ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

The Prevalence of Drug Addiction Relapse and Its Associated Risk Factors among Substance Users: In the case of Amanuel Mental Specialized Hospital (AMSH)

By

Robel Abegaz

November, 2021

Addis Ababa, Ethiopia

The Prevalence of Drug Addiction Relapse and Its Associated Risk Factors among Substance Users: In the case of Amanuel Mental Specialized Hospital (AMSH)

By

Robel Abegaz

Advisor: Tilahun Tefera (PhD)

A thesis submitted to St. Mary's University, School of Graduate Studies in partial fulfillment of the requirements for the Degree of Masters of Arts in Social Work

November 2021

Addis Ababa, Ethiopia

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Faculty of Social Science

Department of Social Work

The Prevalence of Drug Addiction Relapse and Its Associated Risk Factors among Substance Users: In the case of Amanuel Mental Specialized Hospital (AMSH)

By

Robel Abegaz

APPROVED BY BOARD OF EXAMINERS

_____	_____
Dean, Graduate Studies	**Signature**
_____	_____
Advisor	**Signature**
_____	_____
External Examiner	**Signature**
_____	_____
Internal Examiner	**Signature**

ENDORSEMENT

This Thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a University advisor.

_____ _____

Tilahun Tefera (PhD) Signature

Assistant Professor of Social Anthropology

St. Mary's University, Addis Ababa

DECLARATION

This is to certify that the MA thesis written by Robel Abegaz Legesse entitled with "The Prevalence of Drug Addiction Relapse and Its Associated Risk Factors among Substance Users: In the Case of Amanuel Specialized Mental Health Hospital in Addis Ababa, Ethiopia" In partial fulfillment of the requirements for the Degree of Masters in Social Work complies with the regulations of the University and meets the accepted standard with respect to originality and quality.

_____ _____

Robel Abegaz Legesse

St. Mary's University

Addis Ababa, Ethiopia

Signature & Date

ACKNOWLEDGEMENTS

First and foremost, praises and thanks to the God, the Almighty, for His showers of blessings throughout my thesis work to complete the research successfully.

I would like to express my deep and sincere gratitude to my research advisor, Dr. Tilahun Tefera for giving me the opportunity to do my thesis and providing invaluable guidance throughout this thesis. His dynamism, vision, sincerity and motivation have deeply inspired me. He has taught me the methodology to carry out the research and to present the thesis work as clearly as possible. It was a great privilege and honor to work and study under his guidance. I am extremely grateful for what he has offered me.

I am extremely grateful to my parents for their love, prayers, caring and sacrifices for educating and preparing me for my future. Also I express my thanks to my brothers for their support and valuable prayers. My Special thanks go to my friends Yordanos Demise and Daniel Tessema for the keen interest shown to complete this thesis successfully. I am extending my thanks to the participants and staff of Amanuel Mental Specialized Hospital Rehabilitation Center for their support during my research work.

Finally, my thanks go to all the people who have supported me to complete the research work directly or indirectly.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

AMSH	Amanuel Mental Specialized Hospital
CBT	Cognitive Behavioral Theory
NDCMP	National Drug Control Master Plan
NIDA	National Institute on Drug Abuse
SLT	Social Learning Theory
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

ABSTRACT

Despite the fact that there have been numerous research studies in the field of drug abuse, drug addiction relapse remains one of the most important features that have gotten less attention from researchers. As a result, the prevalence and risk factors of drug addiction relapse among drug addicts in Amanuel Mental Specialized Hospital rehab center were investigated in this study. In addition, the study explored the perceptions of addicts about the effects of drug addiction relapse. The study was conducted using a descriptive cross sectional study design. To gather relevant data, the researcher designed and employed questionnaires, interview and observation. One hundred addicts and nine health care providers responded the questionnaire forms, and six relapsed addicts were participated in the interview. The quantitative data were analyzed using descriptive statistics technique. And the qualitative data were analyzed using thematic data analysis technique. Among the main findings of the study, drug addiction relapse is prevalent (48%) among addicts in Amanuel Mental Specialized Hospital rehab center in Addis Ababa, Ethiopia, with the main risk factors are inability to cope with anger or frustration, easy availability of drugs, being in companying of drug users, physical dependence, and frequent passing through drug using site. According to the findings of the study, the researcher concluded in designing and implementing policies and rehab programs, the Ethiopian Food and Drug Administration, Ethiopian Public Health Institute, policy makers and other stakeholders should consider integrating and collaborating multidisciplinary, comprehensive and public health-oriented responses to eliminate relapse after stopping drug use.

Chapter One

1. Introduction

Under this chapter the researcher addresses background of the study, statement of the problem, objectives of the study, significance of the study, scope of the study, and other vital information included.

1.1. Background of the Study

Drug addiction is a contemporary and highly rising social problem in the world. It is a condition that is characterized by substance seeking and desire to take a drug and unable to stop taking a particular drug. As per the United Nations Office on Drugs and Crime's World Drug Report (2019), 35 million people were affected by drug addiction and require medical attention. In 2017, the death rate is also relatively high as 585,000 people had died because of substance addiction. Drug addiction affects all age groups of people. Particularly youths are vulnerable. Girum (2017) explained that youth are at high risk of illicit drug use and peer pressure, media influence, and poor guidance are the major factors that lead the youth to addiction. It is a complex problem over the world. Drug addiction affects the users' and their family's health, social and economic status. Mesfin, Hassen, Ghimja and Teshome (2017) also supported that drug addiction is a serious threat not only to the user and the family but also to the community and the society as whole. Though, it needs a great social concern.

Most people in the world use illicit drugs as a method to cope with their problem. However, the problem is alarming in the world. Bezarede and Legesse (2020) stated that a person who is addicted experiences physical, psychological, and behavioral changes and drug addiction harms the mind, body, behavior and social relationships. In addition, Kumsa (2019) explained that drug addiction particularly smoking risk factors around 5 million deaths yearly in the world.

Drug addiction is the major social problem in Ethiopia. According to National Drug Control Master Plan (NDCMP) (2017) the use of illegal drugs is growing in Ethiopia. Nowadays, youth in Ethiopia are affected by drug addiction. It is related with the expansion of night clubs, bars and multiple sex partnership (Girum, 2017). And in his findings *khat*, alcohol and cigarette smoking are the most commonly used substances in Ethiopia. Abebaw, Atalay and Hanlon (2007) also explained that *khat* and alcohol are regularly used substances in Ethiopia. Despite the

fact that substances especially *khat* is one of the main economic incomes for the country, Ethiopia is losing many productive young generations because of substance addiction. Addicted individuals are unable to understand their full potential and become barrier to social development.

A lot of researches related to challenges of drug and substance abuse individuals have been done in Ethiopia. A study on assessment of drug addiction and its associated factors among youth in Nazereth town revealed that the factor leads to drug addiction are to recreational purpose, unemployment, family dispute, peer pressure and so on (Girum, 2017). In addition, a study on prevention and control of substance abuse among youths in Jimma town explained that the environment affected the addicted individuals to get participated in drug abuse (Rahel, 2016).

Drug addiction relapse in AMSH rehabilitation center has not been given great consideration. Before proposing to conduct on this study area, the researcher conducted an informal interview in AMSH rehabilitation center with one of the doctors who work with drug addicts told me that there are a lot of addicts were discharged after successfully finished their recovery process. However, after two or three months of sobriety, they relapsed and came for another recovery program. And he told me that there is no clear information (patient profile) for relapsed addicts and other addicts who came for the recovery process for the first time. One addict who the researcher also asked about relapse before conducting the study told the researcher that in the follow up session, the doctors didn't mention anything about relapse and most addicts know about relapse after they relapsed. This clearly shows there is only a little or no consideration were given to drug addiction relapse.

Drug addicts need to get effective treatment in order to help out of the situation. Drug addiction is a chronic disease that have relapsing feature (Sinha, 2011). So, there will be barriers which harden the treatment process to become effective. One of the major problems in treating addiction in the world is relapse. To facilitate successful and long-term changes in addictive behavior, preventing relapse or minimizing its extent is prerequisite (Hendershot, Witkiewiz, George & Marlatt, 2011). Even if relapse is a difficult and challenging problem in the process of treating addicts, it is given less attention in Ethiopia. Statistics and researches done about the prevalence of relapse among drug addicts in Ethiopia are not adequate and sufficient. Thus, this study tried to estimate the prevalence of relapse among drug addicts and its risk factors.

1.2. Statement of the Problem

Drug addiction and relapse in Ethiopia is a wide spreading social problem in every corner of the country. National Drug Control Master Plan (2017) explained that addiction reduced productivity, increased absenteeism from work or school, loss of employment and income. Family problems, accidents, criminal conduct, homicide and suicide, violence, cardiovascular disease, and mental disorders are problem that are experienced by drug addicts (Adzrago, Doku & Adu-Gyamfi, 2018). Alcohol and *khat* are the most common used substances, followed by cannabis and solvents in Ethiopia (Abebaw et. al., 2007). However, heroin and cocaine are rarely used drugs in Ethiopia. Most of the substances are widely produced and easily available at low price. These substances contribute to the incidence of disease and to worsen socioeconomic problems.

Nowadays, using substances like alcohol, *khat* and cigarette is being a part of the Ethiopia's tradition. A long time ago, a person who used drug was stigmatized and considered as immoral by the society and limited to some cultures. Currently, people use drugs everywhere without fear of stigmatization. In every small shop, anybody (adult or child) can get *khat* and cigarette with a small cost (NDCMP, 2017). Even if Ethiopia Food and Medicine Administration Proclamation No.1112 (2019) regulate not to use substances in public, there is no proper follow up from the government to fulfill the rules. However, cannabis, heroin and cocaine are drugs that are followed by the government strictly.

A study conducted on the area of substance abuse in Debre Markos Town found that the overall prevalence of substance abuse was 14.1% (Tesfahun, Gebeyehu & Girmay, 2013). Contrary to the above, a study on prevalence of lifetime substance use in Ethiopia revealed that the overall lifetime prevalence of substance use was 52% (Hirbo, Addisu, Asnake & Berhe, 2019). Therefore, the two studies show that the rate of substance use is getting higher and higher every year.

According to a study on the socioeconomic and health effects of *khat* chewing in Mekelle, chewers spend nearly 500 ETB every week. (Tadele, Getu, Dagim & Hailekiros, 2016). The study also revealed that most of them drank alcohol and smoke cigarette after the practice of chewing *khat*. In addition, a study on socioeconomic risk factors of *khat* in Jimma showed that drug addicts spend money for buying drug without any understanding of cost-benefit analysis

(Berhanu, Aregash & Alyi, 2013). Hence, these lead the addicts and their family to be unsecured financially, and it can also be a cause of family dispute and breakup.

Even though, drug addiction is a growing social problem in Ethiopia, the government and non-governmental organizations, the community and the family of the addicted individuals gave little concern. There are some policies to prevent and minimize drug addiction in the country. According to Ethiopia Food and Medicine Administration Proclamation No.1112 (2019) the government prohibited some substances (beer and cigarette) advertisement on television. Moreover, there are no adequate rehabilitation centers and preventive plans throughout the country. Even if the objectives of Ministry of Health (MOH) are to bring quality and affordable treatment services with qualified professionals, the quality of rehabilitation centers and their treatment has been questioned by different people (NDCMP, 2017).

The problem of addiction relapse remains an important challenge in the process of treating addicted individuals. It is also a huge burden on health care system. According to American Society of Addiction Medicine (2011) stated that addiction involves a cycle of relapse and remission. Several authors have described relapse as complex, dynamic and unpredictable (Melemis, 2015; Ibrahim & Kumar, 2009; Moos and Moos, 2006). Therefore, drug relapse tendency after the treatment of addiction poses severity to the problem of drug addiction.

The risk factors of drug on addicts can be seen in a variety of ways. Drug addiction can result in severe physical, neurological, mental, interpersonal, and economic difficulties for drug addicts (Adzrago, Doku & Adu-Gyamfi, 2018). Drug users face a variety of problems, including family problems, deaths, criminal behavior, murder and suicide, violence, cardiovascular illness, and psychiatric illnesses. Besides, substances cause health issues such as liver disease, mouth cancer, lung cancer, decayed teeth, and the financial crises that resulted from wasteful in order to obtain the substance that resulted in increasing costs and reducing productivity (Tadele, Getu, Dagim & Hailekiros, 2016; Berhanu, Aregash & Alyi, 2013). Moreover, social problems such as divorce, broken families, child abuse, obesity, crime (rape, theft) and unemployment can also be consequences of drug addiction (Eleni, 2019).

A few researches on drug addiction and relapse have been done in Ethiopia. Most of the researches focus on the risk factors and the negative consequences of drug addiction (Eleni, 2019; Berhanu, Aregash & Alyi, 2013; Rahel, 2016; Henok, 2015). These clearly show that

many researcher focused on the risk factors and the effects of drug addiction even if relapse is the main burden on the treatment of drug addiction. In contrary to the above, in this study, the researcher focused on the prevalence of drug addiction relapse among drug addicts to know the severity of the problem in the target population. Moreover, this study tried to connect the magnitude of drug addiction relapse with the associated risk factors and effects of drug addiction relapse among substance users. In addition, to the researcher's knowledge, the prevalence of drug addiction relapse and its risk factors have not been thoroughly studied in Ethiopia. Therefore, the research was attempted to fill this gap by exploring whether the prevalence of relapse is high or not, examining the risk factors for drug addiction relapse and exploring the effects of drug addiction. In addition, the study recommended the way to enhance social work intervention, and the findings were used to guide treatment process.

