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Exploration of heroin use behaviors and its associated risk factors among youth with heroin-dependence in Dar es Salaam, Tanzania

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Abstract

Objective: Heroin abuse among youth in Tanzania continued to increase over the past decades. This study sought to explore heroin abuse among youth in Dar es Salaam. *Methodology:* The study comprised of 16 participants (15 males) aged between 18 to 25 years who were obtained through snow ball sampling technique. In-depth interviews and focus group discussions were conducted to inquire their general knowledge, attitude, practices and the associated risks on heroin use. The sample size was determined by saturation principle; till when the researchers found no further new information emerging from in-depth interviews. *Main findings:* Most participants reported peer pressure and lack of formal employment as contributing factors for engaging in heroin use. Though most participants acknowledged heroin use to be accompanied with several consequences, but found difficult to abstain from it. The underlying reasons for these were continuous peer pressure, lack of effective drug rehabilitation services and withdrawal syndrome. The risk factors that reported to be associated with heroin use included mental illnesses, marital conflicts, risk to infections, robbery, legal problems, and rejection from families, friends and community at large. *Conclusion and recommendations*: This study demonstrated that individuals with heroin dependence encounter several difficulties towards abstinence including complexity of peer pressure and other patterns of social networks. Thus, future studies are warranted to explore the complex relationship between heroin use and associated risk factors in Tanzania.

Keywords

Heroin Abuse, Illicit Drugs, Knowledge, Youth, Risk Factors, Dependence

1. Introduction

In sub-Saharan Africa, by the middle of 1980's and early 1990's marijuana was the only illicit drug of used, thereafter, other illicit drugs emerged including heroin, Mandrax (methaqualone), Valium (diazepam), and amphetamines. These drugs became popular as a staging point for drugs in transit from Asia and the Middle East to the United States and Europe, and that some of these drugs found their way onto local markets through local marijuana trade channels[1] . Heroin use is now well-established and increasing in sub-Saharan Africa. For instance, Beckerleg and colleagues[2] conducted a rapid assessment of heroin use in Mombasa, Kenya, and reported that brown heroin had been a street drug for more than 25 years and was replaced by white injectable heroin from Southeast Asia, which led to a move from oral to parenteral route. In particular, a study from Tanzania with a sample of 624 young multi-drug (alcohol, cannabis, tobacco, heroin, Valium, khat) users in Dar es Salaam found that 75% of the sample were using heroin ,with 18.3% injecting the drugs [3], indicating heroin to be the common illicit drug. Thus,

among many problems, it imposes actual and potential health, social, legal, and economical losses to an individual user and to the community at large. However, to date, there is no any study that explored the knowledge, attitude, practice and related risk factors among individuals with heroin dependence. Therefore, a qualitative study which explores the perspectives of individuals with heroin-dependence in this under researched area is more likely to improve the knowledge, attitude, and practice in this group of people and ultimately help in developing appropriate and effective drug use rehabilitation services.

In Tanzania, as it is to most of the Sub-saharan African countries, prior to the seventies drug trafficking lines were confined to those associated with the use of traditional drugs namely Bhang (*cannabis sativa*) and Khat [4]. However the current trend indicates a rapid increase in the use and trafficking of both traditional and non-traditional drugs like heroin, cocaine and mandrax. For example, the number of total cases involved in non-traditional drugs between year 1991 - 1996 was 178, between 1997-2002 were 1,399 users [5], suggesting an increase of approximately 686 %. Specifically, in Dar es Salaam a commercial city and former Capital city of Tanzania, available data from social workers office estimate that there are approximately 200,000 –250, 000 illicit drug users in a city of approximately 3 million population [6] indicating that about 8.3% of Dar es salaam population are engaged in illicit drug use. Though, most participants in this region express a desire to quit using heroin but only 5% had been in treatment [7], indicating the existence of barriers towards seeking treatment.

