HIV SEROSTATUS, HEPATITIS C AND DEPRESSION AMONG INJECTION DRUG USERS IN KINONDONI MUNICIPALITY, DAR ES SALAAM, TANZANIA.

By;

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A Dissertation Submitted in (partial) Fulfillment of the Requirements for the Degree of Master of Medicine (Psychiatry) of Muhimbili University of Health and Allied Sciences

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for examination of a dissertation entitled: ***HIV serostatus, Hepatitis C and Depression among injection drug users in Kinondoni municipality, Dar es salaam, Tanzania*** in fulfillment of the requirements for the degree of Master of Medicine (Psychiatry) of Muhimbili University of Health and Allied Sciences.

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DECLARATION AND COPYRIGHT

I, **Cassian L. Nyandindi**, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

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DEDICATION

My work is dedicated to my lovely two sons *Cassian Jr and Carson Cassian Nyandindi* and my family for their understanding and patience for the moments I could not pay attention to their needs due to the high demands of this dissertation. Above all to my lovely departed parents, late Engineer Leonard E. Nyandindi and Elizabeth S. Mwasulama who made me the person I am today.

ABSTRACT

Background: Injection drug use in Sub Saharan Africa plays a big role in HIV and HCV transmission. This has brought a great interest with regard to control of the HIV pandemic and spread of HCV infections. In addition to that, Injection drug use is associated with mental conditions like depression. Situational analyses reveal that injection drug use is significantly increasing in different parts of Africa. Unfortunately, there are very few published studies available locally in Tanzania to assess the extent of problems and measures designed to address the issue of HIV, Hepatitis C and depression among Injection drug users.

Problem statement: Injection drug use as a contributor to HIV and HCV infections is a subject that has received considerable attention in the scientific literature. Injection drug use is associated with increased transmission of HIV, Hepatitis C and multiple psychological problems including depression. There is no data that elucidates the extent of HIV, HCV and depression among injection drug users in Tanzania.

Rationale: HIV and AIDS, HCV infections and depression among intravenous drug users are common problems worldwide. This study assessed the prevalence of HIV, HCV infection and depression among Injection Drug Users in Kinondoni Municipality of Dar es Salaam Tanzania. The study aimed at showing the degree of the problem and further help in formulation of appropriate intervention programs to prevent transmission and address appropriate measures against HIV, HCV and depression among IDUs in Tanzania.

Methodology; This cross-sectional study combined a survey, with measures of HIV, HCV infection risk and depression, with biological tests for HIV and HCV being done. The study was conducted over a period of six months from late November 2010 to late April 2011. The sample included both males and females aged 18 years and above, who are IDUs attending community outreach services in different centers and who attended HIV testing and counseling in mobile services. Participants who were included had agreed to consent for participation in the study.

Results; A total of 419 IDUs attended at community outreach services were recruited for the study after consenting, among these all clients were eligible for the study. The results revealed that among them 76.6% (n=321) were male while 23.4 % (n= 98) were female.

The age range was 18 to 53years, with mean age of 26.6. Most patients were in the age group 25 to 34 years, i.e. 64.2% (n=269), compared to the older group aged of + 45 years whom were 1%.

Conclusion; The overall prevalence of HIV, HCV infection and Depression among injection drug users was found to be 51.1% ,75.6% and 19.3% respectively. The prevalence was found to be higher in females in all the three conditions compared to males.

Recommendations; I therefore recommend that there is an urgent need to invest in HIV/AIDS, HCV infections and depression prevention and control activities that target injection drug users in Tanzania. It is also important to include harm reduction measures like needle and syringe exchange programs as well as expanding the medically assisted therapy services to injection drug users. A new drug policy is important with emphasis on drug use and prevention, The Government should think of including HCV vaccine as part of its vaccination package to the new born. More researches should be done to assess the risk factors and to test these interventions and identify new preventive strategies for people who inject drugs and risk for HIV, HCV infection transmissions and Depression.

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ACRONYMS

CTC	Care and Treatment Centers for HIV
HIV	Human Immunodeficiency Virus
IDU	Injection Drug Use
IDUs	Injection Drug Users
MNH	Muhimbili National Hospital
MOHSW	Ministry of Health and Social Welfare
MUHAS	Muhimbili University of Health and Allied Sciences
PLHIV	Persons Living with HIV and AIDS
TAPP	Tanzania AIDS Prevention Programme
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

DEFINITIONS OF TERMS

Injection drug use: is defined as a pattern of using psychoactive substance that enters in the body through the use of syringe and a needle on the skin.

Depression: is a mental disorder characterized by an all-encompassing low mood accompanied by low self-esteem, and loss of interest or pleasure in normally enjoyable activities.

HIV infection: an infection due to Human Immunodeficiency Virus that causes acquired immunodeficiency syndrome (AIDS), a condition in humans in which the immune system begins to fail, leading to life-threatening opportunistic infections.

Unsafe sex: also known as unprotected sexual activity engaged in by people who have not taken precautions to protect themselves against sexually transmitted infections like HIV and syphilis

Storefront centers: these are special centers which have been established by TAPP at different places in Dar es Salaam for IDU related work. The aim of these centers is to offer comprehensive care for people who use drugs and referring them to medical and social service providers actually connecting with them according to their needs.

1.0. INTRODUCTION AND LITERATURE REVIEW

1.1. Introduction

Anecdotal information shows that large numbers of drug users are injecting themselves in Dar es Salaam, Tanzania. So far no census of IDUs has been conducted in Dar es Salaam. Estimating the clear number of IDUs needs an extensive work, three studies conducted in Dar es Salaam Tanzania in 2005 and 2006 suggest that large number of drug users are injecting and engaging in needle sharing which is a high risk for acquiring HIV and HCV infections[1,] These studies concluded that there is a sizable group of drug users in Dar es Salaam who are IDUs. In the same studies levels of HIV infection was 42%. However, HCV infection was not assessed in the study. The extent of depression among IDUs in Dar es salaam is also not known. It is thus not possible to clearly state what is the extent of HIV serostatus, HCV infection and depression among IDUs in Kinondoni Municipality Dar es Salaam Tanzania [1,2].

1.2 Literature review

1.2.1. Injection Drug use and HIV worldwide and in Tanzania

In countries with IDUs, injection drug use is among the common risk factors for acquiring HIV infection**.** Injection-drug users acquire HIV infection through sharing drug equipment with HIV-infected persons and engaging in sexual risk behavior. Studies elsewhere have shown that IDU now accounts for 1 in 10 new HIV infections worldwide(2).

A survey conducted globally in 2004 estimated about 13.2 million (range 7.8m - 18.6m) IDUs worldwide. The majority of IDUs (11.7m - 89%) were located in developing and transitional countries, including South and South-East Asia (3.3m), East Asia and Pacific (2.3m) and Eastern Europe and Central Asia (3.2m). More than 0.25m were in Russian Federation, Ukraine, China, India, Indonesia, Pakistan, Japan, Brazil, Spain, Italy, Thailand and USA[3]. IDU exposure remains a primary driver of the Russian HIV epidemic, and recent incidence data provide little evidence that this epidemic is slowing[4].

Injection drug use has been reported at different rates in different parts of the world. Over 80 per cent of all HIV infections in Eastern Europe and Central Asia are related to injection drug use. In 2007, injection-drug use was the third most frequently reported risk factor for HIV infection in the United States of America, after male-to-male sexual contact and high-risk heterosexual contact [5, 6].

In the United States, approximately 10,000 injection drug users are believed to acquire HIV each year[7]. Analysis conducted by the Centre for Disease Control and Prevention of the US (CDC) of data from 2004–2007 indicates that, 152,917 people were diagnosed to have HIV infection in the 34 states, of these 19,687 (12.9%) were IDUs. Approximately 62.2% of the IDUs were males. African Americans accounted for 57.5% of HIV-infected IDUs, whites for 21.4%, Hispanics or Latinos for 19.1%, American Indians or Alaska Natives for 0.6%, Asians for 0.4% and Native Hawaiians or Other Pacific Islanders for 0.1% [6]. The HIV/AIDS pandemic has affected millions of IDUs due to sharing of needles, for reasons of social relations or economy, and hence the most common mode of HIV transmission among IDUs.

Since the start of the HIV epidemic, 36% of all AIDS cases in North America have been directly, or indirectly, linked to injecting drug use. Over half of all women infected with HIV in the US are either drug users or are sexual partners of drug users. Most children who are born infected with HIV have either one of or both parents who use drugs.[8] Similarly in neighboring South America 39% of Argentineans living with acquired immunodeficiency syndrome were infected with human immunodeficiency virus through the injection of drugs. However, it was not until the 1990s that harm reduction programs were created[9].

Kretzschmar et al in 2008 reported that, injecting drug use has been at the forefront of the explosive spread of HIV in general populations in many countries in Asia.[(10)] The study further assessed the prevalence of HIV among Chinese IDUs and found that the prevalence of HIV-1 among IDUs sharing needles was 5.4% (279/5128). HIV seropositivity was, 4.9% among IDUs not sharing needles and 3.7% among non-injecting drug users.[10]

A review of studies done by in the same country by Bao et al in 2009 among 15,565 Chinese drug users of which 10,724 were IDUs. In the IDUs group the prevalence of HIV was reported to be 12.55%. [11] Liu et al did a prevalence study among IDUs and found among the 702 participants ,they had a mean age 27 years and 25% seroprevalence for HIV infection.[12] In Thailand, cross-sectional survey done in 2009 in Bangkok, a total of 1535 IDUs participated in the study and the prevalence of HIV was reported to be 35.9%. A similar study was conducted in two Pakistan cities estimated the presence of 3,225 IDUs (Hyderabad 975 and Sukkur 2250 respectively). In their report, the prevalence of HIV was reported to be 25.4% in Hyderabad and 19.2% in Sukkur for the IDUs recruited in the study.[13] In 2009,another study was conducted in the Churachanpur district of India, and the prevalence of HIV was reported to be 59.6% among 250 IDUs who participated in the study.[14]

Few studies have been conducted in Africa on Injection drug users. A situational analysis conducted in Africa in 2007 by the United Nations Office on Drug and Crime (UNODC), which revealed that the number of IDUs is increasing. Countries reported to use heroin increased markedly from about 10 countries in 1990 to more than 30 in 2007. In North Africa, the prevalence of IDUs has been reported to be 0.22%, 0.21%, 0.23%, 0.02% and 0.09% in Algeria, Egypt, Libya, Morocco and Tunisia respectively with a HIV prevalence rate of 2.55 in Egypt, 22% in Libya, 6.5% in Morocco and 0.3% in Tunisia.[15] The report shows in Western Africa the prevalence of IDUs was 23.5%, 14%, and 3.5% in Nigeria, Sierra Leone and Cape Verde respectively with HIV prevalence among IDUs of 7.9% in Nigeria and 14.5% in Cape Verde.