1.3. Research Questions

Based on the statement of the problem mentioned above, the following research questions were employed to explore as much data as possible on the issue under discussion:

- How Prevalent is drug addiction relapse?
- What are the risk factors for drug addiction relapse?
- What are the effects of drug addiction?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of the study is to assess the prevalence of relapse and its associated risk factors among addicted individuals in Amanuel Mental Specialized Hospital Rehabilitation Center.

1.4.2. Specific Objectives

The specific objectives of the study include

- To explore whether the prevalence of relapse in the rehabilitation center is high or not
- To examine the risk factors of relapse
- To explore the effects of drug addiction

1.5. Scope of the Study

The issue of drug addiction has different components. However, the study was focused on the prevalence of drug addiction relapse and its risk factors. The coverage of the study was limited in Amanuel Mental Specialized Hospital Rehabilitation Center. The study was also used cross sectional mixed research method to fully understand the phenomenon of the topic. The study was limited to two social work theories which are social learning theory and cognitive behavioral theory. Lastly, the target population was inpatient and outpatient drug addicts who admitted in AMSH and health care providers who work with the addicts.

1.6. Significance of the Study

The study's goal is to show policymakers the importance of addressing drug addiction and relapse on a social, political, and economic level. It is well known that dealing with the phenomena of addiction and relapse is becoming increasingly challenging for society. Addicts' lives, their families' lives, and society's lives are all affected by drug addiction and relapse. Addicts frequently suffer from physical and psychological problems. Drug trafficking and trading may also jeopardize societal stability and international security. As a result, the study assists policymakers in taking all necessary steps to combat drug addiction and improve societal stability.

The study's primary beneficiaries were the target groups which include addicts and health care providers. It helps the addicts to get effective treatment from the rehabilitation center, to have enough knowledge about relapse after recovery and to clearly know the effects of drug addiction relapse. In addition, the study also helps the health care providers to know the extent of relapse in the rehabilitation center and to be guided by scientific study when they treat relapsed addicts.

The research also helps policymakers in determining the government's and politicians' roles in reducing drug addiction. Furthermore, illicit narcotics contribute to a low-income society. Drug addiction can put a country's citizens' productivity at jeopardy. As a result, the study proved beneficial in informing policymakers about the impact of drug addiction and relapse on a country's economy. This enabled them to consider the economic consequences of dealing with drug addiction and relapse while developing drug addiction reduction strategies. Finally, the study provided some insight and assistance as a supplemental source of information for further

research in the field, and it was contributed to researchers or other stakeholders in designing suitable intervention to improve the problem of relapse in rehab facilities.

1.7. Limitation of the Study

This study is limited only on the prevalence of drug addiction relapse and its associate risk factors among substance users in the AMSH rehabilitation center in Addis Ababa. Therefore may not ultimately represent the prevalence of drug addiction relapse and its associated risk factors among substance users in various hospitals found in Addis Ababa. In addition, literatures on substance abuse in Ethiopia are abundant, the researcher encountered with scarcity of resources to find the relevant literatures related with relapse in the Ethiopian context. The limitation of literature forced the study to focus on the foreign one. On the other hand due to covid-19 pandemic, the study was limited on the interview, questionnaires and observations. In this regard, the study has limitation using interview for key informants (health care providers) that would support in-depth investigation in collecting data. What is more, the study was done in one of the health care setting in Addis Ababa and cannot represent the regional areas in Ethiopia.
Another limitation is that getting exact number of total population was very difficult because of lack of records (total population unknown) and the difficulty of obtaining the number of relapsed addicts currently receiving care at the center. Finally, getting female drug users for interview and questionnaire was proved difficult. As a result, women's viewpoints in the study were left out.

1.8. Operational Definitions of Basic Concepts and Terminologies

Drug: World Health Organization (WHO) (2000) defined drug as any substance or item that alerts or affects the mental, physical and emotional function of a person. However, this study will focus on drugs that can affect the person's life.

Substance: includes alcohol and the illicit psychoactive drugs, specifically tobacco, marijuana, *khat*, heroin or cocaine.

Drug Addiction: National Institute on Drug Abuse (NIDA) (2011) addiction refers to a chronic condition in which people lose control over their use of a drug despite the fact that the consequences of that usage intensify.

Relapse: is when a person begins abusing or become addicted to drugs and alcohol after a period of recovery and sobriety.

Prevalence of relapse: The rate at which relapse occur among drug addicts who have received treatment (Wang & Cheng, 2020).

1.9. Thesis Structure

The study was structured into five chapters. Chapter one of the study introduces the background of the study and statement of the problem, and it describes the specific problem that needs to be addressed in the study. Chapter two presents a review of literature and relevant research associated with statement of the problem. Chapter three presents the methodology and procedures used for data collection and analysis. Chapter four encompasses analysis of the data and presentation of the results. Chapter five provides discussion and conclusion of the researcher's findings, and recommendations for future research, policies and decisions.

Chapter Two

2. Review of Related Literature

2.1. Introduction

This chapter deals with the general overview of drug addiction in the world, in Africa, and in Ethiopia. It further covers the concept of drug addiction relapse, and extent of drug addiction and relapse. It would also see stages of change in overcoming drug addiction as well as theoretical perspectives of drug addiction on a great extent.

2.2. Overview of Drug Addiction in Ethiopia

In the previous years, most people thought that the problem of drug addiction is considered as the problem of developed countries; however, developing countries are also facing and experiencing this problem. NDCMP (2017) stated licit and illicit drug misuses contribute to poor health status and hard to minimize socioeconomic problem in Ethiopia. And also, heavy consumption of drugs caused a high morbidity and mortality. The tendency of using illegal drug has become a social problem that damages the social wellbeing of the individual, the community or society. Henok (2015) indicated that the extent of drug problem in Ethiopia is growing because of substances that are locally grown (*khat* and cannabis), cigarette, and other drugs. It is also supported by Rahel (2016) the main feature of substance addiction problem in Ethiopia includes the use of alcohol, cigarette, *khat* and cannabis. Some of the drugs have been a culture in some part of the country. For instance, *khat* was limited to some culture in the past. Nowadays, it is common and highly spreading throughout the country and abused by productive young generations.

There is no immune country from this problem because of rapid globalization of the drug trade. Most drug traffickers use Ethiopia as a trafficking hub. The Ethiopian Federal Police Commission annual report (2006) as cited by Rahel (2016) indicated that the Bole International Airport of Ethiopia is one of the airports drug traffickers used to pass in almost all part of the world. Because of high seizures of cocaine at Addis Ababa Airport, Ethiopia is considered as the main illicit drug trafficking routes destined to Europe and some Asian countries (NDCMP, 2017).

According to NDCMP (2017) insisted that *khat*, alcohol, cigarette, cannabis and inhalants are widely used in Ethiopia. In fact, *khat* has a major contribution to the country's economy, however, the country's productive young generation and educated personnel are the victims of *khat* addiction. Therefore, it will affect the country's economy, culture and values in the future, even though, there is no clear policy to *khat* exports and use. Alcohol is also common substance in Ethiopia. It is also produced widely, easily accessible with a low cost, and the poor ones can get home brewed alcoholics (Henok, 2015). The other common drug in Ethiopia is cigarette or tobacco. It is the first drug used by children, street children and the young generation. NDCMP (2017) revealed that the prevalence rate of tobacco use in Ethiopia is 4.2%.

There is no clear statistics on drug addiction in Ethiopia. However, more recent studies found out different findings on the prevalence of drug addiction. For instance, a study by Tesfahun et al. (2013) indicated that the general prevalence of drug addiction was 14.1% (alcohol 13.4%, *khat* 7.8%, and cigarette 5.4%). In contrary to this, a study by Gezahegn, Andualem and Mitiku (2014) revealed that the overall prevalence of substance use was 62.4% (alcohol 50.2%, *khat* 41%, cigarette 22% and other illicit drugs 17.4%). As it shown above, the prevalence rate of drug addiction is highly growing in the country time to time. As a result of rapid growth of drug addiction individuals, it can be difficult to the country to goes in appropriate way of development.

Even if the Ethiopian government did not participate actively in the process of finding solutions for drug addiction problem, Ethiopia has developed national comprehensive drug control master plan to address demand, supply and risk reduction to strengthen prevention and treatment of drug addiction in the country (NDCMP, 2017). Ethiopia has also ratified all the three United Nations Conventions on the drug control. The master plan also insisted that those policies provided to make the important efforts to discourage the illegal production, distribution and usage of illicit drugs.

2.3. Concept of Drug Addiction Relapse

Addiction treatment is a crucial component to bring down the numbers of addicted individuals. However, relapse is a major challenge for the effectiveness of addiction treatment. Some scholars view relapse as a normal part of recovery process. Kassani, Niazi, Hassanzadeh & Menati (2014) define relapse as a return to the use of drug after a period free from dependence

while they are constantly trying to recover. In addition, relapse is a process of recovery as a series of dysfunctional responses that eventually lead to the act of taking drugs (Bhandari, Dahal & Neupane, 2015). Hence, relapse is considered as the natural part of recovery process which is defined as a return to even a single usage of drug.

However, relapse is characterized as a dynamic, ongoing process by several authors (Hedershot, Witkiewitz, George & Marlatt, 2011; Moos & Moos, 2006; Ibrahim & Kumar, 2009). In addition, relapse is a gradual process and happens gradually (Melemis, 2015). Whereas Weret & Mukherijee (2014), relapse is usage, intake or misuse of drugs after receiving addiction treatment. Therefore, drug addiction relapse is the return to heavy usage of drug in the process of recovery or after discharged from the rehab center.

Relapse occurs due to specific risk factors. Stress, depression, anxiety, positive mood, social pressure, adverse life events, work stress, marital conflict, family dysfunction and lower level of social support have been factors for relapse (Mohammadpoorasi et al., 2012). Moreover, Ibrahim & Kumar (2009) stated that addicts who are relapsed show confusion and overreaction because of inability to think clearly, unable to manage feelings and emotions, the difficulty to remember things, unable to control their feelings and easily angered.

2.4. Extent of Drug Addiction and Relapse

A bunch of researches were conducted in the area of addiction and substance abuse. Most researches were related to the risk factors of drug addiction and the prevalence of drug addiction. Girum (2017) revealed that most of the addicted individuals are youths and single. This also supported by Bezarede and Legesse (2020), youths who live with drug user family are more likely to become drug addicts and youths who are single more vulnerable. If this problem left unaddressed, the problem will be increased and anybody cannot get solution.

The initiators for drug addiction are peer pressure, availability of the drugs, family drug use, personal pleasure and academic dissatisfaction (Gezahegn et. al., 2014). Tilahun, Gebrewahd and Ashenafi (2015) also found peer pressure; family pressure and availability of the drugs are initiated drug addiction. Moreover, enjoyment, unemployment, failure in academic achievement, family disagreement and hopelessness are also causing of drug.

Tesfahun et. al. (2013) indicated that the general prevalence of drug addiction was 14.1% (alcohol 13.4%, *khat* 7.8%, and cigarette 5.4%). In contrary to this, a study by Gezahegn et. al. (2014) revealed that the overall prevalence of substance use was 62.4% (alcohol 50.2, *khat* 41%, cigarette 22% and other illicit drugs 17.4%). These researches mostly focused on the cause of drug addiction and the prevalence of drug addiction but they ignore the problem of addiction relapse. Thus, this study focused on the prevalence of drug addiction relapse and its risk factors.

2.5. Stages of Change in Overcoming Addiction

According to Prochaska and DiClemente (1972) as cited by Marlatt (2002), individuals go through six major stages of change when trying to change their addiction habits.

Precontemplation Stage: Individuals in the Precontemplation Stage have no plans to change in the near future. The person is frequently in denial or ignorant of the fact that his or her behavior is problematic. They are inwardly centered and mostly consider how changing their behavior can affect their lives badly. They gave little thought to the possibility that change might have a positive impact.

When people are in the pre-contemplation stage, they are frequently uninterested in thinking about the negative effects or receiving advice about how to quit their addiction. As a result, people at this stage are unable to benefit from rehabilitative services. It is best to treat the abuser gently at this stage. No one should try to persuade their family members to do something they do not want to do.

Contemplation Stage: Drug addicts who are in the contemplation stage are no longer in doubt about their addiction. They acknowledge that it is a problem and contemplate the positive and negative effects equally. They hope to change their behavior in the near future, even though they are unsure about their decision.

In general, someone in the contemplation stage is more receptive to information about the potential consequences of their addictive behavior. They may be willing to learn about various mechanisms for managing or quitting the addiction behavior without sticking to a specific approach or even making a change.

Preparation (Determination) stage: Individuals in the Preparation (Determination) Stage are able to act, and they plan to do so within the next 30 days. They begin by taking small steps

toward change and sincerely feel that changing their behavior is a good thing. They remain passionate about taking action, but have yet to do so.

“I have to do something about my life,” or “I have a serious problem,” some drug addicts may say. They can seek support from friends and family. They can also contact hospitals and research rehabilitation programs before deciding on a course of action. However, they continue to use drugs and consume alcohol.

***Action Stage*:** Most people who are trying to overcome addiction depend on the action stage. This is the point from which true change – a change of behavior – begins. The action stage can be frustrating, but with proper preparation, it can also be an enjoyable period that opens up new possibilities.

They change their way of life to have more healthy behaviors and exclude those that are harmful. They are consciously improving for the better and are no longer engaged in the problematic activity. They have accepted the fact that their behavior is harmful. They often make the decision to take action in order to put an end to it. Detox, recovery, addiction counseling, social support sessions, and participating in other types of therapy can all be part of this stage (Barthwell, 2015).

***Maintenance Stage*:** Individuals in the Maintenance Stage have gone more than six months without engaging in their problem behavior. This is the optimal point in the change process; positive behavior is sustained and negative behavior is kept under control. Addicts at this stage would consciously try to avoid relapsing back into earlier stages of the cycle.

