HIV/AIDS RISK BEHAVIORS AMONG PEOPLE LIVING WITH HIV (PLHIV) IN RATANA
METTA ORGANIZATION YANGON MYANMAR

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A Thesis Submitted in Partial Fulfillment of the Requirements

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College of Public Health Sciences

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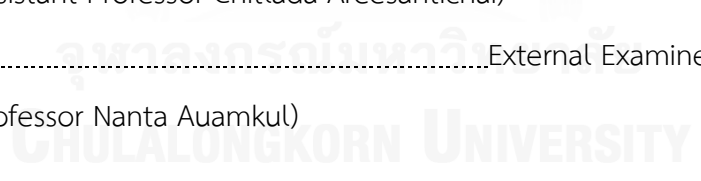
ก่อง เมี๊ยทซึ เฮน : พฤติกรรมเสี่ยงต่อการติดเชื้อเอช ไอ วี เอดส์ ในผู้ติดเชื้อ เอช ไอ วี ในองค์กรรัตนาเมตตาเมืองย่างกุ้ง ประเทศเมียนมาร์. (HIV/AIDS RISK BEHAVIORS AMONG PEOPLE LIVING WITH HIV (PLHIV) IN RATANA METTA ORGANIZATION YANGON MYANMAR) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: อ. ดร.จิตรลดา อารีย์สันติชัย, หน้า.

การศึกษาแบบภาคตัดขวาง (cross-sectional study) นี้มีวัตถุประสงค์เพื่อระบุพฤติกรรมเสี่ยงต่อการติดเชื้อเอชไอวี ของผู้ที่อาศัยอยู่กับผู้ป่วยเอดส์หรือผู้ติดเชื้อเอชไอวีในหน่วยงานรัตนะเมตตา (Ratana Metta Organization; RMO) ในย่างกุ้ง ประเทศพม่า ทำการเก็บข้อมูลโดยใช้แบบสอบถามในกลุ่มตัวอย่างจำนวน 369 คน พบว่าร้อยละ 6 ของผู้ตอบแบบสอบถาม (หญิง 11 คน, ชาย 12 คน และเกย์ 1 คน) มีพฤติกรรมเสี่ยงทางเพศ คือมีเพศสัมพันธ์โดยไม่มีการป้องกัน และยังพบว่าร้อยละ 0.3 ของผู้ตอบแบบสอบถาม (เกย์ 1 คน) มีเพศสัมพันธ์ทางทวารหนักโดยไม่มีการป้องกัน นอกจากนี้ยังพบว่าผู้ตอบแบบสอบถามร้อยละ 1.9 (หญิง 1 คน, ชาย 5 คน และเกย์ 1 คน) มีคู่นอนหลายคน และร้อยละ 1 (ผู้ชาย 4 คน) มีเพศสัมพันธ์กับผู้ขายบริการทางเพศในช่วงเวลา 1 เดือนระหว่างทำการศึกษา ผู้ตอบแบบสอบถามจำนวน 1 คน (ร้อยละ 0.3) มีพฤติกรรมการใช้สารเสพติด (เฮโรอีน) ผู้ตอบแบบสอบถามร้อยละ 3 (หญิง 1 คน, ชาย 10 คน) เคยเพศสัมพันธ์ในขณะที่มีการใช้สารเสพติด ทั้งนี้จำนวน 4 คนไม่สวมถุงยางอนามัย นอกจากนี้ยังพบว่ามากกว่าร้อยละ 20 ของผู้ตอบแบบสอบถามได้ดื่มแอลกอฮอล์ในช่วงเวลา 1 เดือนก่อนตอบแบบสอบถาม และร้อยละ 4.1 (หญิง 3 คน, ชาย 11 คน และเกย์ 1 คน) มีเพศสัมพันธ์ในขณะที่มีอาการเมาแอลกอฮอล์ ในจำนวนนี้มี 5 คน (ร้อยละ 1.4) ที่ไม่สวมถุงอนามัยขณะมีเพศสัมพันธ์ ทั้งนี้ผู้ตอบแบบสอบถามมากกว่าร้อยละ 5 มีพฤติกรรมการดื่มแอลกอฮอล์ในปริมาณสูงหรือมีความเสี่ยงสูงจากการดื่มแอลกอฮอล์อีกด้วย

ผู้ตอบแบบสอบถามมากกว่าร้อยละ 80 มีคะแนนความรู้เกี่ยวกับเอชไอวี/เอดส์ที่สูง ทั้งนี้ผู้ตอบแบบสอบถามเพศชายจะมีพฤติกรรมเสี่ยงมากกว่าเพศหญิงและเกย์ เช่น การมีเพศสัมพันธ์กับคนขายบริการทางเพศ และการมีคู่นอนหลายคน รวมทั้งพฤติกรรมการดื่มแอลกอฮอล์ สำหรับการทดสอบความสัมพันธ์ระหว่างลักษณะทางสังคมและประชากร (ได้แก่ เพศ ระดับการศึกษา อาชีพ, ความรู้ที่เกี่ยวกับเอชไอวี/เอดส์ และพฤติกรรมเสี่ยง) พบความสัมพันธ์ระหว่างการมีคู่นอนหลายคน กับการมีเพศสัมพันธ์ทางทวารหนัก (p-value <0.05) ยังพบความสัมพันธ์ระหว่างการมีคู่นอนหลายคน กับการซื้อบริการทางเพศ (p-value <0.05) ความสัมพันธ์ระหว่างการมีคู่นอนหลายคน กับการดื่มแอลกอออล์ (p-value < 0.001) ความสัมพันธ์ระหว่างการดื่มแอลกอฮอล์ กับการมีเพศสัมพันธ์ทางทวารหนัก (p-value <0.05) และพบความสัมพันธ์ระหว่างการดื่มแอลกอออล์และการมีเพศสัมพันธ์ กับการซื้อบริการทางเพศ (p-value <0.05)

ผลการศึกษานี้จะเป็นประโยชน์ต่อหน่วยงานรัตนะ เมตตา ในการประเมินผลโครงการและปรับปรุงพัฒนาโครงการให้มีประสิทธิภาพมากขึ้น จากอัตราการว่างงานสูงในกลุ่มผู้ตอบ

สาขาวิชา สาธารณสุขศาสตร์	ลายมือชื่อนิสิต ....
ปีการศึกษา 2556	ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก ....

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KEYWORDS: HIV/AIDS / RISK BEHAVIORS / RATANA METTA ORGANIZATION

KHAUNG MYITZU HANE: HIV/AIDS RISK BEHAVIORS AMONG PEOPLE LIVING WITH HIV (PLHIV) IN RATANA METTA ORGANIZATION YANGON MYANMAR. ADVISOR: ASST. PROF. CHITLADA AREESANTICHAI, pp.

This cross-sectional study aims to identify the risk behaviors regarding HIV/AIDS of people living with HIV/AIDS in Ratana Metta Organization (RMO) in Yangon, Myanmar. The data was collected from 369 participants using interview questionnaire method. Regarding sexual risk behavior, 6% of respondents (11 female, 12 male and 1 gay) are found to have unprotected intercourse, 0.3% of respondents (1 gay) had unprotected anal intercourse, 1.9% (1 female, 5 male and 1 gay) have multiple sex partners and 1% (4 male) had sexual intercourse with commercial sex workers within one month from study. One respondents used injecting drug (heroin) (0.3%), 3.0% of respondents (1 female and 10 male) had intercourse while on drug in their lifetime and 4 of them did not use condom. Over 20.0% of respondents are reported to have consumed alcohol within one month, 4.1% (3 female, 11 male and 1 gay) had intercourse while they were drunk and 5 of them (1.4%) did not use condom during intercourse. More than 5.0% of respondents are found to be heavy or high-risk alcohol drinkers which can be linked to binge drinking. Over 80% of respondents obtained high HIV/AIDS Knowledge score. There is higher number of male respondents than female and gay respondents in having risk behaviors. There are associations among the risk behaviors such having multiple partners and anal intercourse (p-value <0.05), multiple partners and intercourse with commercial sex worker (p-value <0.05), multiple partners and alcohol consumption (p-value <0.001), alcohol consumption and anal intercourse (p-value <0.05), alcohol consumption and intercourse with commercial sex worker (p-value <0.05).

The result of the study will be useful for the organization to evaluate their project and improve it. Since the unemployment rate is high among the respondents (53.3%), the occupational situation of the respondents should be explored and also detail of respondents' alcohol consumption behavior should be found out as further studies. Based on the results, the appropriate intervention programs can be developed and implemented.

Field of Study: Public Health	Student's Signature
Academic Year: 2013	Advisor's Signature

ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

1.1 Background

In the year 2011, there were 34.2 million HIV-positive people in the world and 2.5 million of new HIV infections occurred. Around 1.7 million people (about 300,000 people from South and Southeast Asia) died of AIDS also in 2011. South and Southeast Asia has over 4 million people living with HIV (PLHIV) and about 300,000 were newly infected. (UNAIDS, 2012)

Myanmar has one of the highest HIV prevalence and caseloads and ranked as a high-burden country in Asia. (Asia Development Bank, 2012)At the end of 2011, an estimated 216,000 people with HIV lived in Myanmar. (UNAIDS, 2012)

Although the HIV prevalence in Myanmar for adult population declined, the prevalence among key affected groups remains high with 21.9% for male intravenous drug users and 9.4% for commercial sex worker. (National AIDS Programme, Myanmar, 2012) In 2010, HIV prevalence among male general population was 2.5%, however, the prevalence stood high at 28% for men who have sex with men. (Ministry of Health, Myanmar, 2011)

Over 60% of the new infections occurred among female sex workers, their clients, people who use drugs and men who sex with men in the year 2011. This trend is estimated to increase to 70% by the year 2015. (Population Services International, 2012) HIV transmission which can be contributed to risk behaviors such as unsafe sex and drug abuse is worrying in Myanmar (Medecins Sans Frontieres, 2010)

Yangon is the country's largest city in Myanmar and is the area where 12% of PLHIV epidemic of Myanmar living in and has one the highest population densities in Myanmar.

Apart from Government Hospitals, there are 19 non-governmental organizations in Yangon implementing HIV/AIDS treatment, care and support projects. (Myanmar Information Management Unit, 2013)

In addition, Ratana Metta Organization (RMO) is one of the local non-governmental organizations, which provide HIV/AIDS treatment, care and support to people living with HIV who come from various part of Yangon area. Currently, there are about 3100 registered patients in RMO HIV/AIDS treatment, care and support Clinic. The organization is operating the large-scale HIV/AIDS care and support projects. There is no previous study related to risk behaviors of PLHIV conducted in this particular organization although the organization is providing services to considerable number of HIV patients.

In Myanmar, data availability regarding risk behaviors of the people living with HIV is too limited. This study aims to address the risk behaviors of people living with HIV and the result can be used as data base for further studies and in taking appropriate preventive measures in HIV transmission.

1.2. Research Question

What are the HIV/AIDS risk behaviors among People Living with HIV (PLHIV) in Ratana Metta Organization (RMO), Yangon, Myanmar?

1.3 Research Objective

To assess the HIV/AIDS risk behaviors among People Living with HIV (PLHIV) in Ratana Metta Organization (RMO), Yangon, Myanmar.

1.4 Conceptual Framework

Independent Variables   **Dependent Variables**

Socio Demographic Characteristics
-Age   -Gender
-Race   -Religion
-Marital Status -Education
-Occupation   -Income
-Race

Health Status
-Recent CD4 -Opportunistic Infections (OIs)
-Antiretroviral Drug (ARV)

Social and Environmental Context
-Health Information Source
-Condom Availability
- Social Influence
Family members and friends with risk
behaviors and protective behaviors

Self Help Group Participation

Knowledge Regarding HIV/AIDS
Knowledge about HIV/AIDS
Transmission Prevention

Risk behaviors
-Unsafe sex
(Having sex without condom
Having multiple partners
Having sex with Commercial Sex
Worker, Having anal sex)
-Substance use
-Alcohol consumption

1.5 Operational Definitions

PLHIV-People living with HIV (PLHIV) who are aged between 18 – 65 years.

Recent CD4 - refers to the last update CD4 count of respondents (cell count taken within one year from the study).

Opportunistic Infections – The infections that are frequently found in people infected with HIV because of immunosuppression. Example – Tuberculosis.

Antiretroviral Drugs (ARV) – The drugs used in the management of HIV/AIDS patients.

Health Information Source – The source where respondent can receive information regarding health specifically regarding HIV/AIDS and risk behaviors related to it.

Self-help Group (SHG) Participation – Participation of respondents in the activities of self-help groups formed by PLHIV from Ratana Metta Organization.

Risk Behaviors -Unsafe sex, substance use (injecting drug, sharing needles and other skin-penetrating equipment) and alcohol consumption.

Unsafe Sex – Having sexual intercourse without using condom, having multiple sexual partners, having sex with commercial sex worker and having anal sex.

Substance Use – Using substance for pleasure which is harmful for the body. Drugs which are commonly abused include opioid and its derivatives, sedatives, cough depressants, psycho depressants and stimulants. Route of administration for substance use can be intravenous, oral drugs or other.

Sharing Needles –Sharing the used needles and syringe among intravenous drug users to administer the drug.

Alcohol Consumption – Presence of alcohol drinking, consumed amount and frequency.

CHAPTER II

LITERATURE REVIEW

According to the objective of the study, this section covers literature review on HIV/AIDS situation, definitions of variables, theories related to the study and other previous studies. Literature review comprises of following categories

HIV Situation in the World

2.2 HIV Situation in Myanmar

2.3 Definition of Risk Behaviors

2.4 Theories

2.5 Clinic Process for PLHIV in the Research Setting

2.6 Instruments and Questionnaires

2.7 Reviews on Related Studies

2.1 HIV Situation in the World

The global epidemic, Acquire Immunodeficiency Syndrome (AIDS), has killed over 30 million people on the world. UNAIDS reported 34.2 million of people are living with HIV in the year 2011 and 35.3 (32.2 – 38.8) million people were estimated to be living with HIV in 2012. (UNAIDS, 2012) Twelve percent of PLHIV are from South and South East Asia. Globally, an estimated new HIV infection was 2.3 (1.9 – 2.7) million. In 2012, number of AIDS related deaths declined with 1.6 (1.4 – 1.9) million AIDS deaths as more people receive the life-saving antiretroviral therapy. The number of new HIV infections among adults and adolescents is lowered between 2001 and 2012 in 26 countries. However, in other countries, the trend of sexual HIV

transmission is not favorable and efforts to decrease sexual HIV transmission in men who have sex with men and sex work remain inadequate.

Moreover, HIV prevention coverage for intravenous drug users (IVDU) is relatively low when HIV prevalence among them is still high reaching 28% in Asia. In addition to extremely low coverage, efficient HIV/AIDS response for injecting drug users is affected by punitive policy and law enforcements leading to discouraging the individuals from seeking required health and social services.

Other route of HIV transmission such as mother to child transmission has been reduced in 2012 with the infection rate 35% lower than that of in 2009 and antiretroviral therapy coverage among pregnant women living with HIV increased to 62% in 2012. Nevertheless, antiretroviral therapy coverage in low and middle income countries remains low at 34% (32 – 37%) in 2013 when 28.3 million people with HIV are eligible under 2013 WHO treatment guideline. ART coverage is important since it can not only prevent AIDS related illnesses and deaths but also can significantly reduce the risk of HIV transmission. (UNAIDS, 2012)

2.2 HIV Situation in Myanmar

The HIV epidemic in Myanmar is concentrated, with HIV transmission primarily occurring in high risk sexual contacts between sex workers and their clients, men who have sex with men and the sexual partners of these sub-populations. In addition, there is a high level of HIV transmission among injecting drug users through use of contaminated injecting equipment, with transmission to sexual partners. Latest modeling estimated the HIV prevalence in the adult population (aged 15 and more) at 0.53% in 2011.

Among the estimated 216,000 PLHIV in Myanmar, 36% were female. In the same year, an estimated 18,000 people died of AIDS-related illness. Incidence was estimated at well above 8,000 new infections in 2011, confirming the continuing need for effective prevention efforts. (Ministry of Health, Myanmar, 2012)Over 60% of these new infections occurred among female sex workers, their clients, men who have sex with men and injecting drug users. Female partners of men with high risk behaviors were also found to attribute to large proportion of new infections. By 2015, the largest part of new HIV cases is predicted to occur among injecting drug users. According to these data, it is evident that HIV transmission due to risk behaviors such as unsafe sex and drug abuse is still worrying even though the HIV prevalence in general population is declining.

The antiretroviral therapy coverage remains low and around 46,000 adults and children were receiving ART currently when 120,000 people were estimated to be in need of treatment according to the new ART accessibility criteria of CD4 less than 350. In almost all of Myanmar's regions and states, ART is providing through nearly 100 sites in the end of 2011. Among the people receiving ART, over 70% are from Yangon, Mandalay and Kachin State. The coverage is other regions and states are still low. (National AIDS Programme, Myanmar, 2012) Low ART coverage and high prevalence among high risk groups show the need for effective preventive measures in Myanmar.

2.3 Definition of Risk Behaviors

Most of the causes of HIV come from individual's health behaviors and way of living. Centers for Disease Control and Prevention (CDC), USA, defines risk behaviors as behavior or other factor that places a person at risk for disease. Risk behaviors for HIV/AIDS include factors such as unsafe sexual behaviors, sharing of injection drug use equipment and alcohol drinking since alcohol drinking can lead to unsafe sex and other complications.

Unsafe sexual behaviors is defined by having multiple partners, unprotected male-to-male sexual contact, anal sex and commercial sex work without the use of condom. Anal sex means sexual intercourse via anus committed by man with a man or a woman.

Substance use can be defined as the use of any substance or chemical agent that alters the biochemical or physiological processes of tissues or organisms (UNODC, 2013). WHO defines substance abuse as the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs.(WHO, 2005) Substance use is known to affect physical and mental welfare of individual adversely; in addition to leading to problems related to work performance and family and social relationships.

UNODC categorized the substance as naturally occurring, semisynthetic (chemical manipulations of substances extracted from natural materials) or synthetic (created entirely by laboratory manipulation). The main categories are described as follow: Opiates - The generic name given to a group which includes naturally occurring drugs derived for the opium poppy (Papaversomniferum) such as opium,

morphine and codeine, semi-synthetic substances such as heroin and opioids – "opiate-like", wholly synthetic products such as methadone, pethidine and fentanyl.

Other Central Nervous System Depressant –This category includes barbiturates, nonbarbiturate depressants and benzodiazepines (sedative-hypnotics). Although they can be therapeutically used as anticonvulsants and anesthetics, abusing them can cause respiratory problems for instance emphysema and bronchitis and if use high doses may lead to unconsciousness or death.

Central Nervous System Stimulants – This includes naturally occurring plants such as coca (Erythroxlum coca), khat betel nuts and wholly synthetic stimulants in the form of amphetamine and amphetamine-type stimulant compounds.

Cannabis – Cannabis has the highest prevalence globally and mainly consumed as marijuana, hashish or as oil extract. These preparations are generally smoked or sometimes swallowed.

Hallucinogens – Naturally occurring substances such as psilocybin, semi-synthetics such as lysergic acid diethylamide (LSD) and synthetics such as phencyclidine (PCP). PCP use may lead to feelings of unreality, time and space distortions and self-damaging behavior. (UNODC, 2013)

Alcohol consumption – Consumption of alcohol or alcohol containing beverages. Wine, spirit and beer are three major types of alcoholic beverages consumed. The percentage of pure alcohol in these beverages varies depending on the type of beverages and the product brands. For instance, wine has 12.0% of alcohol content, spirit and beer have 40.0% and 5.0% of alcohol respectively. (WHO, 2004)Most of the local alcoholic beverages are insufficiently tested and monitored for the quality,

strength and safety. Health problems attributed to alcohol consumption have reached alarming levels since alcohol consumption can lead to various diseases, high-risk behaviors and health conditions from mental disorders and road traffic injuries to liver diseases and unsafe sexual behaviors. (WHO, 2005)

2.4 Theories

In this section, three social theories which are related with human behaviors used in health programs are reviewed and summarized.