In Eastern Africa between 2005-2010 different studies conducted in different countries reported different prevalence rates of injection drug use. In Mauritius the prevalence of HIV among IDU was reported as 50% of the study participant. In Tanzania (Mainland) though the prevalence of injection drug use is unknown, there is reported HIV high seropositivity among IDU at 42%. In Zanzibar prevalence of HIV among IDU is reported to be 39% .[15]

1.2.2. Depression among Injection drug users worldwide and in Tanzania.

Different studies have reported a clear association between injection drug use and presence of depressive disorders. Depression has also been reported to be a common mental disorder among injection drug users. A study conducted in the US by Bing et al in 2001 and reported significant symptoms of depression among injection drug users. In this group, 36% were diagnosed as having major depressive disorder. [16, 17] The above findings by Bing et al shows that the use of drugs is common among depressed individuals. Another study was done in the same in the same country by Chander et al in 2006 reported a high prevalence of depression among injection drug users.[18]

According to the National Institute on Drug Abuse (NIDA) of the US, 20% to 50% of people with HIV/AIDS have severe mental illness and is higher among substance abusers. It further reports that 20% to 40% of Injection drug users suffer from major depression. Another study done in Baltimore, US, which examined the relationship between depressive symptoms and needle-sharing behavior among IDUs which reported a positive association between depressive symptoms and needle sharing.[19]

A survey of 4042 HIV-infected people in US HIV population reported 45% of participants had a history of drug abuse of these, 20% had injected drugs. Among the drug abusers ,those who were IDUs 25% of them presented with features supporting depressive disorder.[20] A study conducted among a French population to assess the causes of hospital admissions among IDUs in which depressive symptoms were the second most common cause of hospitalization accounting for 14.3% of the total number of hospitalizations.[21]

Another study conducted in Puerto Rico among 536 IDUs reported that 35% of the participants had severe depressive symptoms. It was also further reported that these IDUs with these symptoms were significantly more likely to share needles which increases the risk of HIV transmission.[22]

Depression has important impacts on the health and behavior of injection drug users. They are also known to increased mortality in injection drug users.[23] Depression also is known to contribute to poor adherence to ARVs for IDUs who are HIV positive which further worsens the disease progression and contribute to increased morbidity and mortality associated with HIV among IDUs. [24]

Few studies have been done in the Sub Saharan Africa to assess the association between depression and injection drug use.

1.2.3. Hepatitis C among Injection Drug Users worldwide and in Tanzania

The virus (HCV) is a major cause of chronic liver disease in the world. The World Health Organization estimates that approximately 170 million people, or 3% of the world's population, are infected with the hepatitis C virus. There are presently an estimated 3 to 4 million new infections per year with illicit injection drug use being the major risk factor for HCV. [25] Injecting drug users are considered to be one of the main risk group for HCV infection worldwide.

Hepatitis C virus infection as blood-borne disease is widespread among injection drug users and is much more efficiently transmitted through blood than HIV infection. In North America and Europe, the majority of HCV infections are associated with injection drug use. [26] In some Western European countries, more than 90% of injection drug users (IDU) have been found to be HCV-positive, whereas in China prevalence ranges from 34% to 93%, and similar prevalence has been reported among North American communities of IDU, with a range of 30% to 90% [26-29]

A study that was conducted in Stockholm Sweden and published in 2009 reported that 268 were found to have HCV antibodies which accounts for 86.5% of the participants in the study. [26] Another study conducted to the Hungarians and published in 2010 reported that the prevalence of hepatitis C virus infection (HCV) is currently about 35% among injecting drug users in Budapest, Hungary. [30]

In Brazil, Novais et al in 2009 reported that Injection drug use has been reported as the main risk factor for hepatitis C virus infection among Brazilians. Out of 314 injection drug users who participated in the study, the prevalence of anti-HCV antibodies was 6.4%. [31]Lopes et al in 2009 conducted another study in Brazil which published the prevalence of HCV among IDUs as 6.9%. [32]This is a little bit higher compared to the previous study which was done on the same country.

In Tehran, Iran, Kheirhendan et al in 2009 studied 454 IDUs. In this study 80% of the participants were found to be HCV positive. [33] Another study was done in Malaysia and published in 2009, the prevalence of hepatitis C virus among injection drug users in treatment was estimated at 65.4% of all the participants. [34]

Few studies have been conducted in Africa compared to the rest of the world .Sub-Saharan Africa is reported to have the highest HCV prevalence rate in which the estimated overall prevalence of HCV in Sub-Saharan Africa is 3.0%. The central African region has the highest estimated prevalence of 6%, West Africa has an estimated prevalence of 2.4%, and Southern and East Africa with the lowest estimated prevalence of 1.6%. [35]

2.0. PROBLEM STATEMENT

Contribution of injection drug use to transmission of HIV and HCV infection is a subject that has received considerable attention in the scientific literature. The joint presence of HCV and

HIV in drug users complicates HIV/AIDS manifestation , treatment and greatly increases the risk of liver cirrhosis**.** Depression and substance abuse including injection drug use is a common condition worldwide among HIV positive individuals. These conditions have been consistently associated with poor adherence to HIV medication and other negative health outcomes including complications of HIV manifestation.

Studies conducted in Sub-Saharan Africa indicate that the number of drug users who are injecting may be rapidly increasing but the exactly proportion in their respective countries does not state the associated increased in transmission of blood borne diseases like HIV and HCV and multiple psychological problems including depression. Depression is common among injection drug users. Drug use may occur as copying skill towards depressive symptoms or people may use drugs and later become depressed. However, the extent of HIV and Depression among Injection drug user in Tanzania is not fully assessed.

This study offers an opportunity to study of HIV serostatus, HCV and depression among injection drug users in Kinondoni Municipality, Dar es Salaam. This study is an important entry point for understanding the extent and prevalence of HIV, HCV infection and depression among IDUs. The study came up with recommendations for depression HIV and HCV prevention, Care and Treatment among IDUs.

3.0. RATIONALE AND JUSTIFICATION

HIV/AIDS, HCV infections and depression among injection drug users are common coexisting problems. This study assessed the prevalence of HIV, HCV infection and depression among injection drug users. The results revealed the degree of the problem in the Kinondoni Municipality which will further help in formulation of intervention programs towards transmission of HIV, HCV and also how to prevent increased morbidity and mortality associated with depression, HCV and HIV in Injection drug users.

4.0. OBJECTIVES

4.1. Broad Objective:

To determine the prevalence of HIV, Hepatitis C and Depression among Injection Drug Users in Kinondoni Municipality Dar es salaam, Tanzania

4.2. Specific Objectives:

1. To determine the sociodemographic characteristics of Injection drug users attending TAPPs services.
2. To determine the prevalence of HIV among injection drug users attending TAPPs services.
3. To determine the prevalence of HCV among injection drug users attending TAPPs services.
4. To determine the prevalence depression among injection drug users attending TAPPs services.

5.0. METHODOLOGY

5.1 Study Design

This is a cross-sectional study, combining a survey, which assesses depressive symptoms using PHQ 9 assessment tool and HIV and Hepatitis C (biological tests for HIV and Hepatitis C) among Injection Drug Users.

5.2 Study Duration

The study was conducted for six months starting from November 2010 to late April 2011.

5.3 Study Area

The study was conducted at different sites of community outreach services in Kinondoni Municipality of Dar es Salaam City. Dar es Salaam is a commercial and largest city of Tanzania. It has 3 municipalities, which include Ilala, Temeke, and Kinondoni.

Kinondoni Municipality in Dar es Salaam has a total population of 2,487,288 of which 1,254,853 are male and 1,232,435 are female (2002 census). In the North East, it is bordered by the Indian Ocean, South west by Kisarawe district, Ilala municipality to the south, Bagamoyo district to the North and Kibaha district to the South West. The municipality is linked well to the city by roads and other communication networks.

The community out e reach program is supported by TAPP which operates jointly between MUHAS and University of Texas aiming at reducing HIV transmission among IDUs and their social networks by providing preventive education, counseling and testing for HIV and HCV infections. The strategy bases on community outreach services using Non Governmental Organizations (NGOs) skilled to work with IDUs in already mapped locations frequented by IDUs.

The community outreach program under TAPP has been chosen to be the suitable site to conduct this study because of convenience, availability of clients and because it is under MUHAS. TAPP has already done mapping in Kinondoni Municipality. It is estimated that the Municipality has an estimate of 10,000 injection drug users

5.4 Study Population

The sample population comprises of both males and females aged 18 years and above who are IDUs attending TAPPs community outreach services in Kinondoni Municipality of Dar es Salaam city.

5.5 Sample size estimation

The estimated sample size **n** is computed using the formula below,

$$n = \frac{z^2 pq}{d^2}$$

Where;

N = Estimated Sample Size

Z = is the standard normal deviate, which turns out to be 1.96 on using the 95% confidence interval.