An addict must control drug cravings and risk factors for the remainder of their life in order to stay sober. Naturally, the cravings go away over time. However, the desire to relapse also exists. The body has a hard time forgetting how it felt when it was addicted. Sobriety necessitates a tremendous amount of self-control. The addict would not go through the dramatic changes as they did in prior stages at this stage.

Relapse Stage: Individuals in the Relapse Stage have broken the maintenance cycle and have resumed their problematic conduct. People at this stage are normally overcome by unpleasant feelings and hide away in a familiar environment. Recognize that relapse is not the same as failure; going through the stages several times is a common and healthy parts of creating change.

Addiction brings with it the unfortunate reality of relapse. Although some addicts are effective in their first attempt at recovery, others are not. As a result, the majority of psychotherapists advise their patients to see relapse as a learning opportunity.

2.6. Theoretical Perspective of Drug Addiction

Social workers are equipped with many theories that can help to address client's problem. Most theories are helpful to understand the addictive behaviors of individuals. This study tried to look at two theories related with treatment of addicted individuals even if there are so many theories of addiction.

2.6.1. Social Learning Theory

Social learning is the most common way that people learn from the environment. West and Brown (2013) explained social learning theory in details. It is an individual observation of other people who are engaging in addictive behavior that can lead to the development of addiction. Social Learning Theory (SLT) considers the human ability to learn from social environment through observation and communication. According to SLT, an individual who experience 'positive events' which could be relaxation, having fun, reduce stress after drug use will be more pleasurable to use more. On the other hand, having 'negative experiences' such as anxiety or flashbacks following substance use can cause people to stop taking drugs in the future. In addition, if an individual uses drug frequently, it will become more habitual. It is likely to contribute to addiction. According to SLT, learning new ways to cope with stress, developing a new healthier friendship, learning refusal skills to respond to peer pressure, and even watching a friend, coach or therapist having healthier behavior will help to eliminate addictive behavior.

2.6.2. Cognitive Behavioral Theory

Liese (2014) cognitive behavioral theory helps to identify and modify problematic thoughts and behaviors. Cognitive Behavioral Theory (CBT) can be divided to classical and operant conditioning. In classical conditioning, "behavior is learned when it is associated or paired with a specific stimulus" (Vaughn & Perron, 2013). It means specific stimulus causes a specific response. Classical conditioning is useful for understanding the initiators of drug addiction. Treating addicted individuals using classical conditioning behavioral theory requires attention to understand and change the environment condition that leads to drug addiction. In operant

conditioning, “behavior is learned and maintained through specific consequences of behavior” (Ibid). It focuses on reinforcement and punishment. When we reinforce a behavior, it increases. When we punish a behavior, it decreases. Thus, operant conditioning believes that using drugs can only become addictive if it is rewarding. Addiction is a learned behavior because the initial pleasure was rewarding. If there is an early and important punishment, then the addiction might not develop. However, punishment for addiction is not more effective than reinforcements, because punishments occur when the addiction is already hard and strong. According to operant conditioning, treatments can be effective when rewarding addicted people positively for making healthier progress for recovery.

2.7. Conceptual Framework

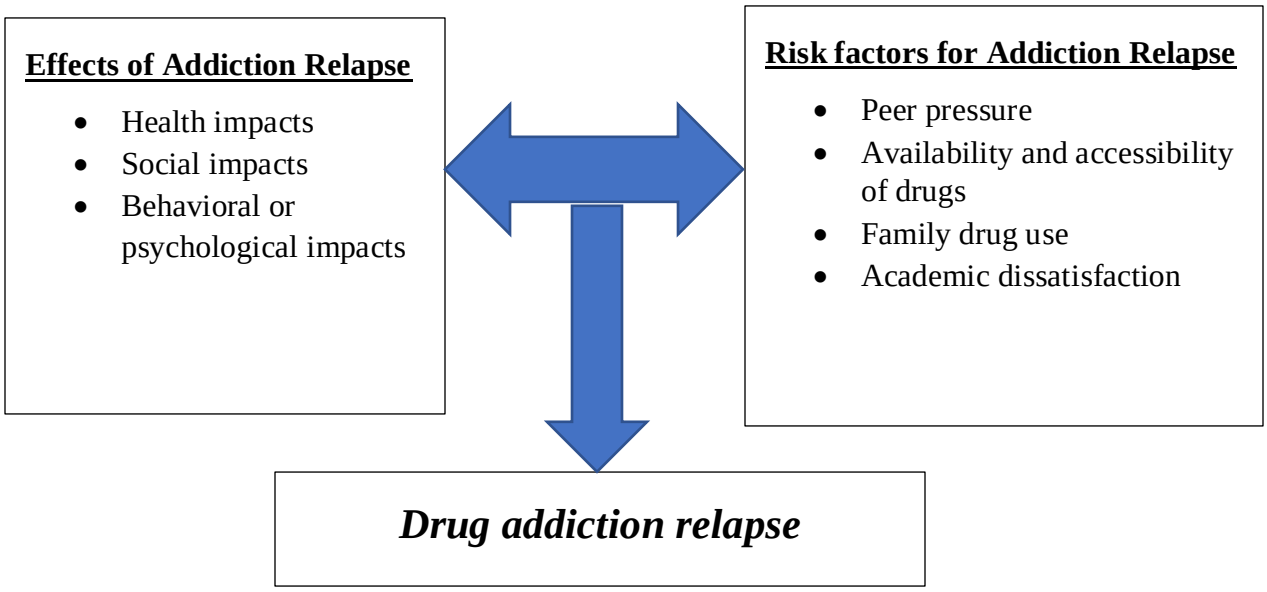

Figure 1: Conceptual Framework of Drug Addiction Relapse

Source: Ibrahim & Kumar, 2009.

Peer pressure, availability and accessibility of drugs, family drug use and academic dissatisfaction are risk factors that lead to drug addiction relapse. After relapsing to drug addiction, there would be different negative consequences such as health, social, and behavioral or psychological effects. This is significant that it allows the researcher to understand the relationship between relapse and the leading factors that contribute to relapse. Meanwhile,

knowing the effects of relapse helped the researcher to think how to minimize these problems effectively. Consequently, the above concepts were a foundation to the study to deal with the research objectives effectively.

Chapter Three

3. Research Methodology

3.1. Introduction

This chapter deals with the research methods that were employed in conducting this study. under this chapter, the study design, description of study area, participant selection, inclusion criteria, methods of data collection, method of data analysis and ethical considerations were discussed in detail.

3.2. Description of the Study Area

The study was conducted in Amanuel Mental Specialized Hospital Rehabilitation Center in Addis Ababa, Ethiopia. It is the first hospital to start treatment for mental health and substance abuse individuals in Ethiopia. And it also has 82 years of experience in treating clients. The researcher knew the problem of relapse was high in the hospital based on the information that the researcher collected from different addiction rehab centers before proposing to do research on the topic. Based on the information, even though the hospital which was chosen by the researcher is giving psychological treatment, there was a high rate of relapse. This was a big problem for the health care providers. Therefore, the researcher wished to support this by research. Consequently, the site is also convenient because it is the oldest drug addiction rehabilitation center in Ethiopia. So that, it helped the researcher to get broad experience about drug addiction rehabilitation, and to enhance the service of the rehabilitation center.

3.3. Research Design

Cross-sectional study design was employed in the study. According to Kesmodel (2018) this study design is the most appropriate and relevant to estimate and assess the prevalence of a particular disease. Seita (2016) also stated that cross-sectional studies can also be called as prevalence study. The purpose of the study is to investigate drug addiction relapse and its risk factors in the rehab center. Therefore, using cross sectional study design is very useful and relevant. Moreover, Wang & Cheng (2020) asserted that cross sectional study may be either descriptive or analytical. Descriptive cross-sectional studies merely assess the prevalence of one and sometimes more clinical outcomes inside a particular population. (Kesmodel, 2018). Though, the researcher chooses descriptive cross sectional study design.

3.4. Research Methods

The study used mixed research method which means both quantitative and qualitative research methods. According to Allwood (2011) "mixed research is a research approach whereby researchers collect and analyze both quantitative and qualitative data within the same study." Moreover, mixed method research draws on potential strengths of both qualitative and quantitative methods, allowing researchers to explore diverse perspectives and uncover relationship that exist between the intricate layers of our multifaceted research questions (Creswell, 2014). Therefore, using mixed research method was relevant to researchers to seek a more panoramic view of their research area, viewing phenomena from different viewpoints and through diverse research lenses.

According Creswell (2014), qualitative research is a type of social action that focuses on how people perceive and make logical sense of their social realities. This method also helps the researcher to engage in the process and understand the phenomenon in-depth (Lowhorn, 2007). It helped the researcher to understand the complex phenomenon from the perspective of informants rather than the outside. This means that the researcher is the important part of the data, and active participation of the researcher is vital to get valid data.

The researcher also used quantitative method to generalize facts on the study area. Based on Lowhorn (2007), quantitative research is used to measure beliefs, thoughts, habits, and other factors and generalize findings from a broader representative sample.

The study objective that focuses on exploring whether the prevalence of relapse in the rehabilitation center is high or not was treated quantitatively. In other hand, the objective that emphasis on examining risk factors of relapse was treated both quantitatively and qualitatively. Lastly, the objective of the study that was about exploring the effects of drug addiction was treated qualitatively.

3.5. Sampling and Sampling Method

3.5.1. Sample Frame

Drug addicted individuals who are admitted to Amanuel Mental Specialized Hospital Rehabilitation Center, and psychiatrist doctors, psychologists and psychiatrist nurses who work

with the drug addicted individuals were the population of the study. The findings of the study were generalized to this population.

3.5.2. Sample Size

For the quantitative data, the study was applied Sharma, Mudgal, Thakur & Gaur (2019) sample size determination formula, with 95% Confidence Interval (CI) and 10% margin of error. The Formula is

$$n = \frac{(Z_{1-\alpha/2})^2 * (\rho)(q)}{(d)^2}$$

Whereas:

n = Desired sample size

$Z_{1-\alpha/2}$ = Critical value and a standard value for the corresponding level of confidence. (At 95% CI, it is 1.96)

P = Expected prevalence or based on previous research

q = 1−*P*

d = Margin of error or precision (0.098)

Even if the researcher can use this sample size formula, there is no similar research conducted in the previous to estimate expected prevalence (*P*). In such cases, desired sample size (n) can be calculated using *P*= 0.5 to get the largest sample size (Lulanga & Lemeshow, 1991; Daniel, 2013; Arya, Antonisamy & Kumar, 2012). In addition, as Naing, Winn & Rusli (2006) stated that a researcher can estimate *P* based on his or her experience. Therefore, the researcher determined the sample size between 10% and 90% (i.e., the value of *P* is 0.5).

$$\text{n} = \frac{(1.96)2 \times (0.5)(0.5)}{(0.098)2}$$

n = 100

Hence, for conducting research on prevalence of drug addiction relapse and its risk factors, minimum 100 subjects were required. Thus, the study was used one hundred respondents to

collect quantitative data. Moreover, the study was also used other nine psychiatrist doctors, psychologists and psychiatrist nurses as a respondent to collect quantitative data.

For the qualitative data, the study was used purposive sampling. According to Taherdoost (2016) purposive sampling is a technique in which particular settings, people, or incidents are chosen on purpose in order to gather crucial data. The study was selected six addicts purposively based on their history of relapse. Therefore, six addicts who have shown relapse more than two times were participants of the study to gather qualitative data.

3.6. Methods of Data Collection

3.6.1. Interview

Interview is a qualitative data collection method in the study. The interview type was semi-structured interview. It allows both the interviewer and interviewee to go over certain subjects in greater depth (Creswell, 2014). So that it is helpful for the researcher to get in-depth information. The interview was conducted in the hospital that was comfortable to the respondents. It had taken 40 minutes to 1 hour. The interviewees were 6 addicts who have shown relapse in the treatment process. In the time of data collection, the researcher found only 11 addicts who were willing to participate in the interview. However, 6 of them were selected based on their relapse history.

3.6.2. Observation

Observation is also a qualitative data collection method in the study. According to Kawulich (2012) observation is helpful 'to identify and guide relationships with informants, to learn how people interact and how things are organized in the setting.' Hence, the study used observation as data collection method to observe physical, behavioral and psychological risk factorsof substance misuse on the relapsed addicts. Before conducting observation, guide for observation was developed to collect data in more organized way.

3.6.3. Questionnaires

Two questionnaires were employed to collect quantitative data. The questions were drafted for the purpose achieving the drawn research objectives which focus on exploring whether the prevalence of relapse is high or not and examining the risk factors of relapse. The questionnaires were filled by one hundred addicted individuals who are taking recovery treatment in the center,

and nine psychiatrist doctors and nurses who treat the addicted individuals in Amanuel Mental Specialized Hospital Rehabilitation Center. The questionnaire for addicts in the rehab center contained close ended questions, and the questionnaire for professionals in the rehab center contained open and close ended questions. Both questionnaires were prepared in English. The questionnaire for addicts and the questionnaire for professionals were translated into Amharic by professional translator and were administered by Amharic.