2.4.1 Social Action Theory

2.4.2 Health Belief Model

2.4.3 Social Cognitive Theory

2.4.1 Social Action Theory

The Social Action Theory is theory used to promote the problem-solving capacity of the community via accomplishing concrete changes towards social justice. The theory describes individuals from the communities should come together and redress the power imbalance or privileges between a certain disadvantaged group and society at large. This community-community-organization model can be applied to many social issues and to readdress health problems. The key concepts applied in this theory include empowerment, critical consciousness, community capacity, social capital, issue selection and participation and relevance. (Minkler, M., Wallerstein, N., Wilson, N., 2008)

2.4.2 Health Belief Model (HBM)

Health Belief Model is the social cognition theory used in health promotion and education programs developed by Irwin M. Rosenstock in 1966. In 1980s, the model was further modified by Becker and colleagues. It is a model used in psychology and health behavioral change. Since this study is for risk behaviors of PLHIV, HBM can be used to help change their behaviors if they are engaging with risk behaviors. This model can be used to develop appropriate behavior change intervention methods.

The individual's evaluation of one behavior depends on the perceived susceptibility and severity of the consequence of that behavior and also upon the perceived benefit and barriers in conducting it. These four factors (perceived susceptibility, perceived severity, perceived benefit and barriers) are the main theoretical constructs in this Health Belief Model. (Stretcher., V., & Rosenstock I.M., 1997)

2.4.3 Social Cognitive Theory

This theory is expanded from Social Learning Theory (Neal E. Miller and John Dollard, 1941) by Canadian psychologist Albert Bandura. It is an integrated theoretical framework to predict and explain psychological changes achieved by different modes of treatment.

People are assumed to take appropriate self-protective actions when they are adequately informed about the AIDS threat. Raising awareness and knowledge of health risks are significant preconditions for self-directed changes. Nevertheless, solely providing information does not have much influence on refractory health-impairing behaviors. People need to be given not only information to change risky

behaviors but also resources, behavioral means and social supports since effective behavior self-regulation cannot be achieved not only by an act of will. Behavior change is not just the simple process of person and behavior. The three factors of behavioral, environmental and personal are influencing each other constantly.
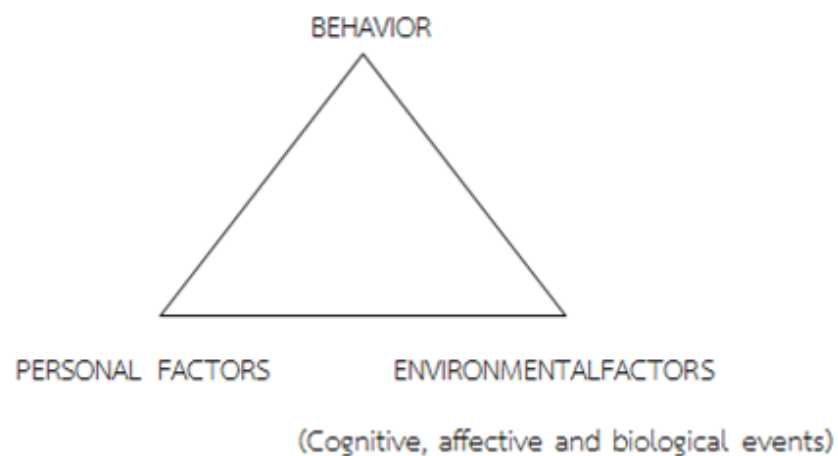
Figure 1: Overview of Social Cognitive Theory and Self-efficacy, Source : Pajares (2002)

Self-protection in sexual practice often conflicts with interpersonal pressures and sentiment and therefore difficulties arise in performing safe sexual practice. In such kind of interpersonal conditions, factors such as the effect of coercive threat, social pressure, situation constraints, and fear of rejection influence the informed judgment of individual. Therefore, the weaker perceived self-efficacy, the more such social influencing factors can increase the likelihood of risky sexual behaviors.

Among the three social and behavioral theories, the Social Action Theory is relevant to promote community pariticpation in social change activities. In this particular case, it can be used in HIV/AIDS community awareness raising programs and community involvement in PLHIV care giving activities. The Health Belief Model

is suitable in designing preventive and health education intervention activities regarding HIV/AIDS.

The Social Cognitive Theory is found to be more relevant for exploring health risk behavior because the theory explain how people acquire and maintain certain behavioral pattern. So the social cognitive theory will be applied in this study since the study aims to explore the risk behavior of PLHIV.

2.5 Treatment Process and Other Supports for PLHIV in the Research Setting

The patient who comes to the clinic at Ratana Metta Organization (RMO) for the first time will receive counseling with the counselor for patient registration and to make the patient feel less tension, medical check-up with medical doctors and if they have not done blood testing, they are advised to go to the laboratory for voluntary confidential counseling and testing (VCCT) and referred to the blood testing center.

The patients are informed to come back to clinic with their blood test result two weeks after the first visit to receive psychosocial support counseling, post-test counseling from counselor and opportunistic infections treatment from medical doctor. If they have HIV-negative blood result, the patients do not need to come back after post-test counseling.

For the HIV-positive patient, if the patient's CD4 count is under 350 or has severe opportunistic infection, he/she is submitted to the ART Board for approval to start antiretroviral therapy (ART). If the patient's CD4 level is still above 350 and in good health condition, he/she is informed to come two weeks after second visit.

During the third visit, the patient will receive opportunistic infection treatment from medical doctor and adherent counseling from the counselor.

After the third visit to clinic, the process will be repeated and antiretroviral therapy will start after getting approval from the ART Board of the clinic.

Apart from the above mentioned clinic services, Ratana Metta Organization is also providing other social services such as ART adherence counseling, PLHIV gatherings, gathering for children of PLHIV or HIV positive children, nutrition support, school support for children of PLHIV families, home based care by outreached worker, hospital support, funeral support, positive prevention workshop for PLHIV and care giver workshop for care givers of PLHIV.

There are also groups called Self Help Group (SHG) formed by some of the PLHIV themselves. The members of the groups are PLHIV from Ratana Metta Organization. The group members participate in designing of PLHIV gatherings, meetings and also as patient attendants for PLHIV who need to be hospitalized. Some are also implementing microfinance activities for group members to start running small businesses.

Ratana Metta Organization Flow Chart for Clinic base activity

Out Reach Activities was providing upon the result of counseling and medical treatment.
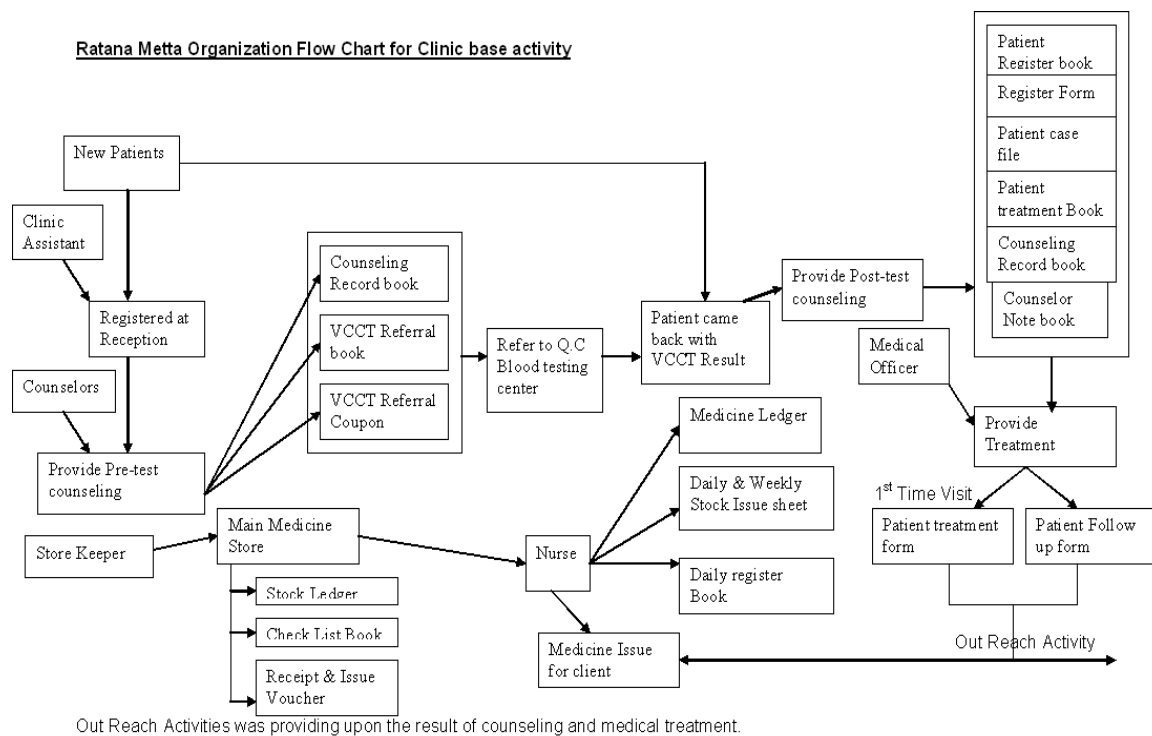
Figure 2 : Flow Chart for Clinic Based Activity in Ratana Metta Organization

2.6 Instruments and Questionnaires

In this section, instruments and questionnaires which are frequently and widely used to measure risk behaviors of people living with HIV (PLHIV) and other high risk group are reviewed and summarized. The instruments and questionnaires reviewed are as follow:

2.6.1. CRA

CRA (Brazilian abbreviation for AIDS Risk Behavior – Comportamento de Risco para Aids) is the third adapted version of Risk Assessment Battery (RAB). The RAB was an accurate and efficient measure of risk behaviors among American intravenous drug users (IDU). The test-retest reliability was 0.81 for the drug score, 0.68 for the gender score and 0.75 for the overall score for heroin users and 0.74, 0.90 and 0.88 respectively for cocaine users (Kappa test). (Pechansky F et al, 2002)

The CRA is the self-applicable questionnaire covering drug use, HIV testing, sexual behavior and concern with the transmission of the HIV topics. It consists of thirty-eight questions cover mostly a period between six months to thirty days before data collection. The answers are presented in ordered categories, each one receiving a numeric value. The application takes 10 minutes average to answer.

2.6.2. BBV-TRAQ-SV

The Blood Borne Virus Transmission Risk Assessment Questionnaire (BBV-TRAQ) was developed by the Turning Point Alcohol and Drug Centre (Fry, Rumbold & Lintzeris, 1998) to assess the participation in high-risk practices for the blood borne viruses transmission in the injecting drug users. The original BBV-TRAW contained 34 items measuring the prevalence of injecting, sexual and skin penetration risk practices for HCV, HBV and HIV and has demonstrated good reliability and validity. (Fry & Lintzeris, 2003)

The short version of BBV-TRAQ (BBV-TRAQ-SV) was developed with 18 items (15 injecting related and 3 other skin penetration). The short version also demonstrated adequate internal reliability (Cronbach's Alpha) for the total scale (=< 0.74), the needle and syringe contamination (=< 0.60), second person contamination (=<0.81) and sharing other equipment (=<0.61) subscales.

Although the BBV-TRAQ-SV is mainly used for assessing HCV risk behaviors, it can also be used for HIV risk behavior as HIV is one of the Blood Borne Viruses. The limitation is that the questionnaire can only be applied in participants who use injecting drugs.

2.6.3. HIV/AIDS Knowledge

HIV/AIDS knowledge questionnaire is the questionnaire consisting of 10 items which the respondent has to answer True, False or Don't know/Refuse upon the statements. A single score is given to every correctly answered item. (Don't know is counted as incorrect answer.) Higher scores show higher knowledge levels. This questionnaire is developed by Tooru Nemoto, Birte Bodeker, Mariko Iwamoto and Maria Sakata from Public Health Institute, Oakland, CA, USA. It's a coefficient for reliability (Cronbach's alpha) is tested and a is 0.69.

2.6.4. HIV-KS (HIV/AIDS Knowledge Scale)

The HIV-KS includes 10 statements relating to three main factors which are HIV oral transmission, HIV effects, and other HIV transmission. HIV-KS is invariant across different ages and genders. It has good validity and internal reliability. Total a coefficient for reliability (Cronbach's alpha) for all three factors is greater than 0.70 and more suitable to be used in study population of adolescents.

In this study, the researcher will adapt the survey instruments that have been tested with high validity and reliability to conduct HIV/AIDS risk behaviors among PLHIV research. To assess the sexual risk behaviors, CRA will be based and adapted for interview. For the participants who inject drug, the BBV-TRAQ-SV will be applied in developing the questionnaire. For HIV knowledge assessment, HIV/AIDS Knowledge Questionnaire (Tooru N. et al, 2013) will be used.

2.7. Review on Related Studies

A study done among female sex workers (FSWs) in Bangkok showed that although FSWs had received HIV relating information, their knowledge levels regarding HIV/AIDS were relatively low getting only 50% of correct answers. (Tooru N., et al., 2012)

There is also significant correlation between respondents who use drugs and friends who used illegal substances i.e. methamphetamine, cannabis, inhalants, ecstasy and ketamine respectively. The findings in this study also indicate that youth substance related problems may be caused by the substance use behavior of family members and friends. (Chitlada A., Usaneya Perngparn., 2007)

In a study done in Bangkok, Thailand, it is found out that there is significant correlation between illicit drug use of male-to-female transgender sex workers and their infrequent condom use for anal sex with customers. (Tooru N., et al., 2012) A study done in Ghana, participants on ARV were 80% less likely to have used condoms during their last sexual intercourse (OR= 0.02, 95%CI = 0.04 – 0.6). (NM Ncube., et al, 2012)

Many studies done in Africa show that condom use is difficult for many Africans since sexual behaviors of an individual is rather complex. (Mill, J. E., &Anarfi, J. K., 2002)

The practice of condom use during sex is largely depend on the partner. A study done in Myanmar migrants in Bangkok, most of the participants responded that they did not use condom when they are with their spouses.(Nan S. N. H., 2008)

A review on studies regarding drug and alcohol services in middle-income countries showed that there were reports in Russian Federation showing a drastic rise in HIV/AIDS in urban areas due to an increase in the injection of psychoactive substances. (Usaneya P., et al, 2008)

A research done in Mnipur, India, shows that more than one-fourth (27%) of intravenous drug users reported having had sex with multiple partners in the past twelve months. Among them, regular injecting drug users were more likely to report two or more sex partners (67% vs. 42%, AOR: 2.7, CI: 1.8-4.1) and sex with paid partners (13% vs. 3%, AOR: 6.0, CI: 3.0-12.1). Sharing needles/syringes was also positively associated with multiple sex partners (51% vs. 44%, AOR:1.6, CI: 1.2-2.2) and inconsistent condom use (93% vs. 80%, AOR:3.0, CI: 1.8-5.1). (Khrieketou S., et al, 2012)

A study in Thailand showed that alcohol and drug abuse were the second most common psychiatric disorder (28.1%) diagnosed by general practitioners. (Lotrakul M., et al, 2006) A person's sexual desire can become high when he/she is on drug or alcohol. A research conducted in Ranong, Thailand, shows that nearly 60% (59.9%) of study participants go to brothel when they are drunk. (Htoo. K. M., 2008)

In a study done among African American students, it was found that male students who used alcohol along with illicit drugs (OR = 8.8, p = 0.03) and those who used marijuana (OR = 17.5, p = 0.01) were significantly more likely to have multiple partnerships. In the same study, female students who used marijuana were five times more likely (OR = 5.05, p = 0.02) to report inconsistent condom use compared to those who did not. Marijuana use and alcohol were correlated with inconsistent

condom use (p= 0.02) and not using condom. Alcohol and drug use are found to enhance sexual risk taking behavior.(Adedeji S., et al., 2009) A study in female sex workers showed that respondents with illicit drug use were significantly less likely to have used condoms with customers. (Tooru N., et al., 2012)

A study conducted in Thailand among Kathoey (male-to-female transgender) showed that the participants with high knowledge regarding HIV/AIDS have higher levels of norms toward practicing safe sex (r = 0.17, p = 0.07). (Tooru N., et al., 2012)

A study in Africa showed that participants with HIV/AIDS knowledge less than 50% were 90% less likely to have used condoms during their last sexual intercourse (OR = 0.1, 95%CI : 0.01 – 0.7). (NM Ncube., et al., 2012)

In a study done in Nepal, major portion of the participants responded that condoms are meant to be used not only with sex workers but also with their spouses. Yet 14.5% agreed with the statement saying condoms are only to be used with commercial sex workers. In the same study, the risk perceptions of individuals are found to be different according to their education status. Risk perception is found higher in people with higher education attained. (Sushama D., Paras K., Pokharel, Birenda K. Yadav, 2013) This can also be seen in a study in Lahore, Pakistan where the study population is high-risk group of women selling sex and 60% of them could not attend school. Majority of the participants did not think that they were vulnerable to HIV infection. (Khan et al, 2011)

The attained knowledge is found to have no relationship in conducting risk sexual activity (performing unprotected anal and vaginal sex) in the study among drug addicted patients in Warsaw, Poland. This may be due to the inadequate

knowledge or other psychological problems of the patients.(Izdebski. Z., &Malyszko, M., 2012)

A study in China also reported that lacking sexual knowledge and condom use associate with higher prevalence of various sexually transmitted diseases. (Ding Y, Detels R, Zhao Z, et al., 2005)

Knowledge on HIV/AIDS can vary from one person to another based on their age, gender, area distribution (rural and mainstream). (UNICEF, 2009) A study conducted in Southern Ethiopia for out-of-school youth shows that (93.8%) of the participants has basic knowledge about HIV/AIDS. Nevertheless, only a few of them who were at sexually active age used condom when they had sex.(Taffa, N., 1998) A study in India shows that males have higher knowledge regarding HIV transmission ($z=2.247$: $P<0.05$) and prevention ($z=4.2115$: $P<0.001$) than females. (Kuruvila M, Venugopalan P P, Sridhar K S, Kumar., 1997)

The studies mentioned above show that there are many variables influencing the risk behaviors of a person. These studies also show that there is a significant association among the risk behaviors themselves (for instance- substance use and unsafe sex behavior.)

CHAPTER III

METHODLOGY

3.1 Research Design

The research design is descriptive cross-sectional study.

3.2 Study Population and Setting

The study population is 3,100 PLHIV who are registered at Ratana Metta Organization. The data was collected in the ART clinic of Ratana Metta Organization which is situated in Pazundaung Township, Yangon Region, Myanmar.

3.3 Inclusion and Exclusion Criteria

Inclusion criteria

-People living with HIV (PLHIV) who are aged between 18 – 65 years.

- PLHIV who were registered at Ratana Metta Organization

- Participants who are permanent residents in Yangon Region.

-Who are willing to participate in the study

Exclusion criteria

-PLHIV who are mentally unstable

-PLHIV who are seriously ill or in terminal stage.

3.4 Sampling Technique and Sampling Process

Purposive sampling technique was used.

In almost all of Myanmar's regions and states, ART is providing through nearly 100 sites in the end of 2011. Among the people receiving ART, over 70% are from Yangon, Mandalay and Kachin State. Yangon is the country's largest city in Myanmar and is the area where 12% of PLHIV epidemic of Myanmar living in and has one the highest population densities in Myanmar. For these reasons, Yangon is selected purposively to conduct the study.

