MEASURING THE SOCIO-ECONOMIC COSTS OF DRUG ADDICTION IN REHABILITATION CENTERS OF LAHORE

By

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This dissertation is submitted in partial fulfillment of the requirements for the completion of Master of Philosophy in Applied Economics at the Department of Economics (A Chartered University). This work is the sole responsibility of the candidate.

MASTER OF PHILOSPHY IN APPLIED ECONOMICS

DEPARTMENT OF ECONOMICS

FORMAN CHRISTIAN COLLEGE (A CHARTERED UNIVERSITY), LAHORE


بسم الله الرحمن الرحيم
١٤١٨

DEDICATED TO

I would like to dedicate this minor contribution to the field of Economics to all the patients of chronic illnesses, who are willing to seek treatment and want to better off their well-being. I would also like to dedicate this to my parents, my brother, my teachers, my relatives, and my close friends. I hope this effort of mine encourages researchers to explore further dimensions in the chosen area.

DECLARATION

I, Zunaira Zubair, Roll No. 15-27015, student of Master of Philosophy in Applied Economics, session 2013-2015, hereby declare that the matter printed in this thesis titled "Measuring the Socio-economic Costs of Drug Addiction in Rehabilitation Centers of Lahore" is my own work and has not been copied, printed, and published elsewhere in any form, in any university and research institutions. Further, it is admitted that the material taken from any other source has been properly acknowledged.

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CERTIFICATE

We accept the research work contained in this dissertation titled "Measuring the Socio-economic Costs of Drug Addiction in Rehabilitation Centers of Lahore" submitted by Zunaira Zubair as conforming to the required standard in partial fulfillment for the degree of Master of Philosophy in Applied Economics.

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In the name of Allah (S.W.T.), the Most Affectionate, the Most Merciful. All praises unto Allah, Lord of all the worlds and Master of the day of Requital.

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ABSTRACT

The two major objectives of this study are to determine the direct, indirect, and social costs borne by patients seeking treatment at drug rehabilitation centers and measure their subjective well-being. Data had been gathered from 61 respondents residing at three different rehabilitation centers through structured questionnaires and in-depth interviews. For the purpose of analysis, Wilcoxon Signed-Rank test (a non-parametric technique for non-random sampling) has been used to compare the difference in economic burden on households of drug addicts after they got indulged in addiction and during treatment. The similar technique along with the descriptive analysis has been utilized to conduct hypothesis testing and study the difference between the subjective well-being of drug addicts "after addiction" and "during treatment". The subjective well-being of addicts has been measured by making indices for physical well-being, psychological well-being, attitude towards life, perception of family and relatives, and trustworthiness. Ethnographic study had also been conducted to study the behavior of patients residing at rehabilitation centers. A significant difference is observed in which the households' overall income has been disturbed and even deteriorated due to the indulgence in addiction of a single person. Results have revealed that majority of the drug addicts under treatment consider their conditions better off as compared to their addiction phase. Moreover, descriptive analyses have revealed that majority of the respondents belonged to the age group of primary youth, majority of the patients have relapsed at least once in their lifetimes, majority started taking drugs within their primary youth, majority of the respondents had no family history of addiction, there were more than 1 earning members present in the house of many of the respondents, majority of the respondents had middle but below metric education level, majority of the addicts' treatment costs were being borne by their parents, and the average total monthly cost of treatment was more than the per capita income of Pakistan.

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CHAPTER 1. INTRODUCTION

The cost-of-illness and subjective well-being are the areas of Economics identified not so long ago, and hence are still being explored from different angles by several researchers. It is thus important to notice how both these dimensions play a role in the life of an average patient of chronic disease. This study has been targeted towards identifying the cost-of-illness and subjective well-being of drug addicts residing at drug rehabilitation centers of Lahore.

Several policy questions regarding the consequences of an injury or disease can be addressed by analyzing the economic impact of bad health. Some of these questions are associated with the microeconomic level of firms, households, or government – like the impact of an ill-health on the profits of a firm or income of a household. The estimated results – for a specific injury or disease or for general population's decreased health status – can be helpful in notifying decision-makers about the vastness of economic losses and their dispersion across various important categories and drivers of cost. The studies regarding economic burden might also prove to be helpful in identifying probable strategies to reduce the cost of injury or disease through appropriate treatment strategies or preventive measures (World Health Organization, 2009).

With the passage of time, drug addiction has been finally considered a chronic disease (in which the patient always has a tendency to relapse) and hence treatment services for addicts have begun to incorporate certain models in their practices which were developed for addressing other chronic diseases/conditions. These models have been targeted towards addressing the effects of the diseases along with the treatment services on a patient's overall well-being. Thus, it can be stated that the treatment of drug users is aimed towards a broader goal of recovery that includes both aspects of abstinence as well as improvement in the quality of life of the drug user. It can hence be said that quality of life is a significant factor for discussing substance use disorder (Laudet, 2011).

According to UNODC (United Nations Office on Drugs and Crime) and WHO (World Health Organization) (2008), it is quite difficult to estimate the overall costs that are attached to the society due to drug dependence. Drug use and its related activities have

been associated with poverty, exclusion from society, health problems, criminal behavior, and violence. Apart from the costs that are borne due to healthcare and as a consequence of substance abuse, there are many social costs involved in the form of family income, accidents on workplace or traffic, loss of productivity, and getting engaged in corrupt activities, etc. Such factors contribute towards increased economic costs as well as a huge loss to the human resources. It is quite recent that the biopsychosocial model has been successful to recognize drug addiction as a problem that is multi-faceted and requires expertise from different disciplines.[1] In order to prevent and treat drug dependence, a multi-disciplinary approach can be adapted from health sciences.

According to the report of Drug Use in Pakistan (2013), it has been estimated that 5.8 percent (6.45 million) population of Pakistan aged from 15 to 64 has consumed drugs in the past 12 months. Almost four million people have been reported to have used cannabis from the suggested range. It is considered to be the most common drug used in Pakistan. It has also been stated that a considerable percentage of cannabis users has become dependent. The household survey for the year 2012 has indicated that based on the dependence criteria of Internal Classification of Disease and Health Problems (ICD-10), approximately 68 percent of the users qualified for the dependence (United Nations Office on Drugs and Crime (UNODC) and Ministry of Interior and Narcotics Control, Narcotics Control Division, Government of Pakistan, 2013).

Pakistan has been subjected to drug trafficking due to its geographical position, which has placed it next to Afghanistan, with the latter being the largest producer of opium in the world. According to Awan (2009), till the 1960's, the use of cannabis for smoking had been confined to the people belonging to the lower economic strata. Drug abuse was not considered a threat by then. It was in the 1970's that the country witnessed the use of cannabis by the youth of urban areas. In the 1980's the consumption and dependence on heroine increased dramatically. It had been reported in 1990 that approximately more than a million users of heroine existed in Pakistan. It had also been witnessed in 1990's that heroine and other mixtures of pharmaceutical drugs were being injected by street-based

[1] Biopsychosocial model is a broader view that associates the outcome of a disease to a complex interaction between biological factors (biomedical, genetic, etc.), sociological factors (medical, cultural, socioeconomic, familial, etc.), and psychological factors (behavior, mood, personality, etc.).

drug users. It was also observed that children belonging to the urban poor of Pakistan were also developing the addiction of inhaling paints, glue, and other petroleum objects due to the psychoactive influence. According to the Drug Abuse Assessment Study undertaken by government, in the year 2000, there have been almost 500,000 users of heroin in Pakistan, which include 15% drug injectors as well.

According to a report by United Nations Office for Drug Control and Crime Prevention (2000), different non-governmental organizations and private institutions have been working in Pakistan for the prevention of drug abuse in the country. Different counseling sessions are also provided by these institutions/rehabilitation centers in order to help the addicts recover.

However, there is a certain cost that is borne by the patients and their families while residing at such centers. The expenses borne depend on the facilities that are being provided by the rehabilitation centers. They also encounter certain barriers in their physical and psychological well-being, attitude towards life, and trustworthiness. The following study has been aimed at measuring socio-economic costs incurred during treatment as well as subjective well-being of such patients.

1.1 AN OVERVIEW OF DRUG ADDICTION IN PAKISTAN

Pakistan shares its border with one of the chief producers of illicit opium, Afghanistan producing almost 75% of the world's heroin. The opium poppy gives birth to heroin, which is one of the most harmful and widely used drug in Pakistan. Heroin is being routed to Pakistan through border for consumption and also illegal export purposes. No strict anti-smuggling measures have been taken to prevent such drugs from entering Pakistan, which has led to its increased availability on streets. Therefore, it is important to halt the cultivation as well as production of this drug in Afghanistan, so that the neighboring countries like Pakistan could also be saved, which already lack allocation of additional resources to tackle this issue. High drug consumption can also give rise to a vicious cycle where the money earned from selling drugs could be reinvested for funding its exports.

The narcotics plants of opium poppy and cannabis grow wildly in many parts of Pakistan. These are gathered and converted into *hashish* and *charas* to be sold for earning

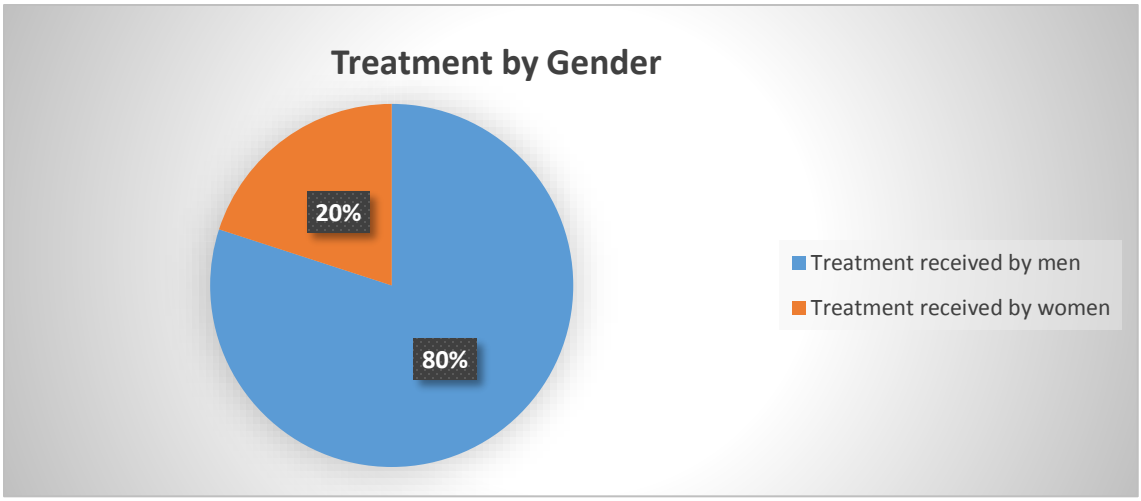
profit. The cultivation of opium poppy has recently been restricted to three sensitive areas of Khyber Pakhtoon Khwa (KPK), which are in close proximity to Soviet and Afghan borders. These are Federally Administered Tribal Areas (FATA), settled districts, and Provincially Administered Tribal Areas (PATA). Afghanistan Opium Survey, 2007 by UNODC states that almost 70% of Afghanistan's opium grows in five Afghan provinces that have been sharing border with Pakistan which are Helmand, Nangarh, Nirmoz, Kandahar, and Badakshan (Malik & Sarfaraz, 2011).