More shockingly, heroin use for the past two decades was through smoking, sniffing, or inhalation [6], but recently with inversion of white (refined) heroin, facilitated a change from previous oral administration to a combination with injection because "it is not necessary to cook white heroin before injecting". Some scholars suggested that heroin use follows a regular progressive pattern from smoking to sniffing or inhaling (chase) and then to injecting with combination of sedatives [6]. These scholars suggested that the reason for this transition is because sniffing or snorting is often short-lived with undesirable bloody nose that is accompanied with loss of sense of smell. Thus, some individual with heroin use go straight from smoking to injecting. The use of parenteral route for heroin administration pose an increased risk to Human immune virus (HIV) infection through needle sharing and sometimes blood sharing among users, this threatens its spread in a high endemic region like Tanzania with prevalence of HIV of about 5.6 % [8].

Overall, drug prevalence rates among youth in many countries are higher than the general population. That situation is due to various factors common to almost all countries. The youth hood is a period of experimentation and search for identity, and that young people are more likely than adults to experiment with various things, including drugs. Youth is considered a challenging stage of life. It is a transition period from childhood to adulthood that involves physiological changes, developments in cognition and emotion, changes in social roles with peers and the opposite sex, and considerations of school and career. It involves the development of identity, independence from family and adaptation to peer groups [9]. Depression and anxiety in children and adolescents have a large number of potential consequences including academic failure, poor peer relationships, behavioral problems, conflict with parents, substance abuse, recurrent anxiety or depressive disorders and suicide attempts [10].

The previous studies provide useful information on magnitude of heroin use and its related effects. However, a dearth remains on the knowledge, attitude and practice of this target group. Thus a study a qualitative study may provide significant contribution towards alleviating the problem of drug abuse among Tanzanian youth.

1.1. Aims and Research Questions

The current study sought to explore the knowledge, attitude, practice and the associated risk factors for heroin use among youth with heroin dependence in Kinondoni Municipality, Dar es salaam, Tanzania. To address this objective the study was having the following research questions;

1. What is the level of understanding on heroin use?
2. What are the attitude towards self and others who use heroin?
3. What are the practice and the associated risk factors among individuals with heroin-dependence?
4. How youth engage in heroin rehabilitation treatment seeking?

2. Methods

2.1. Study Setting

The study was conducted in Kinondoni municipality which one of three municipality of Dar es Salaam city. It has an area of 531 sq. km and according to the 2012 census it has a population of about 2,497,940. The growth rate is influenced by both birth rate of about 4.1% per annum and immigrants. Many people from up country are coming to Kinondoni Municipality to look for employment in both public and private sectors. Average population density is 1,179 people per sq. km. The major economic activities in this municipality are industry retail business and services, tourism, agriculture, fisheries and bee-keeping. Agriculture which includes animal husbandry is carried out in about 52,000 hectares of arable land.

2.2. Study Design

A qualitative study design was chosen, which is considered appropriate when the aim is to capture participant perspectives in an under researched area or to evaluate and improve the existing clinical practice [11]. We used phenomological study approach; a qualitative study

approach which focus on comprehension of participants' lived experiences rather than statistical power and generalizability of the findings. Also, the study employed semi-structured interviews and focus group discussions as the major means of collecting data, which were qualitative in nature.

2.3. Study Sample

The study comprised of 16 participants (15 males) aged between 18 to 25 years who were having a currently history of heroin use. The inclusion criteria were: 1) having a current history of heroin use. 2) Being refereed by peers who are also having heroin dependence (the first one was used as a seed in snowball sampling) 3) being a resident of Kinondoni municipality for at least 6 months. Participants were excluded if 1) not willing to participate 2) Impaired communication such as those who cannot comprehend and respond to interviewer 3) not resident of Kinondoni Municipality. In this study, the emerging ideas from interview transcripts were organized into meaningful categories. These categories were re-examined to determine whether sufficient data are emerging. Successively, sampling was continued until saturation point was reached; such that no any further new information emerged prior to the established categories. Saturation was reached after interviewing 16 respondents.