Due to stigmatization and discrimination against HIV/AIDS, people living with HIV population are hard to identify and difficult to approach. So the HIV/AIDS treatment, care and support service provider is chosen as a setting for data collection where PLHIV can be found. In Myanmar, along with the government HIV/AIDS programs, non-government and private sector organizations play an important role in HIV/AIDS projects. There are 19 non-government organizations mainly implementing HIV/AIDS treatment, care and support projects in Yangon. (MIMU, 2013)Ratana Metta Organization is one of the organizations to implement HIV/AIDS project which has over 3,100 registered PLHIV. This organization has been supporting PLHIV for many years not only with clinic services such as treatment and counseling but also social services like gathering, hospital support, nutrition support and caregiver workshop for their caregiver. This organization is purposively chosen as a research setting for this study.

Although the total number of registered patient is around 3100, the average patients' attendance is only around 500 per month. During the data collection

period, data from all the patients who came to the clinic was collected if they fit into the selection criteria.

Sample Size Calculation (Krejcie and Morgan, 1970)

$$s = X^2 NP(1-P) / d^2(N-1) + X^2P(1-P)$$

$$= (3.841)(3100)(0.5)(1-0.5) / (0.05)(0.05)(3100 - 1) + (3.841)(0.5)(1-0.5)$$

$$= 342$$

Whereas,

s   = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N   = population size.

P   = the population proportion (assumed to be 0.5)

d   = the degree of accuracy expressed as a proportion

Sampling Process
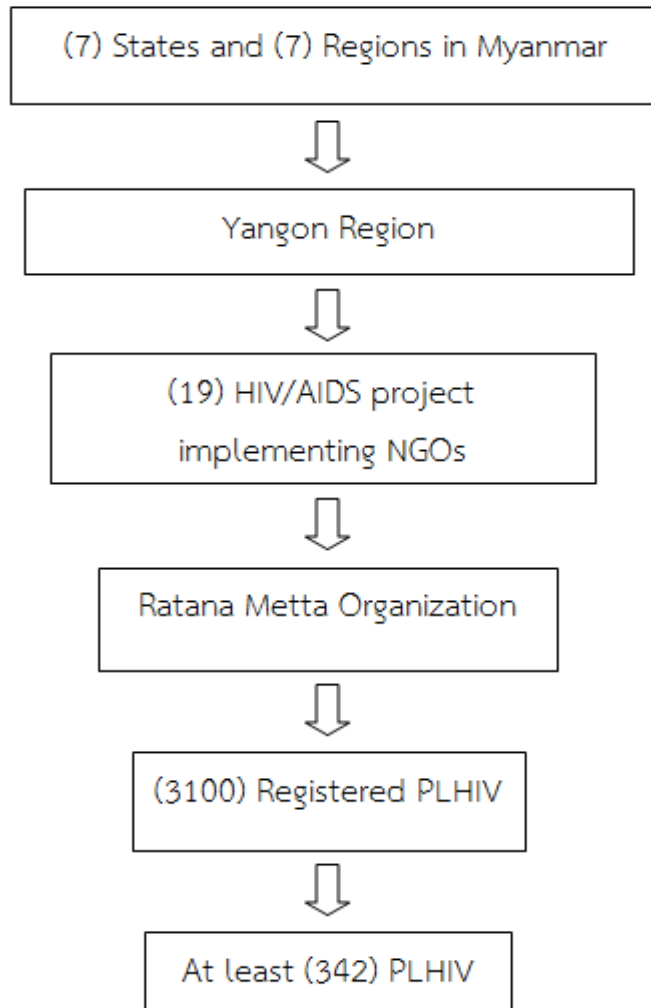
Figure 3: Figure Showing Sampling Process for Data Collection

   According to the sample size calculation, the required number of sample size was (342) and actual number of participants from which the data was collected was (369). The monthly patient attendance to the clinic is around 500. So the data was collected for one month (approximately from second week of March 2014 to first week of April 2014) to obtain the required sample size with the purposive sampling method. On an everyday basis, the participants were recruited during clinic opening

hours. The data was collected from the PLHIV who come to the clinic according to the selection criteria. The data was collected from the total of 369 participants.

3.5 Measurement Tools

The structured questionnaire was constructed to use in respondent interviews to collect data. Six parts were included in the questionnaire.

Part I   : Socio Demographic Characteristics

Part II : Health Status

Part III : HIV/AIDS Related Risk Behaviors

Part IV : Social and Environmental Context

Part V : Self Help Group Participation

Part VI : Knowledge on HIV/AIDS

Part I   Socio Demographic Characteristics

In this part, the respondents' general socio demographic such as age, gender, race, religion, marital Status, education, occupation and income were recorded.

Part II Health Status

This sub-portion included the respondents' WHO clinical staging of HIV, recent CD4 count, Opportunistic infections (OI) and Antiretroviral Drug (ARV).

Part III HIV/AIDS Related Risk Behavior

Part III contains questions to assess the risk behaviors of participants which are designed to explore sexual risk behaviors, drug abuse and alcohol consumption.

In alcohol consumption behaviors question, a table was included to explore the participant's alcohol consumption frequency, amount and type of alcohol

consumed. Amount of alcohol consumed by the participants was converted into equivalent Standard Drinks (SD) according to the amount of ethanol contained in each drink (Beer contains 5% ethanol, Spirit and Whisky 40% ethanol, Wine 12% ethanol) by using the formula (Percent of ethanol/100 x 0.79 x Amount of drink in ml/10). Based on the number of SD consumed, the respective participants' alcohol consumption level was obtained as Moderate or Low Drinking (7 SD per week for women and 14 SD per week for men) and Heavy or high-risk drinking (above 7 SD per week for women and above 14 SD per week for men). (National Institute on Alcohol Abuse and Alcoholism, NIAAA, 2014)

Part IV Social and Environmental Context

In this part, the respondent's social relationship with people who have HIV/AIDS risk behaviors were explored and other environmental factors like HIV related information source and condom availability were assessed.

Part V Self Help Group Participation

In this part, the respondent's participation in the activities of self-help group was assessed.

Part VI Knowledge on HIV/AIDS

Under this section, HIV knowledge assessment instrument was included to assess the respondent's knowledge regarding HIV/AIDS. True/False Questions were included. The score of 1 was given for each correct answer. Participants were given the score of "Zero" for every wrong or "don't know" answer. The highest score is 10. The scores were categorized into group of Low (0 - 3), Middle (4 - 6), and High (7 – 10). This questionnaire is developed by Tooru Nemoto, Birte Bodeker, Mariko

Iwamoto and Maria Sakata from Public Health Institute, Oakland, CA, USA. It's a coefficient for reliability (Chronbach's alpha) is tested and a is 0.7.

3.6 Validity and Reliability

Questionnaire was developed and revised according to the literature review and recommendations from 3 experts. The content validity of the overall questionnaire was calculated from the scores given by experts and it comes out as 0.85. The coefficient for reliability (Cronbach's alpha) is tested and a is 0.6.

The questionnaires have been pretested among 30 people living with HIV from Phoenix Organization to assess the participants' understanding and time spent on the research tools. Phoenix Organization is a non-government organization and is also implementing HIV/AIDS projects in Yangon. The Phoenix organization has been chosen to conduct pretest since it is a similar organization to Ratana Metta Organization. The average duration taken for each interview is around 20 minutes. The questions which are difficult to understand for interviewers and participants have been paraphrased and translated with simpler words. The main contents of the questionnaire do not need to be changed.

3.7 Data Collection

Step (1) Requesting approval from the organization was done before data collection. (Some of the data such as health status of the participants were taken from the medical record book of the patients. The organization was informed that the data from the record books will be taken and requested for approval. The participants were also informed and asked for permission about the usage of their medical records.)

Step (2) The original questionnaires were prepared in English and translation to Myanmar language was conducted before data collection to facilitate smooth understanding and communication of interviewers from the organization and of the participants.

Step (3) The developed questionnaire was revised and corrected according to the recommendations from 3 experts. (The content validity of the overall questionnaire was calculated from the scores given by experts and it comes out as 0.85.)

Step (4) Pretesting of the questionnaires was done among 30 people living with HIV from organization having similar nature and activities with Ratana Metta Organization to assess the participants' understanding and time spent on the research tools. The questions which were difficult to understand for the participants were changed and paraphrased using simple words.

Step (5) Researcher trained five interviewers in two sessions. In the first session, rationale, objectives, conceptual framework, contents of the questionnaire, consent form, information sheet, etc were explained to the interviewers. In the second session, interview methodology was explained to them and mock interviews were carried out so that they could have clear understanding about the questionnaire and interview practice. (The persons trained were from the organization who is already working as medical officers and counselors for PLHIV at the clinic. The medical officers and counselors are chosen as interviewers since they already have good relationship and rapport with the patients.)

Step (6) Patients were selected for interview according to the inclusion and exclusion criteria and sampling procedures. (The researcher informed about the project to the patients during their waiting time. All the patients who were willing to

participate in the project were requested for their medical record books. If their data matched with selection criteria, they were selected for interview. Patients having medical records of mental problems, not in conscious state and cannot communicate with interviewer, patients who is too weak to do 20 minute-long interview, were regarded as having mental and/or physical problems and excluded from the study.)

Step (7) The researcher and interviewers interviewed the participants during the clinic opening hours. Before the beginning of interview, the participants were explained about the objectives and rationale of the study and informed consent was obtained. In the consent form, the participants were informed about data from the medical record book would be used and that the confidentiality would be highly respected. In the information sheet, participants were informed and requested that they are required to give the righteous answers to every question.

Step (8) Each interview session took about 20 minutes. One to one interviews were conducted in separate rooms which are used as treatment rooms for the confidentiality and privacy of the participants. (Interviewers who are of the same sex with participants were assigned for each interview to lessen the tension and embarrassment of the participants. For example – Female interviewer for female participant.)

Step (9) The interviews were conducted inside the clinic and only within clinic opening hours to make sure the counselors and other medical staff to be available during interview times. The counselors and other medical staff know the participants as well as the medical officers do and they have experience in helping and working with PLHIV. So in case of any participant develops emotional upset during interview,

the counselors and other staff could be there to help the participants. The researcher informed the counselors and other staff of possible occurrences during interview prior to the project start-up. So that they can prepare and be ready to help the participants if the participants feel upset during interview and do not want to discuss with interviewers or with the principal researcher.

Step (10) Checking the questionnaire was done in every evening after interviewing had done to minimize data missing.

Step (11) The questions and answers were be coded and data entry to the computer will be carried out on day by day basis after the end of interview each day.

Step (12) The data analysis was conducted using Statistical Package for Social Sciences (IBM SPSS Statistic 20.0).

Step (13) The report was written based on the data obtained from analysis.

3.8 Data Analysis

-Descriptive statistics, the frequency and percentage distribution was calculated for all variables (Socio demographic factors, Health status, Risk behaviors and Knowledge etc.)

-Chi-square was used to test the association between risk behaviors and its independent variables.

3.9 Ethical consideration

The proposal was submitted to Ethical Committee, College of Public Health Sciences, Chulalongkorn University and obtained approval to conduct. (Certificate of Approval Number 034/2014)

Purpose of the study was explained to the participants. Consent form was used to inform the participants and informed consent was obtained before starting data collection.

CHAPTER IV
RESULTS

This study aimed to describe risk behaviors regarding HIV/AIDS of people living with HIV/AIDS in Ratana Metta Organization, Yangon, Myanmar. The total of 369 respondents (183 male, 184 female and 2 gays) participated in the study. The data collection was conducted in an interview-questionnaire format.

The data analysis is divided and reported as following parts.

Part I : Socio-demographic characteristics of respondents

Part II: Health status of respondents

Part III: Social and Environmental Context of the respondents

Part IV: Self-help Group Participation of the respondents

Part V: Knowledge Regarding HIV/AIDS of respondents

Part VI: Risk behaviors regarding HIV/AIDS of respondents

Part I : Socio-demographic Characteristics of Respondents

The socio-demographic characteristics include age, gender, race, religion, marital status, education, occupation and income. Table 1.shows that most of the respondents (both male and female) are from the age group of 30-39 (81 female, 100 male and 1 gay), second most from 40-49 age-group (59 female, 47 male and 1 male). Bamar represents the major race of the respondents with the total 329 among 369 respondents. Buddhist is the religion of most of the respondents as many as 351. The marital status of 204 of the respondents (101 female, 54.9% and 103 male, 56.3%) is married and the status of being single stands second in the category with 103 number of respondents (32 female, 69 male and 2 gay.

Table 1: Socio-demographic Characteristics of Respondents by Gender

Socio-demographic Characteristics		Gender (n=369)						Total (n=369)	
		Female (n=184)		Male(n=183)		Gay(n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Age	20 – 24	4	(2.2)	1	(0.5)	0	0.0	5	(1.4)
	25 – 29	23	(12.5)	16	(8.7)	0	0.0	39	(10.6)
	30 – 39	81	(44.0)	100	(54.6)	1	(50.0)	182	(49.3)
	40 – 49	59	(32.1)	47	(25.7)	1	(50.0)	107	(29.0)
	50 – 65	17	(9.2)	19	(10.4)	0	0.0	36	(9.8)
Race	Bamar	165	(89.7)	162	(88.5)	2	(100.0)	329	(89.2)
	Mon	3	(1.6)	2	(1.1)	0	0.0	5	(1.4)
	Rakhine	1	(0.5)	5	(2.7)	0	0.0	6	(1.6)
	Shan	5	(2.7)	1	(0.5)	0	0.0	6	(1.6)
	Karen	7	(3.8)	4	(2.2)	0	0.0	11	(3.0)
	Chin	1	(0.5)	1	(0.5)	0	0.0	2	(0.5)
Other (Chinese, Panjub, Indian, Mixed Blood)		2	(1.1)	8	(4.4)	0	0.0	10	(2.7)
Religion	Buddhist	174	(94.6)	175	(95.6)	2	(100.0)	351	(95.1)
	Christian	3	(1.6)	3	(1.6)	0	0.0	6	(1.6)
	Islam	7	(3.8)	2	(1.1)	0	0.0	9	(2.4)
	Hindu	0	0.0	3	(1.6)	0	0.0	3	(0.8)
Marital Status	Single	32	(17.4)	69	(37.7)	2	(100.0)	103	(27.9)
	Married	101	(54.9)	103	(56.3)	0	0.0	204	(55.3)
	Separated/ Divorced	8	(4.3)	4	(2.2)	0	0.0	12	(3.3)
	Widow/Widower	43	(23.4)	7	(3.8)	0	0.0	50	(13.6)

Table 1: Socio-demographic Characteristics of Respondents by Gender (Continued)

Socio-demographic Characteristics		Gender (n=369)						Total (n=369)	
		Female (n=184)		Male (n=183)		Gay (n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Educational Level	Primary School	25	(13.6)	16	(8.7)	0	0.0	41	(11.1)
	Middle School	51	(27.7)	48	(26.2)	0	0.0	99	(26.8)
	High School	51	(27.7)	76	(41.5)	0	0.0	127	(34.4)
	University	14	(7.6)	18	(9.8)	0	0.0	32	(8.7)
	University Graduate	40	(21.7)	23	(12.6)	2	(100.0)	65	(17.6)
	Other (Illiterate, Monastic Education, Primary School Drop-out.)	3	(1.6)	2	(1.1)	0	0.0	5	(1.4)
Occupation	Unemployed	98	(53.3)	52	(28.4)	1	(50.0)	151	(40.9)
	Professional	18	(9.8)	9	(4.9)	0	0.0	27	(7.3)
	Skilled Worker	29	(15.8)	59	(32.2)	1	(50.0)	89	(24.1)
	Unskilled Worker	39	(21.2)	63	(34.4)	0	0.0	102	(27.6)
Monthly income in +USD (employed)	USD 15 – 49	14	(16.3)	8	(6.1)	0	0.0	22	(6.0)
	USD 50 – 104	38	(44.2)	50	(38.2)	0	0.0	88	(23.8)
	USD 105 – 259	32	(37.2)	63	(48.1)	1	(100.0)	96	(26.0)
	USD 260 – 520	2	(2.3)	10	(7.6)	0	0.0	12	(3.3)

+ Exchange rate USD 1 = MMK 960 approx. (May 2014 rate)

The table shows the educational level, occupation and monthly income of the respondents. Majority of the respondents (51 female and 76 males) had high school education. The second most is middle school education with total 99 respondents (51 female and 48 male). There are 65 university graduates in the respondents. Out of 369 respondents, only 218 respondents have jobs and other respondents (98 female, 52 male and 1 gay) reported to have no job. The respondents who have jobs, 27 of them are working in professional level occupation,

89 working as skilled workers and the major portion 102 work as unskilled workers. One hundred and seventeen respondents receive the monthly salary ranging from USD 50 - 104 from their jobs. The number of respondents gets fewer in highest salary category (12 respondents in income USD 260 – 520).

Part II: Health Status of Respondents

Table 2: Health Status of Respondents by Gender

Health Status		Gender (n=369)							Total (n=369)	
		Female (n=184)		Male (n=183)		Gay (n=2)				
		n	(%)	n	(%)	n	(%)		n	(%)
CD4	Low CD4 (12 – 349)	142	(77.2)	158	(86.3)	2	(100.0)		302	(81.8)
	High CD4 (350 – 1257)	42	(22.8)	25	(13.7)	0	0.0		67	(18.2)
Presence of Opportunistic Infection	No	153	(83.2)	143	(78.1)	1	(50.0)		297	(80.5)
	Yes	31	(16.8)	40	(21.9)	1	(50.0)		72	(19.5)
Taking ARV	No	24	(13.0)	19	(10.4)	0	0.0		43	(11.7)
	Yes	160	(87.0)	164	(89.6)	2	(100.0)		326	(88.3)

Table 2 illustrates the health status of the respondents including CD4 cell count within one year, presence of opportunistic infection. CD4 cell count less than 350 means high risk of opportunistic infections such as TB and other non-AIDS defining conditions. (WHO, 2010) According to WHO, the respondents are divided into two groups of CD4 count less than 350 and above 350. Most of the respondents' medical records (211 participants, 98 female and 113 male) show the low CD4 level (from 201 – 350). Seventy-two of the respondents (31 female, 40 male and 1 gay) have opportunistic infections such as tuberculosis to skin diseases. More than 85% of

respondents have started taking ARV drug (160 female, 164 male and 2 gays). Although 85% of the participants started taking ARV drugs, majority of them have low CD4 counts (81.8%). This could be assumed that they started taking ARV only after their CD4 counts have been taken or could be due to the poor patient compliance.

Part III: Social and Environmental Context of the Respondents

Table 3: Health Information Source of the Respondents by Gender

Health Information Source	Gender (n=369)						Total (n=369)	
	Female (n=184)		Male (n=183)		Gay(n=2)			
	n	(%)	n	(%)	n	(%)	n	(%)
Broadcasting and printing media	47	(25.5)	41	(22.4)	0	0.0	88	(23.8)
Friends and colleagues	28	(15.2)	30	(16.4)	1	(50.0)	59	(16.0)
Family and relatives	7	(3.8)	5	(2.7)	1	(50.0)	13	(3.5)
Spouse/Partner	13	(7.1)	6	(3.3)	0	0.0	19	(5.1)
Ratana Metta Organization	155	(84.2)	110	(60.1)	0	0.0	265	(71.8)

The table 3 shows the respondents' source of information regarding HIV/AIDS and the majority of them (71.8%) responded to have received the information from Ratana Metta Organization. The mass media (both printing and broadcasting media) stands as the second largest source of HIV/AIDS information to the respondents (23.8%). It is reported that friends and colleagues are the third largest source of HIV information for the respondents (16.0%). The respondents also receive information from their spouse/partners, family and relatives.