3.7. Inclusion and Exclusion Criteria

3.7.1. Inclusion Criteria

The participants of the study were recruited based on the following criteria:

For drug addicts

- Willingness to participate on the study
- Relapsed addicts who are currently receiving treatment for substance abuse
- Previous history of treatment for substance abuse

For health care providers

- Willingness to participate on the study
- Work experience of more than two years on their current work position because they relatively have rich information and experience on the issue under investigation

3.7.2. Exclusion Criteria

Some individuals were excluded from participating in the study based on the following criteria:

For drug addicts

- Unwillingness or low motivation to participate on the study
- Participants who are unable to communicate clearly

For health care providers

- Unwillingness or low motivation to participate on the study
- Work experience of less than two years on their current position

3.8. Data Sources

3.8.1. Secondary Source of Data

Secondary data were acquired through reviewing various studies related to the topic in order to find out the various issues to be considered with regard to drug addiction and relapse. Several written documents including journals, articles, books and other archival documents which focus on the situation of drug addiction in Ethiopia, the risk factors of drug addiction and relapse, the concept of drug addiction and relapse, quality of care in rehabilitation centers. The review of these documents was useful in identifying the gaps in previous researches on the subject under study and in the selection of appropriate research framework and tools for the study.

3.8.2. Primary Source of Data

The information gathered from the secondary sources was substantiated by the information that was obtained from primary sources. In this regard, a combination of both quantitative (questionnaires) and qualitative (in-depth interviews, observation) data collection method were employed to acquire firsthand information from selected respondents in the rehab center. The researcher was gathered information for the specific objectives of the study, which is an advantage of using primary data.

3.9. Data Analysis

Onwuegbuzie and Combs (2011) stated data analysis process includes steps that are preparing and organizing the data for analysis, reducing the data into themes and representing the data into figures, tables, or a discussion. Therefore, the qualitative data were analyzed using a thematic data analysis technique. The data that were collected using interview and observation were transcribed into Amharic and then it was translated into English. Next, the researcher had compared all English translations with the original Amharic transcriptions. After ensuring that there is no significant difference between the Amharic transcription and the English translation, the data was coded using color coding. Then similar codes were categorized together to reduce the data. After that, the codes were sorted into potential themes. Finally, the themes were defined and refined. After all, the findings were tested and cross checked back against the original data.

The quantitative data that were collected using questionnaires was analyzed using descriptive statistics such as frequency table and percentage. In addition, the Statistical Package for Social Science (SPSS) version 23 was utilized in order to frequency tables and figures.

3.10. Ethical Consideration

One of the most important aspects of the research is ethics. The following ethical issues were considered in this study: according to Musmade et al. (2013), "An informed consent refers to an ethical principle implying a responsibility on the part of social researchers to strive to make sure that those involved as research participants not only agree and consent to participating in the research based on their own free choice, without being pressurized or influenced, but that they are fully informed about what they are consenting to". Before beginning data collection, the researcher submitted a letter of support to Amanuel Mental Specialized Hospital Research and Training Directorate from St. Mary's University School of Social Work, requesting their cooperation in providing relevant information during data collection. After receiving ethical clearance from the hospital's research and training directorate, the researcher began to meet the study participant. Then, the researcher gave participants with clear and exact information, so that, they could understand their involvement in the ongoing research and become motivated to participate. It has been made clear to the participants how the information they are supplying is relevant to the study's goals.

Furthermore, the researcher indicated explicitly what the participants will receive as a result of their involvement in the study. The researcher did not provide any kind of incentives to participate in the study. Priority was made to respecting the dignity of research participants. Furthermore, the researcher maintained data confidentiality with respect to both participant information and information that the participant provided.

Chapter Four

4. Data Analysis and Interpretation

4.1. Introduction

The data analysis and interpretation are presented in this chapter. Tables have been used to clearly depict and precisely present the collected data. Both qualitative and quantitative data were analyzed and interpreted together.

4.2. Socio Demographic Background of the Addicts

Table 1:

Percentage Distributions of Respondents' Socio demographic Characteristics

N	Variable		Frequency	Valid Percentage	Cumulative Percentage
1	Employment Status	Employed	66	66.0	66.0
		Unemployed	34	34.0	100.0
		Total	**100**	**100.0**	
2	Age of Respondents	13-20 years	3	3.0	3.0
		21-28 years	46	46.0	49.0
		29-36 years	27	27.0	76.0
		37 years & above	24	24.0	100.0
		Total	**100**	**100.0**	
3	Educational Status	Illiterate	3	3.0	3.0
		Elementary	17	17.0	20.0

		High school	42	42.0	62.0
		University	38	38.0	100.0
		Total	**100**	**100.0**	
4	Marital Status	Married	21	21.0	21.0
		Single	75	75.0	91.0
		Divorced	4	4.0	100.0
		Total	**100**	**100.0**	

Source: Field Survey.

Table 1 above shows that 100 respondents were participated in the study. The respondents' employment status indicated that 47% of the participants were employed; 19% were self-employed and while 34% were unemployed. Therefore, nearly half of the respondents were employed. The age distribution of the respondents indicated that 46% were between 21-28 years, 27% were between 29-36 years, 24% were aged 37 and above; while 3% falls within the age range of 13-20 years. Thus, the majority of drug addicts in Amanuel Mental Specialized Hospital are young adults (within the age range of 21-28 years).

Among all drug addicts who participated in the study, 42% were attended high school, and 38% were attended university level education. Moreover, those who had attended primary level education and who are illiterate were 17% and 3%, respectively. When we look at respondents' marital status, large number of respondents never married (75%), followed by married (21%) and divorced (4%). This suggested that more than half of the respondents were not married.

4.3. Socio demographic Background of Health Care Providers

Table 2:

Background Information of Health Care Providers

Code Number	Age	Sex	Educational Level	Marital Status	Work Experience	Position in the Hospital
CD-001	25	F	BSc	-	3 Years	Psychologist
CD-002	54	M	BSc	Married	4 Years	Psychiatrist Nurse
CD-003	32	F	BSc	Married	8 Years	Professional Psychiatrist
CD-004	56	M	Doctorate	Married	38 Years	Doctor
CD-005	29	M	Doctorate	Single	5 Years	Doctor
CD-006	26	M	BSc	Single	2 Years	Psychologist
CD-007	30	F	BSc	Single	8 Years	Psychiatrist Nurse
CD-008	35	F	BSc	Married	13 Years	Professional Psychiatrist
CD-009	39	F	BSc	Married	18 Years	Professional Psychiatrist

Source: Field Survey

As Table 2 shown, 9 health care providers for addicts in AMSH rehab center were participated in the study. 5 of them were female and 4 were male. The minimum age of the respondents were 25 years and the maximum were 56 years. The majority of the respondents 7 of them hold BSc Degree while 2 of them hold Doctorate Degree. In addition, 5 respondents were married, 3 respondents were single. One respondent did not respond to the item. Work experiences of the respondents were between 38 years and 2 years. Based on the position in the hospital, 2 doctors, 2 professional psychiatrist, 2 psychiatrist nurse and 2 psychologists from the respondents were working in the substance ward.

4.4. Prevalence of Drug Addiction Relapse

Table 3:

Number of Times to Returning Use of Drug/Substance after Sobriety

	Frequency	Percent	Cumulative Percent
Not Returned	52	52.0	52.0
Once	12	12.0	64.0
2-4 times	32	32.0	96.0
5 times or more	4	4.0	100.0
Total	**100**	**100.0**	

Source: Field Survey

The data in table 3 above, shows that the majority of the respondents, 52% (n=52) were not returned to using drug after quitting drug, 32% (n=32) were returned to using drug for 2-4 times. Meanwhile, respondents who were returned to using drug after quitting drug once and 5 times or more are 12% (n=12) and 4% (n=4), respectively. The sum of the addicts who were returned using drug after quitting drug was 48%. This shows that 48% of the addicts in AMSH rehabilitation center were relapsed. This means nearly half of the addicts in AMSH rehab center were relapsed.

Figure 2 below shows how often the respondents return to using those drugs/substances. 70% and 45% of the responses reported that addicts were returned to using Alcohol and Cannabis very often, respectively. Meanwhile, 15% and 7% of the responses showed that Cannabis and Alcohol, respectively, used frequently after recovery. In other hand, as the 95% responses indicate addicts never used both Heroin (Opium) and Petrol (Correction Fluid & Glue) after treatment. Similarly, 89% of the responses claimed that addicts never used Cocaine.

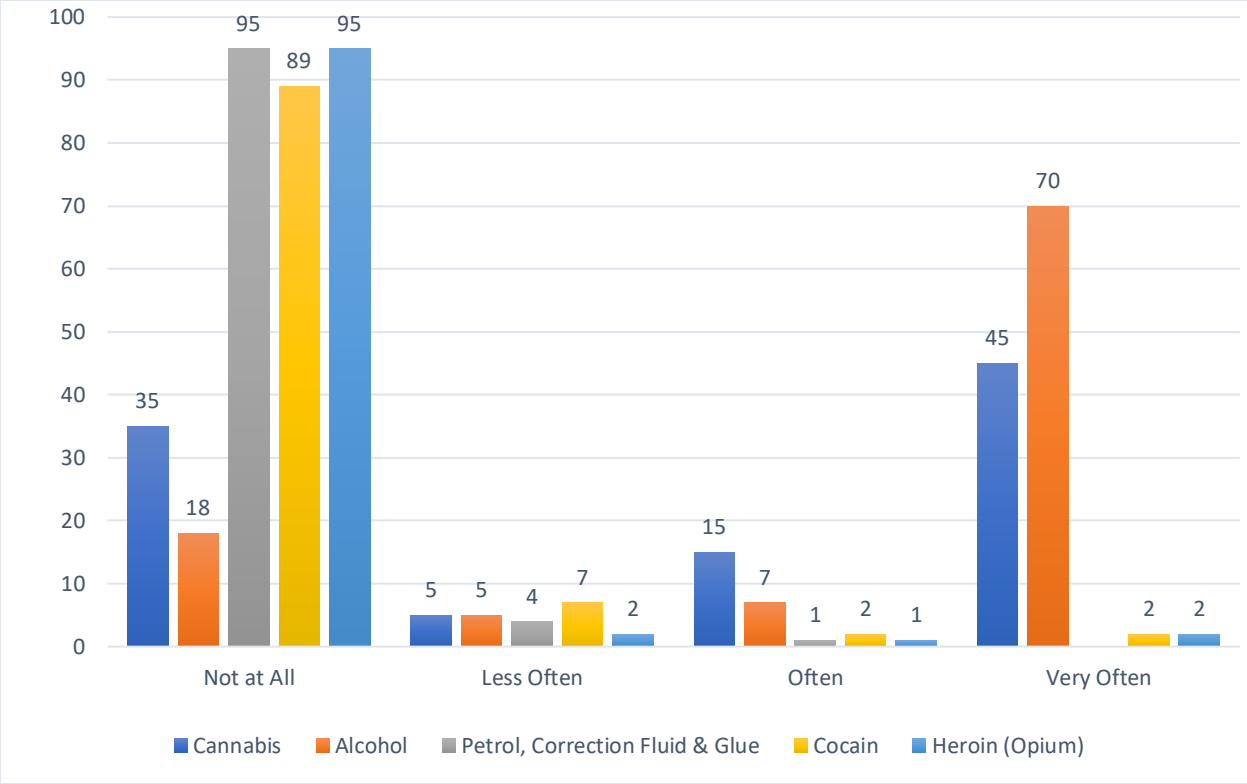

Figure 2: Usage of Substances after Treatment

Source: Field Survey

According to Figure 3 below also, 100% of respondents from the health care providers reported alcohol as mostly abused drug. In other hand, Cannabis (37.5%) and Heroin (12.5%) were cited as mostly abused drugs. Eventually, there were no response that shows cocaine and Petrol, correction fluid as mostly abused drugs in AMSH rehab center. Finally, 5 health care providers reported that Cigarette and Opioids are mostly abused substances and 4 of them also responded *Khat* as mostly abused substance.

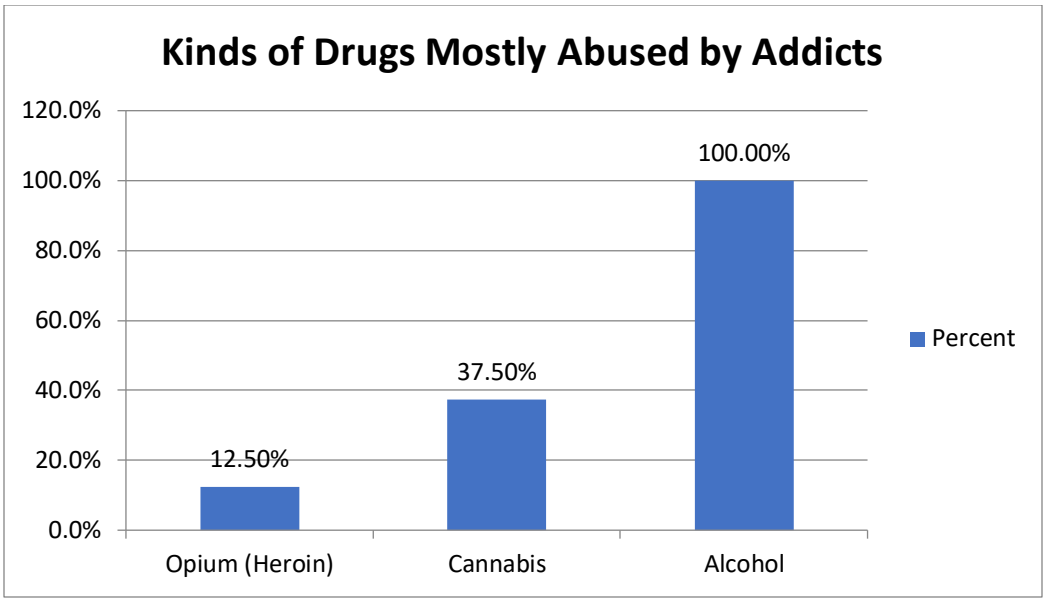

Figure 3: Respondents' response on kinds of drugs mostly abused by addicts

Source: Field Survey.