P= prevalence of Injection Drug Users in Kinondoni Municipality, Dar es salaam ,mapping by TAPPs estimated about 10,000 IDUs in Kinondoni Municipality.

q = (1-P) = proportion

d= margin of error= 0.05

$$\frac{(1.96)^2 * 0.5 * (1-0.003)}{(0.05)^2}$$

N=397 injection drug users

5.6 Sampling Procedure and recruitment of clients

Data collection was done on a daily basis from Monday to Saturday. The simple random technique was used. Small pieces of paper were prepared with letters YES or NO, clients were then told to pick up the pieces of paper before attending the services. Only those clients with a paper written YES were interviewed after signing a written informed consent. The process was continued until the desired sample size was reached.

5.7 Data Collection Tools.

Data was collected at the storefront by using a structured interview questionnaire developed specifically for this study. The IDUs were identified by checking the track markings on their skin. Depressive symptoms were assessed using

Depression Assessment tool called PHQ-9 which was incorporated into the questionnaire. The PHQ-9 is a Quick Depression Assessment tool consisting of nine questions based on the **DSM-IV** criteria for a major depressive episode. It has been validated in Kiswahili in Kenya. Each of the questions ask participants to select the frequency of the depressive symptoms that they experienced during the current year. Scores for each of the 9 items range from 0 ('not at all') to 3 ('nearly every day').

HIV was tested using Rapid test after pre-test counseling was done at the storefront/mobile van. Following HIV testing a post test counseling session was done. HIV VCT for HIV is widely recognized as an effective, important strategy for both prevention and care for HIV pandemic. A number of researchers have found it to be a cost-effective strategy in facilitating behavior change and it is an important entry point for care and support for those who test positive. Pretest counseling for HIV antibody includes providing reading materials or general information about HIV before clients enter a group or private session with a counselor, nurse or doctor. Pre-test counseling, testing for HIV as well as post-test counseling was done using The National HIV Counseling and Testing Guidelines for Tanzania and testing using the National HIV Testing Algorithm. Those who tested positive for HIV were referred to HIV- Care and Treatment Clinics (CTC) for further management.

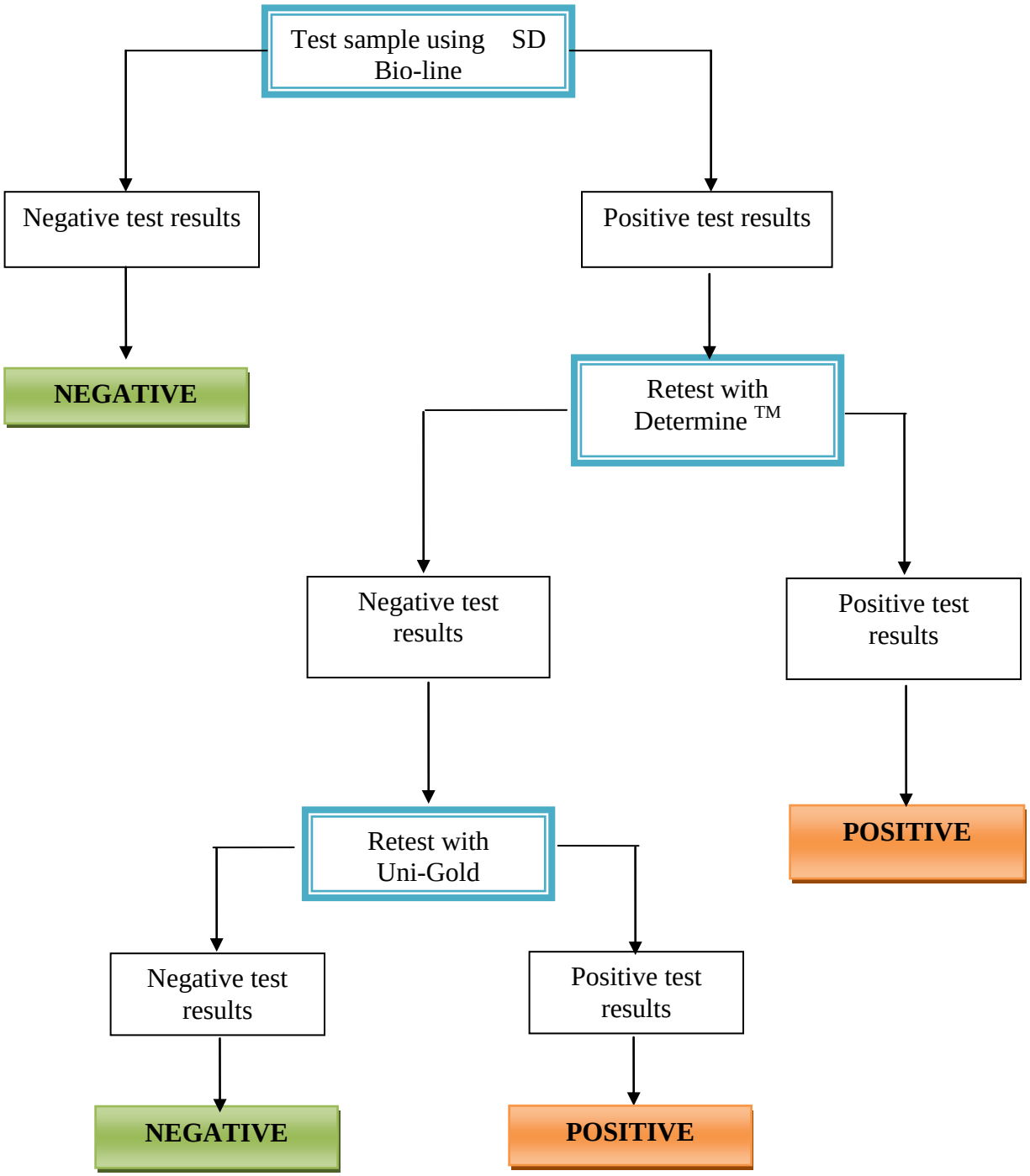
Hepatitis C will be tested using Rapid test after pre-test counseling was done at the storefront/mobile vans. Pretest counseling for Hepatitis C antibody included providing reading materials or general information about Hepatitis C before clients enter a private session with a counselor, nurse or doctor. The sample of blood Tested for Hepatitis was done using The SD Bioline for Hepatitis C antibody test. Then blood drawn from the clients was taken to MUHAS immunology laboratory for testing .The samples of these blood specimen were given special codes which were used at the store fronts and client questionnaire.

5.8 Data Quality Control

Four research assistants, nurses or social workers by profession were recruited to assist in data collection. They were trained on familiarization with the instrument and the necessary procedures for data collection. Training was done for three days, a week prior to conduction of the study. The trained research assistant, who is also the counselor assisted in pre-test counseling, collection of blood samples and administration of the additional questionnaire and the post-test counseling when results are ready to be read.

The serological analysis for HIV will be performed on site by a trained nurse counselor. To assure blinding, confidentiality and concordance between questionnaire and blood samples, then the questionnaire will be given special codes which will also appear on the blood samples for HIV and Hepatitis C.

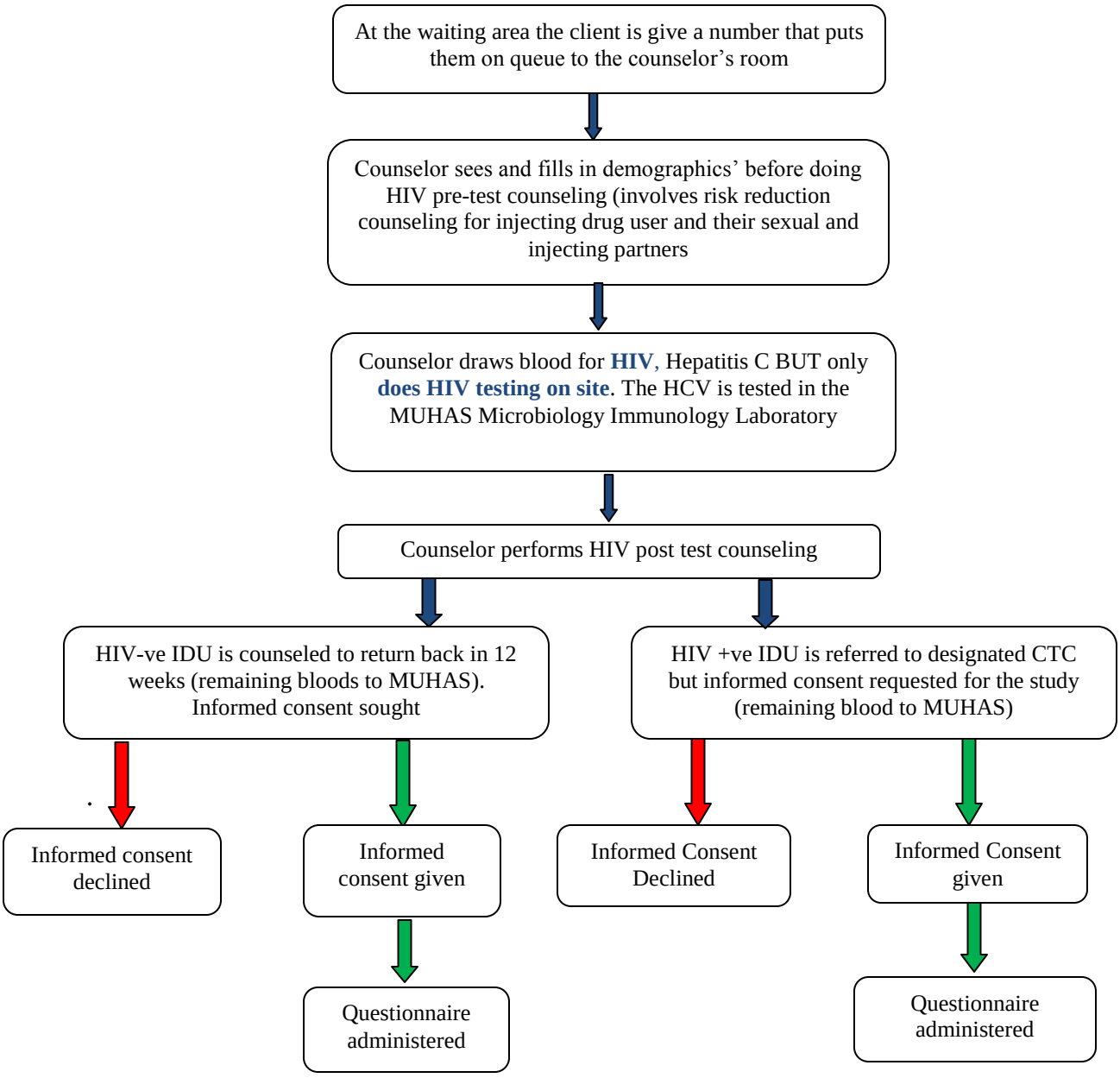
Figure 1: HIV Testing Algorithm to be used at the storefront



A negative result meant that no HIV antibodies were found in the blood sample. In case of test results with unclear findings, and are known as indeterminate result, a tie breaker using Unigold will be used.