Table 4: Condom Availability of the Respondents by Gender

Social and Environmental Context		Gender (n=369)						Total (n=369)	
		Female (n=184)		Male (n=183)		Gay (n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
	No	6	(3.3)	9	(4.9)	0	0.0	15	(4.1)
Condom	Yes	166	(90.2)	167	(91.3)	2	(100.0)	335	(90.8)
Availability	Don't know	12	(6.5)	7	(3.8)	0	0.0	19	(5.1)

The availability of condom was recorded and 90.8% of participants (total 335, 166 male, 167 female and 2 gays) responded that condoms are easy to get. However, 15 respondents (4.1%) responded that it is not easy to get condoms and 19 respondents (5.1%) responded that they do not know where to get condoms.

Table 5: Family Members and Friends of Respondents with Risk Behaviors by Gender

Social and Environmental Context	Gender (n=369)			Total (n=369)
	Female	Male	Gay	

		(n=184)		(n=183)		(n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Multiple Sex Partners & Commercial Sex Worker									
- Family member with multiple sex partners	No	176	(95.7)	169	(92.3)	1	(50.0)	346	(93.8)
	Yes	8	(34.8)	14	(7.7)	1	(50.0)	23	(6.2)
- Close friend with multiple sex partners	No	167	(90.8)	126	(68.9)	0	0.0	293	(79.4)
	Yes	17	(9.2)	57	(31.1)	2	(100.0)	76	(20.6)
- Close friend visits CSW	No	178	(96.7)	146	(79.8)	1	(50.0)	325	(88.1)
	Yes	6	(3.3)	37	(20.2)	1	(50.0)	44	(11.9)
Alcohol Consumption									
- Family member regularly drinks alcohol	No	135	(73.4)	145	(79.2)	1	(50.0)	281	(76.2)
	Yes	49	(26.6)	38	(20.8)	1	(50.0)	88	(23.8)
- Close friend who regularly drinks alcohol	No	157	(85.3)	86	(47.0)	1	(50.0)	244	(66.1)
	Yes	27	(14.7)	97	(53.0)	1	(50.0)	125	(33.9)
Substance Use									
- Family member who uses substance	No	178	(96.7)	179	(97.8)	2	(100.0)	359	(97.3)
	Yes	6	(3.3)	4	(2.2)	0	0.0	10	(2.7)
- Close friend who uses substance	No	179	(97.3)	158	(86.3)	2	(100.0)	339	(91.9)
	Yes	5	(2.7)	25	(13.7)	0	0.0	30	(8.1)

Family members and close friends behaviors such as sexual, alcohol consumption and substance use behaviors are also recorded as social and environmental context of the respondents. Twenty-three respondents answered that

their family members have multiple sex partners and 76 respondents replied that their close friends have multiple partners. Forty-four responded that their close friends regularly visit to commercial sex workers. Family members of 88 respondents drink alcohol on a regular basis and close friends of 125 respondents also drink alcohol regularly. Family members of 10 respondents have substance use behavior and close friends of 30 respondents have substance use behaviors.

Table 6: Family members and Friends of Respondents working in HIV Field by Gender

Family members and Friends of Respondents	Gender (n=369)			Total (n=369)
	Female	Male	Gay	

working in HIV Field		(n=184)		(n=183)		(n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Family member or close friend who works in HIV Field	No	122	(66.3)	143	(78.1)	2	(100.0)	267	(72.4)
	Yes	62	(33.7)	40	(21.9)	0	0.0	102	(27.6)
Received HIV information from family member or close friend not from HIV field	No	62	(33.7)	73	(39.9)	0	0.0	135	(36.6)
	Yes	122	(66.3)	110	(60.1)	2	(100.0)	234	(63.4)

Table 6 also shows whether the respondents have family member or close friends who work in HIV/AIDS care and support field. Altogether 102 respondents (62 female and 40 male) responded that they have. Some reported that although they do not have family members or friends who work in HIV/AIDS field, they receive information regarding HIV/AIDS from their family members and close friends (122 female, 110 male and 2 gays).

Part IV: Self-help Group Participation of the Respondents

Table 7: Self Help Group Participation of Respondents by Gender

Self Help Group	Gender (n=369)	Total

Participation		Female(n=184)		Male(n=183)		Gay(n=2)		(n=369)	
		n	(%)	n	(%)	n	(%)	n	(%)
Member of Self-help group	No	161	(87.5)	159	(86.9)	2	(100.0)	322	(87.3)
	Yes	23	(12.5)	24	(13.1)	0	0.0	47	(12.7)
Participation in group activity	No	170	(92.4)	171	(93.4)	2	(100.0)	343	(93.0)
	Yes	14	(7.6)	12	(6.6)	0	0.0	26	(7.0)
Group Formed by RMO Clients	No	168	(91.3)	170	(92.9)	2	(100.0)	340	(92.1)
	Yes	16	(8.7)	13	(7.1)	0	0.0	29	(7.9)

Forty-seven respondents answered that they are members of self-help groups of various activities such as religious group, business groups and social and health care groups. However, only 26 of them responded that they participate in those activities and others just remain as non-working members. Among them 29 are members of self-help groups formed by RMO clients.

Part V: Knowledge Regarding HIV/AIDS of Respondents

Table 8: Knowledge regarding HIV/AIDS of Respondents by Gender

HIV/AIDS Knowledge Level	Gender (n=369)						Total (n=369)	
	Female (n=184)		Male (n=183)		Gay (n=2)			
	n	(%)	n	(%)	n	(%)	n	(%)
Low Knowledge (Score 0 - 3)	0	0.0	5	(2.7)	0	0.0	5	(1.4)
Middle Knowledge (Score 4 - 6)	30	(16.3)	30	(16.4)	0	0.0	60	(16.3)
High Knowledge (Score 7 - 10)	154	(83.7)	148	(80.9)	2	(100.0)	304	(82.4)

A ten-question set (Tooru N, et al.) regarding HIV/AIDS knowledge is included in the interview and the knowledge levels are divided into three levels according to the score obtained. Over 95% of respondents know that blood testing is very good way in finding out whether a person has HIV. They also have high knowledge regarding how condom use can reduce HIV transmission.

Over 80% of total respondents have high HIV/AIDS knowledge level scores, 154 female (83.7%), 148 male (80.9%) and 2 gays (100%). Thirty female (16.3%) and 30 male (16.4%) attain middle knowledge level scores. Five male respondents got low knowledge level score.

Part VI: Risk Behaviors regarding HIV/AIDS of Respondents

Table 9: Unsafe Sex Behaviors of Respondents by Gender

Sexual Intercourse Experience		Gender (n=369)						Total (n=369)	
		Female (n=184)		Male (n=183)		Gay (n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Lifetime Sexual Intercourse Experience	No	19	(10.3)	20	(10.9)	0	0.0	39	(10.6)
	Yes	165	(89.7)	163	(89.1)	2	(100.0)	330	(89.4)
Sexual Intercourse Experience within one month	No	116	(63.0)	93	(50.8)	0	0.0	209	(56.6)
	Yes	68	(37.0)	90	(49.2)	2	(100.0)	160	(43.4)
Sexual intercourse using condom within one month	No	11	(16.2)	12	(13.3)	1	(50.0)	24	(15.0)
	Yes	57	(83.8)	78	(86.7)	1	(50.0)	136	(85.0)

Nearly 90% of respondents (165 female, 163 male and 2 gay) had sexual intercourse experience in their lifetime and 160 respondents had sexual intercourse within one month. Within the respondents who had intercourse within one month, 24 respondents (15.0%) had unprotected intercourse within one month.

Table 10: Anal Sex Behavior of Respondents by Gender

Anal Intercourse	Gender (n=369)	Total

Experience		Female (n=184)		Male (n=183)		Gay (n=2)		(n=369)	
		n	(%)	n	(%)	n	(%)	n	(%)
Anal lifetime	No	183	(99.5)	177	(96.7)	0	0.0	360	(97.6)
	Yes	1	(0.5)	6	(3.3)	2	(100.0)	9	(2.4)
last month	No	184	(100.0)	182	(99.5)	1	(50.0)	367	(99.5)
	Yes	0	0.0	1	(0.5)	1	(50.0)	2	(0.5)
Anal sexual intercourse with condom last month	No	0	0.0	0	0.0	1	(100.0)	1	(0.3)
	Yes	0	0.0	1	(100.0)	0	(0.0)	1	(0.3)

Two of the respondents reported to have anal intercourse experience last month (1 male and 1 gay).

One of the two respondents, 1 respondent (0.3% of total respondents) reported to not have used condom during anal intercourse.

Table 11: Intercourse Experience with Commercial Sex Worker (CSW) by Gender

Intercourse Experience with	Gender (n=369)			Total (n=369)
	Female(n=184)	Male(n=183)	Gay(n=2)	

CSW		N	(%)	n	(%)	n	(%)	n	(%)
Lifetime	No	184	(100.0)	167	(91.3)	2	(100.0)	353	(95.7)
Intercourse Experience	Yes	0	0.0	16	(8.7)	0	0.0	16	(4.3)
Intercourse Experience within one month	No	184	(100.0)	179	(97.8)	2	(100.0)	365	(98.9)
	Yes	0	0.0	4	(2.2)	0	0.0	4	(1.1)

According to the data collected, 16 (8.7%) male respondents had sexual intercourse experience with commercial sex workers in their lifetime. Four of them had intercourse with CSW within one month from interview.

Table 12: Presence of Multiple Partners of Respondents by Gender

Presence of Multiple Partners		Gender (n=369)						Total (n=369)	
		Female(n=184)		Male(n=183)		Gay(n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Multiple partners	No	183	(99.5)	178	(97.3)	1	(50.0)	362	(98.1)
	Yes	1	(0.5)	5	(2.7)	1	(50.0)	7	(1.9)

One point nine percent (1.9%) of total responded have multiple sex partners within one month, 1 female, 5 male and 2 gays respectively.

Table 13: Substance Use Behavior of Respondents by Gender

Substance Use	Gender (n=369)	Total

Behavior		Female (n=184)		Male (n=183)		Gay (n=2)		(n=369)	
		n	(%)	n	(%)	n	(%)	n	(%)
Lifetime	No	183	(99.5)	155	(84.7)	2	(100.0)	340	(92.1)
	Yes	1	(0.5)	28	(15.3)	0	(0.0)	29	(7.9)
Type of Substance									
Heroin		0	(0.0)	18	(42.9)	0	(0.0)	18	(40.9)
Opium		1	(50.0)	6	(14.3)	0	(0.0)	7	(15.9)
Methamphetamine		0	(0.0)	2	(4.8)	0	(0.0)	2	(4.5)
Cannabis		1	(50.0)	13	(31.0)	0	(0.0)	14	(31.8)
Methadone		0	(0.0)	3	(7.1)	0	(0.0)	3	(6.8)
Above six months	No	182	(98.9)	146	(79.8)	2	(100.0)	330	(89.4)
	Yes	2	(1.1)	37	(20.2)	0	(0.0)	39	(10.6)
Type of Substance									
Heroin		0	(0.0)	17	(45.9)	0	(0.0)	17	(4.6)
Opium		1	(50.0)	6	(16.2)	0	(0.0)	7	(1.9)
Methamphetamines		0	(0.0)	1	(2.7)	0	(0.0)	1	0.3
Cannabis		1	(50.0)	11	(29.7)	0	(0.0)	12	3.3
Methadone		0	(0.0)	2	(5.4)	0	(0.0)	2	0.5

According to the data collected, 29 (7.9%) respondents have used substance in their lifetime. More than 40% of those respondents used heroin and routed of administration is injecting. More than 60% of respondents reported to use one type of substance and the remaining 40% used more than one type of substances. Within one month from study, one respondent reported to use substance. The respondent also reported to not have used disposable injecting equipment and shared with other drug users.

Table 14: Route of Administration for Substance Use of Respondents by Gender

Route of Administration	Gender (n=369)						Total (n=369)	
	Female (n = 1)		Male (n=28)		Gay (n=0)			
	n	(%)	n	(%)	n	(%)	n	(%)
Injecting	0	(0.0)	17	(38.6)	0	(0.0)	17	(4.6)
Nasal	0	(0.0)	13	(29.5)	0	(0.0)	13	(3.5)
Oral	2	(4.5)	12	(27.3)	0	(0.0)	14	(3.8)

The major route of substance administration used by the respondents is injecting route (38.6%). Nasal (29.5%) and oral routes (female 4.5% and male, 27.3%) stand second and third most used route of administration respectively.

Table 15: Presence of Alcohol Consumption of Respondents by Gender

Presence of Alcohol Consumption		Gender (n=369)						Total (n=369)	
		Female (n=184)		Male (n=183)		Gay (n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Lifetime	No	170	(92.4)	64	(35.0)	0	(0.0)	234	(63.4)
	Yes	14	(7.6)	119	(65.0)	2	(100.0)	135	(36.6)
Within one month	No	178	(96.8)	111	(60.7)	0	(0.0)	289	(78.3)
	Yes	6	(3.2)	72	(39.3)	2	(100.0)	80	(21.7)
Intercourse while on alcohol within one month	No	181	(98.4)	172	(94.0)	1	(50.0)	354	(95.9)
	Yes	3	(1.6)	11	(6.0)	1	(50.0)	15	(4.1)
Intercourse while on alcohol with condom	No	2	(66.7)	2	(18.2)	1	(100.0)	5	(1.4)
	Yes	1	(33.3)	9	(81.8)	0	(0.0)	10	(2.7)

Table 15. shows the alcohol consumption of respondents. Among the respondents, 135 have had alcohol consumption experience in their lifetime. Within one month period, 80 respondents (21.7%) consumed alcohol and 15 of them (3 female, 11 male and 1 gay) had answered they had sexual intercourse while they are drunk. Five of them (1.4%) did not use condom during intercourse.

Table 16: Level of Alcohol Consumption of Respondents by Gender

Number of Standard Drinks/Week	Gender (n=80)						Total (n=80)	
	Female (n=6)		Male(n=72)		Gay(n=2)			
	n	(%)	n	(%)	n	(%)	n	(%)
1 – 7	6	(100.0)	40	(55.6)	1	(50.0)	47	(58.8)
8 – 14	0	(0.0)	13	(18.1)	0	(0.0)	13	(16.3)
15 - Above	0	(0.0)	19	(26.4)	1	(50.0)	20	(25.0)

According to National Institute on Alcohol Abuse and Alcoholism (NIAAA), alcohol consumption can be categorized into moderate or low drinking and heavy or at-risk drinking. Seven standard drinks per week for female and 14 standard drinks per week for male are regarded as moderate drinking. Above 14 standard drinks per month is assumed as heavy or high-risk drinking.

Based on the data collected, 60 participants (6 female, 53 male and 1 gay) can be regarded as moderate or low-risk drinkers. Twenty-five percent of total drinkers (19 male drinkers) and (1 gay drinker) are in the category of heavy or high-risk drinkers which may link to binge drinking.

Table 17: Types of Organization from which the RMO Clients receive HIV/AIDS Related Services

Services		Gender (n=369)						Total (n=369)	
		Female (n=184)		Male (n=183)		Gay (n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
HIV related services from Other Org:	No	86	(46.7)	86	(47.0)	2	(100.0)	174	(47.2)
	Yes	98	(53.3)	97	(53.0)	0	(0.0)	195	(52.8)
Types of Organizations	Government	92	(93.9)	93	(95.9)	0	(0.0)	185	(94.9)
	Non-government	4	(4.1)	1	(1.0)	0	(0.0)	5	(2.6)
	Private Clinic	2	(2.0)	3	(3.1)	0	(0.0)	5	(2.6)

More than half of the respondents (98 female and 97 male) are also receiving HIV/AIDS related services from other organizations apart from Ratana Metta Organization. Over 90% receives from government organizations. Other participants reported to receive from non-government and private organizations.

Table 18: Duration of Services Received from Ratana Metta Organization by Gender

Services Duration		Gender (n=369)						Total (n=369)	
		Female (n=184)		Male (n=183)		Gay (n=2)			
		n	(%)	n	(%)	n	(%)	n	(%)
Service Duration Received from RMO	<6 months	9	(4.9)	12	(6.6)	1	(50.0)	22	(6.0)
	6 months – 1 year	18	(9.8)	17	(9.3)	0	(0.0)	35	(9.5)
	> 1 year	157	(85.3)	154	(84.2)	1	(50.0)	312	(84.6)
Home Visit Service from RMO	No	9	(4.9)	6	(3.3)	0	(0.0)	15	(4.1)
	Yes	175	(95.1)	177	(96.7)	2	(100.0)	354	(95.9)
Duration of Last Home Visit Service	=< 1 month	47	(26.9)	58	(32.8)	0	(0.0)	105	(28.5)
	> 1month to =<6months	78	(44.6)	72	(40.7)	1	(50.0)	151	(40.9)
	> 6months	50	(28.6)	47	(26.6)	1	(50.0)	98	(26.6)

Most of the respondents (157 female, 154 male and 1 gay) are receiving services from Ratana Metta Organization for more than 1 year.

Over 90% of respondents have received home visit services from the organization and over 40% of them received the home visit within 1 month to 6 months.

Table 19: Association between Socio-demographic characteristics of Respondents and Gender

Socio-demographic Characteristics		Gender (n=367)				p-value
		Female (n=184)		Male (n=183)		
		n	(%)	n	(%)	
Age	20 – 29	27	(14.7)	17	(9.3)	0.125
	30 – 39	81	(44.0)	100	(54.6)	
	40 – 49	59	(32.1)	47	(25.7)	
	50 – 65	17	(9.2)	19	(10.4)	
Race	Bamar	165	(89.7)	162	(88.5)	0.724
	Other (Ethnic groups and Chinese, Panjub, Indian, Mixed Blood)	19	(10.3)	21	(11.5)	
Religion	Buddhist	174	(94.6)	175	(95.6)	0.637
	Other (Christian, Islam and Hindu)	10	(5.4)	8	(4.4)	
Marital Status	Single	32	(17.4)	69	(37.7)	0.0001**
	Married	101	(54.9)	103	(56.3)	
	Other(Separated/ Divorced and Widow)	51	(27.7)	11	(6.0)	
Educational Level	Primary School	28	(15.3)	18	(9.8)	0.0001*
	Middle School	51	(27.7)	48	(26.2)	
	High School	51	(27.7)	76	(41.5)	
	University	14	(7.6)	18	(9.8)	
	University Graduated	40	(21.7)	23	(12.6)	
Occupation	Unemployed	98	(53.3)	52	(28.4)	0.007**
	Professional	18	(9.8)	9	(4.9)	
	Skilled Worker	29	(15.8)	58	(31.7)	
	Unskilled Worker	39	(21.2)	64	(35.0)	

*$p<0.05$, **$p<0.001$

According to Table 19, marital status, education and occupation of the respondents are found to have association with gender (p-values <0.001). In marital status, more male respondents are found to be single and more female respondents are found as separated, divorced or widow in their marital status. The collected data

showed that almost twice more female respondents than male are University graduates (40 female and 23 male). Regarding occupation, more female are found to have no employment than male.

Table 4.19: Association between Socio-demographic characteristics of Respondents by Gender (Continued)

Socio-demographic Characteristics		Gender(n=217)				p-value
		Female (n=86)		Male (n=131)		
		n	(%)	n	(%)	
Monthly Income	USD 15 – 49	14	(16.3)	8	(6.1)	0.020*
	USD 50 – 104	38	(44.2)	50	(38.2)	
	USD 105 – 259	32	(37.2)	63	(48.1)	
	USD 260 – 520	2	(2.3)	10	(7.6)	

*$p < 0.05$, ** $p < 0.001$ (Fisher's Exact Test was used for cells having expected count less than 5.)

According to the table, there is association between monthly income and gender of respondents (p-value <0.05). More male are found to be receiving higher salaries than female respondents.