According to United Nations Office on Drugs and Crime, more than 3 million people belonging to the age group of 15 – 64 are regular consumers of Heroin in Pakistan. Moreover, there are approximately 5 million charas smokers in the country. Secretary of Anti-Narcotics Pakistan, Ghalib Bandesha stated that investigation has proved that there is no connection between drug money and terrorism in Pakistan. The Director General Anti-Narcotics Force, Major General Khawar Hanif has claimed that an annual budget of Rs. 27 million is allocated for drug addiction's treatment. Pakistan's annual consumption of processed heroin has been estimated to be 44 tons. Pakistan has been considered to be a hub for drug-trafficking to international markets since 110 tons of morphine and heroin brought from Afghanistan are trafficked through Pakistan

1.1.1 DRUG USE IN PAKISTAN BY UNODC

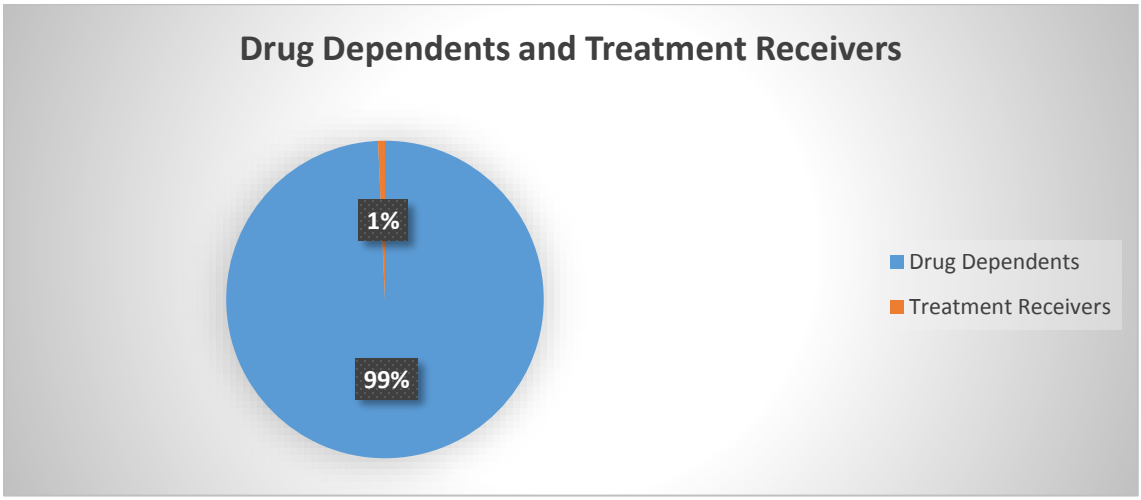
The report of Drug Use in Pakistan, 2013 by UNODC stated that 6.7 million adults in Pakistan consumed drugs in the year 2012. Majority of the drug users interviewed in the study belonged to the age group 25 – 39 years of age. Almost 6.7 million people falling in the age group of 15 – 64 had used drug in the previous year, including both who used it once and regular users. Despite of having 4.25 million drug dependents and those having drug use disorders in the country, the treatment and intervention from specialists is available to less than 30,000 drug consumers annually. Out of these consumers, 20% are found to be women and 80% men. The treatment and intervention provided is also not free of charge everywhere.

Figure 1.1: Gender-based Difference between Treatment Receivers



Source: Derived from Drug Use in Pakistan by UNODC (2013)

Figure 1.2: Difference between Number of Drug Dependents and Treatment Receivers



Source: Derived from Drug Use in Pakistan by UNODC (2013)

Since Pakistan is a developing country with a quarter of its population living below US$1.25 per day, the access to structured treatment at one's own expense is more difficult. The study also stated that 3.6 % of the population had been found to be cannabis addict, making it the most commonly consumed drug of Pakistan. Heroin and poppy have been

found to be consumed by 1 percent of the entire population of drug users with the highest level of users in regions sharing border with Afghanistan.

The UNODC's report has also shown high non-medical usage of prescription drugs across the country, especially among women. Almost all of the women reported to be misusing pain killers containing opioid along with a lesser extent of tranquilizers and sedatives that are easily available at pharmacies. Moreover, 430,000 all over the country, or 0.4 percent of the population had been found to be injecting drugs that increased their vulnerability of being infected by HIV or other blood-related diseases. Among these injection users, 73 percent had reported to be sharing syringes due to absence of access to germ-free injecting equipment. Punjab had been ranked as number one province of drug users with drug-injecting people. Almost 260,000 had been reported to be current inject users. KPK and Balochistan were found to be having the highest opiate dependent users. It has been suggested to design and implement effectual services for prevention, treatment, and care to tackle this widespread drug usage in Pakistan (United Nations Office on Drugs and Crime (UNODC) and Ministry of Interior and Narcotics Control, Narcotics Control Division, Government of Pakistan, 2013).

Cannabis was found to be the most commonly used controlled substance out of all, followed by opioids and sedatives/tranquilizers. Both opioids and opiates come under the category of opioids. Estimates of opium and heroin are provided for opiates and prescription opioids (painkillers) have been estimated for opioids. A high degree of poly drug usage had been found among those who use opium and heroin.430,000 out of the past-year substance abusers were taking drugs through injection. 0.4% of population aged between 15 and 64 injected drugs in the previous year.

1.1.2 NATION-WIDE ESTIMATES ACCORDING TO DRUG TYPE

Cannabis

Approximately 4 million people or 3.6% of the population admitted to have used cannabis in the previous year, making it the most commonly used drug. This ranking had been support by the key informants too. Majority of the users were reported to be men. The education level of both men and women who reported to have used cannabis in the previous

year was lower than that of non-users. According to the survey, a common cannabis user was most likely a primary educated male of 33 years of age, and was either full-time or part-time employed. Almost half of the cannabis users were married. The severity and frequency of cannabis use among both male and female users was found to be high. Daily drug use was reported by one-third of the users who also fulfilled ICD-10 criteria for dependence based and drug use disorders. However, only 7% of daily cannabis users reported drug usage in the previous year. Out of daily opiate users, 76% reported cannabis as their first ever used drug. Majority of the users had been first introduced to cannabis either by a relative or friend, while the most common event was a wedding. The average starting age was 21 years.

Opiates: Opium or Heroin

Over 1 million people or 1% of the population across the nation were found to be regular user of opiate, including opium and heroin. 80% used heroin while 33% used opium. Heroin users were slightly younger (mean age 33.8 years) and were more likely to live in cities whereas opium users were older (mean age 38.2 years) and were more likely to use in rural areas. One-third of heroin while two-third of opium users were married. 84% of opium users lived at home while 44% of the heroin users lived on roads/shrines/parks or any such location (other than home). A daily heroin consumption in Pakistan costs between USD 1.5 – 3.00, still only 6.5% of users were full-time employed. One-third of the users reported to be selling blood for earning money and 40% reported to be exchanging sex for drugs. Begging and selling wastage for daily wages was another way used by opiate users for earning money. 7 out of 3,300 have reported to be injecting drugs to others as professional injectors while one-quarter of them received financial help from friends or family. The average years spent in opiate consumption by respondents was 16 years, which is in accordance with the evidence of long-term nature of opioid use. Poly drug usage is also quite common among opiate users. Prescribed opiates, sedatives, and tranquilizers had also been used by opiate users in the previous year.

Stimulants and Cocaine

New emerging patterns of consuming drugs have been seen across Pakistan. Amphetamine-type stimulant (ATS) was found to be at 0.08% level while cocaine was at

0.01% level. Previously undetected in Pakistan was the usage of methamphetamine that comes under the class of amphetamine, whose 19,000 addicts have reported to have used this drug in the past year. ATS users have reported to have used prescribed amphetamine or methamphetamine in the previous year. Some of the prescribed amphetamines like Ritalin have been found to be available at medical stores for treating attention deficit disorders (ADHD), while methamphetamine has been exclusively manufactured for the purpose of drug use. Even though the number of users of these substances are low at the moment, but the misuse of such drugs has the potential to increase rapidly throughout the country as evident from the cases of other countries. The research has stated that a typical user of prescribed amphetamine is a mostly a married female with average age of 36 years and who is moderately educated (primary or middle school completion). On the other hand, an average methamphetamine addict is most likely to be a married male of almost same age and moderate education. In the same way, a typical cocaine user is a moderately educated male in his mid-thirties.

Non-Medical Prescription Drugs Usage

1.6 million people or 1.5% of the population has reported to have misused prescribed drugs by using them for non-therapeutic purposes. Moreover, 1.4% people or 1.5 million of the population have been reported to have misused tranquilizers and sedatives in the previous year. Those who have reported misusing the drugs for non-medical purposes have reported to have had it regularly during the previous 30 days. Both sedatives/tranquilizers and prescribed opioids had been misused either on weekly or daily basis by the majority in the previous year. The common practice of misusing a prescribed drug was seeking medication from pharmacies, which don't usually have a professional pharmacist in the staff. The non-medical usage of tranquilizers or sedatives was more among males and females who had reported to be hospitalized for mental health problems in the past year. Even among them, the usage was found to be high among those who were hospitalized for stress, depression, or anxiety. A 13-fold enhanced risk has been found by the findings in misusing tranquilizers/sedatives by this group which might self-medicate itself after being discharged from inpatient facilities and having no follow-up. Post-traumatic stress disorder, depression, and anxiety has been found to be common among

drug users. The study suggests that past-year hospitalized men and women are at higher risk of misusing non-prescribed opioid-based painkillers.

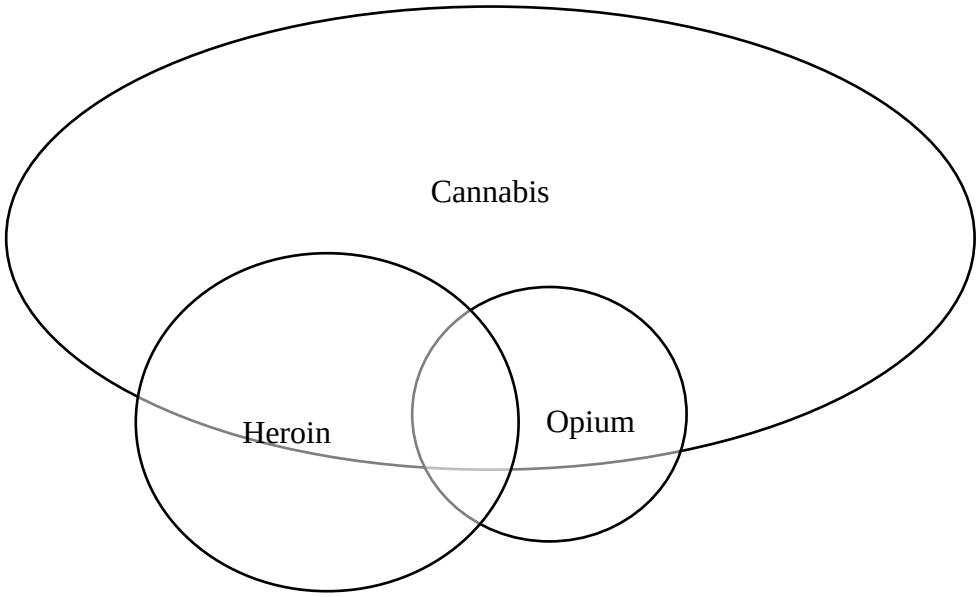
Solvents or Inhalants

33,000 of the population or 0.03% have reported to have used solvents or inhalants. The study was not able to take under consideration children under 15 years of age, among whom the prevalence of misusing solvents and inhalants is rife.

Poly Drug Usage

The phenomena of poly-drug usage is more common among opiate users or regular drug users as compared to those using drugs casually. One in five or almost 10% of the 6.7 million drug abusers in Pakistan have reported to have used more than one controlled substance in the previous year. Only 11% among the drug users from the general population have reported to have had used more than one illicit drug in the previous year. On the other hand, three-quarters among opiate users have reported to have had used more than one illicit drug, most commonly using a combination of heroin, tranquilizers, and cannabis. Highest percentage of the poly drug usage was found to be in Balochistan with 25% users, followed by 22% from Punjab, 17% from Khyber Pakhtunkhwa (KPK), and 16% from Sindh.