2.4. Data Collection and Sampling Procedure

The respondents were obtained through snowball sampling whereby the first respondent identified a peer who have a similar history of heroin use. Then after interview this participant identified another respondent with heroin use history and this pattern continued till enough sample was sought to be reached as determined by saturation principle. The data was collected during daytime hours from the hangouts where individuals with heroin-dependence found to be confortable for interviews. This included the street hangout "maskani" (Swahili): literally means home. Data collection process was continuous throughout all the days of the week and lasted for 2 weeks. All 16 respondents were interviewed through in-depth interviews with semi-structured interview guide composed of questions requiring information on general understanding of heroin use, attitude and practice of heroin use, also required them to identify the risk factors associated with heroin use. The same interview guide was used for focused group discussions. Two focus group discussions; one group with six participants and the other with four participants.

2.5. Data Analysis

Content analysis method was used to analyze the collected qualitative data. Content analysis is a technique for making inferences by objectively and systematically identifying specified characteristics of messages[12]. Prior to the analysis, the tape-recorded interviews were transcribed verbatim in Swahili which is the common language in Tanzania and both of the two research are bilingual; Swahili and English. During transcription, the non-verbal cues including laughs, clinches, and nods were recorded. The researcher read the interviews several times to get an overview. Analyses followed a subsequent iterative cycle that includes division of the texts into meaning units, which was condensed from the original text with a close preservation of the core meaning. The condensed version was coded and labeled. Even though the descriptions here point out this process a linear process, this was a complex process with back and forth movement between the whole and parts of the interview text. After analysis, both the latent and manifest content of analyses were reported. The findings were taken back to some informants to confirm if the analyzed information represent their reported experience. The changes obtained from informants were included into the final report.

2.6. Ethical Consideration

Permission to conduct the study was obtained from Muhimbili University of Allied Health Sciences ethical committee and from Health Management of Kinondoni municipality. After description of the purpose of the study, each respondent gave the written informed consent prior to participation in the study. All participants were assured of anonymity and confidentiality. Their participation was voluntarily and decision of not participating was respected without any penalty.

3. Results

3.1. Sample Description

The sample comprised of 16 (1 female) aged between 18 and 25 years with mean age of 20 ± 4.3. These youth were mostly likely not to have a formal employment (14), from poor families (12) and not attending schools (16). The majority of participants (12) their daily living was obtained through informal employment or unskilled jobs including working in commuter buses "*daladala"* as part-time drivers or conductors as they called themselves "*daywaka"* Verbatim, *English: day worker* and "*wapiga debe" English: tin noise maker,* respectively. Three of the participants besides being heroin users, also were engaged on trafficking of other illicit drugs. The only female participant was employed as bar maid but also worked as commercial sexual worker. Other three respondents did not specify their jobs as they reported engaging in any emerging activity. In Tanzania, perhaps as it is in other part of the world, there is a high stigma attached to females with illicit drug use histories than for males. Thus, it was difficult for female participants to volunteer in the current study. Most of the respondents were likely to be primary school with standard seven level of education (12), unmarried (13) and four of them had secondary school education.

3.2. Themes

Five major themes emerged from this study. These include general knowledge on drug abuse, Risk and motivational factors towards heroin use, maintaining factors for heroin use, consequence of heroin abuse, and treatment seeking.