Table 4:

Percentage Distribution of Respondents' Hope to Quit Drug

	Frequency	Percent	Cumulative Percent
Low	6	6.0	6.0
Somewhat	14	14.0	20.0
High	24	24.0	44.0
Very High	56	56.0	100.0
Total	**100**	**100.0**	

Source: Field Survey.

Table 4 presents the level of hope to quit drug among drug addicts in AMSH rehab center. Fifty-six (56%) of the addicts have very high hope to quit drug, twenty-four respondents (24%) have high hope of quitting drug, fourteen respondents (14%) have hope to some extent, the remaining

six respondents (6%) have low level of hope to quit drug. Therefore, the majority of the respondents have very high and high hope of quitting drug.

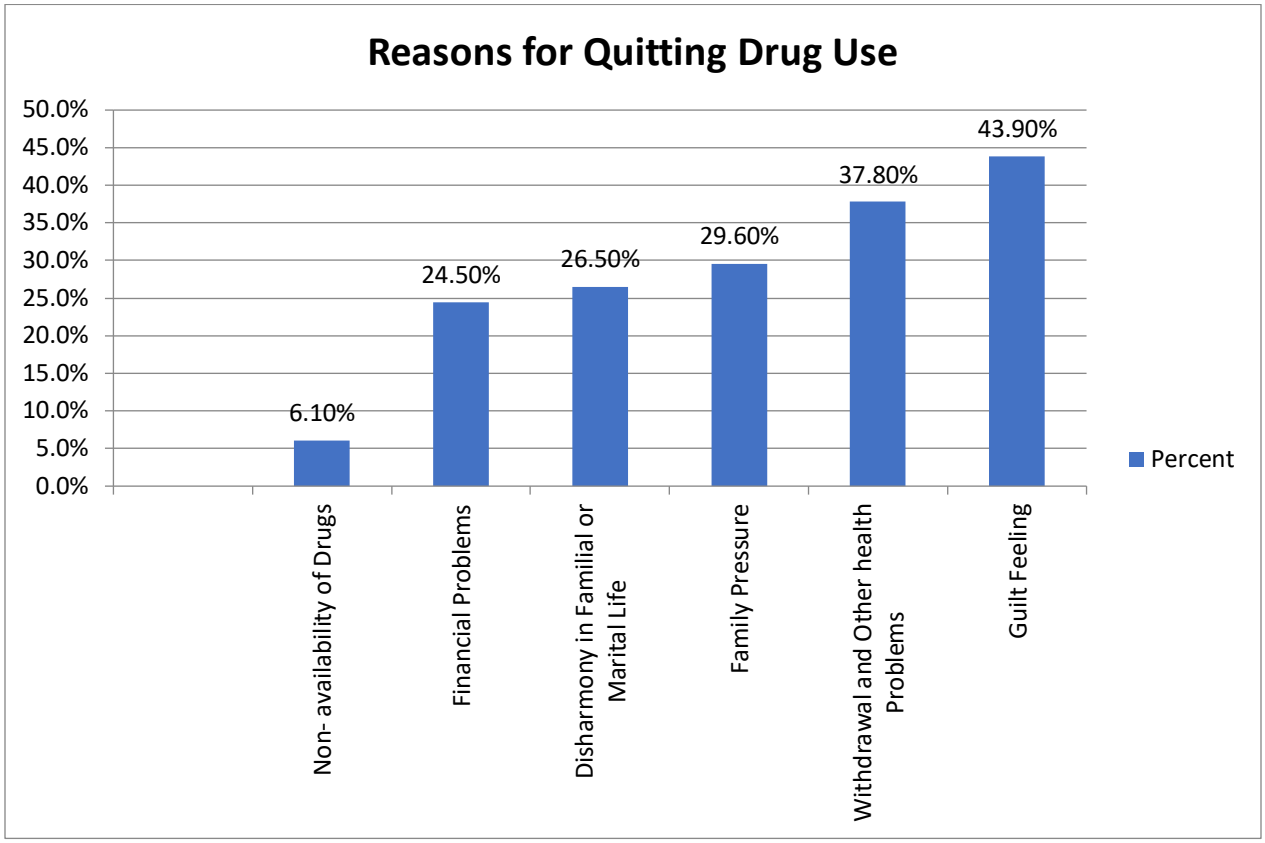

Figure 4: Respondents' Response on Reasons for Quitting Drug Use

Source: Field Survey.

Figure 4 presents reasons for quitting drug addiction that about 43.9% of the respondents indicated that the reason for quitting drug use is guilt feeling, 37.8% of the respondents specified that withdrawal and other health problems as a reason for quitting drug use. Family pressure and disharmony in familial or marital life were the reasons given by 29.6% and 26.5% of respondents, respectively. Therefore, the majority of the responses show the major reasons to quit drug use at AMSH rehabilitation center is guilt feeling, withdrawal and other health problems, and family pressure.

Table 5:

Age of addicts at first use of substance/drugs

	Frequency	Valid Percent	Cumulative Percent
8-15 years	19	19.0	19.0
16-20 years	49	49.0	68.0
21-29 years	29	29.0	97.0
30 years & above	3	3.0	100.0
Total	**100**	**100.0**	

Source: Field Survey.

Based on Table 5, 49% of the respondents claimed they were between the age of 16-20 years when they start using substance/drugs, 29% of them were between the age of 21-29 years at first use of substances/drugs, 19% of the respondents were between 8-15 years and the remaining 3% were 30 years and above.

Table 6:

Addicts' history of receiving drug addiction treatment before

	Frequency	Percent	Cumulative Percent
Yes	52	52.0	52.0
No	48	48.0	100.0
Total	**100**	**100.0**	

Source: Field Survey.

Table 7:

Number of times received drug addiction treatment

	Frequency	Percent	Cumulative Percent
1-3 times	30	57.7	57.7
4-6 times	12	23.1	80.8
7-10 times	5	9.6	90.4
11 & above	5	9.6	100.0
Total	**52**	**100.0**	
No Response	48		
Total	**100**		

Source: Field Survey

As Table 6, 52% of the respondents indicated that they have received drug addiction treatment before; while 48% have not being receiving any treatment before. Similarly, Table 7 also shown that 30 (57.7%) of the respondents reported that they have received treatment at 1-3 times, 12 (23.1%) have received it between 4-6 times, 5 (9.6%) have received treatment 7-10 times; while 5 (9.6%) indicated 11 times and above. The non-response which is 48 respondents shows that the respondents who are not receiving treatment before.

Table 8:

Percentage Distribution of Respondents' Responses on Having a Family Dispute

	Frequency	Percent	Cumulative Percent
Low	37	37.0	37.0
Somewhat	20	20.0	57.0
High	13	13.0	70.0
Very High	30	30.0	100.0
Total	**100**	**100.0**	

Source: Field Survey

As the above Table 8 shows, 37% of the respondents reported there is low dispute in their family, 30% indicated that there is high dispute in their family; the remaining 20% and 13% claimed that there is familial dispute to some extent and high, respectively. It means most of the addicts in AMSH lives with a family that is peaceful and low rate of dispute. However, nearly one third of the addicts live with families which have very high dispute.

Table 9:

Stay Connected with Drug/substance User Friends after Quitting

	Frequency	Percent	Cumulative Percent
Yes	74	74.0	74.0
No	26	26.0	100.0
Total	**100**	**100.0**	

Source: Field Survey

According to Table 9 above, 74% of the respondents were stayed connected with substance user friends after quitting drug use. In the meantime, 26% of the respondents' response that they have not stayed connected with substance user friends after quitting drug use. This inferred that the majority of the addicts have relationships with drug user friends after quitting drug use.

Table 10:

Frequency Distribution on stay of addicts in the rehab center

	Frequency	Percent	Cumulative Percent
For 30 Days	3	33.3	33.3
For 2 Months	1	11.1	44.4
For 3 Months	1	11.1	55.6
Above 3 Months	4	44.4	100.0
Total	**9**	**100.0**	

Source: Field Survey

Table 10 presents that 44.4% (n=4) of the health care providers stated the addicts stayed above 3 months in the rehab center. 33.3% (n=3) of the health care providers explained that addicts stayed only for 30 days. In the meantime, 11.1% (n=1) and 11.1% (n=1) health care providers responded that the addicts stayed for 2 and 3 months, respectively.

Table 11:

Frequency Distribution on similarity of treatment for relapsed addicts with other addicts

	Frequency	Percent	Cumulative Percent
Yes	9	100.0	100.0
No	0	0	0
Total	**9**	**100.0**	**100.0**

Source: Field Survey

Based on the Table 11, health care providers respond to the question about similarity of treatment between relapsed addicts with other addicts. 100% (n=9) respondents reported that treatment for relapsed addicts and other addicts were the same.

4.5. Risk Factors of Drug Addiction Relapse

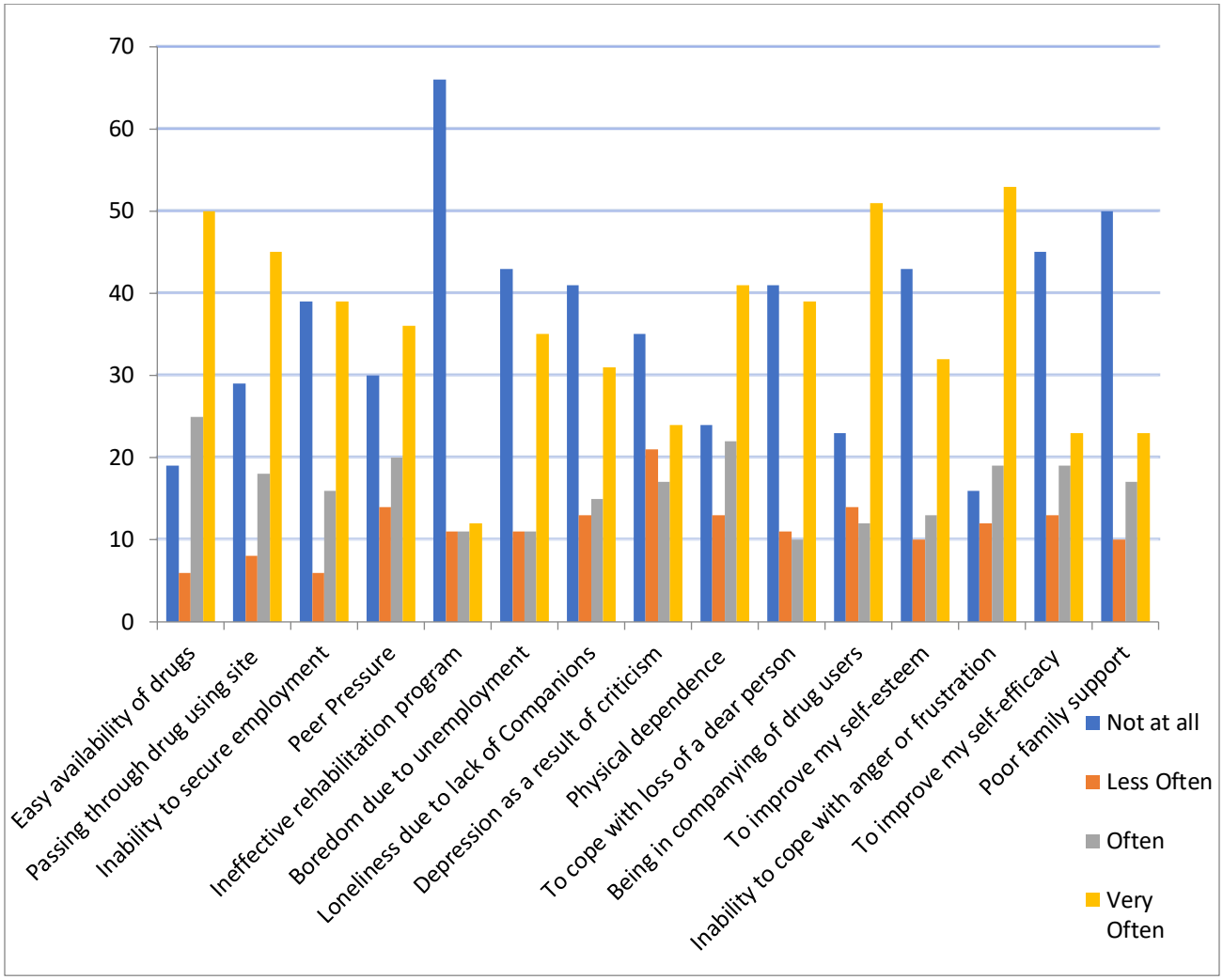

Figure 5: Addicts' Response on Risk factors of Drug Addiction Relapse

Source: Field Survey, 2020.

As Figure 5 shows, the addicts chose the main risk factors of drug addiction relapse based on Likert scale measurement (1= Not at all, 2= Less Often, 3= Often and 4= Very Often). Therefore, the data were analyzed as following. Fifty three of the respondents reported inability to cope with anger or frustration as the main cause of drug addiction, fifty of the respondents cited being in companying of drug users as the main cause of drug addiction relapse, fifty of them also selected easy availability of drugs. The other forty-five and forty-one of the respondents reported frequent passing through drug using sites and physical dependence as the main risk factors, respectively. However, most of the respondents (66%) were reported that ineffective rehabilitation program is

never considered as the risk factor of drug addiction relapse. This indicated that the main risk factors of drug addiction relapse among addicts in AMSH rehabilitation centers in Addis Ababa, Ethiopia are inability to cope with anger or frustration, easy availability of drugs/substances, being in companying of drug users/ substance abusers, physical dependence (psychological adaptation to drugs) and frequent Passing through drug using site e.g., bar, smoking joint.

It was also related with the interview data. Respondents were asked about the risk factors of drug addiction relapse. According to the respondents' knowledge, easy availability of drugs/substances, peer pressure and physical dependence were some risk factors of drug addiction relapse.