Figure 1.3: Illustration of Poly-drug Use between Opiates and Cannabis



Source: Derived from Drug Use in Pakistan by UNODC (2013)

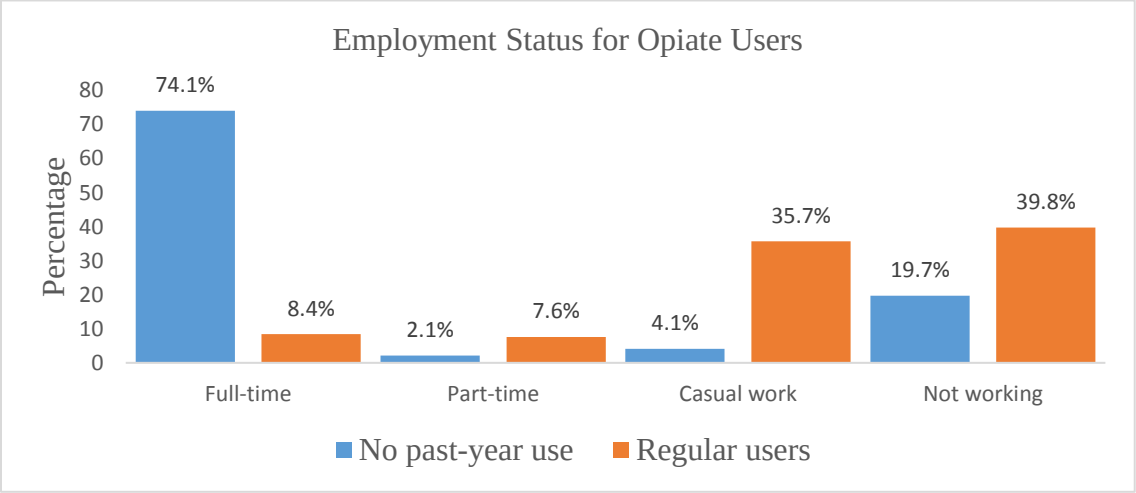
1.1.3 SOCIO-DEMOGRAPHIC CHARACTERISTICS

According to the statistics, more men have been using drugs as compared to women in Pakistan. Out of the 6.7 million drug users who have used illicit drugs in the previous year, 5.2 million were men while 1.5 million were women. Significant differences among the consumption patterns and types among males and females had been observed. Men were more likely to use opiates and cannabis, while tranquilizers, sedatives, and prescription methamphetamine usage was higher among women.

Employment Status of Drug Users

The study has stated evidence in favor of losing productivity profitability as a result of drug use. According to the study, 74.1% of men who had not used opiates or any other drug in the past 12 months was full-time employed. Contrarily, only 40% current opiate drug users were found to be employed, even if they were doing casual work.

Figure 1.4: Employment Status of Past-year Opiate Users and Regular Users



Source: Derived from Drug Use in Pakistan by UNODC (2013)

Drug Use and Age by Drug Type

The highest proportion of cannabis was found among those belonging to the age group 30 - 34 years. However the usage tends to decrease after the 35 years but its prevalence starts rising again between 60 and 64. Heroin usage was most commonly found in the age group of 30 -39 whereas opium usage was found to be more among 40–44 and 50–54 year olds. Tranquilizers/sedatives usage showed a similar trend to cannabis where the usage peaks during 30–34, then decreases, and rises again near old age i.e. 60–64. Similar pattern has been observed for the prescription opioid users. The users of sedatives, tranquilizers, or opium in the previous year were the oldest drug-using population with 39 as the average age. On the other hand, the current solvent or inhalant users were of an average age of 20 with the youngest users. The average age was found to be between 19 and 31 for all types of drug initiation. The earliest was cannabis with 19 while the latest was methamphetamine with 31. A long duration of drug usage has been indicated by the difference in mean age of past-year drug users and mean drug use initiation age.

1.1.4 LEVELS OF PERCEPTION AND AWARENESS ABOUT DRUGS

The respondents were asked which drugs they were aware of and how did they first get to know about them. Approximately, all of them knew about cannabis whereas less

than 10% had heard of methamphetamine, hallucinogens, and ecstasy. The respondents had heard about all of the drugs through word of mouth, but they heard about cocaine, solvents, inhalants, and ecstasy through radio or television. It was surprising to found the degree of women living in regions closer to poppy-producing Afghanistan had denied having knowledge about certain drugs. For example, 18% of women from KPK denied knowledge of heroin while only 68% of interviewed women in Balochistan admitted having heard of the drug.

Awareness about HIV

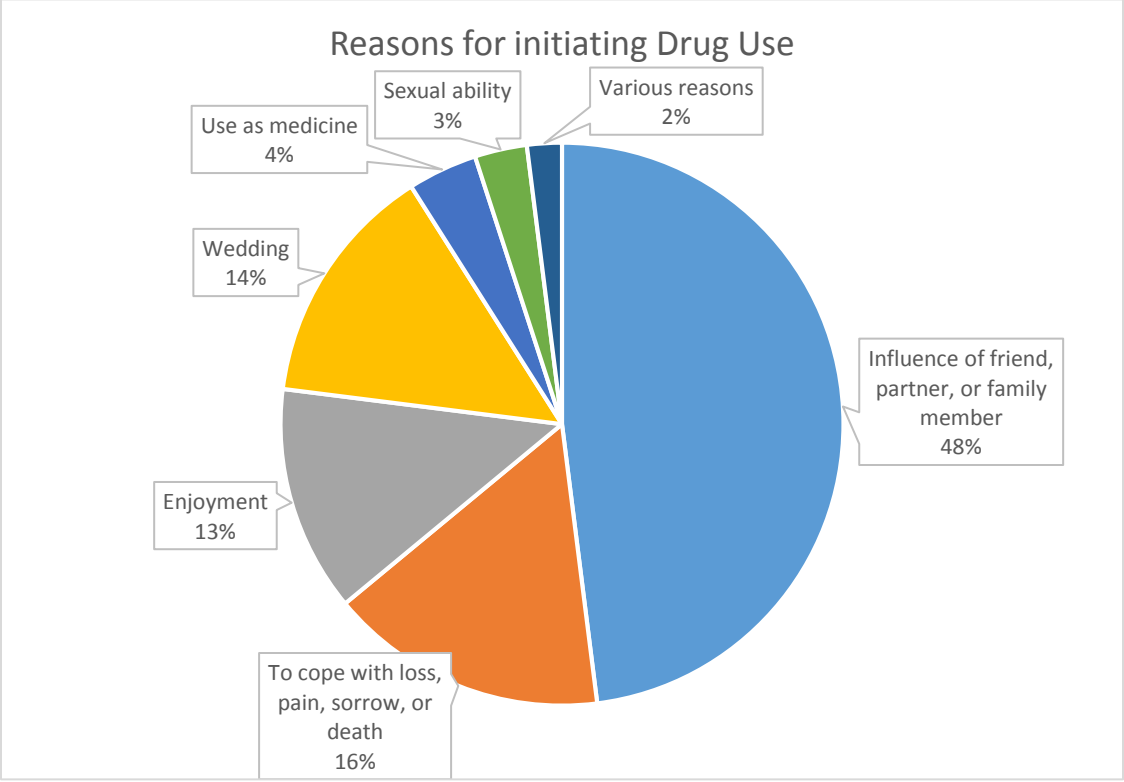
Only half of the surveyed general population had ever heard of HIV. Its awareness was found to be more in urban areas as compared to rural ones, and more among men as compared to women. The respondents were asked to tell about one, two, or three modes of transmitting HIV, and only 13% of the entire population was able to tell about all three modes. The awareness of HIV corresponded with higher level of education. Only 50% among the general population had heard about HIV, and this proportion was seen to rise up to 85% among men and women who had acquired education up to secondary or professional level. Out of those with no education, only 29% men and 17% women had heard about HIV.

1.1.5 REASONS FOR STARTING AND CONTINUING DRUG USE

There are multi-fold reasons in Pakistan for starting drug use. Among youth, the most powerful factor has been found to be peer pressure. The starting age in this survey for cannabis, inhalants, solvents, and opiates falls within the age bracket for youth. This correlates with the common occurrence worldwide of youth being more involved in experimentation with drugs due to being exposed to new behaviors and ideas during adolescence. The peer pressure has been found to be highest during pre-teen, teen, and adolescence stages when there is a need to be accepted in a group along with the search and insecurity for one's identity. 48% of the regular users stated their reason for initiating drug use was others' influence. 16% reported to have had initiated it as a result of some personal difficulty or loss such as bereavement. 13% used drugs for the purpose of pleasure or feeling high. 4% started it as a kind of self-medication and 3% started drug use considering it a contributing factor towards enhancing their sexual performance. When

being asked about the continuity of drug use, 80% problem drug users reported dependence upon drugs after their first attempt, 10% claimed to have continued for they enjoyed it, 6% claimed to have continued using it to relieve stress and tension.

Figure 1.5: Reasons for Starting Drug Use among Opiate Users



Source: Derived from Drug Use in Pakistan by UNODC (2013)

1.1.6 VULNERABILITY TO BLOOD BORNE DISEASES

The transmission of HIV and other blood borne diseases are associated with the shared use of injecting equipment amongst People Who Inject Drugs (PWID). 73% of the regular users of opiate who inject drugs, reported to have used syringes after or before someone else. The average number of time a PWID uses a syringe is reported to be three, which means an average users uses only one new syringe per day and not new syringe for each injecting episode. 35% of the respondents reported to be using boiling water for cleaning the injecting equipment, 19% reported using spirits or alcohol, and only 16% reported using bleach. 90% reported to have been using methods that are unlikely to be applied for sterilizing syringes or needles. None of the methods, apart from bleach, could

help in preventing hepatitis or HIV infection. 85% of the people reported to be sharing injecting equipment due to lack of availability of clean equipment, and an additional 70% reported to be using it due to peer influence. A high proportion of 70.3% respondents reported to have taken help in the past month from professional injectors or street doctors. The social situations in which the addicts prepare and use the drugs together are more likely to have events where they share syringes, leading to certain blood borne diseases. When asked from injectors who hadn't injected in the previous 6 months about the reason for no injecting, only 11 responded with a common answer that there was no place or vein left to inject, and so it was a forced option for them.

HIV or Hepatitis among Drug Users

32 out of 1000 problem drug users and 56 out of 1000 past-year injectors were having HIV. Among the regular users of opiates, the self-reported positive status of HIV is highest in Punjab and Sindh, while positive status for hepatitis is highest in Balochistan and Sindh. Among the regular users of opiate in Sindh, 27.5% reported to be hepatitis positive, which is higher as compared to other provinces. Approximately 40% of the similar injecting users from Sindh are hepatitis positive.

Health Status of Drug Users

Those who were past-year drug users were more likely to report a poor health status as compared to those who were not. Poorest health status was reported by the users of heroin when asked to rate their health status on a scale of 5 with 1 as very good and 5 as very poor. The self-reported health status of heroin users was poorer than any other drug users, including those who misused prescribed drugs. Average health status score of 2.1 or good health status was achieved by those who didn't use drugs in the past-year.

1.1.7 INSTITUTIONAL FRAMEWORK

The policy-level body that is responsible for taking decisions, making policies, and conducting planning and coordination for drug control in Pakistan is the Narcotics Control Division that comes under the Ministry of Interior and Narcotics Control. The ministry is responsible for conducting assessments and focused studies to determine the level of drug

use in the country along with leading the implementation of Anti-Narcotics policy nationwide while consulting and collaborating with other ministries and departments.

The anti-narcotics efforts in Pakistan are led by Anti-Narcotics Force (ANF), which got this authority from 1997's ANF Act. With its headquarter located in Rawalpindi, ANF is responsible for arrests, drug and asset seizures, and the investigation of the offenders. ANF is playing its role in reducing drug supply across the country by ensuring strict control of chemical movements and curtailing the narcotics distribution. The body is also creating awareness among people by running programs for preventive education. Three drug treatment centers have also been put in Karachi, Quetta, and Islamabad, and services are also being provided to drug using prisoners in one prison of Rawalpindi. National Drug Regulatory Authority (DRA) monitors and coordinates in inter-provincial transfer of therapeutic goods and commerce of drugs. A Drug Act had been passed by the government in 2012 under which all matters related to manufacture and control of medicines and controlled substances (under DRA) are dealt with.