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Table 20: Association between Health Statuses, Social and Environmental Context of Respondents by Gender

Socio-demographic Characteristics	Gender(n=367)				p-value
	Female (n=184)		Male (n=183)		
	n	(%)		(%)	

Health Status						
CD4	(12 – 349)	142	(77.2)	158	(86.3)	0.023*
	(350 – 1257)	42	(22.8)	25	(13.7)	
Presence of Opportunistic Infections	No	153	(83.2)	143	(78.1)	0.224
	Yes	31	(16.8)	40	(21.9)	
Taking ARV Drug	No	24	(13.0)	19	(10.4)	0.428
	Yes	160	(87.0)	164	(89.6)	
Social and Environmental Context						
	No	6	(3.3)	9	(4.9)	0.384
Condom Availability	Yes	166	(90.2)	167	(91.3)	
	Don't Know	12	(6.5)	7	(3.8)	

*$p<0.05$, **$p<0.001$

Association is found between CD4 cell count and gender of the respondents (p-value <0.05). Higher number of female respondents is in high CD4 level. Regarding the presence of opportunistic infection, ARV drug intake and gender of respondents, no association is found between them (p-values >0.05).

Table 21: Association between Social and Environmental Context of Respondents by Gender

Social Context		Gender(n=367)				p-value
		Female (n=184)		Male (n=183)		
		n	(%)	n	(%)	
Family member with multiple partners	No	176	(95.7)	169	(92.3)	0.0001**
	Yes	8	(4.3)	14	(7.7)	
Close friend with multiple	No	167	(90.8)	126	(68.9)	0.0001**

partners	Yes	17	(9.2)	57	(31.1)	
Close friend who regularly visits (CSW)	No	178	(96.7)	146	(79.8)	0.0001**
	Yes	6	(3.3)	37	(20.2)	
Family member regularly drinks alcohol	No	135	(73.4)	145	(79.2)	0.186
	Yes	49	(26.6)	38	(20.8)	
Close friend regularly drinks alcohol	No	157	(85.3)	86	(47.0)	0.0001**
	Yes	27	(14.7)	97	(53.0)	
Family member who uses substance	No	178	(96.7)	179	(97.8)	0.527
	Yes	6	(3.3)	4	(2.2)	
Close friend who uses substance	No	179	(97.3)	158	(86.3)	0.0001**
	Yes	5	(2.7)	25	(13.7)	
Family member or close friend works in HIV field	No	122	(66.3)	143	(78.1)	0.011*
	Yes	62	(33.7)	40	(21.9)	
Received HIV info from family member or friends	No	62	(33.7)	73	(39.9)	0.299
	Yes	122	(66.3)	110	(60.1)	

*p<0.05, **p<0.001 *(Fisher's Exact Test was used for cells having expected count less than 5.)*

Association between social and environmental context and gender of respondents is explored. Associations are found out between presence of family members with multiple partners (p-value <0.001), presence of close friend with multiple partners (p-value <0.001), presence of close friend who regularly visits commercial sex workers (CSW) (p-value <0.001), presence of close friend who regularly drinks alcohol (p-value <0.001), presence of close friend who uses substance (p-value <0.001) and presence of family member or close friend who works in HIV-field (p-value <0.05) and gender of respondents. According to the table, more male respondents are found to have family member and close friend with risk

behaviors such as having multiple partners, regularly visiting CSW, regular alcohol drinking and substance usage. On the contrary, more female respondents are found to have family member and friends who are working in field regarding HIV/AIDS treatment, care and support.

Table 22: Knowledge Level and Risk Behaviors regarding HIV/AIDS of Respondents by Gender

Socio-demographic Characteristics		Gender(n=367)				p-value
		Female (n=184)		Male (n=183)		
		n	(%)		(%)	
Knowledge regarding HIV/AIDS						
Knowledge Level	Low & Moderate	30	(16.3)	35	(19.1)	0.077
	High	154	(83.7)	148	(80.9)	
Risk Behaviors						
Condom Usage	No	11	(16.2)	13	(14.1)	0.492
	Yes	57	(83.8)	79	(85.9)	

Substance Use	No	184	(100.0)	182	(99.5)	0.499
	Yes	0	(0.0)	1	(0.5)	
Alcohol Consumption	No	178	(96.7)	111	(60.7)	0.0001**
	Yes	6	(3.3)	72	(39.3)	

p < 0.05, ** *p* <0.001 (Fisher's Exact Test was used for cells having expected count less than 5.)

Table 22 illustrates that there is no significant association between knowledge level, condom usage, substance use behaviors and gender of respondents. Nevertheless, association is found between alcohol consumption behavior and gender of respondents with the *p*-value <0.001. More male respondents are found to consume alcohol than female respondents.

Table 23: Association between Socio-demographic Characteristics and Risk Behaviors regarding HIV/AIDS (Unprotected Intercourse)

Socio-demographic Characteristics		Condom Usage (n=369)				*p*-value
		No (n=22)		Yes (n=347)		
		n	(%)	n	(%)	
Age	20 - 39	6	(27.3)	210	(60.5)	0.367
	40 - 65	16	(72.7)	137	(39.5)	
Gender	Female	9	(40.9)	175	(50.4)	0.0001**
	Male	13	(59.1)	172	(49.6)	
Race	Bamar	20	(90.9)	309	(89.0)	1.000
	Other (Ethnic groups, Chinese,	2	(9.1)	38	(11.0)	

Panjub, Indian, Mixed Blood)

		No	(%)	Yes	(%)	p-value
Religion	Buddhist	22	(100.0)	329	(94.8)	0.614
	Other (Christian, Islam and Hindu)	0	(0.0)	18	(5.2)	
Marital Status	Single	6	(27.3)	159	(45.8)	0.121
	Married	16	(72.7)	188	(54.2)	

*p < 0.05, ** p <0.001 (*Fisher's Exact Test was used for cells having expected count less than 5.*)

Table 23 shows association between socio-demographic characteristics and sexual risk behavior (unprotected intercourse). It is found out that there is association between gender and sexual risk behavior of unprotected intercourse. The *p*-value for gender and having unprotected intercourse stood at the significant level (*p*-value <0.001).

Table 23: Association between Socio-demographic Characteristics and Risk Behavior regarding HIV/AIDS (Unprotected Intercourse) (Continued)

Socio-demographic Characteristics		Condom Usage (n = 369)				p – value
		No (n=22)		Yes (n=347)		
		n	(%)	n	(%)	
Educational Level	Basic Education	17	(77.3)	255	(73.5)	0.696
	Higher Education	5	(22.7)	92	(26.5)	
Occupation	Unemployed	7	(31.8)	144	(41.5)	0.371
	Employed	15	(68.2)	203	(58.5)	
	Income in USD					
	USD 15 - 104	8	(53.3)	102	(50.2)	0.818

	USD 105 - 520	7 (46.7)	101 (49.8)

*p < 0.05, ** p <0.001

Table 23 shows that there is no association between Socio-demographic Characteristics such as educational level, occupation, income and sexual risk behavior of unprotected intercourse.

Table 24: Association between Health Status and Risk Behaviors regarding HIV/AIDS (Unprotected Intercourse)

Health Status		Condom Usage (n=369)				p - value
		No (n=22)		Yes (n=347)		
		n	(%)	n	(%)	
CD4	(12 – 349)	21	(95.5)	281	(81.0)	0.148
	(350 – 1257)	1	(4.5)	66	(19.0)	
Presence of Opportunistic Infection	No	18	(81.8)	279	(80.4)	1.000
	Yes	4	(18.2)	68	(19.6)	
Taking ARV	No	2	(9.1)	41	(11.8)	1.000
	Yes	20	(90.9)	306	(88.2)	

(Fisher's Exact Test was used for cells having expected count less than 5.)

No association is found between health status (CD4, opportunistic infection and taking ARV drug) and sexual risk behavior of having unprotected intercourse.

Table 25: Association between Social and Environmental Context and Risk Behaviors regarding HIV/AIDS (Unprotected Intercourse)

Social and Environmental Context		Condom Usage (n=369)				*p*-value
		No (n=22)		Yes (n=347)		
		n	(%)	n	(%)	
Condom Availability	No	1	(4.5)	33	(9.5)	0.377
	Yes	21	(95.5)	314	(90.5)	
Family member with multiple partners	No	20	(90.9)	326	(93.9)	0.638
	Yes	1	(4.5)	21	(6.1)	
Close friend with multiple partners	No	16	(72.7)	277	(79.8)	0.425
	Yes	6	(27.3)	70	(20.2)	
Close friend who regularly visits (CSW)	No	18	(81.8)	307	(88.5)	0.316
	Yes	4	(18.2)	40	(11.5)	
Family member regularly drinks alcohol	No	15	(68.2)	266	(76.7)	0.366
	Yes	7	(31.8)	81	(23.3)	

Close friend regularly drinks alcohol	No	14	(63.6)	230	(66.3)	0.799
	Yes	8	(36.4)	117	(33.7)	
Family member who uses substance	No	21	(95.5)	338	(97.4)	0.463
	Yes	1	(4.5)	9	(2.6)	
Close friend who uses substance	No	21	(95.5)	318	(91.6)	1.000
	Yes	1	(4.5)	29	(8.4)	
Family member or close friend who works in HIV field	No	17	(77.3)	250	(72.0)	0.595
	Yes	5	(22.7)	97	(28.0)	
Received HIV info from family member or friends	No	13	(59.1)	122	(35.2)	0.077
	Yes	9	(40.9)	225	(64.8)	

(Fisher's Exact Test was used for cells having expected count less than 5.)

According to the table, no association is found between social and environmental context and having unprotected intercourse behavior of respondents.

Table 26: Association between Self-help Group Participation and Risk Behaviors regarding HIV/AIDS (Unprotected Intercourse)

Self-help Group (SHG)		Condom Usage (n = 369)				*p*-value
		No (n=22)		Yes (n=347)		
		n	(%)	n	(%)	
SHG	No	20	(90.9)	323	(93.1)	0.661
Participation	Yes	2	(9.1)	24	(6.9)	

(Fisher's Exact Test was used for cells having expected count less than 5.)

There is no association between Self-help Group participation and gender of the respondents.

Table 27: Association between Knowledge and Risk Behaviors regarding HIV/AIDS (Unprotected Intercourse)

Knowledge regarding HIV/AIDS		Condom Usage (n = 369)				*p*-value
		No (n=22)		Yes (n=347)		
		n	(%)	n	(%)	
Knowledge	Low & Moderate	9	(40.9)	56	(16.1)	0.003*

Level	High	13	(59.1)	291	(83.9)

p < 0.05, **p* <0.001

According to Table 27, there is association between knowledge level and condom usage of respondents (*p*-value <0.05).

Table 28: Association between Risk Behaviors regarding HIV/AIDS (Unprotected Intercourse)

Risk Behaviors		Condom Usage (n = 369)				*p*-value
		No (n=22)		Yes (n=347)		
		n	(%)	n	(%)	
Multiple Partners	No	21	(95.5)	341	(98.3)	0.352
	Yes	1	(4.5)	6	(1.7)	
Anal Intercourse	No	21	(95.5)	346	(99.7)	0.116
	Yes	1	(4.5)	1	(0.3)	
Alcohol Consumption	No	18	(81.8)	271	(78.1)	0.796
	Yes	4	(18.2)	76	(21.9)	

(Fisher's Exact Test was used for cells having expected count less than 5.)

Table 28 shows that there is no association between risk behaviors regarding HIV/AIDS such as having multiple partners, anal intercourse, intercourse with commercial sex worker, substance use, alcohol consumption and unprotected intercourse behavior of respondents.

Table 29: Association between Socio-demographic Characteristics and Risk Behaviors regarding HIV/AIDS (Multiple Partners)

Socio-demographic Characteristics		Multiple Partners (n=369)				p-value
		No (n=362)		Yes (n=7)		
		n	(%)	n	(%)	
Age	20 – 39	220	(60.8)	6	(85.7)	0.256
	40 – 65	142	(39.2)	1	(14.3)	
Gender	Female	183	(50.6)	1	(14.3)	0.121
	Male	179	(49.4)	6	(85.7)	
Race	Bamar	324	(89.5)	5	(71.4)	0.170
Other (Ethnic groups, Chinese, Panjub, Indian, Mixed Blood)		38	(10.5)	2	(28.6)	
Religion	Buddhist	345	(95.3)	6	(85.7)	0.297
Other (Christian, Islam and Hindu)		17	(4.7)	1	(14.3)	
Marital Status	Single	161	(44.5)	4	(57.1)	0.705
	Married	201	(55.5)	3	(42.9)	
Educational Level	Basic Education	270	(74.6)	2	(28.6)	0.015*
	Higher Education	92	(25.4)	5	(71.4)	
Occupation	Unemployed	150	(41.4)	1	(14.3)	0.248

Employed	212 (58.6)	6 (85.7)		
Income in USD (employed)				
USD 15 – 104	108 (50.9)	2 (33.3)	0.443	
USD 105 – 520	104 (49.1)	4 (66.7)		

*p < 0.05, ** p <0.001 (Fisher's Exact Test was used for cells having expected count less than 5.)*

According to the data analysis, there is association between educational level and having multiple partners (sexual risk behavior) of respondents (*p*-value <0.05). More respondents with higher education are found to have multiple partners than those with basic educational level.

Table 30: Association between Health Status and Risk Behaviors regarding HIV/AIDS (Multiple Partners)

Health Status		Multiple Partners (n=369)				p – value
		No (n=362)		Yes (n=7)		
		n	(%)	n	(%)	
CD4	(12 – 349)	296	(81.8)	6	(85.7)	1.000
	(350 – 1257)	66	(18.2)	1	(14.3)	
Presence of Opportunistic Infection	No	293	(80.9)	4	(57.1)	0.138
	Yes	69	(19.1)	3	(42.9)	
Taking ARV	No	41	(11.3)	2	(28.6)	0.191
	Yes	321	(88.7)	5	(71.4)	

(Fisher's Exact Test was used for cells having expected count less than 5.)

There is no association between health status (CD4, opportunistic infections and ARV) and sexual risk behavior of having multiple partners of the respondents.

Table 31: Association between Risk Behaviors regarding HIV/AIDS (Multiple Partners)

Risk Behaviors		Multiple Partners (n = 369)				p-value
		No (n=362)		Yes (n=7)		
		n	(%)	n	(%)	
Anal Intercourse	No	361	(99.7)	6	(85.7)	0.038*
	Yes	1	(0.3)	1	(14.3)	
Intercourse with CSW	No	360	(99.4)	5	(71.4)	0.002**
	Yes	2	(0.6)	2	(28.6)	
Alcohol Consumption	No	287	(79.3)	2	(28.6)	0.0001**
	Yes	75	(20.7)	5	(71.4)	

* $p < 0.05$, ** $p < 0.001$ (Fisher's Exact Test was used for cells having expected count less than 5.)

According to the data collected, it is found out that there are associations between sexual risk behaviors such as having anal intercourse, intercourse with CSW and having multiple partners. The p-values are statistically significant (p-value <0.05). There is also association between alcohol consumption behavior and sexual behavior of having multiple partners (p-value <0.001).

Table 32: Association between Socio-demographic Characteristics and Risk Behavior regarding HIV/AIDS (Anal Intercourse)

Socio-demographic Characteristics		Anal Intercourse (n=369)				p-value
		No (n=367)		Yes (n=2)		
		n	(%)	n	(%)	
Age	20 - 39	225	(61.3)	1	(50.0)	1.000
	40 - 65	142	(38.7)	1	(50.0)	
Marital Status	Single	164	(44.7)	1	(50.0)	1.000
	Married	203	(55.3)	1	(50.0)	
Educational Level	Basic Education	214	(58.3)	1	(50.0)	0.462
	Higher Education	77	(21.0)	1	(50.0)	
Occupation	Unemployed	151	(41.1)	0	(0.0)	0.515
	Employed	216	(58.9)	2	(100.0)	
Income in USD (employed)						
	USD 15 - 104	110	(50.9)	0	(0.0)	0.244
	USD 105 - 520	106	(49.1)	2	(100.0)	

*p < 0.05, ** p <0.001 (Fisher's Exact Test was used for cells having expected count less than 5.)

No association is found between socio-demographic characteristics and having anal intercourse behavior.

Table 33: Association between Risk Behaviors regarding HIV/AIDS (Anal Intercourse)

Risk Behaviors		Anal Intercourse (n = 369)				p-value
		No (n=367)		Yes (n=2)		
		n	(%)	n	(%)	
Intercourse with CSW	No	363	(98.9)	2	(100.0)	1.000
	Yes	4	(1.1)	0	(0.0)	
Substance Use	No	366	(99.7)	0	(0.0)	1.000
	Yes	1	(0.3)	2	(100.0)	
Alcohol Consumption	No	289	(78.7)	2	(100.0)	0.047*
	Yes	78	(21.3)	0	(0.0)	

*$p < 0.05$, ** $p < 0.001$ (Fisher's Exact Test was used for cells having expected count less than 5.)

According to the table, there is association between alcohol consumption behavior and having anal intercourse behavior of respondent with the p-value <0.05.

Table 34: Association between Socio-demographic Characteristics and Risk Behavior regarding HIV/AIDS, Intercourse with Commercial Sex Worker (CSW)

Socio-demographic Characteristics		Intercourse with CSW (n=369)				p-value
		No (n=365)		Yes (n=4)		
		n	(%)	n	(%)	
Age	20 - 39	224	(61.4)	2	(50.0)	0.643
	40 - 65	141	(38.6)	2	(50.0)	
Marital Status	Single	162	(44.4)	3	(75.0)	0.329
	Married	203	(55.6)	1	(25.0	
Educational Level	Basic Education	271	(74.2)	1	(25.0)	0.057
	Higher Education	94	(25.8)	3	(75.0)	
Occupation	Unemployed	149	(40.8)	2	(50.0)	1.000
	Employed	216	(59.2)	2	(50.0)	
Income in USD (employed)				n	(%)	
	USD 15 - 104	109	(50.5)	1	(50.0)	1.000
	USD 105 - 520	107	(49.5)	1	(50.0)	

*p < 0.05, **p <0.001 *(Fisher's Exact Test was used for cells having expected count less than 5.)* No association is found between socio-demographic characteristics and sexual risk behavior (having intercourse with CSW) of respondents.

Table 35: Association between Health Status and Risk Behavior regarding HIV/AIDS, Intercourse with Commercial Sex Worker (CSW)

| Health Status | | Intercourse with CSW(n=369) | | | | p - value |
| | | No (n=365) | | Yes (n=4) | | |
		n	(%)	n	(%)	
CD4	(12 – 349)	299	(81.9)	3	(75.0)	0.553
	(350 – 1257)	66	(18.1)	1	(25.0)	
Presence of Opportunistic Infection	No	293	(80.3)	4	(100.0)	1.000
	Yes	72	(19.7)	0	(0.0)	
Taking ARV	No	43	(11.8)	0	(0.0)	1.000
	Yes	322	(88.2)	4	(100.0)	

(Fisher's Exact Test was used for cells having expected count less than 5.)

No association is found between health status of respondents and sexual risk behavior of having intercourse with commercial sex worker (CSW).

Table 36: Association between Risk Behaviors regarding HIV/AIDS, Intercourse with Commercial Sex Worker (CSW)

Risk Behaviors		Intercourse with CSW (n = 369)				p-value
		No (n=365)		Yes (n=4)		
		n	(%)	n	(%)	
Substance Use	No	364	(99.7)	4	(100.0)	1.000
	Yes	1	(0.3)	0	(0.0)	
Alcohol Consumption	No	288	(78.9)	1	(25.0)	0.033*
	Yes	77	(21.1)	3	(75.0)	

*$p < 0.05$, ** $p < 0.001$ (Fisher's Exact Test was used for cells having expected count less than 5.)

According to the table, there is association between alcohol consumption behavior and having intercourse with CSW. The p-value is statistically significant (p-value <0.05).