A positive test result meant antibodies for HIV were found in the blood sample. Participants with other medical conditions will be referred for treatment to available health services.

Figure 2: IDU Client's flow chart for testing at storefront



5.8. Pre-testing of Study Instrument

A pilot study was conducted with ten IDUs recruited from the psychiatric unit in MNH. The pilot test helped to check the instrument, and help determine the length of time it took to conduct the questionnaire as well help test the field procedure for subsequent refinement. Therefore, this allowed refinement of the questionnaire for the selected participant during the research process.

5.9. Inclusion criteria

Participants with the following features were incorporated in the study:

1. Be an IDU as identified by looking at the truck marks on their skin aged 18 years and above attending TAPP's community partners outreach services;
2. Be able to give verbal consent for participation; and
3. Be able to meaningfully participate (i.e., be coherent and sober).

5.10. Exclusion criteria

Participants were excluded from the study if;

1. They were not injection drug users,
2. They were below 18 years of age,
3. They were unwilling to be give consent and be tested for HIV and Hep C.

5.11. Plans for Data Management, Entry and Analysis

All data obtained was stored by the principal investigator in a secure environment Data entry, data cleaning and data analysis was done subsequently. SPSS was used for data entry, data cleaning and data analysis. Data cleaning was done simultaneously during and after data entry. Univarate, bivariate and multivariate analysis was used to answer the study objectives during the data analysis. Then results are presented in tables, figures, and graphs in relation to the research objectives and variables. This was followed by comprehensive thesis writing of the findings of the research project.

5.12. Study Limitations

The scope of the study is necessarily limited by available time and resources. The study, for example, is being conducted at a service facility rather than being community-based. This is due to availability of participants, logistical, temporal, and financial constraints.

5.13. Ethical consideration

Ethical clearance to conduct the study was sought from Muhimbili University of Health and Allied Sciences Senate Research and Publication Committee and assent to TAPP by the Principle Investigator of the program. Written informed consent to participate in the study was also sought from potential study participants. Trained counselors in this study dealt with distress and other psychological problems which had risen among participants especially during HIV counseling and testing and during the administration of the questionnaire. Those who were HIV positive were referred to CTC. And all other illnesses were cared according to the minimum standard package of care for the specific illness.

5.14. Consent

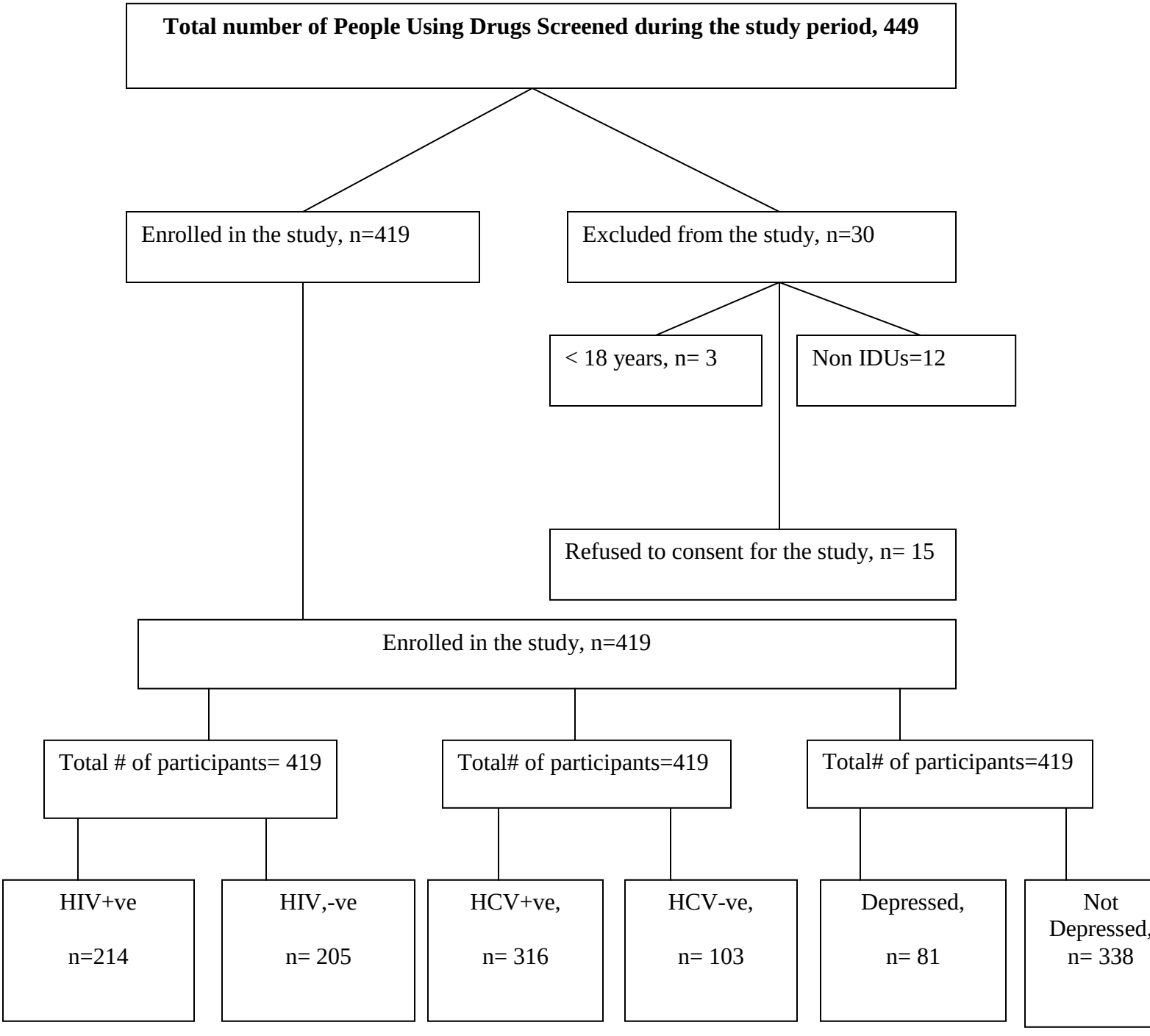
All clients participating in the study signed an informed written consent. The consent form was addressing the purpose of the study and their willingness to participate in the study. It was made clear that, acceptance or refusal to participate in the study had no

consequences on the client and that they were free not to participate in the study at that time. Also they were free not to answer any question if they did not feel or had psychologically traumatized. Clients were also assured of confidentiality. The questionnaire was using unique identifiers; only numbers were used, therefore assuring that information provided was confidential.

The benefits and risks of participations was stated clearly in the consent form, though risks were minimally expected in this study. Also all clients were informed that, there was no financial gain obtained by participating in this study. They were given the address/contacts of the principal investigator as well as the contacts of the director for research and publication committee from MUHAS.

6.0. RESULTS

Figure 1: Population Profile



6.1 Description of the study participants

During the 6 months period, a total number of 449 clients attending Tanzania AIDS Prevention Program outreach services were recruited to participate in this study. Among the 449 clients only 419 were eligible. A total number of 30 clients were excluded mainly because, 12 clients were non IDUs, 15 of them did not consent for the study and 3 clients were below the required age which is 18 years of age. Therefore, a total number of 419 IDUs were statistically analyzed.

Table 1: Socio-demographic characteristics of the study participants (n=419)

SOCIO-DEMOGRAPHIC VARIABLE	N (%)
Age of the participant	
Range	18-53
Mean(± SD)	26.6(±4.88)
Age	
<24	52 (12.4%)
25-34	269 (64.2%)
35-44	94 (22.4%)
>45	4 (1%)
Total	419 (100%)
Sex	
Male	321 (76.6%)
Female	98 (23.4%)
Marital status	
Married	21(5%)
Unmarried/single	280(66.8%)
Widow/divorced/separated	105(25.1%)
Living with a lover	13(3.1%)
Religion	
Christian	163(38.9%)
Moslems	243(58.0%)
No religion	7(1.7%)
Others	6(1.4%)