3.3. General Knowledge on Drug Abuse

The commonly mentioned illicit drug by most of the participants were cannabis followed by heroin and cocaine, only two participants mentioned mandrax and one participant mentioned khats and "kuberi" (imported form of chewing tobacco which was rampant in the market before being burned by the government in the year 2007. As evidenced by the quotes from one of the respondents in the first focus group discussion;

"The most common drug that we frequently use is cannabis, but in most cases we use as a cocktail as we mix it with heroin and very rarely with cocaine"... However, to identify whether this is heroin or cocaine we often rely on the dealers, if they tell us it is heroin then we trust them because they are doing business and any cheating will end up losing a good number of customers"

3.4. Risk and Motivational Factors towards Heroin Use

Though there were varied opinions from the participants regarding the motives or drive towards heroin use, but the majority of respondents mentioned peer pressure, lack of employment, gaining confidence, conforming with peer, belief that heroin can transform them to be rich, using heroin for alleviating their psychological trauma and just as a matter of curiosity. However, among these factors, peer pressure the major factor as all most all participants mentioned that their friends who were using heroin told them the pleasant effects of using it and gave them a chance to try, either by convincing or forcing them to start using. Most of them were tricked through smoking cigarettes that tended to be mixed up with heroin and cannabis. Like a male participants aged 19 years shared;

"Some of us just found ourselves already using heroin without our attention and this was carefully done with our friends who cheated us into using cigarette while it was already mixed up with heroin."

Moreover, most of the youth who participated in this study reported to discover heroin use for the first time when they were with their peers who are already engaged on heroin addiction. Thus, most of them started using heroin by experimenting through peer influences. As a male respondent age 21 years described:

"I was living with my friend from South Africa who was rich and so popular and I was seeing him using heroin and sometimes he was asking me to go and buy heroin for him so through that experience I also ended up using it."

3.5. Maintaining Factors for Heroin Use

Some participants described the withdrawal syndrome as maintaining factor for heroin use.

"I only enjoy the effects of heroin for a short period of time but most of the time puts me in troubles like diarrhea, vomiting and tiredness and in order to eliminate all these troubles I need to go back and take heroin so it becomes a chain which it's too difficult to break"

Almost all the respondent in this study reported to experience excitement after using heroin and this has been one reason for daily purchase of heroin. It has been so difficult to abstain from heroin as craving has been driving them to enjoy the same experience. One participant in the interview said:

"Heroin is the drug of its own kind after using it you feel very nice (fresh), you find yourself courageous and you can do anything.... When I'm under the influence of heroin, I feel like walking over the sky and I can do anything without limit"

3.6. Consequence of Heroin Abuse

Almost all participants described heroin to be accompanied with several consequences. These included immediate consequences such as withdrawal syndromes, risk to overdose, loss of appetite, and risk to HIV for those who inject drugs through needle sharing. Also some long term consequences such as spiritual, moral, marital, family, and legal conflicts. Furthermore, some respondent reported heroin to be linked with development of mental illness symptoms such as aggressive behavior, violence, loss of libido, abnormal tactile sensations, mood alterations, and poor cognitive functioning. Moreover, most of the respondents described themselves as hard working and earning a higher income than the general population, but all the earned income is spent in purchasing heroin. As a respondent shared his bitter side of heroin use with deep feeling and in tears:

*"I feel like "chumaulete" (*Swahili ghost expression, literally means reap and bring here) *because every single cent I get I must spend on purchasing heroin" I spend about 75,000/= Tsh (approximately = 70 USD) a day I have sold everything that is valuable in my life; I started selling home utensils, appliance ... and one by one till I finish almost all of them, finally I sold my house, my two cars, ... I engaged into robbery including stealing from my father in law and I lost relationship with my family including my wife and all these in exchange of heroin...and my name now has been changed when I pass through in the street people call me "teja" English: Literarly means addict"*

3.7. Treatment Seeking

Most of the heroin users perceived themselves as doing something which is not acceptable to themselves and to the community at large. They described that those with heroin

addiction need a help for abstinence. As a respondent shared:

"We are only using heroin because we don't know how to quit from it, but deeply down in the bottom of our heart we know that we are doing something harmful to our healthy, spiritual life and not acceptable by our caring friends, family and the government, that's why we don't do it publically".