Certain other enforcement agencies and health, welfare, and education departments also play their part in controlling drug supply, implementation of policies, raising awareness among masses, and treating and rehabilitating those in need.

1.2 CONTRIBUTION OF THE STUDY AND RESEARCH GAP

Despite of several cost-of-illness studies conducted in Pakistan, the cost of treatment incurred by drug addicts at rehabilitation centers and their subjective well-being are the least touched areas. This study is the first in its nature to measure the following aspects:

- The direct, indirect, and social costs borne by drug addicts and their family members in the course of treatment of the former.
- Comparing the subjective well-being of drug addicts during their addiction phase and during treatment. It takes under consideration the factors of physical well-being, psychological well-being, attitude towards life, perception of family members and relatives, and trustworthiness of the addicts under treatment. All of these factors

contribute towards building a person physically, psychologically, economically, and socially.

- The study of behavior and perception about daily life of patients under treatment at drug rehabilitation centers through ethnography.

1.3 RESEARCH QUESTIONS

1. What are the direct, indirect, and social costs incurred by drug addicts and their family members?
2. How drug addicts under treatment at rehabilitation centers perceive their overall subjective well-being during addiction and during treatment?

1.4 OBJECTIVES OF THE STUDY

1. To analyze the socio-economic characteristics of drug addicts at rehabilitation centers before and after addiction, and during treatment.
2. To measure the direct, indirect, and social costs borne by the drug addicts and their families.
3. To identify the social constraints encountered by the patients and their families.
4. To measure the subjective well-being of the patients at rehabilitation centers by developing indices of trustworthiness, attitude towards life, perception of family members and relatives, and psychological and physical well-being.
5. To utilize a holistic approach to study cultural systems, attitudes, characteristics, and circumstances by using Basic Classical Ethnography methods.

1.5 HYPOTHESES OF THE STUDY

The following hypothesis are assessed through Wilcoxon Signed-Rank test:

1. There is a difference in number of family members dependent on drug addicts' income before and after addiction, and during treatment.
2. There is a difference in monthly income of drug addicts before and after addiction, and during treatment.
3. There is a difference in drug addicts' household consumption pattern before and after addiction, and during treatment.

4. There is a difference in subjective well-being of drug addicts after addiction and during treatment.

1.6 ORGANIZATION OF THE STUDY

This section explains the organization and structure of this thesis. After covering the introduction to the aims, objectives, and rationale behind choosing the topic in the Chapter I, Chapter II will be focused towards highlighting the research and findings of other authors in the similar field targeted by this research study. Chapter III will be designed to encompass the research methodology and data. This chapter will also explain how cost-of-illness studies are a part of economic phenomenon. It will also shed light on the data collection methods, chosen variables, and adopted methodology for analysis. Chapter IV will be dedicated to descriptive analysis of the demographics of the chosen sample and the developed indices. It will also cover hypothesis testing. Chapter V will discuss the results with conclusion. It will also provide some policy recommendations and suggestions for future studies.

CHAPTER 2. LITERATURE REVIEW

This section of the study has been targeted towards digging in previous researches and gaining an insight into what the earlier researchers have to say about cost-of-illness and subjective well-being of drug addicts. It will also consider the demographics of drug addicts.

2.1 DIRECT, INDIRECT, AND SOCIAL COSTS OF DRUG USE

Drug abuse imposes a certain burden on the society, and even though it is difficult to quantify each aspect, it is still important to translate that burden into economic terms to streamline policy decision-making (Rice, Kelman, & Miller, 1995). The authors divided cost-of-illness into direct and indirect costs, and further divided indirect costs into morbidity and mortality costs. Human capital approach was chosen as the desired method. Prevalence-based approach was further chosen to measure cost-of-illness through human capital method. Total economic cost was then measured including direct cost for treatment, support costs, indirect morbidity cost, indirect mortality cost, other related costs, and the cost of AIDS. In 1985, the total economic cost of drug abuse amounted to be $44.1 billion.

In their study of measuring the costs to society due to crime like drug addiction, McCollister, French, and Fang (2010), mentioned the costs that would be encountered by the victims. That includes their medical care and a loss in their wages. There would also be opportunity costs in the form of education, job, and other productive activities. The study also focuses on the intangible costs that the victim would face in the form of psychological stress, suffering, pain, social constraints, and adverse quality of life. Similarly, while estimating the costs borne by the society due to drug abuse, Cartwright (1999), also considered the costs, which will result due to the increased dependency and less productivity of the addicts at their workplaces. The reduction in the wages of the addicts is also evident. Also, they are lesser able to hold their jobs for a longer period of time. The residence of patients at rehabilitation centers also result in certain costs and loss in their earnings.

In order to study the socio-economic impact of drug use on the addicts' families, Hanan, Ullah, & Shah (2012), gathered data from 108 drug addicts admitted in rehabilitation centers run by Dost Welfare Foundation in Peshawar city. T-test had been utilized to assess economic impact of drug use before and after addiction. The results showed that there was a significant decrease in the number of people dependent on the addicts' income, addicts' monthly income, and amount given for monthly expenditures at home. Moreover, there was a significant increase in the amount used to purchase drugs after drug addiction, taking loans from friends, and amount spent for treating severe diseases after indulging in drug addiction.

A study had been conducted by Rahman, Uz-Zaman, Sakamoto, & Fukui (2004), for investigating the patterns as well as measuring the cost spent on drug abuse at Dhaka. A sample of 196 drug addicts had been taken from abusers who were residing in a treatment and rehabilitation center for the sake of their treatment. Approximately, 94% of the drug abusers were male with almost 65% of them being unmarried. 56% stated that they were either unemployed or were students. Almost 86% of them stated that they got influenced by their friends. 64.3% users admitted that they were habitual of using more than one drug. The average per person cost of consuming drugs per day was found to be US$ 1.9 – US$ 3.1. On yearly basis, a single drug abuser spends US$ 707 – US$ 1,135 per year, which is even more than the per-capita earned by the people of Bangladesh i.e. US$ 380 as per the year 2001. The study has mentioned some costs like treatment of drug addiction and its medical consequences that would be incurred by the drug addicts if they are seeking treatment, but has not measured or calculated any such cost.

According to another report by UNODC (2014), the impact of drug addiction on the addicts and their families has been examined in Afghanistan. The report included the demographic and social profiles of the drug addicts through interviews. The interviews also included questions related to the family lives of the addicts. Negative effects had been witnessed on the relationships along with different emotional problems. The patterns of consuming heroine, hashish, tranquilizers, and opium have been described in detail. The results had indicated that certain costs had to be borne by the families due to the addiction

of one member. A large majority also stated that the drug users are not given respect in the society and are rather rejected.

Ill-health can have certain negative effects on the consumption patterns of households other than impoverishing. Ill-health leads to an increase in household income spent on health-related goods and services, and it may also reduce the amount of time spent on generating income that could be used to consume market goods. A possible response to this change could be the reduction in expenditure on non-health goods or liquidation of household assets or savings (World Health Organization, 2009).

The value clients placed on methadone maintenance treatment and the variation in this value along with effectiveness of treatment and case management's availability was estimated by D. Bishai, et al., (2008). The first estimate of the price elasticity of demand for drug treatment had been provided. 241 heroin users that were referred but had not yet entered the methadone maintenance treatment were interviewed. The respondents had been asked to state preference as to which out of three hypothetical treatment was more preferable for them. The 3 domains were: weekly fee of $5 to $100 paid by the client, absence or presence of case management, and time spent without heroin which was 3 to 24 months. The willingness to pay had been computed as the probability of enrollment times fee considered in each of the choices. The price elasticity was found to be -0.39. The median expected fee the clients were willing to pay for a heroin free program for 3 months was $7.30/week that rose to $17.11/week for those programs that offered 24 months of heroin free time. The median for willingness to pay was increased by $5.64/week due to the availability of case management. It thus showed that clients were ready to pay more for higher chances of success of the treatment and in case management's presence. Even though the clients were willing to pay for the treatment, the median willingness to pay fell short the estimated costs of program which were $82. It was hence suggested to use a financial strategy that includes both user fees and subsidizing for drug treatment.

2.2 SUBJECTIVE WELL-BEING OF DRUG ADDICTS

While investigating the psychological well-being of Thai drug users, Tuicomepee & Romano (2005) selected four independent variables including happiness, purpose in life,

life goals, and life satisfaction. The dependent variable was the duration spent under treatment and it was further divided into two sections of short-term (<12 months) and long-term (>24 months). A sample of 163 respondents had been selected. The results revealed low psychological well-being among respondents regardless of the duration. Similarly, low mental health scores were found among 2688 drug addicts seeking treatment and detoxification in Boston and Massachusetts by Stein, Mulvey, Plough, & Samet (1998). The authors also found least effect of alcohol and other drugs on the physical functioning of the users in a generally young population. Moreover, low scores for role functioning were found due to frequent inability in pursuing normal activities and work. Severe pin was also highly reported and indicated ill-health of the population.

According to Vanagas, Padaga, & Subata (2004), the instruments ideal to measure the quality of life of drug addicts include well-being, satisfaction, physical and psychological health, social relations, mobility, pain/discomfort, anxiety/depression, leisure, family and social relations, health, social isolation, emotional reaction, finance, access to medical care, occupational activities, sleep/rest, and eating, etc. Assari & Jafari (2010), identified a decrease in quality of life in the absence of adequate treatment and progress of substance use, and also found significant improvement in the quality of life of substance users as a result of appropriate treatment. The authors also believed that quality of life in substance use is not as much explained as other psychiatric and somatic conditions. They also identified a lack of enough data regarding the quality of life of substance users belonging to developing countries with different usage patterns. Fischer (2015), found that people with an already poor quality of life are more likely to get indulged into addiction, Moreover, the individuals who get indulged in addiction report even more poor quality of life than that they had prior to addiction as compared to people who don't use drugs. On the other hand, Delphi Medical – Independent Providers of Substance Misuse Treatment (2017) identified through a questionnaire survey on a sample of 200 UK adults that the general addicted population has the tendency of restoring well-being through adequate treatment and better personal circumstances. The survey also showed that low well-being is a more significant issue among younger people as compared to the older groups.

Rus-Makovec & Cebasek-Travnik (2008) tried to investigate whether there were positive outcomes and long-term abstinence found among alcohol dependents after intensive treatment and after care contacts. They took a sample of 622 patients and divided them among telephone contact group and no contact group. 347 people belonging to the telephone contact group were then evaluated on the outcome criteria of employment and marital status, abstinence, self-evaluation, and well-being. They were evaluated after every 3, 6, 12, and 24 months whereas the outcome criteria of 275 people in the no contact group was evaluated only after 24 months of treatment. There were positive indicators of abstained or decreased drinking, positive self-evaluation regarding well-being, and good social relations after each interval's evaluation for the telephone contact group. Significant improvement in the subjective well-being (overall quality of life, psychological health, and financial status' evaluation) was found in the telephone contact group whereas abstinence level was positive and did not differ much among both the groups. It was thus found that any sort of communication after treatment can be a supportive tool for the treatment of alcohol addiction. Moreover, it also helps in improving the subjective well-being of individuals.

2.3 DEMOGRAPHICS OF DRUG ADDICTS AND FACTORS LEADING TO ADDICTION

As stated in a guide by National Institute on Drug Abuse (2012), multiple circuits of the brain get affected by addiction. These include those circuits as well which are involved in behavioral control, memory and learning, motivation and reward. That is why, it has been considered to be a brain disease. Depending on the interaction between ages, exposure of an individual towards drugs, genetic makeup, and other external and internal factors, some of the individuals are more prone and vulnerable towards getting addicted as compared to others. Even though, initially a person chooses to consume drugs, however, over a period of time, when the continuous exposure to drugs starts affecting the functioning of brain, the ability of a person to choose –whether or not to take drugs- gets compromised. The seeking and consumption of drug rather becomes compulsive, and often overcomes the will-power of that person. Other than compulsive intake of drugs, addiction is able to produce enormous social and health consequences. Many other physical or mental

illnesses can appear as a result of the malignant effect of the drugs, or due to the drug-abuse living style. Moreover, the disturbed behavior of the addict –as a result of drugs- can interfere with his normal functioning at work place, in family, and in the community as a whole.