A 28 years old respondent shared his experience:

> *I was born in rural Ethiopia. And we had khat farm. So, I can easily access khat whenever I wanted it. I began chewing khat early morning and stayed until night. Then I drank Areke (home brewed alcohol). After recovery, I stopped using these substances for 1 month. But I started using khat and drinking alcohol (C-004).*

Another respondent also supported the above idea:

> *My environment is vulnerable for drug addiction. I was born and raised in Chichinya around 22 Mazoria. It was a place where there are night clubs, bars, and a lot of sex workers. After recovery, I returned to that environment. So, I restarted using drugs again (C-001).*

As reported by respondents' easy availability of substances/drugs was expressed as one of the main risk factors of drug addiction relapse.

The other respondent, 25 years old also described that:

> *I was addictive to khat and I was in the rehab center. I was a university student when I restarted using khat and alcohol. In addition, I started using cannabis. This happened because of my dorm mates who were pressuring me to use khat to be effective and energetic while studying for exam (C-002).*

Another respondent also supported the above idea:

> *Following my discharge, I reunited with the same individuals who, at the end of the day influenced me to start abusing drugs. The problem is that it is really difficult for me to distinguish myself from my drug-addicted friends (C-004).*

From the above finding the experience of peer pressure such as being accompany with drug user friends and close friends' pressure to go back to drug/substance use were also risk factors of drug addiction relapse. Influence of friends was the key factor for relapse.

In addition, physical dependence (psychological adaptation to drugs) was another cause of drug addiction relapse. Regarding this, one of the respondents narrated how physical dependence triggered his drug addiction problem:

> *I started using cigarette and khat when I was 12 years old with my friend. We started it because we wanted to know the feeling after using substances. However, we were very addicted. We added to use cannabis and heroin (Gudra). After treatment, I could not stop using drugs and I added using Areke because of I was very much dependable to the substances (C-001).*

In addition, health care providers also asked about risk factors of drug addiction relapse. Based on Figure 6 below, health care providers responded about risk factors of drug addiction relapse. 66.7% of the respondents reported that exposure to triggers and peer pressure as risk factors of drug addiction relapse among drug addicts in AMSH rehab center, 55.6% of respondents relapsed because of work and marital stress. Poor coping skills were also the cause to drug addiction relapse given by 44.4% of respondents.

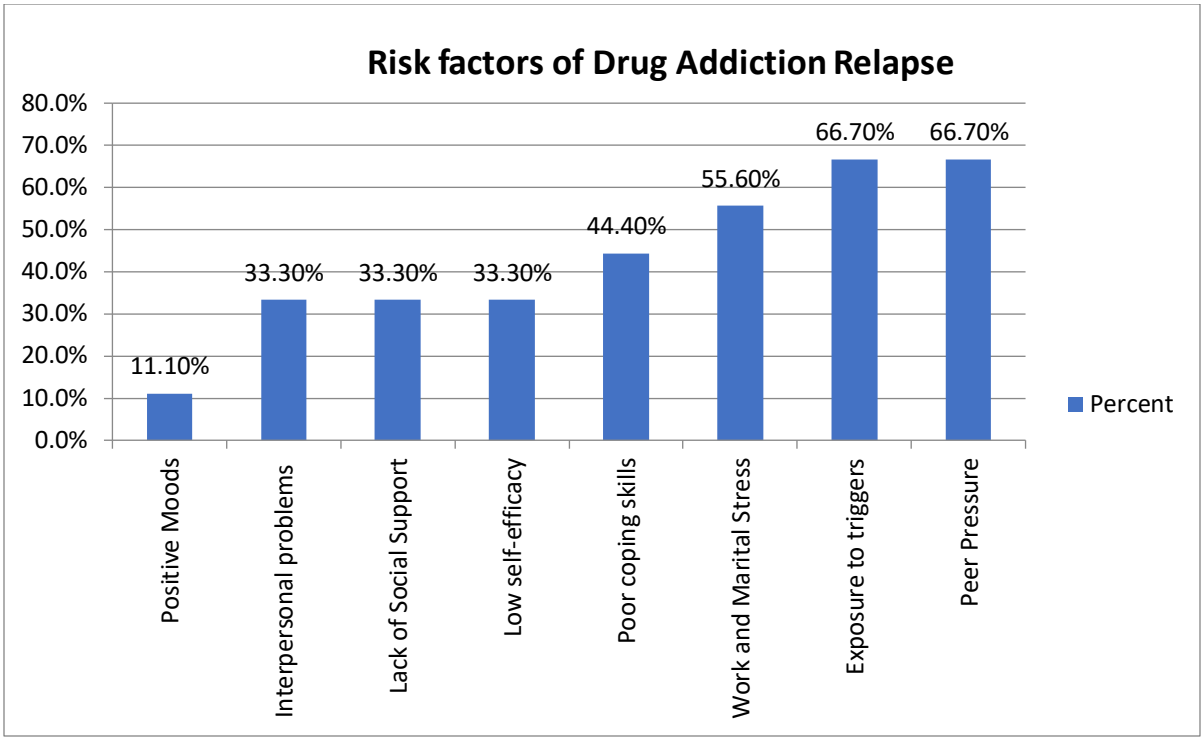

Figure 6: Respondents' Response on Risk factors of Drug Addiction Relapse

Source: Field Survey, 2020.

4.6. Effects of Drug Addiction

Addicts were also asked about effects of drug addiction relapse. The effects were divided by three sub themes; health, social and behavioral effects.

Health Effects

According to the information gathered from all respondents, drug misuse had a significant effect on health.

A 32 years old respondent explained about his experience:

> *I was addicted to cannabis. Because of it, I experienced different health problems such as shivering, headache, breathing problem, liver damage and abdominal pain. After I relapsed, the effects became severe (C-006).*

In addition, the other respondent, who age was 28, described his experience:

> *I had a severe lung disease and high blood pressure because I smoked a lot of cigarettes per day and drank alcohol. It affected my health condition (C-004).*

Based on the above findings relapsed drug addicts in AMSH rehab center recognized the effect of drug addiction on their health. Therefore, drug addiction relapse led to severe health problems.

Social and Behavioral Effects

Relapse to drug misuse had also social and behavioral effects. As per the information obtained from the respondents, relationship trouble, work related problem, stigmatization from the society, familial dispute, hallucination, depression, incoherent speech, and flashbacks were some of the social and behavioral effects.

One respondent, 27 years old, stated social effects as:

> *I used to work in a governmental office. When I returned to using drug, I could not concentrate and work effectively. Therefore, my boss and my friends advised and warned me. But I continued to use drugs. At the end, I was fired from work (C-003).*

Another respondent, 30 years old, claimed that drug addiction relapse has social effects:

> *Because of relapsing to drug, I was in trouble with my wife. When I used drug, I used to beat her. As a result, we were divorced and I was very depressed. In addition, I was affected by paranoia, hallucinations and flashbacks (C-005).*

Another respondent also claimed that:

> *In my family, there was dispute as a result of my return to drug addiction. I stole them to buy drugs. The society saw me as a curse for my family. In addition, my friend with whom I started taking drug was died because of drug addiction problem. Therefore, I was very aggressive and depressed for a month and I consumed a lot of drugs (C-001)*

From the above findings' health, social and behavioral effects were affected relapsed addicts. The addicts also understood the risk factors and shared their experience appropriately. These effects also observed by the researcher. The researcher observed the rehab center's service and physical, behavioral and psychological effects of drug addiction relapse on the victims. The inpatient ward has 14 beds each serve male substance abusers, so that, the researcher did not see any female substance abusers in the rehab center at the time of data collection. In addition, there is no 14 inpatient service users in the ward because the government ordered that every substance abuser who seek treatment in government hospitals must pay the expenses. This also noticed by

the researcher while in the follow up sessions. Many outpatients are willing to be admitted as inpatient but when they told the payment for the service, they changed their thoughts.

The admission area is cramped and busy. The compound is encircled by a fence and guards, and service users are barred from leaving the compound. Furthermore, there are no adequate recreational facilities. Although they do have the opportunity to interact with other admitted psychiatric patients, moving freely within the compound is distressing for them.

A multidisciplinary team of psychiatric doctors, psychiatric nurses and psychologists operate in the department. However, the researcher did not observe any social worker who is involved in the team and provide service for service users.

Addicts received group and individual therapy as well as medications such as diazepam, amitriptyline, and vitamin B. In addition, the researcher attends out-patient follow up sessions. It helps the researcher to notice physical effects on addicts such as slurred speech, bloodshot/watery eyes, larger pupils, unusual eye movement, unfocused (blank) stare, irregular or difficulty to breathing, inappropriate verbal response to questioning, lip/tongue burn, shivering and excessive sweating.

Moreover, hallucinations, sadness (depressed), unable to remember things, change in sleep pattern, restlessness, hyperactive, friendly, nervous, slowed thinking, suspicious (paranoid) and flu-like complaints are behavioral and psychological effects that are observed by the researcher.

Chapter Five

5. Summary of Major Findings, Conclusion and Recommendations

5.1. Summary of Major Findings

The finding of this study revealed that half of the respondents were relapsed drug addicts at AMSH rehab center. Nearly half of the respondents were relapsed that it means drug addiction relapse is too widespread in the population. This finding also suggests that many addicts returned to using alcohol and cannabis, and never used heroin, cocaine and petrol (correction fluid & glue). Health care providers who participated in the study also supported that mostly abused drugs by addicts in AMSH rehab center were alcohol (66.7%), cannabis (25%) and Opium (8.3%) In addition, the addicts have high hope for quitting drug abuse because of guilt feeling, health problem and family pressure. The finding of this study is similar to the relapse rate summarized by Chepkwony, Chelule & Barmao (2013) which half of the respondents were relapsed. However, in a study by Kassani, Niazi, Hassanzadeh & Menati (2015), the prevalence of relapse was around 30.42%. Therefore, it is necessary to monitor and supervise the addicts' treatment to reduce the relapse rate, which should be implemented more effectively and accompanied with the contribution of addicts' families.

The main risk factors of drug addiction relapse among addicts in AMSH rehabilitation center in Addis Ababa, Ethiopia are inability to cope with anger or frustration, easy availability of drugs/substances, being in companying of drug users/substance abusers, physical dependence (psychological adaptation to drugs) and frequent passing through drug using site e.g., bar, smoking joint.

To large extent, inability to cope with anger and frustration is most likely to increase the tendency of drug addiction relapse among addicts. Besides this finding are consistent with several studies. Appiah (2014) found that anger, frustration, sadness, boredom, stress, and depression have been identified as relapse triggers. In addition, Hammerbacher and Lyvers (2005) also revealed that negative emotional states contribute to drug addiction relapse.

As it was indicated in the finding, easy availability of drug was also another main cause to relapse. The finding was aligned with the findings by Eleni (2019) that she described easy availability of drug as a great environmental factor that enhance high relapse rate.

This study's findings also revealed that being accompany of drug users can cause addicts to relapse after completing rehabilitation programs. The impact of friends on an individual's conduct is considerable. Someone who associated with individuals who promote antisocial activities is more likely to relapse to drug addiction after rehabilitation, whereas someone who associates with people who promote antisocial behaviors is more likely to relapse to drug abuse after rehabilitation. These also supported by another finding of the study which was most of the addicts (74%) stayed connected with substance abuser friends after quitting, so that, the risk of relapse to drug abuse was high.

Physical dependence was another main cause that leads to drug addiction relapse. Physical dependence on drugs can increase the risk of relapse. It was supported by Schuckit (2006) as physical dependency refers to the physiological adaptation of the body to hard drug usage. Similarly, people can also acquire a tolerance to the drug, requiring higher doses to achieve the same effects.

Moreover, passing past drug-using locations such as bars and smoking joints on a regular basis will encourage addicts to relapse. After being exposed to rehabilitation programs, these are the situations that expose addicts to the return of using drugs/substances. This study's findings are consistent with those of Ibrahim and Kumar (2009) and Girum (2017), who found that hanging out with a group of friends who use drugs or substances, can lead to relapse following recovery.

Based on the finding of the study, most addicts in the rehabilitation center stayed for 3 months and above. This will help the addicts to stay out of the environment that may lead them to the risk of relapse. However, there were no differences between treatments for relapsed addicts and other addicts and the rehabilitation center had inadequate recreational facilities. Therefore, the relapsed addicts who relapsed more than once may become bored with the treatments and it could be another cause for the relapse rate was widespread.

As the finding indicated, the addicts had a great knowledge that drugs/substances can cause different effects and problems in the person who abuse it. They stated health, social and behavioral effects of drug/substance addiction. They understood that drugs can affect and lead to severe health problems like lung disease, high blood pressure, shivering and headache, breathing problem, liver damage and abdominal pain. In addition, they also stated social and behavioral

effects such as relationship trouble, work related problem, stigmatization from the society, familial dispute, hallucination, depression, and incoherent speech.

5.2. Conclusions

Drug addiction relapse in Ethiopia is a wide spreading social problem. It contributes to the incidence of diseases and to worsen socioeconomic problem of an individual, a family and even a country. The prevalence of drug addiction in Ethiopia is getting higher and higher every year. The problem of drug addiction becomes worse because of relapse. Relapse remains an important challenge to combat the problem of drug addiction effectively. Therefore, drug addiction relapse tendency after quitting drug addiction poses severity to the problem of drug addiction. In the study, an attempt was made to thoroughly studied the prevalence of drug addiction relapse and its risk factors in Ethiopia.

The study had the objective of assessing the prevalence of relapse and its risk factors among addicted individuals in Amanuel Mental Specialized Hospital rehab center. The study was conducted using descriptive cross sectional study design. The study also used mixed research method both quantitative and qualitative methods.