Table 37: Association between Socio-demographic Characteristics and Risk Behavior regarding HIV/AIDS (Alcohol Consumption)

Socio-demographic Characteristics		Alcohol Consumption (n=369)				p-value
		No (n=289)		Yes (n=80)		
		n	(%)	n	(%)	
Age	20 - 39	175	(60.6)	51	(63.8)	0.604
	40 - 65	114	(39.4)	29	(36.3)	
Gender	Female	178	(61.6)	6	(7.5)	0.0001**
	Male	111	(38.4)	74	(92.5)	
Race	Bamar	258	(89.3)	71	(88.8)	0.894
Other (Ethnic groups, Chinese, Panjub, Indian, Mixed Blood)		31	(10.7)	9	(11.3)	
Religion	Buddhist	273	(94.5)	78	(97.5)	0.383
Other (Christian, Islam and Hindu)		16	(5.5)	2	(2.5)	
Marital Status	Single	128	(44.3)	37	(46.3)	0.755
	Married	161	(55.7)	43	(53.8)	
Educational Level	Basic Education	212	(73.4)	60	(75.0)	0.768
	Higher Education	77	(26.6)	20	(25.0)	
Occupation	Unemployed	132	(45.7)	19	(23.8)	0.0001**
	Employed	157	(54.3)	61	(76.3)	
Income in USD (employed)						
	USD 15 - 104	83	(52.9)	27	(44.3)	0.254
	USD 105 - 520	74	(47.1)	34	(55.7)	

* $p < 0.05$, ** $p < 0.001$ (Fisher's Exact Test was used for cells having expected count less than 5.)

According to Table 37, associations are found between gender and alcohol consumption (*p*-value <0.001), occupation and alcohol consumption of respondents (*p*-value <0.001).

Table 38: Association between Health Status and Risk Behavior regarding HIV/AIDS (Alcohol Consumption)

Health Status		Alcohol Consumption (n=369)				*p* - value
		No (n=289)		Yes (n=80)		
		n	(%)	n	(%)	
CD4	(12 – 349)	236	(81.7)	66	(82.5)	0.863
	(350 – 1257)	53	(18.3)	14	(17.5)	
Presence of Opportunistic Infection	No	232	(80.3)	65	(81.3)	0.846
	Yes	57	(19.7)	15	(18.8)	
Taking ARV	No	33	(11.4)	10	(12.5)	0.790
	Yes	256	(88.6)	70	(87.5)	

According to the table, no association is found between health status and alcohol consumption behavior of respondents.

Table 39: Association between Social and Environmental Context and Risk Behavior regarding HIV/AIDS (Alcohol Consumption)

Social and Environmental Context		Alcohol Consumption (n=369)				p-value
		No (n=289)		Yes (n=80)		
		n	(%)	n	(%)	
Social Influence						
Family member with multiple partners	No	276	(95.5)	70	(87.5)	0.009**
	Yes	13	(4.5)	10	(12.5)	
Close friend with multiple partners	No	244	(84.4)	49	(61.3)	0.0001**
	Yes	45	(15.6)	31	(38.8)	
Close friend who regularly visits (CSW)	No	261	(90.3)	64	(80.0)	0.012*
	Yes	28	(9.7)	16	(20.0)	
Family member regularly drinks alcohol	No	221	(76.5)	60	(75.0)	0.785
	Yes	68	(23.5)	20	(25.0)	
Close friend regularly drinks alcohol	No	214	(74.0)	30	(37.5)	0.0001**
	Yes	75	(26.0)	50	(62.5)	
Family member who uses substance	No	282	(97.6)	77	(96.3)	0.457
	Yes	7	(2.4)	3	(3.8)	
Close friend who uses substance	No	268	(92.7)	71	(88.8)	0.249
	Yes	21	(7.3)	9	(11.3)	
Family member or close friend works in HIV field	No	205	(70.9)	62	(77.5)	0.245
	Yes	84	(29.1)	18	(22.5)	
Received HIV info from family member or friends	No	103	(35.6)	32	(40.0)	0.474
	Yes	186	(64.4)	48	(60.0)	

* $p < 0.05$, ** $p < 0.001$ (Fisher's Exact Test was used for cells having expected count less than 5.)

According to Table 39, associations are found between family member with multiple partners and alcohol consumption of respondents (p-value <0.05), close friend with multiple partners and alcohol consumption behavior (p-value <0.001), close friend who regularly visits CSW and alcohol consumption behavior (p-value

<0.05), close friend who regularly drinks alcohol and alcohol consumption behavior (*p*-value <0.001).

In conclusion, this descriptive study was conducted with 369 participants who are mainly from age group of 30 – 39 (81 female, 100 male and 1 gay). Over 90% of respondents reported their religion as Buddhist. More than 50% of participants are married and over 25% are singles. Their overall HIV/AIDS knowledge level is high. The percentage of respondents with risk behavior is low.

Chi-square is used to calculate the associations between independent variables such as socio-demographic characteristics, health status, social and environmental context, self-help group participation, knowledge regarding HIV/AIDS and dependent variables of HIV/AIDS risk behaviors (unprotected intercourse, multiple partners, intercourse with CSW, anal intercourse, substance use and alcohol consumption.)

Some associations are found between socio-demographic characteristics such as gender, educational level, occupation, knowledge regarding HIV/AIDS and risk behaviors such as unprotected intercourse, multiple partners and alcohol consumption behaviors.

Associations are also found between risk behaviors themselves such as anal intercourse and multiple partners (*p*-value <0.05), intercourse with CSW and multiple partners (*p*-value 0.002), alcohol consumption and multiple partners (*p*-value <0.001), alcohol consumption and anal intercourse (*p*-value 0.047), alcohol consumption and intercourse with CSW (*p*-value <0.05).

No association is found between independent variables such as health status, social and environmental context, self-help group participation, knowledge regarding HIV/AIDS and dependent variables such as having multiple partners, anal intercourse, intercourse with CSW and substance use behaviors of respondents.

CHAPTER V

DISCUSSION AND RECOMMENDATION

5.1 DISCUSSION

This cross-sectional study is conducted to assess HIV/AIDS related risk behaviors among people living with HIV/AIDS (PLHIV) in Ratana Metta Organization, Yangon, Myanmar. Total respondents of the study are 369 (184 female, 183 male and 2 gays). The respondents are interviewed using structured questionnaire to describe the respondents HIV/AIDS risk behaviors. The questionnaire includes socio-demographic characteristics, health status of respondents, social and environmental context, self-help group participation, knowledge and risk behaviors regarding HIV/AIDS parts. In this discussion section, the findings will be discussed in the context of study objectives and research questions.

Most of the respondents (81 female, 100 male and 1 gay) are from the age group of 30-39 (49.1%). Second most respondents are from 40-49 age group (28.7%). Bamar represents the major race of the respondents with the total 329 among 369 respondents (89.2%). Buddhist is reported as religion of 95.1% of the respondents (351 participants). The marital status of 204 of the respondents is married (over 50%) and the status of being single stands second in the category with 103 respondents (over 25%). Marital status is found to have association with gender (*p*-value <0.001). More male respondents have status of being single (n=69) than female respondents (n=32). Nearly 30% of female respondents are reported to have marital status of being separated, divorced or widow when 6% of male respondents are found in the same category.

Regarding education of the respondents, majority of the respondents (51 female and 76 males) have high school education (34.4%). The second most (26.8%) have the middle school education with total 99 respondents (51 female and 48 male). There are 65 university graduates (17.6%) in the respondents. Association is found between the educational level and gender (*p*-value <0.001). Majority of female respondents has middle and high school education whilst over 40% of male respondents have high school education. However, 20% of female respondents (n=40) are university graduates and there are only 12% of male respondents who have graduated from universities.

Total of 218 respondents (59.1%) are employed and over 50% of female respondents are found to be unemployed along with 52 male and 1 gay, altogether which add up to 40.9% of total respondents. Among the respondents who are employed, 27 of them are working in professional level occupation, 89 working as skilled workers and the major portion 102 (46.8%) work as unskilled workers. More than 50% percent (117 respondents) receives the salary ranging from MMK 50 - 104 from their jobs. There is also association between occupation, income and gender. The *p*-value for association between occupation and gender is 0.007 and that of between income and gender is 0.020.

Health status of the respondents includes CD4 cell count, presence of opportunistic infection and ARV drug. Most of the respondents' medical records (211 participants, 98 female and 113 male) show the low CD4 level (from 201 – 350). Seventy-two of the respondents (31 female, 40 male and 1 gay) have opportunistic infections such as tuberculosis to skin diseases. The majority of the respondents (88.3%) have started taking ARV drug (160 female, 164 male and 2 gays). No

association is found between health status of respondents and risk behaviors regarding HIV/AIDS (sexual risk behaviors, substance use behavior, and alcohol consumption behaviors.)

Under the social and environmental context of the respondents section, three parts are included, namely, health information source, condom availability and social influence upon the respondents. Over (70%) of the respondents' answered Ratana Metta Organization as their source of information regarding HIV/AIDS. The mass media (both printing and broadcasting media) stands as the second largest source of HIV/AIDS information for the respondents (23.8%). It is also reported that 16% of respondents receive HIV related information from their friends and colleagues, 5.1% from their spouse/ partners and 3.5% from family and relatives. Although it is a good point that the respondents receive such information from their surroundings such as friends and family members, it can affect the accuracy of the information if they have no clear knowledge about the topic.

The availability of condom was also recorded and over 90.0% of respondents (167 female, 166 male and 2 gays) answered that condoms are easy to get. However, 15 respondents (4.1%) responded that it is not easy for them to get condoms and 19 respondents (5.1%) responded that they don't know where to get condoms. The condom availability does not have association with any risk behavior regarding HIV/AIDS.

Family members and close friends behaviors such as sexual, alcohol consumption and substance use behaviors are also recorded as social and environmental context of the respondents. Twenty-three respondents (6.2%) answered that their family members have multiple sex partners and 76 respondents

(20.6%) replied that their close friends have multiple sex partners. Family members of 10 respondents (2.7%) have substance use behavior and close friends of 30 respondents (8.1%) have substance use behaviors. Over 30% of respondents have close friends who drink alcohol regularly. Associations are found out between gender and social and environmental context such as presence of family members with multiple partners (p-value <0.001), presence of close friend with multiple partners (p-value <0.001), presence of close friend who regularly visits commercial sex workers (CSW) (p-value <0.001), presence of close friend who regularly drinks alcohol (p-value <0.001), presence of close friend who uses substance (p-value <0.001) and presence of family member or close friend who works in HIV-field (p-value <0.05). Higher percentage of male respondents are found to have family member and close friend with risk behaviors such as having multiple partners, regularly visiting CSW, regular alcohol drinking and substance usage. More female respondents are found to have family member and friends who are working in field regarding HIV/AIDS treatment, care and support.

Between family members having multiple partners and respondents having alcohol consumption behavior, association is found with p-value significant at <0.05. Association is also found between having close friends who regularly visit to commercial sex workers (CSW) and respondents' alcohol consumption behavior (p-value <0.05). Having close friends who drinks alcohol regularly is found to have association with alcohol consumption behavior of respondents (p-value <0.001).

Although no association is found between family member and friend's substance use behavior and respondents' current behavior of substance use, associations are found between family members' and friends' substance use

behavior and respondents' lifetime substance use behavior (*p*-values <0.05 for family members' substance use behavior and respondents' lifetime substance use behavior, p-value <0.001 for close friends' substance use behavior and respondents' lifetime substance use behavior). These findings are in line with the findings from a study done in Thailand that there is significant correlation between respondents who use drugs and friends who used illegal substances. The findings in this study also indicate that youth substance related problems may be caused by the substance use behavior of family members and friends. (Chitlada A., Usaneya Perngparn., 2007)

Altogether 102 participants (62 female and 40 male) responded that they have family member or close friends who work in HIV/AIDS care and support field. More than 230 respondents (121 female, 110 male and 2 gays) reported that although they do not have family members or friends who work in HIV/AIDS field, they have received information regarding HIV/AIDS from their family members and close friends. Consequently, this could imply that the messages they receive from their family members or friends could be wrong or could have misconceptions. However, over 80% of respondents obtained high scores in the HIV/AIDS knowledge questionnaire (154 female, 148 male and 2 gay). It can be assumed that Ratana Metta Organization has strong health information program for the patients since it is the main formal information source for them. This finding is not consistent with the finding from a study done among female sex workers (FSWs) in Bangkok. Since it showed that although FSWs had received HIV relating information, their knowledge levels regarding HIV/AIDS were relatively low getting only 50% of correct answers. (Tooru N., et al., 2012). This could be due to the fact that participants from Ratana Metta

Organization receive information from different channels rather than only one source.

The respondents' participation towards Self-help Group is also recorded. Over 10% of respondents are members of self-help groups which focus in various fields from business to social and health care activities. Nevertheless, only half of the members are reported to participate actively in group activities. Twenty-nine of the participants are members of self-help group formed by Ratana Metta Organization. Participation in self-help group activities shows no association with risk behaviors of the participants.

It is found out that the respondents have high knowledge about HIV testing, HIV preventive measures. They have confusion regarding HIV transmission and difference between HIV and AIDS. Over 80% of the respondents obtained high knowledge score and 16.2% of the respondents obtained middle level score. Five male participants (1.4%) obtained low knowledge score in the test. Nonetheless, it is found out that knowledge level has no significant association in conducting risk behaviors except for association between having unprotected intercourse behavior and knowledge level (p-value <0.05). The rest of the risk behaviors such as having multiple partners, anal intercourse, intercourse with CSW, substance use and alcohol consumption behaviors show no association with HIV/AIDS knowledge level of respondents. This can be seen in gay participants with high HIV knowledge level who have anal sex and alcohol consumption within one month. This finding is supported by a study done among drug addicted patients in Warsaw, Poland stating that attained knowledge is found to have no relationship in conducting risk sexual activity (performing unprotected anal and vaginal sex). (Izdebski. Z., & Malyszko, M., 2012)

Majority of the respondents (89.4%) has had sexual experience in their lifetime. Twenty-four the respondents (6.5%) had sexual intercourse within 30 days without using condom. Moreover, one respondent has had anal sexual intercourse without using condom within one month. Regarding the multiple sex partner, 7 participants (1.9%) responded that they have more than one sex partners within the last 30 days. Four male respondents answered that they had sexual intercourse with CSW within one month.

Over 7% of the respondents have substance use experience in more than six months. The participants are asked if they had used substance within 30 days, one participant responded to have used injecting drug and to have shared the injecting equipment with other drug users. A research done in Manipur, India, shows that more than one-fourth (27%) of intravenous drug users reported having had sex with multiple partners in the past. Although there is no association between respondents' current substance use behaviors and condom use (*p*-value 1.000), association is found between respondents' lifetime substance use behavior and condom use (*p*-value 0.019). The similar result has been found in a study done among African American Students showing female students who use substance were five times (OR=5.05, P= 0.02) more likely to report inconsistent condom use compared to those who did not. In this study, it is also found that there is association between substance use behavior and having multiple sex partners (P-value 0.04). Substance use is also associated with anal intercourse (P-value 0.019).

Most of the respondents (73.1%) have consumed alcohol at one point in their lifetime. Over 20% of the participants responded to have drunk alcohol within 30 days. Among them, 15 participants had sexual intercourse while they are drunk

and 5 of them had intercourse without using condom. In this study, it is found out that alcohol consumption behavior has association with respondents' visits to commercial sex workers (p-value <0.05). This finding is supported by the previous study done by Adedeji S. et al, which pointed out that alcohol and drug use enhance sexual risk taking behaviors. The finding is also consistent with the finding from a research conducted in Ranong, Thailand, which shows that nearly 60% (59.9%) of study participants go to brothel when they are drunk (Htoo. K. M., 2008). Alcohol consumption is also found to have associations with other risk behaviors such as having multiple partners and anal intercourse with the p-values statistically significant at <0.001 and <0.05 respectively for each behavior.

Generally, it is found out that higher number of male respondents has risk behaviors than female and gay respondents regarding sexual risk behavior of having intercourse with commercial sex worker (0 female, 4 male and 0 gay), having multiple partners (1 female, 5 male and 1 gay) and regarding alcohol consumption behavior (6 female, 72 male and 2 gay).

Regarding the association between risk behaviors of respondents, the findings are consistent with the findings from studies mentioned in chapter (II) Literature Review since there is a significant association among the risk behaviors themselves.

The limitation in this study is that new cases cannot be found as the study duration is only one month and new patient admission is limited to target number set by the organization (35 new cases per 3 months). This makes it difficult to categorize the participants into new comers and old visitors. If comparison of their knowledge score, risk behaviors and other variables could be conducted, it will be more helpful for the organization to decide which activity is more effective for the

beneficiaries of the organization. Most of the patients are visiting the clinic since previous years and receiving the continuum of treatment, care and support. Moreover, another limitation is that this study was done in patients from clinic of one particular organization in Yangon and the result and finding cannot be generalized to the whole PLHIV population in Myanmar.

5.2 Conclusion and Recommendation

This study aims to identify the risk behaviors and other socio-demographic characteristics of people living with HIV/AIDS in Ratana Metta Organization in Yangon, Myanmar. Some respondents are found to have some high risk behaviors such as having intercourse without condom (6.5%), anal intercourse without condom (0.3%) and having multiple sex partners (1.9%). One percent of the total respondents (4 male) have sexual intercourse with commercial sex workers. Some respondents also have substance use behavior (0.3%) and alcohol consumption behavior (1.4%). More than 5.0% of respondents are found to be heavy or high-risk alcohol drinkers. Knowledge level of most of the respondents in Ratana Metta Organization is high (82.5%).

There are associations between socio-demographic characteristics such as gender, educational level, occupation, knowledge regarding HIV/AIDS and risk behaviors such as unprotected intercourse, multiple partners and alcohol consumption behaviors. Associations are also found between risk behaviors themselves such as anal intercourse and multiple partners (p-value 0.038), intercourse with CSW and multiple partners (p-value 0.002), alcohol consumption and multiple partners (p-value 0.0001), alcohol consumption and anal intercourse (p-value 0.047), alcohol consumption and intercourse with CSW (p-value 0.033).

No association is found between independent variables such as health status, social and environmental context, self-help group participation, knowledge regarding HIV/AIDS and dependent variables such as having multiple partners, anal intercourse, intercourse with CSW and substance use behaviors of respondents.

The result of the study shows that knowledge level of respondents is fairly high. This finding indicates that the health education and counseling programs of Ratana Metta Organization are effective. However, certain portion of the respondents still has risk behaviors especially in sexual practice. Reproductive health education program needs to be reinforced since unsafe sexual practices are the major route of HIV transmission. Although the availability of condom is high for the respondents (over 90%), there are still a few cases of intercourse without condom. In addition to providing the condoms, the organization would also need to put more emphasize to ensure that the respondents always keep the condom with them wherever they go.

According to the findings, alcohol consumption of the participants is high (16% moderate drinkers and 5.2% heavy or high-risk drinkers). Should a study regarding alcohol consumption of the participants be conducted, the reason or overview of their consumption situation will be able to find out. Based on the results, necessary education or intervention program can be developed and implemented to lower the alcohol consumption among the respondents.

Although the study is mainly for risk behaviors, another point that has been found out is that nearly half of the respondents (total 151 respondents) have no job. Most of them are woman (98 female). Though 218 respondents have jobs, 47% of them are working as unskilled workers and 10% of them are receiving very low salary (USD 15 – 49). A study on occupational situation of PLHIV should be considered as

further research to find out the reason or overview of their employment situation. If stigma and discrimination against HIV would be the reason for their unemployment or lowly-paid salary, we can find out better solutions and upgrade the awareness raising programs to the community level in addition to organization based activities to protect them from being exploited.