A study had been conducted by Khan, et al. (2004), from June to July in the year 2003 in order to investigate about the characteristics of an average individual of Peshawar, Pakistan involved in drug abuse. A sample of 150 respondents had been taken from three treatment centers (two public and one private sector) through the technique of convenient sampling. Most of the drug users belonged to the age group of 21-30 years, and mostly started the use of drugs in the age group of 11-20 years. Since there were no female patients admitted at any of the centers, the male members were the found to be the exclusive respondents. The ratio of urban-rural population was found to be somewhat equal. Half of the respondents were married. 88% of the respondents were employed which shows how a big percentage of the working class is negatively affecting the workforce of that particular region while being at centers for treatment rather than being at their jobs. Most of the working population included laborers. Astonishingly, 62% of the respondents were literate, a fact which is against the notion that drug addiction is found mostly in the illiterate class. However, the authors have not presented any specific definition of who according to them is considered literate. Almost 63% of the respondents stated that they were introduced to drugs by friends, and hence the role of peer-pressure is re-established. 80% of the respondents stated that they were addicted to heroin.

Another study by Alam, Khan, Jadoon, Asghar, & Shah (2007), tried to observe the causes which led an individual toward drug addiction. Data had been collected from a single location that is Karkhano Market, which is located in the areas of Khyber Agency. The location had been selected due to the easy availability of drugs in that particular area. A sample of 50 addicts of heroin had been taken through the method of purposive sampling. The addicts were found to be within the age group of 15-45 years. 60% of the addicts were found to be illiterate, which contradicts with the study presented by Khan, et al. (2004). Moreover, the authors have considered people who are educated up to primary level as educated. However, the location from where the sample is being taken also matters in this

regard. 96% of the respondents stated that they started taking drugs due to peer pressure. 70% of the respondents said that they had addicts in their families. 84% of the respondents claimed to have strained relationships with their family members. However, the study has not mentioned the level of employed individuals among the chosen sample.

Even though a lot of concern has lately be shown regarding addictive disorders, relatively a handful of information has been gained on the causes, required treatment, and prevention of such disorders among women. Majority of the researches conducted in Pakistan have focused mainly upon the male substance abusers. It has also been perceived as a problem associated with men. While in the developed and industrialized countries, both the genders are seen as equally involved in drug abuse, there hardly exists any official data regarding the abuse of drugs among women. The transformation of women from traditional homemakers and mothers into bread earners of the family has contributed a lot towards their drug dependence. Due to the increased level of stress, woman tend to find solace in drugs when other appropriate coping techniques are absent. The impact of drug use, however, is not same for both the genders, as the involved biological mechanisms is different among them. Women are expected to be the mothers, daughters, homemakers as well as nurturers of the family. Hence, any socially deviant behavior makes women seem divergent from their traditional roles and expectations. Since the stigma related to women involved in drug abuse is more as compared to men, women tend to hide their substance abuse behavior (United Nations Office on Drugs and Crime, 2010).

While analyzing the pattern of addiction and relapse among drug addicts, Batool, et al. (2017) gathered a sample of 119 patients seeking treatment at drug rehabilitation centers over the period of 9 months through nonprobability purposive sampling. A structured questionnaire had been developed and in-depth interviews had been conducted in order to gather data. The results revealed that 71.4% of the respondents belonged to the age group of 15-35 years. 68.1% patients had education below secondary. 51.3% single respondents and 44.5% unemployed respondents were found to be more at the risk of drug usage. 45% of the respondents started addiction at less than 18 years of age and 40% had been using drugs for more than 5 years.

Kaestner (1999) took two national samples of young adults under consideration to gain multiple estimates of the impact of cocaine and marijuana consumption on poverty. Majority of the estimates have suggested that the chances of being poor get significantly increased as a result of marijuana and cocaine consumption. Some of the estimates even indicated 50 percent increase in poverty rate. It had also been found that family background (privileged or under-privileged) had least effect on the estimates of the impact of drug consumption on poverty. It was an unexpected result for the author since drug consumption is mostly related to disadvantaged family backgrounds, like poverty. Drug users were found to be having lower incomes and were more prone toward participating in public assistance programs as compared to non-drug users. However, the poverty rates were found to be more for women as compared to men. While 24 percent of female households received food stamps, in the male households, 12 percent needed food stamps. There are, however, certain empirical limitations whose removal can alter the results.

It has been tried to investigate the relationship between poverty and drug abuse in Pakistan by Niazi, Zaman, & Ikram (2009). The authors had tried to analyze and establish a direct or indirect relationship between poverty and drug abuse. It had been found that majority of the people belonging to the poor sector use drugs like heroin, cocaine, cannabis, hashish, opium, etc. The study has defined poverty by taking 2,350 calories as a cut-off point and Rs. 944.47 per adult in a month as the inflation-adjusted poverty line. If a person consumes lesser calories than 2,350 or has lower per capita income, then he is considered to be poor. Secondary data from the year 1994 to 2006 regarding the use of narcotics in Pakistan had been taken. The results showed that the main causes of drug abuse included, unemployment, income inequality, illiteracy, and poverty.

2.4. CONCLUSION OF LITERATURE REVIEW

The literature has shown how different costs are incurred by the family members of drug addicts. First of all, there are direct costs, which are also called out-of-pocket costs that have to be paid in the form of fees for the patient's treatment. Secondly, there are the indirect costs, which are incurred in the form of loss of productivity and forgone income. Thirdly, there are the social costs, which are borne by the drug addicts and their families

alike in the form of a social stigma associated with the addict. He/she losses respect and in some cases the support of their family members too.

It has also been seen that the frequency of drug abuse is highest among individuals belonging to the age group of 15-35. Majority of these people have just entered or are about to enter workforce. The chances of entering into workforce get limited due to illicit drugs consumption while the resultant frustration works in the favor of drug consumption, and thus creates a vicious cycle. Both developed and developing countries exhibit a strong correlation between drug consumption and unemployment. Less than 1 percent of the labor force in Pakistan gets affected by the employment generated as a result of opium production, indicating that some employment is also generated due to drug abuse (through drug trafficking and dealing).

The literature also shows how treatment has helped in improving the quality of life and subjective well-being of drug addicts, while there are also cases where the patients reported pain and low well-being due to their inability to function normally in the society. Research has also shown that keeping follow-up with the patients also helps in supporting them and improving their subjective well-being.

The next chapter will utilize these studies as a basis to formulate the theoretical framework, methodology, and technique for analysis.

CHAPTER 3. RESEARCH METHODOLOGY AND DATA

This section of the study has been aimed towards giving a theoretical background of cost-of-illness and subjective well-being. It will associate the relevance of these concepts with Economics. It will show the importance and measurement of cost-of-illness and will prove equivalence of subjective well-being with utility.

3.1 COST-OF-ILLNESS

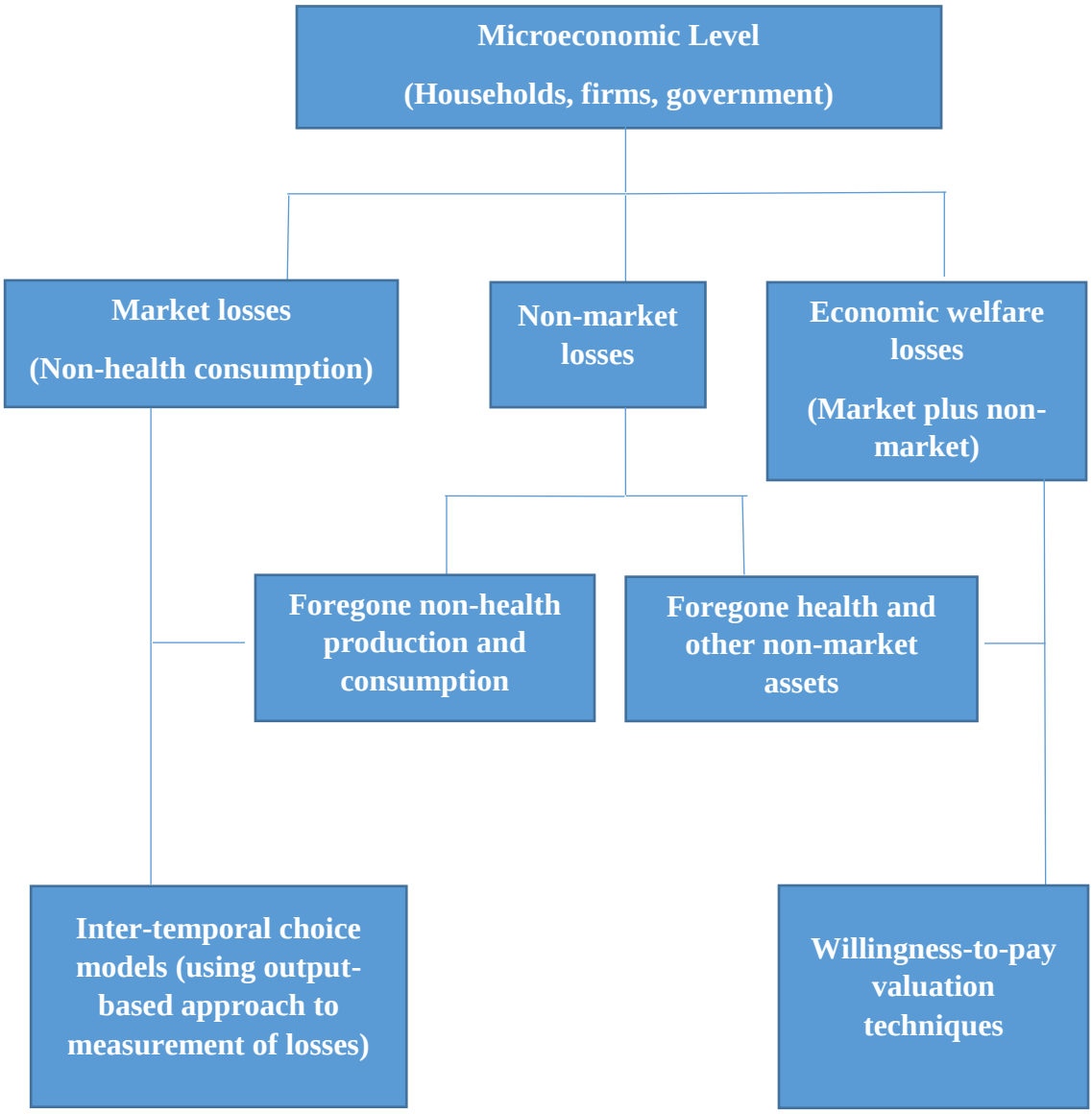
The purpose of this research is to highlight the cost-of-illness, which as an integral part of health economics. It is meant to give a comprehensive idea of the costs incurred by drug addicts and their family members during the course of treatment. According to Byford, Torgerson, Raftery (2000), the cost of illness studies have been targeted towards the identification and measurement of all the costs associated with a specific disease including the direct, indirect, and intangible areas. The output received in monetary terms represents the total burden a particular disease is putting on the society. The author also believes that the estimation of the total cost related to a particular disease can help in policy decision-making, and indeed organizations like WHO and the World Bank commonly using such studies.

The costs under consideration in this study can be referred to as illness costs, which can be divided into direct and indirect costs. The direct costs would include the out-of-pocket costs that are spent on diagnosis and treatment, food, transportation expenditure, accommodation, and other medical expenses. Indirect costs would be the opportunity costs which differ from the direct costs, since these include the cost of forgone income as a result of patient's inability to prove to be a productive member of society by working. This working ability gets adversely affected because of the illness and loss of time due to the visits made to healthcare centers, time spent at centers and on road, and loss of job and productivity. The data is collected on per capita basis as the cost of illness is incurred either by the caregiver or the patient.