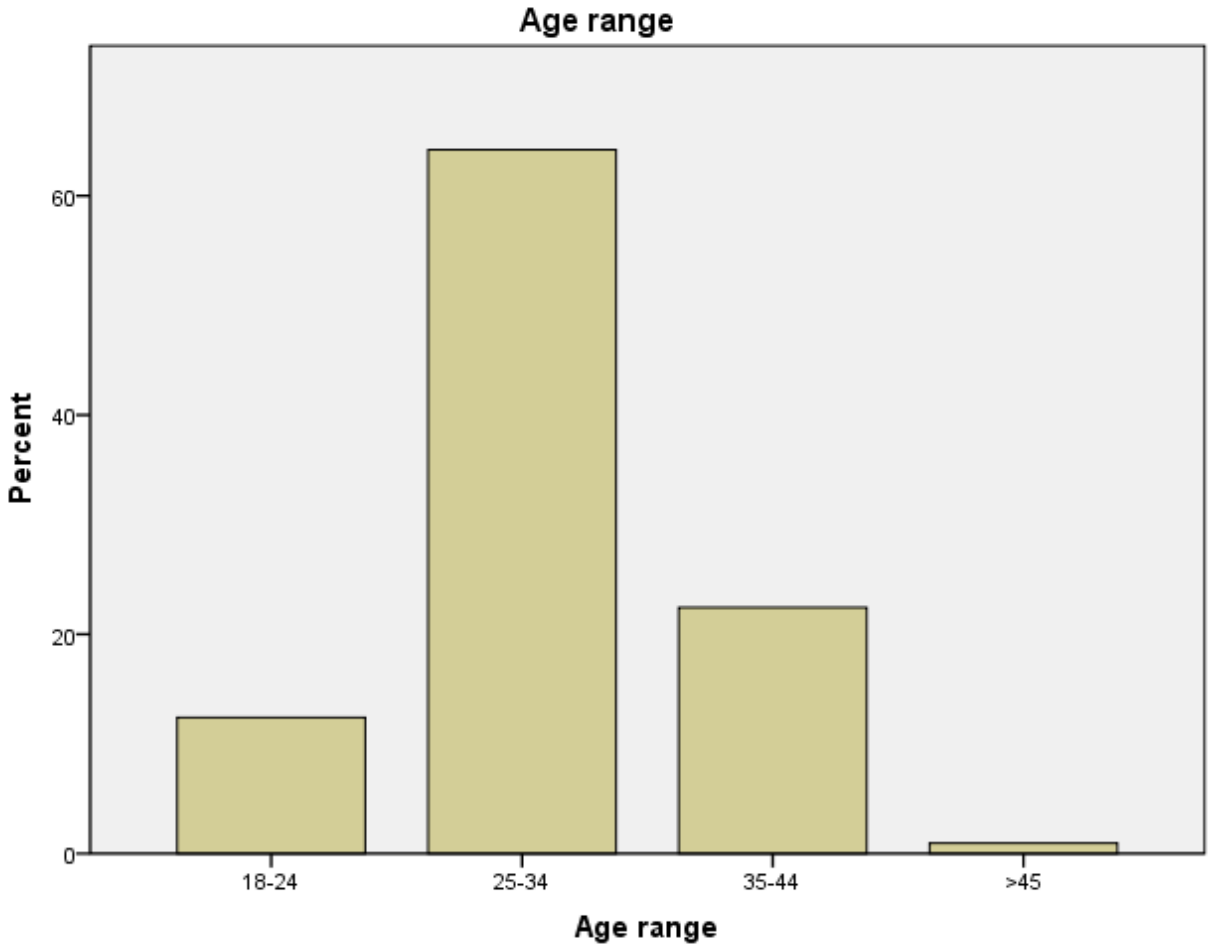
SOCIO-DEMOGRAPHIC VARIABLE	N (%)
Level of education	
No formal education	55(13.1%)
Primary education	196(46.8%)
Secondary education	118(28.2%)
College/university	50(11.9%)
Circumstances of living	
Own house	16(3.8%)
Parent house	230(54.9%)
Rented room	126(30.1%)
Street/vacant building	47(11.2%)
Occupation	
Peasant	5 (1.2%)
Self employed	221 (52.7%)
Employed with salary	42(10%)
Student	3(1%)
Others	148(35.0%)

Table 1: above summarizes demographic characteristics of the surveyed sample. Among the 419 analyzed clients, 76.6% (n=321) represents male participants while 23.4% (n= 98) represents female participants with a male to female ratio of (3.3:1). The set age range was 18 to 53 years of age with a mean age of 26.6. Most of the analyzed patients were in the age group of 25 to 34 years of age. This represents a percentage mark of 64.2% (n=269), compared to the older aged group of above 45 years which was represented by only 1% (n= 4).

Most of the clients were found to be unmarried/single. Among the 419 analyzed clients, 66.8% (n= 280) were unmarried/single. Majority of the study participants (46.8%) completed primary level of education. A total of 230 (54.9%) participants were found to be living in their parent's home whilst, those who were living in rented rooms were represented by 30.1% (n=126). Majority of the participants were unemployed 52.7% (n=221) and a significant percentage of 35% (n=148) were doing other activities that

included pick pocketing, robbery and commercial sex work. On the religious background, most of the clients were Muslims, represented by (58%) 243 while 163 (38.9%) number of participants self identified as Christians. (c.f. Table 1).

Figure 3; Age distribution of the study participants



Most of the study participants 269 (64.2.0%) were in age group 25-34 years, followed by 35-44 years, 94(22.4%), then 18-24 years, 52 (12.4%) and 4 (1%) were more than 45 years of age.

Table 2: Socio-demographic characteristics of the study participants in relation to HIV serostatus (n=419)

Variable	HIV positive N (%)	HIV negative N (%)	P-Value

Sex			
Male	144 (44.9%)	177 (55.1%)	
Female	70 (71.4%)	28 (28.6%)	0.001
Total	214 (51.1%)	205 (48.9%)	
Marital status			
Married	8 (38.1%)	13 (61.90%)	
Unmarried/single	141(50.4%)	139 (49.60%)	0.004*
Widow/divorced/separated	61 (58.1%)	44 (41.90%)	
Living with a lover	4 (30.8%)	9 (69.2%)	
Religion			
Christian	74 (45.4%)	89 (54.60%)	
Muslim	133 (54.7%)	110 (45.3%)	
No religion	4 (57.1%)	3 (42.9%)	0.008*
Others	3 (50%)	5 (50%)	
Level of Education			
No formal education	42 (76.4%)	13 (23.6%)	
Primary education	99 (50.5%)	97 (49.5%)	
Secondary education	53 (44.9%)	65 (55.1%)	0.096
College/university	20 (40%)	30 (60%)	
Circumstances of living			
Own house	6 (37.5%)	10 (62.5%)	
Parent house	97 (42.2%)	133 (57.8%)	0.005*
Rented room	74 (58.7%)	52 (41.3%)	
Street/vacant building	37 (78.7%)	10 (21.3%)	
Occupation			
Peasant	2(40	3(60%)	
Unemployed/self-employed	112(50.7%)	109(49.3%)	
Employed with salary	23(54.8%)	19(45.2%)	0.007*
Student	1(33.3%)	2(66.7%)	
Others	88(59.4%)	60(40.5%)	

*Fisher's exact test used

Out of 419 study participants, 214 (51.1%) were found to be HIV positive. Females IDUs (71.4%) were more likely to be seropositive for HIV than males IDUs (44.9%) and this was statistically significant (P=0.001). Participants who injected Drugs who were widowed/divorced/separated had a higher rate of HIV infection (58.1%) compared to married IDUs (38.1%) or those living with a partner (30.8%). The difference was statistically significant (P=0.004). There was also statistically significant (P=0.008)

association between religion and HIV sero-status among injection drug users. Most of Muslims 133 (54.7%) were HIV positive compared to Christians 74 (45.4%).

There was no significant statistical difference between HIV serostatus and the level of education among the study participants (P=0.096). However, majority of the HIV positive IDUs had no formal education (76.4%). Considering the place of living, IDUs living in the street or vacant buildings were most likely to be seropositive for HIV (78.7%) followed by those living in rented rooms (58.7%), living in their parents houses (42.2%) and those living in their own house (37.5%). The difference was statistically significant (P= 0.005)

A large proportion of participants who were doing other works (pick pockets, robbers and commercial sex workers) were more likely to be HIV positive (59.4%), followed by unemployed/self employed (50.7%) . The difference was statistically significant (P=0.007).

Table 3: Socio-demographic characteristics of the study participants in relation to HCV serostatus (n=419)

Socio-demographic variable	Hepatitis C		P-value
	Positive N (%)	Negative N(%)	
Sex			
Male	234 (72.9%)	87 (27.1%)	
Female	82 (83.7%)	16 (16.3%)	0.004
Total	316 (75.4%)	103 (24.6%)	
Marital status			
Married	51 (63%)	30 (37%)	
Unmarried	175 (79.5%)	45 (20.5%)	0.006*
Widow/divorced/separated	78 (74.3%)	27 (25.7%)	
Living with a lover	8 (66.67%)	4 (33.3%)	
Religion			
Christian	113 (69.32%)	50 (30.67%)	
Muslim	196 (80.66%)	47 (19.34%)	0.09*
No religion	4 (57.14%)	3 (42.86%)	
Others	3 (50%)	3 (50%)	
Level of Education			
No formal education	47 (85.5%)	8 (14.5%)	
Primary education	123 (62.8%)	73 (37.2%)	
Secondary education	91 (77.1%)	27 (28.9%)	0.785
College/university	35(70%)	15(30%)	
Circumstances of living			
Own house	9(56.3%)	7(43.8%)	
Parent house	166(72.2%)	64(27.8%)	
Rented room	99(78.6%)	27(21.4%)	0.002*
Street/Vacant building	42(89.4%)	5(10.6%)	

*****Fisher's exact test used.

The prevalence of HCV infection among the IDUs was 75.5%. Females were more infected (83.7%) as compared to male participants (72.9%). This was statistically significant (P=0.004)

With regard to marital status and HCV infection among injection drug users, It was found that HCV positive was more common among those who were not married/single (79.5%), followed by divorced (74.3%), then cohabiting (66.7 %). This was statistically significant (P = 0.006).

Muslims and those who had no formal education (80.6% Vs 85.5%) were found to be more HCV infected. However this difference was not statistically significant (P=0.09 Vs P=0.785).

Participants who were living in street/vacant building, were significantly more likely to be positive for HCV (89.4%) compared to those who lived in their own houses (56.3%) (P = 0.002).

Table 4: Prevalence of Depression among IDUs attending outreach services at TAPP.