This study was conducted with HIV patients who are receiving support from one particular organization. So the result of the study will be useful for the organization to evaluate their project and improve it. Moreover, the result can be applied as the data base for the further studies and monitoring and evaluation program for the upcoming years. The result and data base can also be applied to propose necessary prevention and education programs to the organization.

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APPENDIX

ANNEX (I) Questionnaire (English)

HIV/AIDS RISK BEHAVIORS AMONG PEOPLE LIVING WITHHIV (PLHIV) IN RATANA METTA ORGANIZATION YANGON, MYANMAR.

Participant's ID ....   Date..................

Part I : Socio Demographic Characteristics

1. Age ....

2. Birthday (YYYY) ....

3. Gender   (1)☐ Female (2)☐ Male (3)☐ Other.........

4. Race

   (1)☐ Bamar   (2)☐ Mon   (3)☐ Rakhine   (4)☐ Shan

   (5)☐ Kachin   (6)☐ Kayar   (7)☐ Karen   (8)☐ Chin

   (9)☐ Other.....................

5. Religion

   (1)☐ Buddhist   (2)☐ Christian   (3)☐ Islam   (4)☐ Hindu

   (5)☐ Other..........................

6. Marital Status

   (1)☐ Single   (2)☐ Married   (3)☐ Separated/Divorced

   (4)☐ Widow   (5)☐ Other...

7. Education

   (1)☐ Primary   (2)☐ Middle   (3)☐ High

   (4)☐ University (5)☐ Graduated (6)☐ Other ....

8. Occupation   (1)☐ No   (2)☐ Yes............................

9. Monthly Income (In MMK)...

Part II: Health Status

10. Have you ever received physical checkup?(1) ☐ No   (2) ☐ Yes

Lifetime (Year)	Last Year	Last 6 Months
....	☐	☐

11. Since when did you know about your health (HIV positive) status?

Date...........Month...........Year...........................

12. Have you ever received HIV related services from other organizations?

(1) ☐ No   (2) ☐ Yes

12.1 How long had you received services from that organization?

(1) ☐ < 6 months   (2) ☐ >=6 months to 1 year   (3) ☐ >1 year

(2) ☐ < 6 months   (2) ☐ >=6 months to 1 year   (3) ☐ >1 year

(3) ☐ < 6 months   (2) ☐ >=6 months to 1 year   (3) ☐ >1 year

(4) ☐ < 6 months   (2) ☐ >=6 months to 1 year   (3) ☐ >1 year

13. How many times have you visited RMO? ....Times (Frequency)

13.1. When was your first visit to RMO? Date............Month.............Year.............

13.2 How long have you been visiting RMO?

(1) ☐ =< 1 month   (2) ☐ > 1 month to 6months   (3) ☐ > 6months

14 Have you ever received home visit service from RMO HIV/AIDS Project staff?

(1) ☐ No   (2) ☐ Yes (If Yes, continue to 14.1)

14.1 When was the last time you received home visit service from RMO HIV/AIDS Project staff?

(1) ☐ =<1 month   (2) ☐ >1 month to 6 months   (3) ☐ > 6 months

15. Your Clinical Staging of HIV (As defined by WHO)_

(1) ☐ Stage I: Primary Infection

(2) ☐ Stage II: Clinical Asymptomatic Stage

(3) ☐ Stage III: Symptomatic Stage

(4) ☐ Stage IV: Stage of Progression of HIV into

AIDS

16. Recent CD4 Count (Last one year)   ....

17. Presence of Opportunistic Infection (1) ☐ No   (2) ☐ Yes..................

18. Taking ARV Drug   (1) ☐ No   (2) ☐ Yes

18.1 ARV Regimen   ....(...............................)

18.2 Duration of taking ARV Drug...

Part III: HIV/AIDS Related Risk Behaviors

Sexual Behaviors

19. Have you ever had sexual intercourse?

(1) ☐ No(Skip to item 20)   (2) ☐ Yes

Last Partner	Last Time			Condom Use (Last Sex)	
	=<1month	>1mth to <6mth	>=6months	Yes	No
(1) ☐ Spouse	☐	☐	☐	☐	☐
(2) ☐ Lover	☐	☐	☐	☐	☐
(3) ☐ Commercial SexWorker	☐	☐	☐	☐	☐
(4) ☐ Stranger	☐	☐	☐	☐	☐

19.1. Do you have more than one sexual partner? (Within 1month)

(1) ☐ No   (2) ☐ Yes....... (Number of Partner)

19.2. Have you ever engaged in anal sexual activity?   (1) ☐ No   (2 ☐ Yes

Last Partner	Last Time			Condom Use (Last Sex)	
	=<1month	>1mth to <6mth	>=6months	Yes	No
(1) ☐ Spouse	☐	☐	☐	☐	☐
(2) ☐ Lover	☐	☐	☐	☐	☐
(3) ☐ Commercial Sex Worker	☐	☐	☐	☐	☐
(4) ☐ Stranger	☐	☐	☐	☐	☐

Substance Use Behaviors

20. Have you ever used any substance? (1) ☐ No (Skip to item 22)   (2) ☐ Yes

Type of Drug	Route of Administration	Last Time			Amount Used
		=<1 month	>1 to <6mth	>=6 months	
(1) ☐ Heroin,		☐	☐	☐	
(2) ☐ opium		☐	☐	☐	
(3) ☐ Methamphetamines		☐	☐	☐	
(4) ☐ cannabis		☐	☐	☐	
(5) ☐ codeine		☐	☐	☐	
(6) ☐ Other ……………		☐	☐	☐	

(If the answer includes "Injecting", continue to 20.1. Otherwise, skip to 21)

20.1 Do you use disposable needle and syringe when you inject drug?

(1) ☐ No   (2) ☐ Yes

20.2. Do you share the needle and other drug injecting equipment with another drug

user?   (1) ☐ No   (2) ☐ Yes

20.3. How do you clean the drug injecting equipment?

   (1) ☐ Use disinfection kit

   (2) ☐ Use separate bowl and water

   (3) ☐ Use same bowl and water with other drug users

   (4) ☐ Other………………………………………………………………

21. Have you ever had sexual intercourse while on drug?

(1) ☐ No   (2) ☐ Yes

21.1. When was the last time you had sex while on drug?

(1) ☐ =<1 month   (2) ☐ >1 month and < 6 month   (3) ☐ >= 6 months

21.2. Did you use condom during the sex while on drug? (1) ☐ No   (2) ☐ Yes

Alcohol Consumption Behaviors

22. Do you drink alcohol? (1) ☐ No   (2) ☐ Yes

(If "Yes"_)

Type of Alcohol	Life-time		Last 1yr		Last 1 month		How many days per month	How many drinks per day	Last 1 week		How many day per week
	Yes	No	Yes	No	Yes	No			Yes	No	
Spirit											
Beer											
Whisky											
Other											

23. Have you ever had sexual intercourse when you had alcohol?

(1) ☐ No   (2) ☐ Yes

23.1 When was the last time you had sex when you had alcohol?

(1) ☐ <1 month   (2) ☐ >=1 month and < 6 months   (3) ☐ >= 6 months

23.2. Did you use condom during the sex when you had alcohol?

(1) ☐ No   (2) ☐ Yes

Part IV Social and Environmental Context

24. Where do you mostly get information regarding HIV/AIDS?

(1) ☐ Broadcasting and Printing Media (TV/Radio, Magazine, Journal etc.)

(2) ☐ Friends and Colleagues

(3) ☐ Family and Relatives

(4) ☐ Spouse/ Partner

(5) ☐ RMO

25. Is it easy to get condoms?   (1) ☐ No   (2) ☐ Yes

25.1 Place you mostly get condom

(1) ☐ Health care provider   (2) ☐ Drug Store   (3) ☐ Street Vendor

(4) ☐ Other..............

26. Is there anyone you are living with? (1) ☐ No (2) ☐ Yes........................

(26.1.Disclosure Status (To the people living with respondent) (1) ☐ Yes   (2) ☐ No

27. Do your family members/relatives know about your HIV positive status?

(1) ☐ No   (2) ☐ Yes

27.1 Does your spouse/lover know about your HIV status? (1) ☐ No   (2) ☐ Yes

28. Do you have family member who has multiple sexual partners?

(1) ☐ No   (2) ☐ Yes

29. Do you have close friend who has multiple sexual partners?(1) ☐ No (2) ☐ Yes

30. Do you have close friend who regularly visits commercial sex workers?

(1) ☐ No   (2) ☐ Yes

31. Do you have family member who is a regular alcohol drinker?

(1) ☐ No   (2) ☐ Yes

32. Do you have close friend who is a regular alcohol drinker?

(1) ☐ No   (2) ☐ Yes

33. Do you have family member who uses substance? (1) ☐ No (2) ☐ Yes

34. Do you have close friend who uses substance?   (1) ☐ No (2) ☐ Yes

35. Do you have any family member or close friend who works in HIV/AIDS

prevention, care and support field? (1) ☐ No   (2) ☐ Yes

36. Have you received HIVAIDS related health information from your family member

or close friend?   (1) ☐ No   (2) ☐ Yes

36.1 When was the last time you received HIV/AIDS information?

(1) ☐ =<1 month   (2) ☐ >1 month and < 6 months   (3) ☐ >= 6 months

Part V: Self Help Group Participation

37. Are you a member of any self-help group?   (1) ☐ No   (2) ☐ Yes

37.1 Is the group formed by clients from RMO?   (1) ☐ No   (2) ☐ Yes

37.2 How long have you been a member?

(1) ☐ =<1 month   (2) ☐ >1 month and < 6 months   (3) ☐ >= 6 months

37.3 How often do you meet with your group members?

(1) ☐ every month (2) ☐ every two months   (3) ☐ every three months or more

37.4 Apart from group meetings, have you ever participated in any group activities?

(1) ☐ No   (2) ☐ Yes

37.5 What is the main activity of the group and how many times have you participated?

Activity	Duration	Frequency			
		Weekly	Biweekly	Monthly	More than one month/ time
(1) ☐ Religious activity		☐	☐	☐	☐
(2) ☐ Health care and social work activity		☐	☐	☐	☐
(3) ☐ Business activity		☐	☐	☐	☐
(4) ☐ Other…………..		☐	☐	☐	☐

Part VI: Knowledge on HIV/AIDS

No.	Statement	FALSE (1)	TRUE (2)	Refuse/ Don't know (8)
38.	A person can get HIV from receiving blood in the hospital.			
39.	The blood test for HIV is a very good way to find out if you have HIV.			
40.	A positive blood test for HIV means that a person has AIDS.			
41.	Having sex during menstruation increases the chance of getting HIV.			
42.	HIV is only a problem for gay men and injection drug users.			
43.	It's unlikely that someone can get HIV by kissing someone who has the virus.			
44.	Using a condom during sex reduces the chance of getting HIV.			
45.	A person can be infected with HIV and have no symptoms of the disease.			
46.	A person can get HIV through a mosquito bite.			
47.	If you have a sexually transmitted disease (STD), your chance of getting HIV is higher.			

Questionnaire (Myanmar)

မြန်မာနိုင်ငံ၊ရန်ကုန်မြို့ ၊ရတနာ့မေတ္တာအဖွဲ့ ၊အိတ်ချ်အိုင်ဗွီပိုး၈နဲ့နေ ထိုင်သူများ၏

အိတ်ချ်အိုင်ဗွီ/အေအိုင်ဒီအက်စ်ရောဂါနဲ့သက်ဆိုင် သောအမှုအကျင့်ဆိုင်ရာမေးခွန်းများ

ဖြေဆိုသူ၏အမှတ်စဉ်...   ဖြေဆိုသည့်နေ့...............................

အပိုင်း (၁) အထွေထွေအချက်အလက်များ

၁။အသက်   ....

၂။မွေးသက္ကရာဇ်   ....

၃။ကျား/မ   (၁) ☐ မ   (၂) ☐ ကျား   (၃) ☐ အခြား..............

၄။လူမျိုး

(၁) ☐ ဗမာ   (၂) ☐ မွန်   (၃) ☐ ရခိုင်   (၄) ☐ ရှမ်း

(၅) ☐ ကချင်   (၆) ☐ ကယား   (၇) ☐ ကရင်   (၈) ☐ ချင်း   (၉) ☐ အခြား...........................

၅။ကိုးကွယ်သည့်ဘာသာ

(၁) ☐ ဗုဒ္ဓ   (၂) ☐ ခရစ်ယာန်   (၃) ☐ အစ္စလာမ်

(၄) ☐ ဟိန္ဒူ   (၅) ☐ အခြား.......................

၆။အိမ်ထောင်ရှိ/မရှိ

(၁) ☐ မရှိ   (၂) ☐ ရှိ   (၃) ☐ သီးခြားခွဲနေ/ကွာရှင်း   (၄) ☐ မုဆိုးဖို/မုဆိုးမ

(၅) ☐ အခြား...............................

၇။ပညာရေး

(၁) ☐ မူလတန်း   (၂) ☐ အလယ်တန်း   (၃) ☐ အထက်တန်း

(၄) ☐ တက္ကသိုလ်   (၅) ☐ ဘွဲ့ရ   (၆) ☐ အခြား...............................

၈။အလုပ်အကိုင် (၁) ☐ မရှိ   (၂) ☐ ရှိ (...............................)

၉။လစဉ်ဝင်ငွေ (မြန်မာကျပ်ငွေဖြင့်) ....

၁၆။ အခွင့်အရေးပြုဝင်ရောက်သောအခြားကူးစက်ရောဂါများရှိ/မရှိ

(၁) ☐ မရှိ   (၂) ☐ ရှိ (ရောဂါအမည် ....)

၁၇။ အေအာတီဆေးသောက်သုံးမှုရှိ/မရှိ   (၁) ☐ မရှိ   (၂) ☐ ရှိ

၁၇.၁။ သောက်သုံးလျက်ရှိသောအေအာတီဆေးအတွဲအစပ် (ARV Regimen)

....................................(....................................)

၁၇.၂။ အေအာတီဆေးစသောက်သုံးသည်မှာမည်မျှကြာပြီနည်း။ ....ရက်/လ/နှစ်

အပိုင်း (၃) အိတ်ချ်အိုင်ဗွီ/ အေအိုင်ဒီအက်စ်နှင့်ဆိုင်သောလူမှုရေးအမှုအကျင့်

လိင်ပိုင်းဆိုင်ရာအမှုအကျင့်

၁၈။ လိင်ဆက်ဆံမှုပြုဖူးပါသလား။

(၁) ☐ မပြုဖူးပါ (မေးခွန်းနံပါတ်၀၉လိုကျော်ရန်)   (၂) ☐ ပြုဖူးပါသည်

နောက်ဆုံးဆက်ဆံခဲ့သောအဖော်	နောက်ဆုံးဆက်ဆံခဲ့သောအချိန်			ကွန်ဒုံးအသုံးပြုမှု	
	၁လအောက်	၁လအထက် ၆လအောက်	၆လနှင့်အထက်	ရှိ	မရှိ
(၁) ☐ ဇနီး/ ခင်ပွန်း	☐	☐	☐	☐	☐
(၂) ☐ ချစ်သူရည်းစား	☐	☐	☐	☐	☐
(၃) ☐ လိင်လုပ်သား	☐	☐	☐	☐	☐
(၄) ☐ သူစိမ်း	☐	☐	☐	☐	☐

၁၈.၁။ သင့်တွင်တစ်ဦးထက်ပိုသောလိင်ဆက်ဆံဖက်ရှိပါသလား။ (လွန်ခဲ့သောရက်၃၀အတွင်း)

(၁) ☐ မရှိပါ   (၂) ☐ ရှိပါသည် (အရေအတွက်............................. ဦး)

၁၈．၂စဒိုးလမ်းကြောင်းအသုံးပြု၍လိင်ဆက်ဆံမှုပြုဖူးပါသလား။

(၁) ☐ မပြုဖူးပါ(မေးခွန်းနံပတ်၁၉သို့ကျော်ရန်)　　(၂) ☐ ပြုဖူးပါသည် (ဇယားကွက်ကိုဆက်မေးပါ)

နောက်ဆုံးဆက်ဆံခဲ့သောအတော်	နောက်ဆုံးဆက်ဆံခဲ့သောအချိန်			ကွန်ဒုံအသုံးပြုမှု	
	၁လနှင့် အောက်	၁လအထက် ၆လအောက်	၆လနှင့်အထက်	ရှိ	မရှိ
(၁) ☐ ဇနီး/ ခင်ပွန်း	☐	☐	☐	☐	☐
(၂) ☐ ချစ်သူရည်းစား	☐	☐	☐	☐	☐
(၃) ☐ လိင်လုပ်သား	☐	☐	☐	☐	☐
(၄) ☐ သူစိမ်း	☐	☐	☐	☐	☐

မူးယစ်ဆေးဝါးအသုံးပြုမှုဆိုင်ရာအမှုအကျင့်

၁၉။မူးယစ်ဆေးဝါးအသုံးပြုဖူးပါသလား။

(၁) ☐ မပြုဖူးပါ (မေးခွန်း ၂၁သို့ကျော်ပါ)　　(၂) ☐ ပြုဖူးပါသည်

(ဆေးစာဖြင့်ရောင်းချသောတရားဝင်ဆေးဝါးများကိုအလွဲသုံးမှုများလည်းအကြုံးဝင်ပါသည်။

ဆေးအမျိုးအစား	သုံးစွဲရာ လမ်းကြောင်း	နောက်ဆုံးသုံးစွဲခဲ့ချိန်			သုံးစွဲသည့်ပမာဏ (ဆေးပြားပုလင်း)
		၁လနှင့် အောက်	၁လအထက် ၆လအောက်	၆လနှင့်အထက်	
(၁) ☐ ဘိန်းဖြူ		☐	☐	☐	
(၂) ☐ ဘိန်းမည်း		☐	☐	☐	
(၃) ☐ အမ်ဖက်တမင်း		☐	☐	☐	
(၄) ☐ ဆေးခြောက်		☐	☐	☐	
(၅) ☐ ကိုင်း		☐	☐	☐	
(၆) ☐ အခြား		☐	☐	☐	

(သုံးစွဲရာလမ်းကြောင်းတွင် အကြောထဲထိုးသွင်းပြီး အသုံးပြုသည်ဟုဖြေဆိုခဲ့ပါကနံပါတ်၁၉.၁ကိုဆက်မေးရန်၊ သို့မဟုတ်ပါကနံပါတ်၂၀သို့ကျော်ရန်။)

၁၉.၁ ဆေးဝါးကိုအကြောထဲထိုးသွင်းအသုံးပြုရာတွင် တစ်ခါသုံးအပ်နှင့်ပြန်အသုံးပြုမှုရှိပါသလား။

(၁) ⬜ မရှိပါ   (၂) ⬜ ရှိပါသည်

၁၉.၂ ဆေးထိုးသွင်းရန်သုံးသည့်အပ်နှင့်ကိရိယာများကိုအခြားဆေးသုံးသူများနှင့်မျှဝေသုံးစွဲခြင်းရှိပါသလား။

(၁) ⬜ မရှိပါ   (၂) ⬜ ရှိပါသည်

၁၉.၃ ဆေးထိုးသွင်းရာတွင်သုံးသည့်ကိရိယာများကိုမည်ကဲ့သို့ဆေးကြောသန့်ရှင်းပါသနည်း

(၁) ⬜ အပ်နှင့်ပြန်များဆေးကြောရန်သုံးသည့်ပိုးသတ်ပစ္စည်းအသုံးပြုခြင်း

(၂) ⬜ သီးသန့်ရေခွက်နှင့်ရေအသုံးပြုခြင်း

(၃) ⬜ အခြားဆေးသုံးသူများနှင့်ရေခွက်နှင့်ရေအတူအသုံးပြုခြင်း

(၄) ⬜ အခြား..