3.1.1 APPROACHES TO MEASURE THE COST OF ILLNESS

There are four methods to measure the cost of illness which are Willingness to Pay model, Human Capital Method, the Friction Cost Method, and the Production Function approach. The first one has been derived from 1960s and considered to be a classic.

Figure 3.1: Algorithm to Determine the Methodological Approach to be used for Economic Impact Studies in Health



Source: Derived from WHO Guide to Identifying the Economic Consequences of Disease and Injury (2009)

This study would include the HCM approach since this research has opted the willingness-to-pay method to study economic welfare losses.

3.1.1.1 HUMAN CAPITAL METHOD (HCM)

This method is utilized to estimate the cost to society of lost future productivity discounted to the present. The aim of the calculations is to sum up the average data of salary, labor force participation, and future earnings of the premature dead by looking closely at the life expectancy. It is sometimes referred to as the 'top-down approach'. Both direct and indirect costs are included in it. Indirect costs in this approach are the productivity losses, which are measured through estimation of forgone income as a result of morbidity and mortality. The cost of morbidity is basically the value of lost workdays. The present value of lost income is assessed by discounting future earnings (given the cost of capital in this year, the worth of one dollar in a year from now is less than a dollar today). These calculations should include the lost value of pain and suffering along with that of unpaid work in household, but these are almost never taken into account, given the difficulty to assess these factors.

Total cost of illness is measured by using a standard formula:

Cost of illness = private medical costs + non-private medical costs + forgone income + pain and suffering

Criticism

Certain criticisms have also been made on this approach when it comes to the assessment of productivity. First, the ill person's labor work is usually replaced by another family member or some member from community. Then the labor disproportionately falls on women. Second, it fails to include forgone leisure time and household activity. A criticism is also made on considering wages as a measure of productivity. Hence, despite of being widely utilized, the HCM approach struggles with incorporating costs that are difficult to be measured numerically (TBCTA & USAID, 2008).

3.1.2 ECONOMIC CONSEQUENCES OF ILL-HEALTH ON HOUSEHOLD

In order to illustrate different possibilities to measure the economic consequences of disease from the perspective of a household, an example has been taken of an agricultural household that is producing goods for market and home consumption. The household can either hire labor or hire their own labor for working on the farm, or it can do both either simultaneously or at different time periods in a year. A household is expected to maximize its utility (U) in a canonical agricultural model. The model can be written as:

$$U = U(A, B, C) \quad (1)$$

where,

A = leisure time

B = consumption of home produced goods

C = consumption of market goods

Diminishing marginal utility with increasing consumption is demonstrated by all positive first partial derivatives and negative second partial derivatives. First order cross-partial derivatives are also positive, showing that marginal utility related increase in any of the factors in U is positively related with the level of other factors.

It is expected from a household to maximize this subject to the following three constraints:

$$B = B(A_c, D, y_c) - \sum p_c, y_c \quad (2)$$

$$C = wL_w + (p_o F(A_o, D, y_i) - \sum p_i y_i) - \sum p_c y_c + E \quad (3)$$

And

$$A = T - A_w - A_o - A_c \quad (4)$$

In equation (2), B is the production function for home consumed goods, which is assumed to have household labor (A_c), land (D), and other inputs (y_c). The other set of goods is purchased at price p_c (though p_c could be zero in other conditions).

Equation (3) outlines market goods' purchase, which is determined by household labor sold on the open wage market (A_w); the net worth of the sold crops; the cash outlays to produce C ($\sum p_c, y_c$); and non-labor income (E) which has the tendency of being either positive or negative. The price of output (p_o) would determine the net value of sold crops, the quantity produced, and the inputs' price (p_i). The production function F(•) determines the output, in which A_o represents household labor inputs, land is represented by D, and y_i are the inputs purchased.

Finally, constraint has been explained by equation (4). The time (T) available to the household is finite and should be allocated effectively among marketed output production, activities for earning wage, leisure, and non-marketed consumption goods.

Three possible ways to consider economic consequences as a result of ill-health can be found by utilizing this simple framework. Let us assume that illness results in reducing the amount of available time. This can impact all the components of equation (4) and (1) resultantly. The economic consequences can be measured through the lost consumption of market goods.

Now, we would add another crucial component of Health (H). The health production function is:

$$H = H(A_h, B_h) \tag{5}$$

This is a simple fraction of households' time (A_h) and expenditure made on health services and goods (B_h).

We shall now modify the equation by showing that a utility function is being maximized by the household.

$$U = U(A, B, C_n, H) \tag{1a}$$

where

A = Leisure time

B = Consumption of home produced goods

C_n = Consumption of non-health marketed goods

H = Health status

Now, the constraints are:

$$B = B(A_{c,}D, y_c) - \sum p_c, y_c \quad (2a)$$

$$C_n = wL_w + \left(p_o F(A_o, D, y_i) - \sum p_i, y_i\right) - \sum p_c, y_c - B_h + E \quad (3a)$$

and

$$A = T - A_w - A_o - A_c - A_h) \quad (4a)$$

It has been assumed here that the utility gets increased as a result of health services and goods consumption due to the impact on H. The household must decide how much time is to be devoted for each component. It must also decide on what inputs of health services and goods and general services and goods should be purchased to support C and B production (Department of Health Systems Financing: World health Organization, 2009).

3.2 SUBJECTIVE WELL-BEING

With cost-of-illness measurement being the first objective of this study, it is important to mention that the World Health Organization has defined health as "*not merely the absence of disease or infirmity, but a state of complete physical, mental, and social well-being*."[2] Thus, another important aspect to cover in this study is the subject well-being of drug addicts, which means "happiness". Boyce (2009), mentioned how some of the researchers today have suggested that well-being indices should be the chosen approach to learn about happiness rather than economic indices including GNP (Gross National Product). The author also mentioned that in order to understand happiness, the authors today prefer using the well-being measures. Such a study of subjective well-being, however, includes much more than merely the emotion of happiness, since subjective well-being reflects both the effective and cognitive evaluations a person has about his existence,

[2] World Health Organization, (1958)

including the individual's mental and physical health aspects. The subjective well-being is also referred to as the "happiness economics".

While happiness is also a determinant of quality of life, Megari (2013), has tried to study the quality of life for patients with chronic diseases. WHO has defined quality of life as the perception of individuals about their position in life in terms of standards, expectations, and concerns regarding their goals, and in the context of value systems and culture they live in (World Health Organization, 1996). The author stated about the increase in the predominance of chronic diseases in the past decade, and the large number of people living with chronic diseases, which have the tendency to badly affect their health-related quality of life. The author also considered three broader categories to be vital while studying the health-related quality of life, which are social, psychological, and physical functioning.

3.2.1 THEORY OF UTILITY

The theory of utility is concerned with the decision-making, preferences, values, and choices of people. The standard model of utility states that if a person has some desire Y and he can achieve it by doing X, then assuming there is not any barrier for doing X or any desire stronger than Y, the person will choose X (Read, 2004). In simpler terms, utility refers to the measurement of usefulness a person obtains from a particular good. The rationality is associated with the desires and choices people have. The rational choice theory is the best approach that suggests most effective ways of achieving the given desire. The only constraints put by rational choice theory on desire is of consistency. Many of the observers were dissatisfied with such a structural definition and wanted to set rules of rationality to discuss which desires are considered best. These substantive rules were thus put forth by utilitarian philosophers Bentham, Mill, and Sidgwick. They put forth the notion that people are expected to desire only those things, which are meant to maximize their utility, where positive utility is what brings pleasure and negative utility is what brings pain. Since later economists found it impossible to measure Bentham's utility, the utilitarian approach was thus, abandoned. More sophisticated methods have been devised by social sciences. For example, Daniel Kahneman and his co-workers (Kahneman, Wakker, & Sarin, 1997) proposed going "Back to Bentham". It suggests an economic

psychology, which is based on measuring the experienced utility. This theory tends to alter the understanding of rationality by suggesting that not only X is the rational way of achieving Y, but Y is also the rational thing to be achieved.

Utility derived by consuming a particular good is denoted by U and has a given condition of $X > 0$, where X is some good greater than 0. This is the fundamental functional form that could be utilized in deriving well-being. Generally, however, a consumer gathers utility or satisfaction through the consumption of multiple goods or through multiple sources. Here, U will be a function of X_i, where X_i denotes multiple commodities.

3.2.2 RELATIONSHIP BETWEEN SUBJECTIVE WELL-BEING AND UTILITY

According to Kimball, et al. (2009), the concept of subjective well-being is being used increasingly by economists for addressing public policy and economic issues involving inconsistent preferences or non-marketed goods. It is hence important here to focus on the association and mapping between standard Economics concept and the subjective well-being data. Despite the significant improvements in per capita income, health, and several other health indicators, there is a serious lack in the improvement of subjective well-being. This fact has been backed by the "Progress Paradox" (despite of the vast improvement in almost all aspects of life in the previous century, most people feel lesser happy as compared to previous generations), "Hedonic Treadmill" (also known as hedonic adaptation states that it is an observed tendency among human beings to return quickly to a comparatively stable happiness level despite major life changes or negative or positive events), and "Easterlin Paradox" (happiness increases up to a certain point after the increase in income, beyond which there is a decline in the marginal gain of happiness).

According to Boyce (2009), economists consider subjective well-being as a suitable proxy for an individual's utility (satisfaction gained by the consumption of goods). The principle of utility was first put forth by Bentham (1748-1832). There are 4 main aspects covered by this approach, which are recognition of the basic role of pleasure and pain in human life, approval or disapproval of an action based on the amount of pleasure or pain brought about (consequences), equating pleasure with the good and pain with evil, and

asserting that pain and pleasure can be quantified and thus, measured. The idea of measuring welfare in Economics using subjective data was first put forth by Leyden University researchers including Van Praag (1971) and Kapteyn (1994). Using subjective well-being data as a proxy for utility has helped researchers in understanding the contribution of economic circumstances in an individual's well-being. According to some economists, the subjective well-being data is gradually and rightfully becoming an effective counterpart to the approach of revealed preferences (Frey & Stutzer, 2002).

According to Gruber & Mullainathan (2005), welfare-related questions can be addressed directly by using subjective well-being. This is an empirically feasible approach for measuring welfare. Kimball & Willis (2006), believe it is a high priority for Cognitive Economics to assess the data of "happiness" also known as "subjective well-being" for economic analysis. The authors believe that even though happiness is not exactly like flow utility, but it does possess a systematic relationship with utility. The authors have proposed two components of happiness which are (1) elation – also known as short-run happiness – that depends on the recent news regarding lifetime utility and (2) baseline mood – also known as long-run happiness – that acts as a sub-utility function, just like nutrition, health, and entertainment.

So, we can suppose that:

$$Subjective\ Wellbeing\ or\ Happiness = f\ (elation, baseline\ mood)$$

Or in other words,

$$Subjective\ Wellbeing\ or\ Happiness = f\ (shortterm\ happiness, longterm\ happiness)$$

Where, the long-term happiness/baseline mood can account for economic welfare.

4.3 Description of Variables and their Expected Relationships

Several variables have been selected, which can be used to define the subjective well-being of a drug addict after he got indulged in addiction and during treatment, have been discussed in this chapter.

3.3 DATA SOURCES AND METHODOLOGY

This section shall focus on the source of data and technique chosen for data collection.

3.3.1 DATA SOURCES

The famous drug rehabilitation centers operating in Lahore are Ehsas Clinic, Emaan Clinic, Umeed Clinic, Fountain House, Promise Rehabilitation Center, The Genius – Addiction Treatment Center, PIMH, Sadaqat Clinic, The Panah, Bridge Rehab, Addiction Recovery Center, Turning Point Rehabilitation Center, Islamic Medical Center, and WADA Clinic. Three out of these rehabilitation centers had been chosen through simple random sampling. For the data collection phase, patients at these centers had been chosen again through convenient sampling. Convenient sampling is a type of non-probability sampling. According to Roscoe (1975), the sample size should be more than 30 and less than 500. The sample size for this study is 61 and the reason behind is that the data was collected from rehabilitation centers, which have a specific number of patients for treatment. Two of the centers refused allowing students to gather data and the available ones too had a specific number of people who were stable enough to respond adequately. Another center was run by government and had almost no standard rules for keeping patients unlike other rehabilitation centers. Hence, data was not collected from there.