The study revealed that drug addiction relapse is prevalent among the study participants. Nearly half of the respondents (48%) are relapsed after quitting drug abuse. Taking this into account, the rehabilitation program was not effective to reduce the relapse rate. Regarding the main risk factors of drug addiction relapse, the study found that the main risk factors are inability to cope with anger and frustration, easy availability of drugs, being in companying with drug users, physical dependence, and frequent passing through drug using sites. These risk factors lead the addicts to high tendency of relapse and to relapse after quitting drug abuse.

Relapsed drug addicts have known that relapse has a significant effect on health, social and behavioral wellbeing. This inferred that special attention needs to be given for drug addiction relapse. However, most drug addicts have high hope of quitting drug use. Guilt feeling, family pressure and health problems were the main reasons among the addicts to decide quitting drug abuse behavior.

The other major finding of the study was most addicts spend more than 3 months in the rehab center. Even if they spent more time in the compound, there were no adequate recreational

facilities. In addition, the rehab ward for the addicts was with other mental health service ward. Therefore, the addicts could be bored and have access to some substances like cigarette. These also may lead to ineffective rehabilitation program.

The theories used in the study were social learning theory (SLT) and cognitive behavioral theory (CBT). These theories were interrelated with the research findings. Our observations of other individuals participating in addictive behavior, according to SLT, can contribute to the development of addiction. When we observe the positive experiences such as becoming relaxed and fun after using drugs may initiate or trigger to use drug. In addition, as SLT indicates humans usually learn by observing the environment which they are surrounded by. This is aligned with the study finding that is about connection between drug user friends after quitting drug use, frequent passing through drug using sites and peer pressure as risk factors of drug addiction relapse. Based on SLT, the addicted individual has fewer possibilities to engage with healthy, non-addicted people as addiction grows. Gradually, the addict's entire social circle becomes filled with others who are also addicted. It is very hard to break away from an addiction without creating new relationships with healthier individuals and distancing yourself from those who are not.

Addictive behaviors, according to the CBT, are the outcome of negative thoughts and associated negative feelings. Therefore, negative thoughts and the harmful behaviors that follow can function as a trigger for drug abuse. Negative thoughts and beliefs can make addicts doubt their capacity to recover, and it was typically accompanied by a feeling of hopelessness. However, as the findings of the study, the majority of drug addicts who participated in the study have high hope of quitting drug use. But the use of drugs after quitting drug use is widespread. This aligned with CBT approach that someone who is trying to overcome addictive behaviors will often say he/she wants to change, but he/she finds it extremely difficult to do so.

Finally, the study answered the questions about the prevalence of drug addiction relapse, its risk factors and impacts. However, the study did not provide response to the question that is about how to prevent relapse. Therefore, further studies can be conducted on the prevention mechanisms of drug addiction relapse.

5.3. Recommendations

Based on the above findings and conclusions, the recommendations from this study were made. The recommendations were made to improve professional services delivered by rehabilitation centers, enhance the involvement of social workers in the multidisciplinary health providers team, and encourage governmental offices and other stakeholders to participate actively in reduction of drug addiction relapse.

5.3.1. Recommendations for Policy Makers and Other Stakeholders

Drug addiction is complex health problem with psychosocial, environmental, and biological determinants, which need multidisciplinary, comprehensive and public health-oriented responses from different institutions and organizations working together. So that, in designing and implementing policies and rehab programs, the Ethiopian Food and Drug Administration, Ethiopian Public Health Institute, policy makers and other stakeholders should consider integrating and collaborating multidisciplinary, comprehensive and public health-oriented responses to eliminate relapse after stopping drug use.

Drug addiction relapse is not included in the current Ethiopia's drug policy (National Drug Control Master Plan, 2017). Therefore, policy makers and researchers should design and evaluate new policies that include mechanisms to prevent drug addiction relapse in rehab centers.

5.3.2. Recommendations for Target Groups

Providing effective prevention, treatment and care services for drug addiction as part of an integrated and well-coordinated treatment system is an investment in health of people with drug addiction. Therefore, the researcher strongly recommends that health care providers should step up their efforts to provide proper rehabilitation programs and follow-up activities, upgrade their knowledge about addiction relapse and mechanisms to treat and prevent drug addiction relapse.

The researcher also strongly recommends that addicted individuals who are treated in the rehabilitation center should have learned about relapse as one stage of a recovery process rather than as a problem. In addition, the researcher recommends that addicts should be learned about the triggers for drug addiction relapse and how to handle those triggers smoothly.

5.3.3. Recommendations for Social Workers

Social Workers play a vital role in helping those battling drug addiction disorders. Therefore, the researcher strongly recommends that policy makers should consist the vital roles of social workers in combating the problem of drug addiction. Even the social workers themselves should participate actively in multidisciplinary team of health care professionals by diagnosing clinical disorders, identifying client goals, and creating a plan to reach those goals.

5.3.4. Recommendations for Other Researchers

Moreover, the researcher recommends that other researchers who will conduct research on drug addiction relapse should give more emphasis for the mechanisms to prevent drug addiction relapse.

References

Abebaw, F., Atalay, A., & Hanlon, C. (2007). Alcohol and drug abuse in Ethiopia: Past, present and future. *African Journal of Drug & Alcohol Studies*, *6*(1), 39–53. Retrieved from http://sites.utoronto.ca/ethiopia/Ethiopian Faculty Articles/Fekadu. African Journal of Drug and Alcohol Studies.2007.pdf

Adzrago, D., Doku, D. T., & Adu Gyamfi, A. B. (2018). Experiences of individuals with alcohol and drug addiction at rehabilitation centers in Ghana. *Journal of Addiction Research & Therapy*, *09*(04), 363–369. https://doi.org/10.4172/2155-6105.1000363

Allwood, C. M. (2011). The distinction between qualitative and quantitative research methods is problematic. *Quality & Quantity*, *46*(5), 1417–1429. https://doi.org/10.1007/s11135-011-9455-8

Arya, R., Antonisamy, B., & Kumar, S. (2012). Sample Size Estimation in Prevalence Studies. *The Indian Journal of Pediatrics*, *79*(11), 1482–1488. https://doi.org/10.1007/s12098-012-0763-3

Berhanu, M., Aregash, E., & Alyi, M. (2013). Socio-economic impact of khat in Mana District, Jimma Zone, South Western Ethiopia. *Agricultural Science, Engineering and Technology Research*, *1*(4), 44–59. Retrieved from http://asetr.org/

Bezarede, M. & Legesse, A. (2020). Statistical analysis of risk factors of drug addiction of youth in Debre Berhan Town, Ethiopia. *American Journal of Theoretical and Applied Statistics*, *9*(1), 8–13. https://doi.org/10.11648/j.ajtas.20200901.12

Bhandari, S., Dahal, M., & Neupane, G. (2015). Factors associated with drug abuse relapse: A study on the clients of rehabilitation centers. *Al Ameen Journal of Medicine Science*, *8*(4), 293–298. Retrieved from https://www.researchgate.net/publication/331863488

Chepkwony, S. J., Chelule, E., & Barmao, A. C. (2013). An Investigation Into Prevalence And Factors Contributing To Relapse Among Alcoholics In Selected Rehabilitation Centers In Nairobi County, Kenya. *International Journal of Innovative Research & Development*, *2*(8). Retrieved from https://www.ijird.com

Creswell, J. W. (2014). Research design: Qualitative, quantitative and mixed methods approach (4th ed.). Los Angeles, CA: SAGE Publications, Inc.

Daniel, W. W. (2013). Biostatistics: A Foundation for Analysis in the Health Sciences (10th ed.). N.Y., USA: Wiley.

Eleni, J. (2019). Psychosocial Triggering Factors of Relapse among Substance Abusers: The Cas e of Amanuel Mental Specialized Hospital Rehabilitation Center. Addis Ababa, Ethiopia: Addis Ababa University.

Ethiopia Food and Medicine Administration Proclamation No.1112. (2019, February 21). Retriev ed from https://www.tobaccocontrollaws.org/files/live/Ethiopia/Ethiopia%20-%202019% 20Proclamation%20-%20national.pdf

Gezahegn, T., Andualem, D., & Mitiku T., (2014). Substance use and associated factors among u niversity students in Ethiopia: A Cross-Sectional Study. *Journal of Addiction*, 2014, 1–8. https://doi.org/10.1155/2014/969837

Girum, S. (2018). Assessment of drug addiction and its associated factor among youths in Nazar eth Town, Eastern Shoa, Ethiopia. *Journal of Addiction Research & Therapy*, *09*(01), 1–6. https://doi.org/10.4172/2155-6105.1000356

Hendershot, C. S., Witkiewitz, K., George, W. H., & Marlatt, G. A. (2011). Relapse prevention f or addictive behaviors. *Substance Abuse Treatment, Prevention, and Policy*, *6*(17), 1–17. Retrieved from http://www.substanceabusepolicy.com/content/6/1/17

Henok, A. (2015). Exploring the trends & challenges of substance abuse among Ayer Tena Seco ndary School students in Addis Ababa (Master's thesis). Addis Ababa, Ethiopia: AAU.

Hirbo, R., Shunu, A., Ararsa, A., & Berhe, G. (2019). Prevalence of lifetime substances use amo ng students in Ethiopia: A systematic review and meta-analysis. *Systematic Reviews*, *8*(1), 326–341. https://doi.org/10.1186/s13643-019-1217-z

Ibrahim, F., & Kumar, N. (2009). Factors Affecting Drug Relapse in Malaysia: An Empirical Evi dence. *Asian Social Science*, *5*(12), 37. Retrieved from https://www.ccsenet.org/journal.ht ml

Kassani, A., Niazi, M., Hassanzadeh, J., & Menati, R. (2015). Survival Analysis of Drug Abuse Relapse in Addiction Rehab centers. *International Journal of High Risk Behaviors and Ad diction*, *4*(3), 1–6. https://doi.org/10.5812/ijhrba.23402

Kassani, A., Niazi, M., Hassanzadeh, J., & Menati, R. (2015). Survival Analysis of Drug Abuse Relapse in Addiction Rehab centers. *International Journal of High Risk Behaviors and Addiction*, *4*(3). https://doi.org/10.5812/ijhrba.23402

Kawulich, B. (2012). Collecting data through observation. In Doing Social Research (pp. 150–16 0). New York, United States: McGraw-Hill Education.

Kesmodel, U. (2018). Cross-sectional studies – what are they good for? Acta Obstet Gynecol Sca nd, 97, 388–393. https://doi.org/10.1111/aogs.13331

Kumsa, D. (2019). The risk factors and challenges of students' drug abuse in higher learning inst itutions: A Comprehensive Review of Related Literature. *Ethiopian Journal of Science an d Sustainable Development*, *6*(2), 33–45. Retrieved from https://www.ejssd.astu.edu.et

Liese, B. S. (2014). Cognitive behavioral therapy for addictions. In S. L. A. Straussner (ed), Clini cal Work with Substance Abusing Clients (3rd ed, pp. 225–250). New York: Guilford Pres s.

Lowhorn, G. L. (2007). Qualitative and quantitative research: How to choose the best design. Re gent University. Retrieved from https://www.researchgate.net/publication/256053334

Lwanga, S. K., & Lemeshow, S. (1991). Sample Size Determination in Health Studies: A Practic al Manua. World Health Organization. Retrieved from https://apps.who.int/iris/handle/106 65/40062

Marlatt, A. (2002). Substance Abuse Treatment and the Stages of Change. *Addiction*, *97*(5), 607–608. https://doi.org/10.1046/j.1360-0443.2002.t01-8-00166.x

Melemis, S. M. (2015). Relapse Prevention and the Five Rules of Recovery. *Yale Journal of Biology and Medicine*, 325–332. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4553654/

Mesfin, K., Hassen T., Ghimja, F. and Teshome, T. (2017). Knowledge of "drug" use and associated factors as perceived by health professionals, farmers, the youth and law enforcement agencies in Ethiopia. *The Ethiopian Journal of Health Development*, *13*(2), 141–149. Retrieved from https://www.ejhd.org/index.php/ejhd/article/view/905

Mohammadpoorasi, A., Fakhari, A., & Akbari, H. (2012). Addiction Relapse and Its Predictors: A Prospective Study. *Journal of Addiction Research & Therapy*, *03*(01), 1–3. https://doi.org/10.4172/2155-6105.1000122

Moos, R. H., & Moos, B. S. (2006). Rates and predictors of relapse after natural and treated remission from alcohol use disorders. *Addiction*, *101*(2), 212–222. https://doi.org/10.1111/j.1360-0443.2006.01310.x

Musmade, P., Nijhawan, L., Udupa, N., Bairy, K., Bhat, K., Janodia, M., & Muddukrishna, B. (2013). Informed consent: Issues and challenges. *Journal of Advanced Pharmaceutical Technology & Research*, *4*(3), 134. https://doi.org/10.4103/2231-4040.116779

Naing, L., Winn, T., & Rusli, B. N. (2006). Practical Issues in Calculating the Sample Size for Prevalence Studies. Archives of Orofacial Sciences, 9–14. Retrieved from http://www.kck.usm.my/ppsg/stats_resources.htm

National Drug Control Master Plan. (2017). Retrieved from http://www.fmhaca.gov.et/wp-content/uploads/2019/03/Ethiopia_National-Drug-Control-Master-Plan-2017.pdf

NIDA. (2011). Understanding drug abuse and addiction. National Institute of Health. Retrieved from https://www.nida.nih.gov/scienceofaddiction

Onwuegbuzie, A. J., & Combs, J. P. (2011). Data analysis in mixed research: A Primer. *International Journal of Education*, *3*(1), 13. https://doi.org/10.5296/ije.v3i1.618