However, when were asked to describe their motivation towards seeking treatment majority of participants responded that the health facilities were expensive with a bureaucratic system including long time waiting, and lack of confidentiality in accessing services. Another respondent described:

"It is really costly for us to seek health services as most of our income we spend on purchasing heroin so at the end of the day we don't have money for consultation of health services and even some of our friends who attempted to go for treatment they said there is a lot of "longolongo" English: bureaucracy" this discourages us to seek for treatment"

4. Discussion

The aim of this study was to explore heroin use behaviors and associated risk factors among youth with heroin dependence. Five major themes emerged from this study; these include general knowledge on drug abuse, risk and motivational factors towards heroin use, maintaining factors for heroin use, consequence of heroin abuse, and treatment seeking for abstinence. These findings suggest that though majority of youth with heroin abuse know the consequence of using it but it is too difficult to abstain. The possible reasons pertaining to this situation are multifactorial. These include but not limited to consequences of withdrawal syndromes, political will, social stigma, peer cohesiveness, lack of strong campaign for abstinence, lack of use role models who successfully abstained from heroin use. Thus, this study demonstrate that heroin use is a serious health and social issue in Tanzania and demonstrate the need of collective efforts from the government and non-government agents for controlling trafficking heroin, promotion of health, occupation skills training for self-employment or providing employment, and treating those who are affected by heroin use.

4.1. General Knowledge on Substance of Abuse

This study used qualitative approach with in-depth interviews and focused group discussion to explore the lived experiences of individuals with heroin dependence. This approach has reported to be effective in exploration of participants' views and lived experiences. The respondents were able to identify heroin and other illicit drugs that are associated with dependence. Similarly, respondents mentioned several routes of administration such as smoking, and injection and its associated consequences. Indicating that participants were well informed on the substance of abuse and risks and consequences associated with such a behavior.

4.2. Risk and Motivational Factors towards Heroin Use

In the present qualitative study, it was found that almost all of the respondents reported discovering heroin use for the first time in ghettos, in Swahili is commonly known as "*maskani*" which verbatim translation means *home*, but the meaning among substance users is more than a home it also includes working place, hang out streets, meeting ghettos or places and heroin vending places. The respondents identified various motives or drives towards heroin use, but the main common was peer pressure which was also found associated with several risk factors such as lack of employment, poverty, poor academic environment control, poor parental care, experimentation (curiosity) and psychological trauma with heroin use as self-medication. The peer pressure was found to play a key role heroin abuse. The deviant peers with histories of heroin use were seen by others as fulfilled with happiness through heroin use and this motivated others to experiment heroin for getting a similar euphoric feelings. The other approach was through convincing or using coercive force to make them start using heroin. Another approach was through tricking them by mixing heroin in a cigarette, or a cocktail of substances of abuse including cannabis and cocaine in a cigarette which was easily to heroin non-users. This approaches facilitated heroin dependence as when smoked other cigarettes the feelings was not the same and started experiencing withdrawal syndromes. Curiously, these peers required explanation from the proving peers who revealed the cigarettes to be mixed with heroin. Similar findings have been reported in Dar- es- salaam where interviews revealed that injectors begin smoking heroin in hangout areas with their friends, either because of peer pressure, desire, or trickery [5]. Since engaging with heroin use related with social and psychological difficulties, therefore, promoting resiliency including factors such as strong intra-familial bonds, positive family dynamics, positive attachment to school, religiosity or spirituality, commitment to academic achievement, strong life skills, social competencies, and belief in self-efficacy which have proven to be effective protective factors is warranted. This resilience promotion when accompanied with evidently designed, explained and consistently enforced regulations of heroin use in the community and environmental domains may help to alleviate this problem.