3.3.2 SELECTION CRITERIA

The rehabilitation centers had approximately 25-40 drug addicts each. A sample of 61 addicts was taken. Selection of drug addicts had been made through convenience sampling technique. While justifying the use of convenience sampling, Feber (1977), mentioned how it is useful for exploratory purposes i.e. to gather different views on a problem's dimensions, to look for possible hypotheses or explanations, and to search constructs to deal with a particular problem or issue. The author also stated that data taken through convenience sampling conveys a realism better than a random number of people. Thus, convenience sampling has the ability to create a distribution that was not anticipated originally and could further recommend an improvement in the technique.

The sample includes users of cannabis, opium, heroin, and non-medically prescribed drugs, which include: painkillers that are opioid based; sedatives; and tranquilizers. Only male patients have been included in this study, since, female patients were not available at the chosen centers.

3.3.3 CONDUCTING STUDY

The study has been followed by a thorough pilot survey during which the drug addicts were observed and interviewed to gain a basic idea. Data collection was also accompanied by the ethnographic study. A questionnaire was designed and data was gathered through individual interviews.

3.3.4 DATA ANALYSIS METHOD

According to the study conducted by Hanan, Ullah, & Shah (2012), paired samples t-test should be the ideal approach to compare the mean difference in costs and subjective well-being of drug addicts under treatment in case of opting a parametric approach. Since the data in this study has been gathered through random sampling, a non-parametric technique has been applied, which is Wilcoxon Signed-Rank test. It will be serving the same purpose as paired samples t-test. The difference in subjective well-being of drug addicts has also been compared using the similar technique.

Descriptive analysis has also been chosen as a desired technique to study the demographics of drug addicts, as well as to gain an estimate of average cost being born by drug addicts at rehabilitation centers, and their subjective well-being by developing and analyzing indices.

3.4 QUESTIONNAIRE DESIGN

This subsection will encompass all necessary components of the questionnaire.

3.4.1 DEMOGRAPHICS AND PERSONAL CHARACTERISTICS

Information had been taken from patients regarding their demographics by inquiring about their marital status, gender, age, religion, and region they belong to; the options for marital status included single, married, divorce, or engaged; gender was divided into male and female; religion had options of Muslim, Christianity, and other; region was

divided into new Lahore, old Lahore, or outside Lahore; and age had the options of children (less than 15 years), primary youth (15-29 years), secondary population (30-59 years), and elderly (60 years and above).[3]

- **Age:** The age of the respondents had been asked to check in which age group do most of the addicts fall.
- **Marital Status:** Respondents were asked about their marital status to assess if being married or un-married has any impact on their addiction habit or patterns.
- **Region:** The regions to which the respondents belonged to had been inquired to see the tendency of addiction habits on regional basis. The options are related to Lahore since the survey had been conducted in that city. People belonging to other cities and countries have been included in the option of "outside Lahore".

  Religion: The question of religion had been asked to see which religion most of the addicts belong to while living in a Muslim majority country.

It has been expected that majority of the respondents shall belong to old Lahore as many of the addicts appear smoking the choice of their drug in broad daylight especially near shrines (Sabri, 2017). Majority of the drug addicts are expected to fall in the age group of 15-35 years with single marital status (Batool, et al., 2017). Majority of the respondents are expected to be Muslims due to the study being conducted in a Muslim majority country.

History and Background

The respondents were inquired about their family structure, number of children, earning status of family members living with them, history of addiction practices/habits, how they got influenced, the age when they started taking drugs, the number of times they had relapsed, and whether they had received treatment earlier as well. The questions were asked to know how majority of the respondents got indulged in such a behavior, their influencing factors, if the practice was already there in their families, if there was peer-pressure involved, number of earning members present in their households, the sort of drug they are addicted to, the way in which they use a drug, and if they were aware of the consequences beforehand.

[3] (Federal Bureau of Statistics, 2010)

It is expected that majority of the respondents were living with joint families and having more than one independent members. It is also expected that majority of the respondents have relapsed at least once in their life with drug initiating age to be less than 18 years (Batool, et al., 2017). Peer pressure has been expected to be playing a major role in driving people towards addiction (UNODC, 2013).

Occupation

Occupations of the patients had been asked in this section. The options for occupation ranged from none, student, contractual, self-employed, family business, government job, civil servant, semi-government, private, and agriculture. The question was meant to assess which occupation did most of the patients belonged to.

Majority of the people are expected to be employed.

Education

The patients were asked about their level of education in order to check if the habit of addiction is confined to the majority of uneducated or less-educated class alone.

Current Situation

The patients were asked about their current condition by asking questions about the progress of their treatment, expected time of leaving the center, if they still felt raving for drugs, the source of income for their families in their absence, and if they have ever been a victim of violence or abuse during their treatment along with the social constraints that might have been put on them, and of they were aware of the consequences they were to face as a result of their drug indulgence.

It is expected that majority of the patients would have passed at least one month at the center to be able to respond appropriately to the questions asked from them. It is also expected that many of the patients' families were still earning a reasonable amount in their absence due to the presence of multiple bread earners in their families.

3.4.2 HOUSEHOLD CHARACTERISTICS

The economic conditions of the respondents were inquired by asking questions regarding the head of family in terms of earning, number of working members that were there in the family before the patient went to rehabilitation center for treatment, number of people dependent on the patient before addiction, after addiction and during treatment, the monthly income before and after the patient's treatment had started, family income before the treatment started and during treatment, household's monthly expenditure before addiction, after addiction, and during treatment, amount given at home for monthly expenditure before addiction, after addiction, and during treatment, monthly expenditure on drug consumption, amount of debt taken on average in a month and if they had cleared all the debt, the person bearing their family expenses and his income, and the person bearing their treatment cost and his income The questions regarding earning members and monthly incomes of respondents were asked to see whether and how the economic conditions of their households have changed after they went to get treated. The answers would give an idea about how the patients' families are surviving without their contribution.

There has been expected to be a significant difference in the income of the patients under treatment and the economic condition of their households. The difference shall be measured by comparing the scenarios of "before addiction", "after addiction", and "during treatment".

3.4.3 COST OF DRUG ADDICTION

This is the variable based on which the cost borne by patients for their treatment would be estimated. Questions were asked regarding how much the patients were paying for their treatment (about which they were unaware due to the policy of rehabilitation centers, and hence this information was provided by the administrations), the facilities they were getting, if there were any extra charges they had to pay for treating any of their disease, illness, and how much cost was being borne by their visitors including their travelling and for the stuff they brought for the patients. Assessment of this variable would let us know about the explicit cost that is paid for a patient's treatment.

It is expected that the amount being paid for monthly drug treatment shall be more than the per capita income (converted to monthly).

The costs borne by drug addicts can be divided into direct, indirect, and social costs.

There has been a gradually increasing interest of studying the microeconomic effect of ill-health in the last two decades, focusing especially on impoverishing and other impacts that an ill-health or injury can create on households. However, much of this research and policy concern is related to low and middle income countries, where the amount of overall health expenditure spent on pre-payment mechanisms like insurance schemes is lower as low as compared to high income countries. The households in low or middle income countries are rather asked to pay as they go on with the treatment process, which can be unsustainable or a huge income drain for a poor household (World Health Organization, 2009).

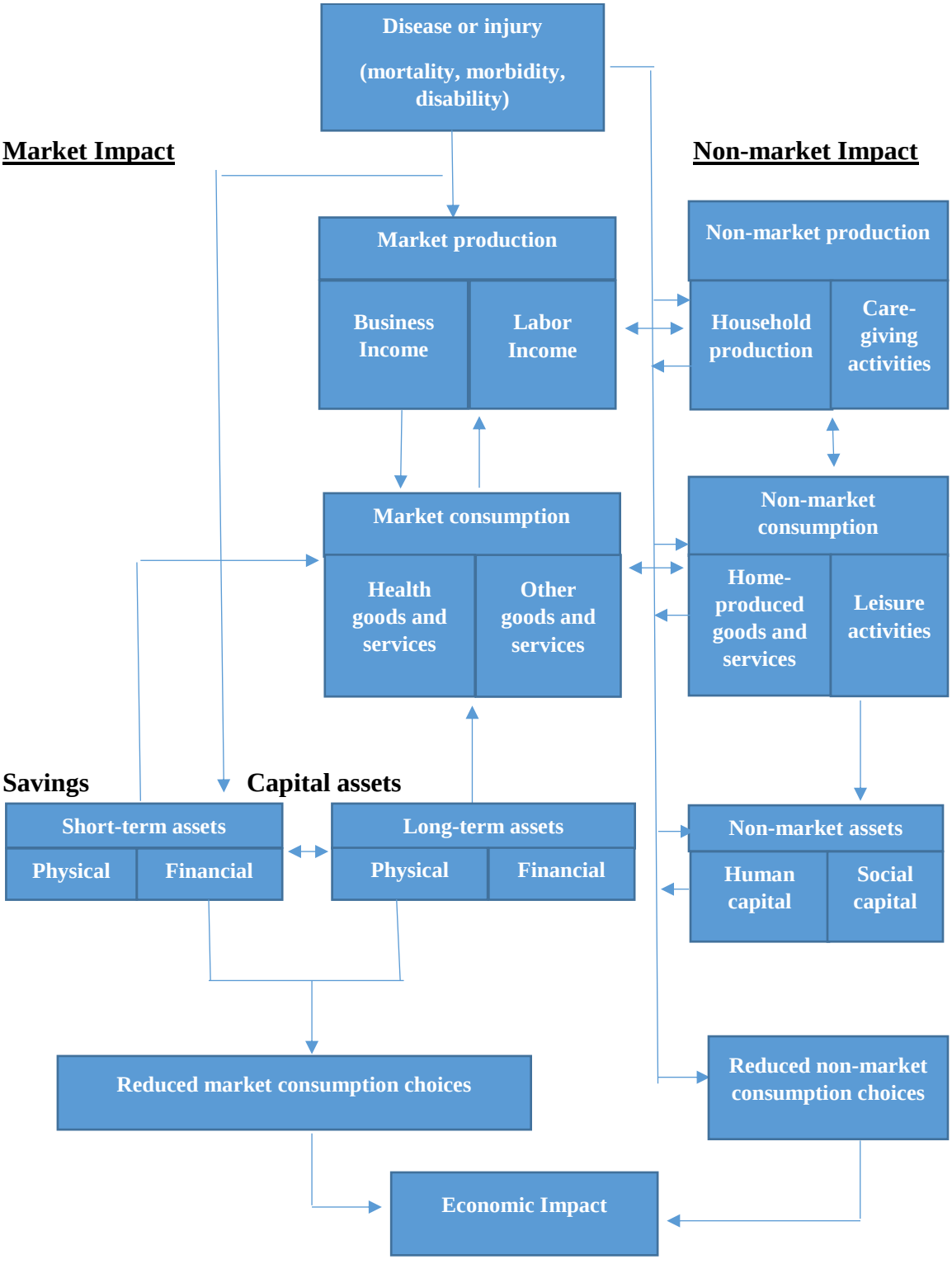
Apart from the "direct" costs paid by the households to access health-related goods and services, economic impact studies have also focused on certain "indirect" set of repercussions that could befall households. Most significant of these indirect costs/consequences include loss of productivity or income, which could then be translated into a loss in current consumption, or even a loss in future consumption as well due to the adverse effect on savings or debt. Many of the studies on ill-health have found cases where indirect costs exceeded direct costs (World Health Organization, 2009).