Rahel, G. (2016). Prevention and control of substance abuse among youths: An Exploratory Study in Jimma Town (Master's thesis). Addis Ababa University. Retrieved from http://etd.aau.edu.et/handle/123456789/2300

Schuckit, M. A. (2013). *Drug and Alcohol Abuse: A Clinical Guide to Diagnosis and Treatment (Critical Issues in Psychiatry)* (3rd ed.). San Diego, California: Springer. https://doi.org/10.1007/978-1-4757-0767-0

Sharma, S., Mudgal, S., Thakur, K., & Gaur, R. (2019). How to calculate sample size for observational and experiential nursing research studies? *National Journal of Physiology, Pharmacy and Pharmacology*, (0), 1. doi:10.5455/njppp.2020.10.0930717102019

Sinha, R. (2011). New Findings on Biological Factors Predicting Addiction Relapse Vulnerability. *Current Psychiatry Reports*, *13*(5), 398–405. doi:10.1007/s11920-011-0224-0

Tadele, E., Getu, K., Dagim, A., & Hailekiros, G. (2016). Socio-economic and health effects of khat chewing in Mekelle, Tigray Region, Ethiopia. *International Journal of Pharmacy & Pharmaceutical Research*, *8*(1), 11–22. Retrieved from https://www.ijppr.humanjournals.com

Taherdoost, H. (2016). Sampling methods in research methodology; How to choose a sampling technique for research. *International Journal of Academic Research in Management*, *5*(2), 18–27. doi:10.2139/ssrn.3205035

Tesfahun A., Gebeyaw T. & Girmay T. (2013). Assessment of substance abuse and associated factors among students of Debre Markos Poly Technique College in Debre Markos Town, East Gojjam Zone, Amhara Regional State, Ethiopia. *Global Journal of Medical Research*, *13*(4B), 5–15. Retrieved from https://medicalresearchjournal.org/index.php/GJMR/article/view/377

Tilahun, B., Gebrewahd, B., & Ashenafi, D. (2015). Magnitude of psychoactive substance abuse among university students, Adigrat, North Ethiopia: Cross Sectional Study. *Journal of Psychiatry*, *18*(4), 281–284. https://doi.org/10.4172/2378-5756.1000281

UNODC. (2019, June). World drug report. United Nation Publication. Retrieved from https://www.unodc.org/wdr2019

Vaughn, M. G., & Perron, B. E. (Eds.). (2013). Social work practice in the addictions (Contemporary Social Work Practice) (5th ed.). NY, USA: Springer. https://doi.org/10.1007/978-1-4614-5357-4

Wang, X., & Cheng, Z. (2020). Cross-Sectional Studies. Chest, 158(1), S65–S71. https://doi.org/10.1016/j.chest.2020.03.012

West, R., & Brown, J. (2013). Theory of addiction (2nd ed.). London, England: Wiley-Blackwell.

World Health Organization. (2000). Guide to drug abuse epidemiology. Retrieved from https://www.who.int/publications/cra/chapters/volume1/1109-1176.pdf

Yin, R. K. (2014). Case study research: Design and Methods (Applied Social Research Methods) (Fifth ed.). Los Angeles, CA: SAGE Publications, Inc.

Appendix: I

Questionnaire for Addicted Individuals

Dear Respondent,

This questionnaire is designed to collect information on the prevalence of drug addiction relapse and its risk factors among drug addicts in Ethiopia. Your responses will be used purely for research purposes and will be treated with utmost confidentiality. Hence, you do not need to indicate your name or given any information that could reveal your personality issue. Therefore, kindly respond sincerely and honestly to the statements in the questionnaire form.

Thanks,

Researcher

Section A: Demographic Data

Direction 1: Kindly respond to all the items in the questionnaire ticking (√) the columns that are applicable to you.

- Employment status: Employed ☐ Unemployed ☐ Self employed ☐
- Age: 13-20 years ☐ 21-28 years ☐
  29-36 years ☐ 37 years & above ☐
- Educational status:
  Illiterate ☐ Elementary School ☐ High School ☐
  University Education ☐
- Marital Status: Single ☐ Married ☐ Divorced ☐
- Age at first use of substance: 8-15 years ☐ 16-20 years ☐
  21-29 years ☐ 30 years & above ☐
- Have you Received Drug/substance Addiction Treatment before: Yes ☐ No ☐
- Number of times received drug/substance addiction treatment:
  1-3 times ☐ 4-6 times ☐ 7-10 times ☐ 11 times & above ☐

Direction 2: Kindly respond to all the items in this questionnaire ticking (√) the columns that are applicable to you, using the following keys: Very Often = VO; Often = O; Less Often = LO; and Not at All = NA

N	As far as am concern, drug addiction relapse occurs as a result of the following:	VO	O	LO	NA
1	Easy availability of drugs/substances				
2	Frequent Passing through drug using site e.g., bar, smoking joint				
3	Inability to secure employment				
4	Close friends pressuring me to go back to drug/substance use				
5	Ineffective rehabilitation program				
6	Boredom due to unemployment				
7	Loneliness due to lack of Companions				
8	Depression as a result of criticism from people in my environment				
9	Physical dependence (psychological adaptation to drugs)				
10	To cope with loss of a dear person				
11	Being in companying of drug users/ substance abusers				
12	To improve my self-esteem				
13	Inability to cope with anger or frustration				
14	To improve my self-efficacy (the belief that I can handle drugs consequences)				
15	Poor family support (inadequate care or concern from the family members)				

Section B: Prevalence of Drug Addiction

Direction 1: Kindly respond to all the items in this questionnaire ticking (√) the columns that are applicable to you, using the following keys: Very Often = VO; Often = O; Less Often = LO; and Not at All = NA

N	After rehabilitation, how often do you find yourself going back to the use of the following drugs/substances:	VO	O	LO	NA
1	Cannabis				
2	Alcohol				
3	Petrol, correction fluid, glue etc.				
4	Cocaine				
5	Opium (heroine)				

Direction 2: Kindly respond to all the items in the questionnaire ticking (√) the columns that are applicable to you.

- Having Drug/substance User in the Family: Yes ☐ No ☐
- Having a Family Disputes:
  Very High ☐ High ☐ Somewhat ☐ Low ☐
- Hoping to Quit:
  Very High ☐ High ☐ Somewhat ☐ Low ☐
- Reasons to Quit using Drugs/substances
  Disharmony in Familial or Marital Life ☐
  Withdrawal and Other health Problems ☐
  Family Pressure ☐
  Financial Problems ☐
  Guilt Feeling ☐
  Non- availability of Drugs ☐
- Stay Connected with Drug/substance User Friends after Quitting:
  Yes ☐ No ☐
- After treatment, how many times do you return to using drug/substances?
  Once ☐ 2-4 times ☐ 5 times or more ☐

Thank You for Your Participation

Appendix: II

Questionnaire for Professionals in Rehabilitation Center

Dear Respondent,

This questionnaire is designed to collect information on the prevalence of drug addiction relapse and its risk factors among drug addicts in Ethiopia. Your responses will be used purely for research purposes and will be treated with utmost confidentiality. Hence, you do not need to indicate your name or given any information that could reveal your personality issue. Therefore, kindly respond sincerely and honestly to the statements in the questionnaire form.

Thanks,

Researcher

Section A: Personal Information

Age _____ Marital Status _____

Sex _____ Educational Status _____

Profession _____ Position in the Organization _____

Year of experience _____

Section B: Prevalence of drug addiction and its risk factors

Direction: Kindly respond to all the items in the questionnaire by ticking (√) the columns that are applicable to you or by writing applicable answers for the questions.

1. For how long you have been working in this department?

_____

_____

_____

2. How long the department starts giving the service?

_____

_____

_____

3. What kind of drugs is mostly abused by drug addicts in the rehab center?

   Cannabis ☐ Cocaine ☐

   Petrol, correction fluid, glue etc. ☐ Opium (heroine) ☐

   Alcohol ☐ Others ☐

4. For how long do the addicts stay in the rehab center?

   30 days ☐ Two months ☐ Three months ☐

   Above three months ☐

5. Is the treatment the same for relapsed drug addicts with the other addicts? If your answer is No, explain the treatments given to the relapsed addicts.

   Yes ☐ No ☐

_____

_____

_____

6. From the treatments given for relapsed addicts, which are effective to deal with relapse?

_____

_____

_____

7. What are the risk factors of relapse among addicts in the rehab center?

   Exposure to triggers ☐ Peer Pressure ☐

   Poor coping skills ☐ Lack of Social Support ☐

   Work and Marital Stress ☐ Low self-efficacy ☐

   Positive Moods ☐

   Interpersonal problems (Conflict with Family & Friends) ☐

8. What harms (physical, psychological, economical and sociocultural problems) do you observe on the addicts who are relapsed after treatment?

_____

_____

_____

Thank You for Your Participation

Appendix: III

In-depth Interview Guide for Addicts

The objective of this interview is to obtain detail information on the prevalence of drug addiction relapse and its risk factors in Ethiopia.

Therefore, if you are willing to participate in this research, I am going to ask you some question related to the purpose of the interview. I would like if you describe the answers being free and honestly.

Thank you, in advance, for your willingness, assistance and for your time.

1. Demographics
   A. Sex
   B. Age
   C. Religion
   D. Marital status
   E. Living condition; with whom you are living
   F. Occupation
   G. Level of formal education
   H. Monthly income
2. Prevalence of drug addiction relapse and its risk factors
   - ✓ How old are you when you start using drugs/substances?
   - ✓ Where did you start using drugs/substances?
   - ✓ What are the factors that lead you to start using drugs?
   - ✓ How many members of your family use drugs?
   - ✓ Have you neglected your family because of your use of drugs?
   - ✓ What kinds of drug you abuse, how often and for how long?
   - ✓ Can you get through the week without using drugs?
   - ✓ Are you always able to stop using drugs when you want to?
   - ✓ Why do you use drugs? Reasons for drug use
   - ✓ Have you received drug addiction treatment before? Where?
   - ✓ What kinds of treatment are you getting here?

- ✓ How do you evaluate the treatment service given by the hospital to relapsed addicts?
- ✓ After treatment, how many times do you return to using drugs/substances?
- ✓ What are the reasons for returning to use drugs after treatment?
- ✓ Do you think drugs affect and have consequences? If your answer is 'Yes' What kind of harms you faced being drug/substance user?
    - Physical health
    - Psychological (behavioral and emotional) health
    - Economical
    - Socio cultural life
- ✓ Have you been in trouble at work because of drug abuse?
- ✓ Have you lost a job because of drug abuse?
- ✓ How much money do you spend per day for buying drugs/substances? Does it affect your family's economic situation?

Appendix: IV

Observation Checklist

This observation checklist is a tool to collect data about physical, behavioral and psychological signs of substance misuse and its impact on the addicts.

A. Physical signs of substance misuse

- ☐ Smell of alcohol or drugs
- ☐ Slurred speech
- ☐ Needle tracks
- ☐ Nausea
- ☐ Bloodshot/watery eyes
- ☐ Extreme fatigue or sleeping
- ☐ Excessive sweating or clamminess to the skin
- ☐ Flushed skin
- ☐ Highly excitable or nervous
- ☐ Runny nose or sores around nostrils
- ☐ Unsteady bearing or other loss of physical control
- ☐ Unusual eye movement
- ☐ Irregular or difficulty breathing
- ☐ Dilated (large) pupils
- ☐ Unfocused, blank stare

B. Behavioral & psychological signs of substance misuse

- ☐ Lack of mental focus
- ☐ Drowsy, sleepy, lethargic
- ☐ Agitated, anxious, restless
- ☐ Hostile, withdrawn
- ☐ Unresponsive, distracted
- ☐ Clumsy, uncoordinated
- ☐ Hallucination
- ☐ Slowed thinking
- ☐ Hyperactive, fidgety

Appendix: V

Informed Consent

My name is Robel Abegaz, and I am a graduate student at St. Mary's University, school of Social Work. Currently, I am conducting research on exploring the prevalence of drug addiction relapse and its risk factors at AMSH rehab center. I am doing this study for the partial fulfillment of my master's degree in Social Work. The study has purposes; to understand and solve the problem of drug addiction relapse, to inform different professionals to design appropriate psychological service and help for researchers as baseline information who are conducted on the prevalence of drug addiction relapse and its risk factors. Therefore, your participation in the study will have greater contribution and involves an in-depth interview. The in-depth interview is with an estimated length of 40 minutes or one hour. This interview will include audio recorded for later analysis. Besides I will ensure confidentiality by not writing your real name within the study report. You can miss the question which is not comfortable to you or you can stop the interview session at any time. If you have any question, you can contact the researcher using phone number 0923812704. After read and understood the above information expresses your agreement to participate in this study by signing your signature below.

Name _____

Signature _____

Date _____

Ref. No. Am/146/4/15

Date: 26-12-13

Institutional Review Board (IRB)
Research and Training Directorate
St. Amanuel Mental Specialized Hospital
Tel: +251-112-137-971
Email: amsh_reg@amsh.gov.et

To: Robel Abegaz

Subject: **Ethical Approval of Your Research Protocol.**

The IRB of Amanuel Mental Specialized hospital reviewed your research project entitled:

"**Prevalence of drug addiction relapse and its associated factors among substance users at AMSH**".

This is to notify that this research protocol as presented to IRB meets the ethical and scientific standards outlined in national and international guidelines. Hence, we are pleased to inform you that your protocol is ethically sound.

We strongly recommend that any significant deviation from the methodological details indicated in the approved protocol must be communicated to the IRB before they are implemented.

With regards

Dr.Mohammed Negussie Anbesse
Psychiatrist
Research & Training Director

CC//

- CEO
- Research and Training Directorate
- Research and Evidence Generation Directorate
- Medical Director Office

AMSH