Variable	Depression		P-Value
	Yes N (%)	No N (%)	
Sex			
Male	50 (15.6%)	271 (84.4%)	
Female	31 (31.6%)	68 (68.4%)	0.000
Total	81 (19.3%)	339 (80.7%)	
Marital status			
Married	2 (9.5%)	19 (90.5%)	
Unmarried	49 (21.2%)	231 (78.8%)	0.006*
Widow/divorced/separated	37 (35.2%)	63 (64.8%)	
Living with a lover	2 (15.38%)	11 (84.62%)	
Religion			
Christian	32 (19.63%)	131 (80.37%)	
Muslim	38 (15.64%)	205 (84.36%)	
No religion	1 (14.29%)	6 (85.71%)	0.176
Others	0 (0%)	6 (100%)	
Level of Education			
No formal education	8 (14.55%)	47 (85.45%)	
Primary education	12 (6.12%)	184 (93.88%)	0.003*
Secondary education	30 (25.42%)	88 (75.58%)	
College/university	21 (42%)	29 (58%)	

*****Fisher's exact test used

The overall prevalence of depression among IDUs attending TAPP community services was 19.3%, with females (31.6%) being more likely to present with depressive symptoms compared to males (15.6%). This was statistically significant (P<0.001). With regard to marital status and depressive symptoms among injection drug users, depressive symptoms were more common among study participants who were divorced/separated (35.2%), followed by not married (21.2%), those who were married (90.48%) were less likely to be depressed compared to the rest of the group. This was statistically significant (P= 0.006).

Considering the level of education, a significant statistical association between injection drug use and depression was found. IDUs who had college/university level of education were more likely to present with depressive symptoms compared to the rest of the group, (P=0.003). There was no statistically significant association between religion and depressive symptoms among the study participants (P=0.176).

7.0 DISCUSSION

The overall prevalence of HIV among IDUs attending TAPP community services was 51.1%. This is relatively higher compared to the rates reported in the US in 2007 by Mortal et al where he reported the prevalence of HIV among IDUs was 12.9% [(6)]. The differences could be explained by the fact that In the US, different intervention programs for IDUs such as needle and syringe exchange programs, programs to help reduction of drug use by injection and also overall the prevalence of HIV in the general population is higher in our setting compared to the US. In India [(24)], the prevalence of HIV among IDU was reported to be 59.6% which is slightly higher than the prevalence in the current study. This could be explained by the fact that the prevalence of IDUs is higher in India compared to Tanzania. Studies conducted in African countries reported lower prevalence rates compared to the current study. The prevalence of HIV among IDUs has been reported to be 2.55% in Egypt, 22% in Libya, 6.5% in Morroco and 0.3% in Tunisia[(15)].

The proportion of HIV infection was found to be higher among females (71.4%), among those who were widowed/divorced/separated (58.1%), among those who have no formal education (76.4%), and those who live in the street or vacant building (78.7%). This can be explained by the fact that females are biologically more likely to acquire HIV infection than males, also they are likely to engage in commercial sex under the influence of drugs as the means to acquire income. Individuals who are widowed/divorced/separated because they are likely to have stresses related to their loss and can engage themselves in sexual risky behaviors and Injection drug use and therefore

have a more chance of acquiring HIV infection. Individuals living in the street or vacant building are likely to be more abused sexually also engage themselves in commercial sex working as a means to generate income. This thus puts them at a higher chance of acquiring HIV infection.

The prevalence of HCV among IDUs attending TAPP community services was found to be 75.4%. This is somewhat similar to the prevalence of HCV in China[25] which ranges from 34% to 93%, and in North America[26] where the prevalence rates ranges from 30% to 90%. This is higher than the prevalence of HIV among IDUs though the route of transmission is the same. HCV is about 10 times more infectious than HIV, per unit of blood required, and therefore needs less exposure than HIV to reach high prevalence.[26]

The prevalence of hepatitis C infection among IDUs has also been reported to be slightly higher than the current study, in Iran[27] prevalence of HCV was reported to be 80%. However this study was done in male IDUs and may have included men who have sex with men only compared to the current study in which the prevalence of HCV infection is among male and female IDUs. Injection drug use appears to be common in males compared to females. In a study done in Malaysia [28] in 2009, the prevalence of HCV infection was reported to be 65.4% which is slightly lower than the current study this could be explained by the existence of the needle and syringe exchange program that was launched 2 years prior to the study being conducted. This could contribute the slightly lower prevalence than the current study.

The overall prevalence of depression among IDUs attending TAPP community services was 19.3%. It was found to be more common in females 31.6% than males 15.6%. These findings are lower compared to those reported by Bing et al [16] in the US where he reported the prevalence of depression among IDUs to be 36%. In another study that was done in the similar setting, the prevalence of depression was reported to be 20% - 40%. [19.] These findings are expected because the prevalence of depression in the US is higher in the general population than in Tanzania. In another study done in Puerto Rico, the

prevalence of depression among IDUs was reported to be 35%. This is also higher than the prevalence of depression in the current study.

Limitations of the study

The scope of the study had to be of necessity limited in terms of predictors of injection drug use like societal/cultural and community norms which leads to injection drug use which were not assessed, as well as moderating factors like injecting environments, economics and sexual coercion again not covered due to constraints of time and resources. It was not possible to do a qualitative study which would look more clearly on predictors of injection drug use and moderating factors which influences injection drug use related drug and sexual behaviors.

Laboratory investigations to confirm the injection drug use was not done to every participant, instead observation for the evidence of track marks on the skin was done due to time and financial constraints, the likelihood of participants giving socially accepted answers is highly probable particularly with regards to injection drug use which is a stigmatized behaviour.

In this study injection drug use was observed using evidence of track marks on the skin, therefore these results offer greater precision in describing injection drug use as well as its association to drug use risk behaviors. Furthermore the sample size was big enough increasing the power of this study. Therefore important conclusions can be drawn from these findings as well as recommendations for possible future research and intervention on injection drug use can be made.

Conclusion

The overall prevalence of HIV, HCV and depression among IDUs was found to be 51.1% and 75.6% and 19.3% respectively. The prevalence was found to be higher in females in all the three conditions compared to males. Other factors like marital status, place of living, occupation and religious differences was found to be the determinants of injection drug use. Gender differences in injection drug use can be demonstrated with more males being injectors than females. There are various factors that influence gender differences in this setup such as traditional norms which do not tolerate women to use or inject drugs.

Unemployment and other activities like robbery and pick pocketing increases the risk of injection drug use, this can be explained by the fact that drug use causes people to stay idle all the time and robbery and pick pocketing is a simple way of making them get money to buy drugs since drugs are expensive. Being single is also a risk for one being an injection drug use; this may be a coping mechanism for loneliness**.**

Injecting drugs more than three times a day increases the risk of HIV and HCV infections transmission. Also, injecting drugs at the harmful and dependence level increases the risk of unprotected sex, having sex with non regular sexual partners and hence HIV and HCV infections transmission. This may be explained by the fact that greater quantities of drug use can diminish personal control and impair good judgment over multiple sexual partners, having sex with high-risk partners, unprotected sex, and condom failures. In general, injecting drugs increases the risk of HIV and HCV infections with many depressed individuals using drug as a coping skill.

Recommendations

This is the first study of its kind to be done in Dar es Salaam Tanzania; it involved a large sample size, though it was not easy to consent injection drug users especially those who were withdrawing or were already high on drugs. I therefore recommend another study to be done in to assess the risk factors associated with HIV ,HCV and Depression among Injection drug users. The study will elicit specific information on societal/cultural and community norms which leads to injection drug use, as well as moderating factors like injecting environments, economics and sexual coercion which influence psychoactive effects and further injection drug use related sexual risk behaviors.

There is an urgent need to invest in HIV/AIDS, HCV infections and depression prevention and control activities that target injection drug users in Tanzania. Brief drug use intervention counseling should be incorporated into counseling sessions as a drug risk reduction intervention in the community. Also IDUs should be given targeted prevention messages whenever they visit centres targeting HIV and HCV.

Clients who inject drugs should be given advice to encourage them change modes of drug use including stopping to use drugs. For those who cannot stop injecting drugs then programs like needle and syringe exchange should be considered. The Government should carefully think of expanding the Medically Assisted Therapy for addicted injection drug users into other areas other than Muhimbili National Hospital.

Furthermore, awareness of effects of injection drug use on transmission of HIV and HCV infections as well as presence of depressive symptoms among IDUs should be considerably managed through provision of education through media and introducing the concept of drug problems in teaching curriculum of secondary and higher education. This will help drug addicts to quit and do productive works to the society. The Government should think of introducing HCV vaccine in its vaccination package since more than 75% tested positive for the infection. Researches should be done in future to test these interventions and to identify new preventive strategies for people who inject drugs and risk for HIV and HCV infection transmission.

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APPENDIX 1: QUESTIONNAIRE (ENGLISH VERSION)

Please circle the correct answer, and fill it on the box.

1. GENERAL INFORMATION

1.Date of interview: {...../...../2010}

2. Start time;..... .....

2. Study serial No: .....

3. Name of interviwer: .....

4. Respondent ID :.....

II. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT

1. Number of interviewee:/code.....

2. Age of the interviewee in years

3. Where do you live; Name of the District

1. Kinondoni
2. Temeke
3. Ilala
4. Outside of Dar es Salaam region

4. Sex of respondent

1. Male
2. Female

5. What is your curent marital status?

1. Married
2. Unmarried
3. Widow/divorced/separated
4. Living with a lover

6. What is your religion?

1. Christian
2. Moslem
3. No religion
4. Others ,specify

7. What is your highest level of education which you have achieved?

1. Never gone to school
2. Primary school
3. Secondary school
4. College/University
5. Postgraduate/Masters
6. Others,specify

8. Where are you living now/staying now?You live in .....

1.Your own house
2.Your parent house
3.In a rented room
4.In a roo rented for a short time(guest/hostel)
5.On the street,vacant building

9.How long have you been living there?

1.Days
2.Months
3.Years

10. What do you do for living?

1. Farmer/Peasant
2. Business/Self employment
3. Employed with salary
4. Student
5. Others,specify

III. QUESTIONS RELATED TO RESEARCH

(IDUs)

Life time and current drug use.

1.How old were you the first time you started injecting with drugs? ----------Age

2.How long have you been injecting yourself with drugs? ……Month

……Years

3.Which of the following drugs have you been using

1.Heroine/unga

2.Valium

3.Mirungi

4.Bhangi/cannabis

4.Others,specify

4.During the course of injecting drug, how often have you been using?

