2 The Program Models in Psychosocial Interventions

Twelve-step recovery programs, alcoholic anonymous (AA) and narcotic anonymous (NA) groups are self-help volunteer groups of drug dependents who gather and share their experience focused on becoming Alcohol/drug free individuals. These are among the very old approaches in the history of substance abuse treatment. Some large self-help groups aimed to achieve alcohol sobriety (AA) have existed in the United States for over 150 years with participants taking pledge not to drink alcohol. These self-help groups reached more or less success in managing substance use disorders and even though they were basically following a nonprofessional stance, their experience was borrowed and incorporated in to some professional substance abuse programs in the United States. Narcotics Anonymous (NA) was founded in 1953 (www.wsoinc.com) and Cocaine Anonymous was founded in 1982 but their development and application were far slower than AA self-help groups (Kelly, 2003).

1.5.3 HIV Specific Risk Reduction Interventions

Each of the behavioral interventions or program models has their strengths and specifications in drug treatment and addressing risk behaviors. Based on the principals and elements found in other approaches discussed, Behavioral HIV and Drug Risk Reduction Counseling (BDRC) was developed. BDRC is a manual-guided structured and focused intervention based on social cognitive theory emphasizing on the medical model of treatment for drug addiction. It is educational and provides information on opiate dependence to facilitate the patient's engagement in the process of treatment.

BDRC is designed to be learned and provided by drug counselors with little or no advanced education or training in counseling which is a privilege over many other psychosocial interventions that require highly trained counselors. BDRC make use of short-term contracts to achieve certain goals towards abstinence from drugs, change in life style or decreasing risk behaviors and positively reinforces any achievements in completing the tasks. While this method borrows many of its components from other behavioral approaches such as CRA and CBT, it is also unique in many other characteristics (e.g. short term contracts) and is implemented in drug using populations together with OST (Chawarski, Barry, Mazlan, & Schottenfeld, 2010).

Even partial achievement is appreciated by counselors to evoke positive affect resulting in greater adherence to recommendations and treatment.

Providing BDRC has shown positive effects on the sample of PWIDs in OST treatment internationally and in Malaysia while this method has never been implemented with the sample of active heroin injectors who may not be in treatment.

Borrowing the elements of BDRC, Educational Counseling (EC) is designed to focus on drug addiction as a medical disease and aims to change the behavior among active PWIDs and eventually shift them to lesser risk behaviors and joining treatment.

EC uses psychoeducation to deliver up-to-date information to PWIDs who may or may not seek treatment. It is different from BDRC as it can be delivered in group or individual setting and unlike BDRC it is not based on contracts between counselors and drugs users but similar to BDRC it is focused on HIV risk reduction and medical model of addiction.

Psychoeducational approaches have been proven to be successful in some psychological disorders such as depression, anxiety and schizophrenia. These interventions can decrease symptoms while increasing the compliance to treatment and are easy to provide as the initial intervention and are inexpensive (Aguglia, Pascolo-Fabrici, Bertossi, & Bassi, 2007; Bäuml, Froböse, Kraemer, Rentrop, & Pitschel-Walz, 2006; Donker, Griffiths, Cuijpers, & Christensen, 2009).

Considering the educational needs of drug user individuals, EC educates/informs the patient about core concepts/topics related to the disease of opiate dependence and the effective treatments that lead to successful long term recovery from drug use (Table 1.3).

Table 1.3

A Summary of Services Provided in Educational Counseling to PWIDs

Providing Education on	Opiate dependence
	HIV/AIDS and risk behaviors
	Available treatments and the way they act
Linking PWIDs to Social and Healthcare Services	Treatment provider services (e.g. MMT, BMT)
	NSEPs
	NGOs and social support groups
Providing Counseling on	Vocational opportunities and leisure activities
	Life skills and relapse prevention
	Risk behaviors and HIV prevention strategies

EC sessions are delivered in a lecture style and participants are encouraged to attend, participate in discussions actively, listen to lectures, read additional printed materials, and complete the exercises and quizzes as indicated.

1.6 Statement of the Problem

Needle-Syringe Exchange Program has been present in Malaysia since 2006, beginning in 3 locations and expanding gradually to a bigger population of PWIDs across the country. There are 17 NSEPs in 9 states as of 2010 (Malaysian AIDS Council, 2010). However, the quality of services provided by NSEP programs has not been evaluated.

Since NSEPs attract people with high risk behaviors such as injection and sharing, it also encompass a great opportunity for effective interventions (Hahn, Vranizan, & Moss, 1997). Knowing the ways of HIV transmission will not necessarily change the risk behaviors as shown in the Behavioral Surveillance Survey, PWIDs reported high HIV risk behaviors despite correctly recognizing the ways of HIV transmission. Only 27.6% and 5.1% of them reported to use sterile needles and syringes and frequent condom use during their last sex, indicating that high level of risks exist despite good knowledge on HIV (UNODC, 2010).

As the hierarchy of harm reduction mentioned earlier in this chapter indicates, the eventual goal is to move PWIDs step by step toward abstinent from drugs. There is more evidence that treatment for drug users is effective and NSEP can be used as a point of engagement with drug users to enter treatment programs. Therefore, while providing needles and syringes alone may reduce HIV infection rates among drug users in the country they will not be moving a step forward and enrolling in treatment programs as suggested in the model of harm reduction hierarchy. Providing NSEP participants EC will be useful for them to increase their knowledge and understanding of their problems from a medical disease point of view and eventually encourage them to seek treatment.