4.3. Heroin Use Maintaining Factors

The respondents revealed that the factors which facilitate maintenance of heroin use habit include avoidance of consequences of withdrawal syndrome, lack of employment, conformity and continuous peer pressure, lack

of cost effective and use friendly treatment services, and lost hope to recovery. These findings concur with other studies that reported heroin users to constitute a marginalized and hard-to-reach population because of peer influences and tend to form their own social network rather than socializing with members of the general population [13-16]. Therefore, this unique social network pattern shape, strengthen and maintain their heroin addiction behavior. In this study respondents reported spending about 45,000/= Tsh to 150,000/= Tsh (approximately, 30 – 100 USD). Though, this is close similar to what has been reported in developed countries with an average of about 60 USD per day for purchasing heroin [17] , but in a poor developing country like Tanzania where about 33% earn less than 1 USD a day and 20% of the total population live below the food poverty line [18], may signify a big unbearable burden. Also, may help to explain why most individuals with drug addiction engage in risky daily works and illegal businesses including robbery as a demand to meet their expenses for heroin daily doses.

4.4. Consequence of Heroin Use

Most of the participants mentioned that heroin use is associated with a very high risk of engaging in risky behaviors when they are under the influence of heroin. These include sexual risky behaviors such as having unprotected sex, sharing of sexual partners, and commercial sex in exchange of heroin which risk their life to sexual transmitted diseases such as HIV infection. Other consequences included legal conflicts, robbery, family isolation, social and self-stigma, individual moral and spiritual conflicts, dehumanization, poverty and death due to heroin overdose.

4.5. Treatment Seeking

In this study it was found that, majority of respondents were not willing to seek health services for rehabilitation. The reasons were cost and bureaucratic system in the hospital, lack of confidentiality and long waiting times. These findings concurs with another study which reported existence of barriers towards accessing treatment services among individuals with heroin addiction including stigma and discrimination, concerns in relation to confidentiality, long waiting times, resistance to pharmacotherapy treatment, and language and financial barriers [19]. However, inconsistence findings have also been reported. For instance, Indo-Chinese youth with heroin dependence were found to have a tendency of self-medicating with antidotes including diverted methadone and illicitly-obtained benzodiazepines purchased from *black market* and at very early stage of their using career as a means to detoxify without clinical supervision [20, 21]. In Tanzania, particularly in Dar es Salaam, in the past five years effort has been made to establish methadone maintenance therapy. The question remains to what level this services are user friendly? Thus, studies are required to explore the barriers towards drug addiction rehabilitation services.

4.6. Study Strengths and Limitations

This study has several strengths. Researchers are native bilingual Tanzanians with fluent Swahili and English language, and are residents of Dar es Salaam for more than ten years. One of the researchers was living in the street where the seed respondent in snow ball sampling was obtained and after analysis the researchers used the same "seed" to organize a meeting for feedback with five respondents to validate the emerged themes, this facilitated credibility of the themes. The data analysis involved back and forth process to ensure consistency of the results. All interviews were conducted in settings with minimal distraction and some participants were familiar with the interviewers this could have facilitated trust, openness, confidentiality, and comfortable expression without fear of interrogation for legal procedures. Use of quotes in the reported participant experiences ensured trustworthiness. However, there are some limitations worth mentioning. The results might have been confounded by recall bias, as most individuals with drug abuse are likely to be psychopathy which is associated with manipulative behavior and lying [22]. There was only one female respondent this might lead into subjectivity of female heroin addiction habits. However, even other studies reported most female with heroin addiction to engage in commercial sex business either in exchange of heroin or for income [7, 23]. As it is with most of Qualitative studies, these study findings may not be generalized to a larger population. However, as suggested by the transferability principle [24], this study findings can be generalized into other population of individuals with heroin dependence with a close similar context.

5. Conclusions

This study demonstrated that youth with heroin dependence though are knowledgeable on its consequences, but obtaining abstinence from it has been too difficult. The reasons for difficulties towards abstinence may be associated with the complexity of peer pressure, the pattern of social networks, stigma, perception and lack of user friendly treatment options. Thus future studies are needed to investigate the nature of complexity between peer pressure, heroin use behaviors and treatment systems.

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