၂၀။ ဆေးသုံးထားချိန်လိင်ဆက်ဆံမှုပြုဖူးပါသလား။ (၁) ⬜ မပြုဖူးပါ (၂) ⬜ ပြုဖူးပါသည်

၂၀.၁ ဆေးသုံးထားပြီးလိင်ဆက်ဆံခဲ့သည့်နောက်ဆုံးအရွယ်ကိုဖြေပြပါ။

(၁) ⬜ (၁လအောက်) (၂) ⬜ (၁လမှ၆လအောက်) (၃) ⬜ (၆လနှင့်အထက်)

၂၀.၂ ဆေးသုံးပြီးနောက်ဆုံးလိင်ဆက်ဆံခဲ့ချိန်ကကွန်ဒုံးသုံးပြုခဲ့ပါသလား။

(၁) ⬜ အသုံးမပြုခဲ့ပါ   (၂) ⬜ အသုံးပြုခဲ့သည်

အရက်သောက်သုံးမှုဆိုင်ရာအမှုအကျင့်

၂.၁။အရက်သောက်ဖူးပါသလား။ (၁)☐ မသောက်ဖူးပါ   (၂)☐ သောက်ဖူးပါသည်

(မသောက်ဖူးပါဆိုပါကနံပါတ်၂.၃သို့ကျော်မေးရန်နှင့်သောက်ဖူးသည်ဆိုပါကဖယားကွက်ကိုဆက်မေးရန်)

အရက်အမျိုးအစား	သက်တမ်းတစ်လျှောက်		လွန်ခဲ့သည့်၁နှစ်အတွင်း		လွန်ခဲ့သည့်၁လအတွင်း		၁လတွင်သောက်ဖြစ်သည့်ရက်ပေါင်း	တစ်ရက်တွင်သောက်ဖြစ်သည့်ခွက်ပေါင်း	လွန်ခဲ့သည့်၁ပတ်အတွင်း		၁ပတ်တွင်သောက်ဖြစ်သည့်ရက်ပေါင်း
	ရှိ	မရှိ	ရှိ	မရှိ	ရှိ	မရှိ			ရှိ	မရှိ	
အရက်ပြူ											
ဘီယာ											
ဝီစကီ											
အခြား											

၂.၂။အရက်သောက်ထားချိန်တွင်လိင်ဆက်ဆံမှုပြုဖူးပါသလား။

(၁) ☐ မပြုဖူးပါ (နံပါတ်၂.၃သို့ကျော်ရန်)   (၂) ☐ ပြုဖူးပါသည်

၂.၂.၁။အရက်သောက်ထားပြီးလိင်ဆက်ဆံခဲ့သည့်နောက်ဆုံးအချိန်ကိုပြောပြပါ။

(၁) ☐ (၁လအောက်) (၂) ☐ (၁လမှ၆လအောက်)   (၃) ☐ (၆လနှင့်အထက်)

၂.၂.၂။အရက်သောက်ထားပြီးလိင်ဆက်ဆံခဲ့သည့်နောက်ဆုံးအကြိမ်တွင်ကွန်ဒုံအသုံးပြုခဲ့ပါသလား။

(၁) ☐ မသုံးခဲ့ပါ   (၂) ☐ သုံးခဲ့ပါသည်

အပိုင်း (၄) လူမှုရေးနှင့်ပတ်ဝန်းကျင်အသိုင်းအဝိုင်း

၂၃။အိတ်ချ်အိုင်ဗွီ/ အေအိုင်ဒီအက်စ်ဆိုင်ရာသတင်းအချက်အလက်များကို မည်သည့်နေရာမှအများဆုံး ရရှိပါသနည်း။

(၁) ☐ ရုပ်သံနှင့်ပုံနှိပ်မီဒီယာများမှ (တီဗီ၊ရေဒီယို၊မဂ္ဂဇင်း၊ဂျာနယ်၊အစရှိသဖြင့်)

(၂) ☐ သူငယ်ချင်းနှင့်လုပ်ဖော်ကိုင်ဖက်များထံမှ

(၃) ☐ မိသားစုနှင့်ဆွေမျိုးများထံမှ

(၄) ☐ အိမ်ထောင်ဖက်/ အဖော်ထံမှ

(၅) ☐ ရတနာ၃မေတ္တာအဖွဲ့.မှ

၂၄။ကွန်ဒုံရှိရန်လွယ်ကူပါသလား။ (၁) ☐ လွယ်ကူသည် (၂)☐ မလွယ်ကူပါ

၂၄.၁။ကွန်ဒုံကိုမည်သည့်နေရာမှအများဆုံးရရှိပါသနည်း။

(၁) ☐ ကျန်းမာရေးစောင့်ရှောက်မှုပေးသူထံမှ (၂) ☐ ဆေးဆိုင်မှ

(၃) ☐ လမ်းဘေးဈေးဆိုင်မှ (၄) ☐ အခြား......................

၂၅။သင်နှင့်လက်ရှိအတူနေသူ

(၁) ☐ မရှိ (၂) ☐ အိမ်ထောင်ဖက် (၃) ☐ မိသားစု (၄) ☐ ဆွေမျိုးများ

(၅) ☐ အခြား......................

၂၆။သင့်တွင်အိတ်ချ်အိုင်ဗွီပိုးရှိကြောင်းသင်နှင့်အတူနေထိုင်သူများအားအသိပေးထားမှုရှိပါသလား။

(၁) ☐ မရှိပါ (၂) ☐ ရှိပါသည်

၂၇။သင်၏မိသားစုဝင်အတွင်းတွင်လိင်ဆက်ဆံဖက်တစ်ဦးမကရှိသူရှိပါသလား။

(၁) ☐ မရှိပါ (၂) ☐ ရှိပါသည်

၂၈။သင်နှင့်ရင်းနှီးသောသူငယ်ချင်းများတွင်လိင်ဆက်ဆံဖက်တစ်ဦးမကရှိသူရှိပါသလား။

(၁) ☐ မရှိပါ (၂) ☐ ရှိပါသည်

၂၉။သင်နှင့်ရင်းနှီးသောသူငယ်ချင်းများတွင်လိင်လုပ်သားများထံသို့ပုံမှန်သွားရောက်သူရှိပါသလား။

(၁) ☐ မရှိပါ (၂) ☐ ရှိပါသည်

၃၀။ သင်၏မိသားစုဝင်ထဲတွင်အရက်အပြဲသောက်တတ်သူရှိပါသလား။

(၁) ☐ မရှိပါ   (၂) ☐ ရှိပါသည်

၃၁။ သင်နှင့်ရင်းနှီးသောသူငယ်ချင်းများတွင်အရက်အပြဲသောက်တတ်သူရှိပါသလား။

(၁) ☐ မရှိပါ   (၂) ☐ ရှိပါသည်

၃၂။ သင်၏မိသားစုဝင်ထဲတွင်ဆေး(မူးယစ်ဆေး)သုံးစွဲသူရှိပါသလား။

(၁) ☐ မရှိပါ   (၂) ☐ ရှိပါသည်

၃၃။ သင်နှင့်ရင်းနှီးသောသူငယ်ချင်းများတွင်ဆေး(မူးယစ်ဆေး)သုံးစွဲသူရှိပါသလား။

(၁) ☐ မရှိပါ   (၂) ☐ ရှိပါသည်

၃၄။ သင်၏မိသားစုဝင် (သို့မဟုတ်)ရင်းနှီးသောသူငယ်ချင်းထဲတွင်အိတ်ချ်အိုင်ဗွီ/ အေအိုင်ဒီအက်စ်ကူးစက်မှု ကာကွယ်ရေး ကုသရေးစသောလုပ်ငန်းများဆောင်ရွက်နေသူရှိပါသလား။

(၁) ☐ မရှိပါ (နံပါတ်၃၅သို့ကျော်ရန်)   (၂) ☐ ရှိပါသည်

၃၄.၁။ မိသားစုဝင်(သို့)ရင်းနှီးသောသူငယ်ချင်းထဲမှအိတ်ချ်အိုင်ဗွီနှင့်သက်ဆိုင်သောသတင်းအချက်အလက် ရရှိဖူးပါသလား။

(၁) ☐ မရရှိပါ   (၂) ☐ ရရှိပါသည်

၃၄.၂။ ရရှိဖူးသည်ဆိုပါကနောက်ဆုံးအကြိမ်ရရှိခဲ့သောအချိန်ကိုပြောပြပါ။

(၁) ☐ (၁လအောက်) (၂) ☐ (၁လမှ၆လအောက်)   (၃) ☐ (၆လနှင့်အထက်)

အပိုင်း (၅) ကိုယ်ထူကိုယ်ထအဖွဲ့များတွင်ပါဝင်မှု

၃၅။ကိုယ်ထူကိုယ်ထအဖွဲ့တစ်ခုခုတွင်အဖွဲ့ဝင်ထားပါသလား။

(၁) ☐ မဝင်ထားပါ (နံပါတ်၃၆သို့ကျော်ရန်) (၂) ☐ ဝင်ထားပါသည်

၃၅.၁။ဝင်ထားသောကိုယ်ထူကိုယ်ထအဖွဲ့သည်ရတနာ့မေတ္တာအဖွဲ့မှအကျိုးခံစားခွင့်ရှိသူများစုပေါင်းဖွဲ့ထားသောအဖွဲ့ဟုတ်ပါသလား။

(၁) ☐ မဟုတ်ပါ   (၂) ☐ ဟုတ်ပါသည်

၃၅.၂။အဖွဲ့ဝင်ဖြစ်သည်မှာမည်မျှကြာပြီနည်း။

(၁) ☐ (၁လအောက်) (၂) ☐ (၁လမှ၆လအောက်)   (၃) ☐ (၆လနှင့်အထက်)

၃၅.၃။အဖွဲ့ဝင်များနှင့်တွေ့ဆုံဖြစ်သည့်အချိန်

(၁) ☐ လစဉ်   (၂) ☐ နှစ်လတစ်ကြိမ်   (၃) ☐ သုံးလနှင့်အထက်တစ်ကြိမ်

၃၅.၄။အဖွဲ့အစည်းအဝေးများအပြင်အဖွဲ့၏အခြားလုပ်ငန်းများတွင်ပါဝင်မှုရှိပါသလား

(၁) ☐ မရှိပါ   (၂) ☐ ရှိပါသည်

၃၅.၅။အဖွဲ့၏အဓိကလုပ်ဆောင်ချက်နှင့်အဆိုပါလုပ်ဆောင်ချက်တွင်ပါဝင်ဖူးသည့်အကြိမ်အရေအတွက်ကို
ပြောပြပါ။

လုပ်ဆောင်ချက်	စတင်လုပ်ဆောင်ဖြစ်သည့်အချိန်မှယခုအထိ ကြာချိန်	အကြိမ်ရေ			
		တစ်ပတ်တစ်ကြိမ်	နှစ်ပတ်တစ်ကြိမ်	လစဉ်	တစ်လအထက်တွင်တစ်ကြိမ်
(၁) ☐ ဘာသာရေးလုပ်ငန်း	....	☐	☐	☐	☐
(၂) ☐ လူမှုရေးနှင့်ကျန်းမာရေးစောင့်ရှောက်မှု	....	☐	☐	☐	☐
(၃) ☐ စီးပွားရေးလုပ်ငန်း	....	☐	☐	☐	☐
(၄) ☐ အခြား...............	....	☐	☐	☐	☐

အပိုင်း (၆) အိတ်ချ်အိုင်ဗွီ/ အေအိုင်ဒီအက်စ်ဆိုင်ရာဗဟုသုတ

စဉ်.	ဖော်ပြချက်	မှား (၀)	မှန် (၂)	ဖြေရန်ငြင်းဆို/ မသိပါ (၈)
၃၆။	ဆေးရုံတွင်သွေးသွင်းပါကအိတ်ချ်အိုင်ဗွီပိုးကူးစက်ခံရနိုင်သည်။	☐	☐	☐
၃၇။	အိတ်ချ်အိုင်ဗွီပိုးရှိ/မရှိသိနိုင်ရန်အလွန်ကောင်းသောနည်းလမ်းမှာ သွေးစစ်ခြင်းဖြစ်သည်။	☐	☐	☐
၃၈။	သွေးစစ်ဆေးသည့်အခါအိတ်ချ်အိုင်ဗွီပိုးရှိသည်ဟုအဖြေထွက်ခြင်းသည် အဆိုပါပုဂ္ဂိုလ်တွင်အေအိုင်ဒီအက်စ်ရောဂါရှိနေပြီဟုဆိုလိုခြင်းဖြစ်သည်။	☐	☐	☐
၃၉။	ရာသီလာနေစဉ် လိင်ဆက်ဆံပါက အိတ်ချ်အိုင်ဗွီပိုး ကူးစက်ခံရနိုင်ရန် အခွင့်အလမ်းပိုများသည်။	☐	☐	☐
၄၀။	အိတ်ချ်အိုင်ဗွီသည်လိင်တူဆက်ဆံသူများနှင့်မူးယစ်ဆေးအကြောထဲထိုး သွင်းသူများအတွက်သာပြဿနာတစ်ရပ်ဖြစ်သည်။	☐	☐	☐
၄၁။	အိတ်ချ်အိုင်ဗွီပိုးရှိကိုနမ်းရုံဖြင့်အခြားတစ်ယောက်သို့အိတ်ချ်အိုင်ဗွီကူးစက် နိုင်ချေမှာနည်းသည်။	☐	☐	☐
၄၂။	လိင်ဆက်ဆံချိန်တွင်ကွန်ဒုံးအသုံးပြုပါကအိတ်ချ်အိုင်ဗွီပိုးကူးစက်နိုင်ချေကို လျှော့ချနိုင်သည်။	☐	☐	☐
၄၃။	လူတစ်ဦးသည်အိတ်ချ်အိုင်ဗွီပိုးကူးစက်ခံရသော်လည်းရောဂါလက္ခဏာမပြ ပဲဘဲရှိနေနိုင်သည်။	☐	☐	☐
၄၄။	ခြင်ကိုက်ရာမှတစ်ဆင့်အိတ်ချ်အိုင်ဗွီပိုးကူးစက်နိုင်သည်။	☐	☐	☐
၄၅။	လိင်မှတစ်ဆင့် ကူးစက်သောရောဂါ (ကာလသားရောဂါ) ရှိသူတွင် အိတ်ချ်အိုင်ဗွီပိုး ကူးစက်နိုင်ချေပိုများသည်။	☐	☐	☐

ANNEX (II) Questionnaire Validity Check

Part II: Health Status						
Question Number.	Dr. Usaneya Perngparn	Dr. Supodjanee Chutidamrong	Dr. Tin Maung Hso	Index of Item Objective Congruence	Ref: Score (+0.5 and above)	Remark
10	+1	+1	+1	+1	√	
11	-1	+1	+1	+0.67	√	
12	+1	+1	+1	+1	√	
12.1	+1	+1	+1	+1	√	
13	+1	+1	+1	+0.67	√	
13.1	+1	+1	+1	+0.67	√	
13.2	+1	+1	+1	+0.67	√	
14	-1	+1	0	0	X	Edited and changed according to experts' comments
15	+1	+1	+1	+1	√	
16	+1	+1	+1	+1	√	
17	+1	+1	+1	+1	√	
17.1	+1	0	+1	+0.67	√	
17.2	+1	0	+1	+0.67	√	

Part III: HIV/AIDS Related Risk Behaviors (Sexual Behaviors)

Question Number.	Dr. Usaneya Perngparn	Dr. Supodjanee Chutidamrong	Dr. Tin Maung Hso	Index of Item Objective Congruence	Ref: Score (+0.5 and above)	Remark
18	+1	+1	+1	+1	√	
18.1	+1	-1	+1	+0.33	X	Edited and changed according to experts' comments
18.2	+1	+1	+1	+1	√	

The content validity of Part III: HIV/ AIDS Related Behaviors (Sexual Behaviors) Ranges from +0.33 to +1.

Part III: HIV/AIDS Related Risk Behaviors (Substance Use Behaviors)

Question Number.	Dr. Usaneya Perngparn	Dr. Supodjanee Chutidamrong	Dr. Tin Maung Hso	Index of Item Objective Congruence	Ref: Score (+0.5 and above)	Remark
19	+1	+1	+1	+1	√	
19.1	+1	+1	+1	+1	√	
19.2	+1	+1	+1	+1	√	
19.3	+1	-1	+1	+0.33	X	Edited and changed according to experts' comments
20	+1	+1	+1	+1	√	

| 20.1 | +1 | +1 | +1 | +1 | √ | |
| 20.2 | +1 | 0 | +1 | +0.67 | √ | |

The content validity of Part III: HIV/AIDS Related Behaviors (Substance Use Behaviors) Ranges from +0.33 to +1.

Part III: HIV/AIDS Related Risk Behaviors (Alcohol Consumption Behavior)

Question Number.	Dr. Usaneya Perngparn	Dr. Supodjanee Chutidamrong	Dr. Tin Maung Hso	Index of Item Objective Congruence	Ref: Score (+0.5 and above)	Remark
21	+1	+1	+1	+1	√	
22	+1	+1	+1	+1	√	
22.1	+1	+1	+1	+1	√	
22.2	+1	0	+1	+1	√	

The content validity of Part III: HIV/AIDS Related Risk Behaviors (Alcohol Consumption behavior) is +1.

Part IV: Social and Environmental Context

Question Number.	Dr. Usaneya Perngparn	Dr. Supodjanee Chutidamrong	Dr. Tin Maung Hso	Index of Item Objective Congruence	Ref: Score (+0.5 and above)	Remark
23	+1	+1	+1	+1	√	
24	+1	+1	+1	+1	√	
24.1	+1	+1	+1	+1	√	
25	+1	0	+1	+0.67	√	
26	+1	+1	+1	+1	√	
27	-1	+1	+1	+0.33	X	Edited and changed according to experts' comments
28	-1	+1	+1	+0.33	X	Edited and changed according to experts' comments
29	-1	+1	+1	+0.33	X	Edited and changed according to experts' comments
30	+1	+1	+1	+1	√	
31	+1	+1	+1	+1	√	

32	+1	+1	+1	+1	√	
33	+1	+1	+1	+1	√	
34	+1	+1	+1	+1	√	
34.1	+1	+1	+1	+1	√	
34.2	+1	+1	+1	+1	√	

The content validity of Part VI: Social and Environmental Context ranges from +0.33 to +1.

Part V : Self Help Group Participation

Question Number.	Dr. Usaneya Perngparn	Dr. Supodjanee Chutidamrong	Dr. Tin Maung Hso	Index of Item Objective Congruence	Ref: Score (+0.5 and above)	Remark
35	+1	-1	+1	+0.33	X	Edited and changed according to experts' comments
35.1	+1	+1	+1	+1	√	
35.2	+1	+1	+1	+1	√	
35.3	+1	+1	+1	+1	√	
35.4	+1	+1	+1	+0.67	√	
35.5	+1	-1	+1	+0.33	X	Edited and changed according to experts' comments

The content validity of PartV: Self Help Group Participation ranges from0.33to +1

Part VI: Knowledge on HIV/AIDS

Question Number.	Dr. Usaneya Perngparn	Dr. Supodjanee Chutidamrong	Dr. Tin Maung Hso	Index of Item Objective Congruence	Ref: Score (+0.5 and above)	Remark
36	+1	+1	+1	+1	√	
37	+1	+1	+1	+1	√	
38	+1	+1	+1	+1	√	
39	+1	+1	+1	+1	√	
40	+1	+1	+1	+1	√	
41	+1	+1	+1	+1	√	
42	+1	+1	+1	+1	√	
43	+1	+1	+1	+1	√	
44	+1	+1	+1	+1	√	
45	+1	+1	+1	+1	√	
The content validity of Part VI: Knowledge on HIV/AIDS is +1						

The overall content validity of the questionnaire is 0.85.

VITA

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