Introducing Educational Counseling to NSEP participants may help to decrease risk behaviors among them especially with its educational contents on both injection and sex risk behaviors

1.7 Research Questions

Based on the above problem, this study will aim to answer several research questions. The research questions are;

i. What are the characteristics and risk behaviors of study participants at the entry point of the study?

ii. What are the effects of Educational Counseling in reducing risk behaviors among EC participants?

iii. What is the treatment enrollment rate of NSEP participants after receiving Educational Counseling?

1.8 Study Objective

i. To describe the characteristics and risk behaviors of study participants at the beginning of this study.

ii. To measure the feasibility of providing Educational Counseling to PWIDs who participate in NSEPs in Penang state by:

- Measuring the participation rate in Educational Counseling sessions.
- Measuring the effect of Educational Counseling on enrollment in treatment rate in NSEP participants after receiving Educational Counseling.

- Measuring the changes in risk behaviors after participation in Educational Counseling.

1.9 Scope of the Study

Penang State located in North West part of Peninsular Malaysia, one of the fastest growing economical poles of Malaysia is considered as the scope of the study. Sites from both the mainland and the island are included in the study.

As it is shown in Figure 1.6, National Anti-Drug Agency of Malaysia (NADA) has reported the number of people who were arrested for drug use in Penang among the highest in Malaysia (National Anti-Drug Agency [NADA], 2010, 2011).

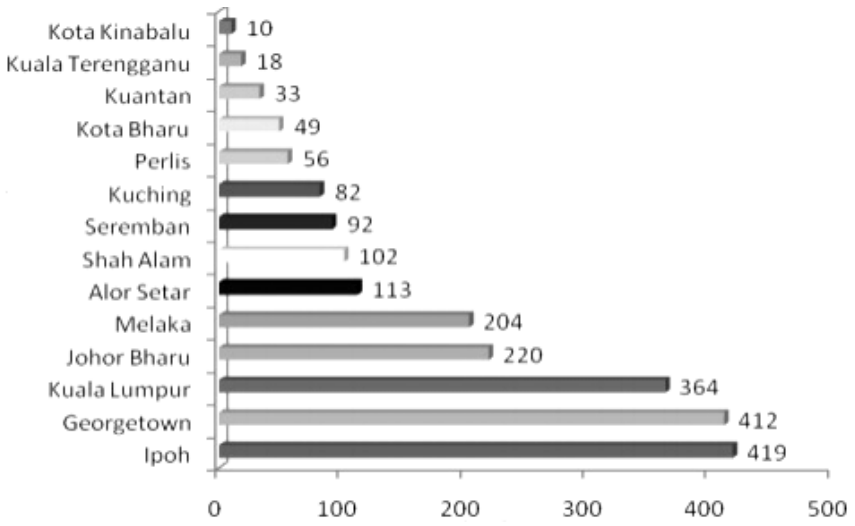

Figure 1.6. The Number of First Time Arrest Persons for Drug use in Different States of Malaysia from Jan to Jun 2011
Source. NADA, 2011

1.10 Significance of the Study

This study will use a method of structured psycho-educational program to include NSEP participants for the first time in Malaysia, to educate them about the

core concepts of addiction, treatment opportunities and ways to achieve long term recovery from drugs with a focus on risk behaviors.

Emphasizing on risk behavior is in accordance with UNAIDS goal to achieve zero incidence of HIV and revert the epidemic. EC will also bridge PWIDs to available treatment services within their community provided by government or private clinics run by registered medical practitioners as well as social and vocational support and NGOs.

This intervention is designed to be delivered by staff with less or no experience in drug counseling after a period of training, which is easy and cost effective.

1.11 Study Limitations

The study participants are chosen from informal outreach-based NSEPs in Penang State using purposive-opportunistic sampling. The findings of the study cannot be generalized to all PWIDs. Some of the participants may join the program because they evaluated themselves as being in a high risk state or some of them because of being jobless and having free time. Similarly those who are eager to participate but are employed fulltime may not be able to participate in the study.

Any data derived from a self-report and face to face interview is subjected to recall bias as well as the tendency of interviewee to hide true answers to socially sensitive questions (e.g. sexual risk behaviors). To resolve the recall bias questions asked are coded based on the 30 and 90 days report of the risk behaviors as maximum of 4 months of recall, is considered suitable to obtain an accurate self report (Hewett, Mensch, & Erulkar, 2004; McElrath, Chitwood, Griffin, & Comerford, 1994; Samuels, Vlahov, Anthony, & Chaisson, 1992).

Maintaining a non-judgmental attitude by the interviewer, preserving the privacy and confidentiality of the participants and asking the less sensitive questions first followed by more socially sensitive subjects such as injecting and sexual risk behaviors later are the measures that are taken to maximize the reliability of the face to face interviews.

Another limitation to this study is the attrition rate which may cause error in reporting the changes over time while the attrition rate is high. Drug user population is mobile and hidden making it difficult to run prospective or longitudinal studies. To decrease high attrition rate while working with PWIDs, several measures were taken : careful history taking from the participant and their motivation to join the program, using chain referral sampling. The participants were selected after considering their neuropsychological history and obtaining a comprehensive pre-study evaluation to screen those who are more likely to participate.

1.12 Thesis Presentation

Chapter 1- this chapter discuss the problem statement of HIV risk in drug users. The research questions and objectives of this study are explained in this chapter.

Chapter 2- this chapter is a review on the literature with a focus on the core objective of this thesis which is HIV risk behaviors and providing treatment, psychosocial support and education/counseling to PWIDs in order to eliminate HIV risk behaviors.

Chapter 3- this chapter is a detailed presentation of the methods implemented in this study and the way the study was conducted.