1.less than once a week

2.Once a week

3.two to six times per week

4.Once a day

5.two to three times a day

6.Four or more times a day

5. Overall, which drug did you inject most?

1. Heroine by itself

2. Other drug , specify

6.Altogether, How many times have you used heroine in the last 30 days

……times

1.How many of those times did you use needle/syringes that were new(never used) or were only always used by you? ……..times

2.How many of those times did you inject with needles/syringes that had been used by some one else

3 .How many of those times did you clean the needles/syringes with bleach before You injected?

4.How many of those times injected in the last 30 days did you use the same cooker /cotton that someone else had already used? …….times

5.How many of those times did you use the water to clean your needle that some else used to clean needles?

6.How many times did you contribute money to buy drugs with someone else?

7.How many times did you inject drugs that were shared ,begged ,or left over for you? …….times

8.How many of the times that you injected in the last 30 days were you with other People with whom you were also injecting?

9.How many different people did you share works with in the last 30 days? This Means all the people who used the same needles /syringes ,cooker/cotton, or Cleaning water before you injected. ……number of people

10.How many of those people would say probably had also shared their needles, Cooker/cotton, or rinse water with someone else besides you.

……..number of people

11.How many times in the last 30 days did you give or lend your used needle/syringe to someone else who then used it without cleaning them with bleach?

7. Altogether, How many times have you used heroine in the last 7 days

……times

8. Would you say that……(in the above question) times a week is

1.a lot less than you usually use

2.less than you usually use

3.What you usually usage

4.more than you usually use

5.a lot more than you

9.Since you have been using drug, have you ever been in drug treatment?

1.Yes

2.No

10.Have you been in drug treatment in the last 30 days?

1.Yes

2.No

11.Are you in drug treatment now?

1.Yes

2.No

12. How often during the last year have you found it difficult to get the thought of injection drug use out of your mind?

1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

13. How often during the last year have you found that you were not able to stop injecting drug once you had started?

1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

14. How often during the last year have you been unable to remember what happened the night before because you had been injecting drugs?

1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

15. How often during the last year have you had a feeling of guilt or remorse after injecting drugs?

1. Never
2. Less than monthly

3. Monthly
4. Weekly
5. Daily or almost daily

16. Have you or someone else been injured as a result of your injection drug use?
    1. No
    2. Yes, but not in the last year.
    3. Yes, during the last year



17. Has a relative or friend or a doctor or other health worker, been concerned about your injection drug use or suggested you cut down?
    1. No
    2. Yes, but in the last year.
    3. Yes, during the last year



18. Have you ever had sex with different people other than your wife/husband/permanent lover (regular sexual partner)?
    1. Yes,
    2. No



19. How many different people other than your wife/husband/permanent lover (regular sexual partner) have you had sex with in the past 30 days?
    1. 1 to 2
    2. 3 to 5
    3. More than 6
    4. Don't remember/know



20. Did you use condom in all occasions?
    1. Yes
    2. No



21. The last time you had sex, did you inject drugs before or during sex?
    1. Yes,



2. No,

22. The last time you had sex under the influence of injection drug, did you use condom during sex?

1. Yes ☐
2. No
3. Don't remember/know

23.Have you ever had

1 .Gonorrhea	Y N
2.Syphilis	Y N
3.Genital herpers	Y N
4. Gernital Warts	Y N
5.Chlamydia Trachomatis	Y N

24.How many times in the last year were you diagnosed with …….?

25. Client's HIV test results

1. Positive ☐
2. Negative

26. Client's Hepatitis C test results

1. Positive ☐
2. Negative

27.Questions related to Depression.

Patient Health Questionnaire				
27.Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things…….				
2. Feeling down, depressed, or hopeless …….. ……..				
3. Trouble falling or staying asleep, or sleeping too much ……				
4. Feeling tired or having little energy ……..				
5. Poor appetite or overeating ……...				
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down ……..				
7. Trouble concentrating on things, such as reading the newspaper or watching television ……				
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual ……..				
9. Thoughts that you would be better off dead or of hurting yourself in some way ……				

27.If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult At all	Somewhat difficult	Very difficult	Extremely difficult

APPENDIX 11: QUESTIONAIRE -KISWAHILI VERSION

Tafadhali zungushia chaguo sahihi na weka jibu hilo kwenye kiboksi pembeni kuli

I.TAARIFA KAMILI

1.Tarehe ya usaili: {...../...../2011 2. Namba ya utafiti/dodoso

3.Jina la msaili:.....

4.Utambulisho wa msailiwa.....

II. TAARIFA YA MSAILIWA

1**.** Namba ya msailiwa:.....

2. Umri wa msailiwa miaka

3. Mahali anapoishi;.Jina la wilaya :

1. Kinondoni
2. Temeke
3. Ilala
4. Nje ya mkoa wa Dar es Salaam

4. Jinsia ya msailiwa

1. Mme
2. Mke

5. Hali ya ndoa ya msailiwa

1. Nimeolewa/Nimeoa
2. Sijaolewa/Sijaoa
3. Mjane/tumetalikiana/tumetengana
4. Naishi na mpenzi

6. Dini ya msailiwa

1. Mkristo
2. Muislam
3. Sina dini
4. mengineyo,elezea
5. mengineyo ,elezea.....

7. Je umefikia kiwango gani cha juu cha elimu?

1. Sijawahi kwenda shu
2. Elimu ya msingi
3. Elimu ya secondari. ☐
4. Chuo /chuo kikuu

8. Unajishughulisha na nini kwa ajili ya kipato chako cha kila siku?

1. Sina kazi/mama wa nyumbani
2. Mkulima
3. Mfanyabiashara/nimejiajiri/fundi ☐
4. Muajiriwa (mwenye mshahara)
5. Mwanafunzi

9. Je unaishi wapi?unaishi kwenye ……

1.Nyumba yako binafsi ?

2.Nyumba ya wazazi wako ?

3.Chumba cha kupanga ?

4.Mtaani?

10.Je umeishi hapo kwa mda gani ?

1.siku

2.miezi

3.miaka

11.Je unafanya nini kujikimu na maisha ?

1.mkulima

2.Biashara/umejiajiri

3.Mwajiriwa

4.Mwanafunzi

III.MASWALI YANAYOHUSIANA NA UTAFITI

1 .Je ulikuwa na umri gani ulipoanza kujidunga madawa ya kulevya kwa mara ya kwanza?.....umri

2. Je ni kwa mda gani umekuwa ukijidunga madawa ya kulevya?.....miezi
…….miaka

3. Je ni aina gani ya madawa ya kulevya unayotumia?
   1.unga
   2.Valiam
   3.Mirungi
   4.Bangi

4 .Je wakati unatumia madawa ya kulevya,ulikuwa unatumia mara ngapi ?
   1.Chini ya mara moja kwa siku
   2.Mara moja kwa siku
   3.Mara mbili mpaka sita kwa wiki
   4.Mara moja kwa siku
   5.Mara mbili mpaka tatu kwa siku
   6.Mara nne au zaidi kwa siku

5. Kwa ujumla,aina ipi ya madawa ya kulevya unajidunga zaidi ?
   1.Heroin peke yake
   2.Madawa mengine,elezea

6.Kwa pamoja,kwa mara ngapi umetumia heroini ndani ya siku 30……..

1. Je ni mara ngapi kati ya hizo ulitumia sindano mpya(ambayo haijatumika) au ambayo ulikuwa unatumia peke yako….
2. Je ni mara ngapi ulijidunga kwa kutumia sindano zilizotumika?
3. Ni mara ngapi kati ya hizo ulisafisha sindano kwa kutumia dawa kabla ya kujidunga ?
4. Mara ngapi kati ya hizo ndani ya siku 30 zilizopita ulitumia pamba iliyokwishatumiwana mtu mwingine ?
5. Mara ngapi kati ya hizo ulitumia maji kusafisha sindano ambayo ilishatumika na mtu mwingine ?
6. Je ni mara ngapi ulichangia pesa kununua madawa ya kulevya na mtu mwingine ?
7. Je ni mara ngapi ulijidunga madawa ya kulevya kwa kuchangia, kuomba au kuachiwa na mtu mwingine ?
8. Je ni mara ngapi kati ya hizo ndani ya siku 30 zilizopita ulikuwa pamoja na watu ambao walijidunga pia ?
9. Ni watu wangapi uliochangia nao kazi ndani ya siku 30 zilizopita ? Inamaana watu wote uliyotumia nao sindano moja, pamba au maji kabla ya kujidunga…… idadi ya watu.
10. Ni watu wangapi kati ya hao labda walichangia sindano au maji ya kusafishia na mtu mwingine mbali na wewe ?
11. Ni mara ngapi ndani ya siku 30 zilizopita ulimpa au kumwazima sindano mtu mwingine ambaye aliitumia bila kuisafisha kwa dawa ?

7. Ni mara ngapi kwa mara moja ulitumia heroine ndani ya siku 7 zilizopita ?

8. Unaweza kusema kwamba ……. (katika maswali hapo juu) mara kwa wiki ni ?

   1. Ndogo kidogo kuliko unayoitumiaga
   2. Kidogo kuliko unayotumiaga
   3. Ni sawa na unayotumiaga
   4. Nyingi zaidi kuliko unayotumiaga
   5. Nyingi kidogo kuliko unayotumiaga

9. Tangu umeanza kutumia madawa ya kulevya uliwahi kupata matibabu ?
   1. Ndiyo
   2. Hapana

10 Ulishawahi kupata matibabu ndani ya siku 30 zilizopita ?
   1. Ndiyo
   2. Hapana

11. Uko kwenye matibabu ya madawa ya kulevya kwas asa hivi ?
   1. Ndiyo
   2. Hapana

12. Ni kwa mara ngapi ulipata matatizo kutokana na kutojidunga sindano ya madawa ya kulevya katika akili yako mwaka uliyopita ?
   1. Hakuna
   2, Chini ya mwezi
   3. Kwa mwezi
   4. Kwa wiki
   5. Kwa siiku au karibia kila siku

13. Ni kwa mara ngapi ndani ya mwaka uliopita uligunda kwamba huwezi kufanya kazi mara tu baada ya kuacha kujidunga sindano ya madawa ya kulevya.
   1. Hakuna
   2. Chin ya mwezi
   3. Kwa mwezi
   4. Kwa wiki
   5. Kwa siku au karibia kila siku

14. Ni kwa mara ngapi ndani ya mwaka uliopita ulishindwa kukumbuka kilichotokea usiku kabla kwa sababu ya kujidunga madawa ya kulevya
    11. Hakuna
    2. Chini ya mwezi
    3. Kwa mwezi ☐
    4. Kwa wiki
    5. Kwa siku au karibia kila siku

15. Ni mara ngapi kwa mwaka uliopita ulijisikia vibaya baada ya kujidunga madawa ya kulevya ?
    1. Hakuna
    2. Chin ya mwezi
    3. Kwa mwezi ☐
    4. Kwa wiki
    5. Kwa siku au karibia kila siku

16. Ulishawahi kujidhuri au kumdhuru mtu mwingine baada ya kujidunga madawa ya kulevya?
    1. Hapana
    2. Ndiyo lakini sio katika mwaka uliopita ☐
    3. Ndiyo katika mwaka uliyopita

17. Una jamaa, rafika au daktari au mhudumu wa afya aliyakupa ushauri kuhusu madawa ya kulevya au kukupa ushauri uache ?
    1. Hapana
    2. Ndiyo lakini mwaka uliopita ☐
    3. Ndiyo mwaka uliopita.

18. Ulishawahi kujamiana na watu tofauti zaidi ya mmeo au mkeo au mpenzi wako wa kudumu?
    1. Ndio ☐
    2. Hapana

19. Ni watu wangapi mbali na mkeo mmeo au mpenzi wako wa kudumu ulishawahi kujamiiana nao ndani ya siku 30 zilizopita?
    1. 1-2
    2. 3-5 ☐
    3. Zaidi ya mara 6
    4. Sikumbuki/sijui

20. Ulitumia kondom katika matukio yote? ☐
    1. Ndiyo
    2. Hapana

21. Mara ya mwisho kujamiiana ulijidunga sindano wakati wa kujamiana?
    1. Ndio
    2. Hapana ☐

22. Mara ya mwisho kujamiiana kwa kushinikizwa na madwa ya kulevya ulitumia kondomu?
    1. Ndio
    2. Hapana ☐
    3. Sikumbuki/sijui

23. Ulishawahi kuugua?
    1. Gonorea N H
    2. Kaswende N H
    3.Genital herpers N H
    4. Gernital Warts N H
    5.Chlamydia Trachomatis N H

24. Ndani ya mwaka uliopita ni mara ngapi uli ……?

25. Majibu ya HIV ☐
    1. Positive
    2. Negative

26. Majibu ya HCV
    1.Positive
    2.Negative ☐

27. maswali yanayohusiana na utafiti

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Maswali ya afya ya Mgonjwa				
Kwa juma mbili zilizopita, mara ngapi umesumbuliwa na matatizo haya: (Weka alama" √ " kuonyesha jibu lako)	Hapana kabisa	Siku kadhaa	Zaidi ya nusu ya siku hizi	Karibu kila siku
1. Mwelekeo mdogo au kukosa raha wa kufanya vitu…….				
2. Kujisikia kama huwezi kuchangamka, kusikia, huzuni au kukosa tumaini…….....				
3. Tatizo kupata usingizi au tatizo kuendelea kulala baada ya usingizi, ama kulala kupita kiasi……				
4. Kujisikia kuchoka au kuwa na nguvu kidogo……..				
5. Hamu ya kula ni mbaya, au kula kupita kiasi ……..……...				
6. Kusikia vibaya kuhusu binafsi, au kusikia kama umeshindwa, au umejishusha, ama umeshusha chini familia yako……				
7. Tatizo kutuliza akili kwenye vitu kama kusoma gazeti au kusikiliza radio ……				
8. Kusogea au kuzungumza pole pole sana hata ingeweza kuonekana kwa watu wengine. Ama kinyume-kuwa na mashaka/wasiwasi au kutotulia kiasi hata umekuwa ukitembea tembea sana kuliko kawaida ……..				
9. Fikira kwamba ni heri ukifa, au fikira za kujiumiza kawa njia fulani …..……				

Kama umejibu maswali yoyote, kwa kiasi gani haya matatizo yamefanya vigumu kufanya kazi yako, kutunza vizuri vitu nyumbani au kuelewana nu watu wengine?

Sio vigumu hata kidogo	Vigumu kiasi	Vigumu sana	Kwa shida zaidi
☐	☐	☐	☐

☐ ☐ ☐ ☐

APPENDIX III: INFORMED CONSENT FORM--ENGLISH VERSION

ID NO ……

CONSENT TO PARTICIPATE IN THE STUDY ON HIV SEROSTATUS AND DEPRESSION AMONG INJECTION DRUG USERS IN KINONDONI MUNICIPALITY OF DAR ES SALAAM, TANZANIA

Greetings! My name is Dr. Cassian Nyandindi, a resident from the Department of Psychiatry, School of Medicine at "MUHAS". I am conducting a study on HIV sero status and depression among Injection Drug Users in Kinondoni Municipality of Dar es salaam, Tanzania.

Purpose of the Study

Purpose of this study is to assess on HIV sero status, depression and anxiety among Injection Drug Users in Kinondoni Municipality of Dar es salaam, Tanzania

Selection of participants

If you agree to participate in this study you will be asked questions, and get other services managed according to the demands.

Confidentiality

All information will be entered into computer programmed with only the study identification numbers or codes. No names of clienst will be used.

Risks

No harm is anticipated to you because of joining this study.

Rights to Withdraw and Alternatives

Taking part in this study is completely your choice. If you choose not to participate in the study or if you decide to stop participating in the study you will continue to receive all services that you would normally get from this facility. You can stop participating in this study at any time, even if you have already given your informed written consent.

Refusal to participate or withdrawal warrants no penalty neither loss of benefits to which you are otherwise entitled.

Benefits

If you agree to take part in this study, you will enjoy the benefits of being screened for Injection drug use and individuals with hazardous outcomes of injection drug use will be referred to available health services. And also we hope the information we learn from this study will benefit others.

Who to Contact.

If you have questions about this study, contact the investigator Dr Cassian Nyandindi, Muhimbili University of Health and Allied Sciences, P.O. Box 65001, Dar es Salaam. Mob No. 0712 404 692

If you ever have questions about your rights, you may contact Prof. E. F. Lyamuya, Chairman of the College Research and Publications Committee,
P.O. Box 65001, Dar es Salaam. Tel: 2150302-6.

Do you agree to participate in this study? …… I agree

…… I do not agree.

I have read and understood the contents in this form. My questions have been answered, and I agree to participate in this study.

Signature of the participant ……

Signature of the Researcher ……..

Date of signed consent …….

APPENDIX 1V

APPENDIX IV: INFORMED CONSENT FORM--SWAHILI VERSION

IDHINI YA KUSHIRIKI KATIKA UTAFITI WA KUCHUNGUZA MAAMBUKIZI YA VIRUSI VYA UKIMWI NA SONONA KATIKA WATEJA WANAOTUMIA MADAWA YA KULEVYA KWA KUJIDUNGA SINDANO KATIKA MANISPAA YA KINONDONI JIJINI DAR ES SALAAM,TANZANIA.

Nambari ya Usaili …….

Ndugu, hujambo/habari?

Mimi naitwa Dk. Cassian Nyandindi, mwanafunzi wa udhamili Chuo Kikuu cha Tiba Muhimbili. Nafanya utafiti kuhusu maambukizi ya virusi vya UKIMWI na sonona katika wateja wanaotumia madawa ya kulevya kwa njia ya kujidunga sindano katika Manispaa ya Kinondoni jijini Dar es salaam,Tanzania.

Madhumuni ya utafiti huu

Katika utafiti huu, lengo ni kujua, na maambukizi ya virusi vya ukimwi na sonona katika wateja wanaotumia madawa ya kulevya kwa njia ya kujidunga sindano katika Manispaa ya Kinondoni jijini Dar es salaam,Tanzania.

Usajiri wa wagonjwa

Utaulizwa maswali na kama utakubali utayajibu.

Utunzaji wa siri

Taarifa zote zitatunzwa kwa siri kwa kutumia namba bila majina ya muhusika.

Madhara na athari

Hakuna madhara yoyote yanayotegemewa kutokana na ushiriki kwenye utafiti huu.

Uhuru wa kushiriki

Ni hiari kushiriki kwenye utafiti huu na pia unaweza kujitoa wakati wo wote. Hata hivyo kutoshiriki au kujitoa kwenye utafiti hakukunyimi haki zako za kupata huduma za matibabu. Yeyote atakayejitoa kushiriki utafiti akiamua kurudi atapokelewa na kuendelea kupata huduma zote kwa mujibu wa utaratibu uliopo.

Faida za utafiti

Wakati wa utafiti huu utapata nafasi ya kuangaliwa kama una tatizo lolote kuhusiana na matumizi ya madawa ya kulevya kwa njia ya kujidunga. Na watu watakaogundulika kwamba wameathiriwa na matumizi ya madawa hayo kwa kiwango kikubwa watapata matibabu katika hospitali mbalimbali.

Taarifa

Endapo utahitaji kupata maelezo kuhusu haki zako au kutoa taarifa ya madhara ambayo unahisi yametokana utafiti huu wasiliana na Dr. Cassian Nyandindi; Mwanafunzi wa udhamili Chuo Kikuu cha Sayansi na Tiba Muhimbili au unaweza kuwasiliana na Prof. E. F. Lyamuya, Mwenyekiti wa Kamati ya Utafiti, P.O. Box 65001, Dar es Salaam. Simu: 2150302-6.

Je unakubali kushiriki kwenye utafiti? (weka alama) .....Ndiyo

.....Hapana

Nimeelezwa/nimesoma maelezo haya, nimeelewa na maswali yangu yote yamejibiwa.

Sahihi ya mteja **.....**

Sahihi ya Mtafiti **.....**

Tarehe**…….**