The articulation of coping strategies that are utilized by households to eliminate unwanted outcomes of illness has been considered an important factor underlying both the direct and indirect costs of ill-health at a microeconomic level. These strategies include substitution of earning members to maintain the income flow and saving to pay for health-related goods and services (Sauerborn, Adams, & Hien, 1996). However, there is limited knowledge on the long-term effect of these coping strategies, since there could be future consequences for households too.

Another important factor is impoverishing and the impact of ill-health on consumption. The amount of resources required for non-health consumption (particularly food) can be reduced to pay for health expenses in the absence of any compensating

mechanism or social security. This increase in the expenditure of health and low production capacity can lead to household poverty.

Figure 3.2: Financial and Economic Impacts of Disease or Injury on Households



Source: Derived from WHO Guide to Identifying the Economic Consequences of Disease and Injury (2009)

Ill-health can interfere with choices and economic objectives of households in a variety of ways. However, in the simplest case, there can be two immediate probable effects. First, the affected person might have to lower his usual level of productive activity and secondly, households may have to increase the consumption of health-related goods and services (while reducing consumption of other goods and services). In case of the market impact, the consumption of non-health goods and services will reduce as a result of lower labor income or business earnings due to increased health expenses. Households may have to cut back expenses on durable goods, clothes, or social activities. They might also try to maintain the level of non-health consumption by resorting to loans or liquidating assets. They may also have to reduce their investment in people, such as, health, education, and social capital formation (Steinberg, Johnson, Schierhout, & Ndegwa, 2002).

Visitors

The type of visitors, frequency of their visits, proximity of their location, mode of their travelling, their source of income, and the stuff they bring for their patient shall also be inquired to estimate the cost incurred through visitors.

It is expected that many of the patients' visitors are incurring a high cost due to multiple visits and things they bring of their patients.

3.4.4 MEASURING SUBJECTIVE WELL-BEING OF DRUG ADDICTS

This section will focus on measuring the subjective well-being of drug addicts under different scenarios. Indices shall be developed for this purpose.

It is necessary to develop an understanding about the development of these indices to analyze the results efficiently. There are 5 basic categories with two scenarios each. First scenario represents "after addiction" and second scenario represents "during treatment". Hence, ten indices shall be developed on the basis of different questions that were asked from respondents to measure different attributes. Each index shall be developed by adding

up all the scores gained from different questions and then dividing their sum by total number of scores. These scores will then be multiplied by 100 to convert them to the range of 25 to 100.

The general formula for creating an index is:

$$Index\ of\ X = \left(\frac{D1+D2+D3+\cdots+Dn}{Total\ Score\ from\ all\ D}\right) * 100$$

D1, D2, D2….Dn are different dimensions of a specific variable.

Physical Well-being Index

This index for physical well-being shows how good or worse the respondents were feeling physically after getting indulged in addiction. Here, the lower score 7 would mean presence of physical issues and highest score 35 shows persistent physical issues.

The respondents will be asked to rank if they feel presence of physical issues through options: not at all, slightly, moderately, quite a bit, or almost totally.

Table 3.1: Dimensions of Physical Well-being

Dimensions	**Not at all**	**Slightly**	**Moderately**	**Quite a bit**	**Almost totally**
Pain in body due to craving	1	2	3	4	5
Feeling of fatigue	1	2	3	4	5
Feeling of nausea	1	2	3	4	5
Feeling physically helpless	1	2	3	4	5
Loss of appetite	1	2	3	4	5
Ineffectiveness in fulfilling daily tasks	1	2	3	4	5
Feeling sleepless	1	2	3	4	5

Source: Author's work

The formula for this customized index will be:

$$Physical\ Wellbeing\ Index = \left(\frac{P_{sc}+F_{sc}+N_{sc}+H_{sc}+S_{sc}+A_{sc}+I_{sc}}{35}\right) * 100$$

P_{sc} = Level of pain due to drug craving score, F_{sc} = level of fatigue score, N_{sc}: Level of nausea score, H_{sc} = Level of helplessness score, Ssc = Level of sleeplessness, A_{sc} = Level of loss of appetite score, and I_{sc} = Level of ineffectiveness in fulfilling daily task score.

Psychological Well-being Index

Similar pattern shall be devised to develop the index of psychological well-being. This index has been devised to assess how good or worse the respondents are feeling psychologically. The lowest score 9 here would represent no psychological issue and highest score 45 would show continuous presence of psychological issues.

The patients will be asked to rank if they have psychological issues through options: not at all, slightly, moderately, quite a bit, or almost totally.

Table 3.2: Dimensions of Psychological Well-being

Dimensions	**Not at all**	**Slightly**	**Moderately**	**Quite a bit**	**Almost totally**
Feeling of depression	1	2	3	4	5
Feeling unworried	1	2	3	4	5
Feeling of frustration	1	2	3	4	5
Missing out on family events	1	2	3	4	5
Feeling neglected by family	1	2	3	4	5
Feeling emotionally weak	1	2	3	4	5
Unwillingness to refrain from drugs	1	2	3	4	5
Being a burden on family	1	2	3	4	5

Concentration in all daily tasks	1	2	3	4	5

Source: Author's work

The formula for this customized index will be:

$$Pyschological\ Wellbeing\ Index = \left(\frac{D_{sc}+ W_{sc}+F_{sc}+FE_{sc}+N_{sc}+E_{sc}+R_{sc}+B_{sc}+C_{sc}}{45}\right) * 100$$

D_{sc} = Level of depression, W_{sc} = Level of worriedness, F_{sc} = Level of frustration, FE_{sc} = Level of missing out on family events, N_{sc} = Level of being neglected by family, E_{sc} = Level of being emotionally weak, R_{sc} = Level of unwillingness to refrain from addiction, B_{sc} = Level of considering oneself burden on the family, and C_{sc} = Level of inability to concentrate.

Perception Index

This index has been developed to analyze how good or worse the perception of respondents' family members or relatives is. Here, the lowest response 5 would show extremely negative response of family members and relatives while the highest score 10 would show extremely positive perception of family members and relatives.

The respondents shall be asked to rank the perception of their family members and relatives about them by giving them options: extremely positive, positive, neutral, negative, and extremely negative.

Table 3.3: Dimensions of Perception of Relatives and Family Members

Dimensions	**Extremely Positive**	**Positive**	**Neutral**	**Negative**	**Extremely Negative**
Attitude of family members	1	2	3	4	5

Your relatives' thoughts about you	1	2	3	4	5

Source: Author's work

The formula for this customized index will be:

$$Perception\ Index = \left(\frac{A_{sc} + P_{sc}}{10}\right) * 100$$

A_{sc} = Attitude of family members towards the respondent and P_{sc} = Perception of relatives towards the respondent.

Attitude towards Life Index

The purpose to develop this index is to assess how good or worse of an attitude do the respondents have towards their life. The lowest score 4 here represents an extremely positive attitude while the highest score 20 represents an extremely negative attitude towards life.

The respondents would be asked to rate their attitude towards life by giving them options: extremely positive, positive, neutral, negative, and extremely negative.

Table 3.4: Dimensions of Attitude towards Life

Dimensions	**Extremely Positive**	**Positive**	**Neutral**	**Negative**	**Extremely Negative**
Perception about life	1	2	3	4	5
Perception about health	1	2	3	4	5
Satisfaction with life	1	2	3	4	5
Feeling of happiness	1	2	3	4	5

Source: Author's work

The formula for this customized index will be:

$$Attitude\ towards\ Life\ Index = \left(\frac{L_{sc} + PH_{sc} + S_{sc} + H_{sc}}{20}\right) * 100$$

L_{sc} = Perception of life, PH_{sc} = Perception of health, S_{sc} = Level of satisfaction, and H_{sc} = Level of happiness.

Trustworthiness Index

The trustworthiness index is being created to analyze how much the respondents think that they are being trusted by their family and relatives. Here, the lowest score 3 would show highest level of trust and the highest score 12 would show no trust at all.

The respondents will be asked to rank how much they think they are trusted by their family members and relatives by giving them options: trust completely, trust somewhat, do not trust much, and no trust at all.

Table 3.5: Dimensions of Trustworthiness

Dimensions	**Trust completely**	**Trust somewhat**	**Do not trust much**	**Do not trust at all**
Trust by family in general	1	2	3	4
Trust by family in terms of financial support	1	2	3	4
Trust by relatives in general	1	2	3	4

Source: Author's work

The customized formula for this index is:

$$Trustworthiness\ Index = \left(\frac{FG_{sc} + FS_{sc} + RG_{sc}}{12}\right) * 100$$

FG_{sc} = Trust of family members in general. FS_{sc} = Trust of family members in the ability of respondents to support them financially, and RG_{sc} = General trust by relatives.

3.4.5 ETHNOGRAPHIC STUDY

This section has been developed to elaborate the conditions of patients and their surroundings at rehabilitation centers. According to Wilson & Chaddha (2010), the behavior taking place within particular social circumstances, plus the behavior that gets shaped and also constrained through such institutions, and people's perception and understanding of their experiences is assessed through ethnographic methods. It also gives potential hypotheses to researchers and evaluative criteria to analyze the products of social science.

3.4.5.1 ETHNOGRAPHY OF DRUG ADDICTS

In order to best understand the cultural system in which an ethnographer is studying, quantitative methods are also being utilized along with qualitative ones (Whitehead, 2005). The classical methods generally opted for ethnography includes fieldwork, recording field notes, secondary data analysis, observation of activities of interest, observations, participation in certain activities during observations, and conducting ethnographic interviewing of both informal and semi-structured nature. These are also referred to as the Basic Classical methods for ethnography. These methods are also applicable in other social settings including meetings, organizations, institutions, and any other setting encompassing humans' interaction. Fieldwork is an essential part of ethnography. Fieldwork enables the researcher to examine and observe all areas of a cultural system, especially the ones which cannot be addressed through mere survey research or laboratory tests. There are certain attributes associated with ethnography which include:

- Ethnography needs regular and continuous field notes recording.
- Ethnography is a holistic approach for studying cultural systems.
- Ethnography is a discovery process and requires continual inquiries for achieving validity.

- Ethnography is an iterative process of learning episodes.

The ability of a classical ethnographer to spend a long time in field enables him to comprehensively explain the factors of a cultural system while ensuring the minimum possible bias.

3.5 TECHNIQUES OF ANALYSIS

The following techniques have been selected for analyzing the data:

1. Descriptive analysis will be conducted to observe the demographics of patients.

2. Hypothesis testing shall be conducted by using Wilcoxon signed-rank test. It shall also be used to assess the difference between costs.

3. Indices shall also be developed in order to study the effect of physical well-being, psychological well-being, attitude towards life, perception of family and relatives, and trustworthiness of patients.

4. Ethnographic study will be conducted to observe the patients in their natural settings.

Based on the proposed theoretical framework and the techniques of analysis, the next chapter shall be dedicated to the application of chosen techniques and interpretation of results.

CHAPTER 4. DESCRIPTIVE ANALYSIS OF THE DATA AND HYPOTHESIS TESTING

This section has been dedicated to study the demographic profiles of patients and to assess their well-being. Hypotheses shall also be tested in this section.

4.1 RELIABILITY TEST

In order to test the internal consistency or reliability of a particular set of scale or test items, a measure called Cronbach's alpha is used. In simpler words, a measurement is reliable if it consistently measures the concept, and Cronbach's alpha is one measure assessing the strength in that consistency.

In order to carry out Cronbach's alpha, the score for each item of the scale is correlated with each observation's total score and then it is compared to the variance of all individual item scores. Following is the formula used for its measurement:

$$a = \frac{k \times \overline{c}}{\overline{v} + (k-1)\,\overline{c}}$$

Here, k is the number of scale items, $\overline{c}$ shows the average of all covariance among items, and $\overline{v}$ shows the average variance for each item.

The coefficient of reliability "a" varies from 0 to 1. If the scale items share no covariance or are not related, a will be equal to 0; and if all the items share high covariance, then a will move closer to 1. In other words, the higher the value of a coefficient the more items share covariance and probably re-measuring the similar underlying concept.

A minimum of 0.65 to 0.8 (or even higher in majority cases) a coefficient has been recommended by methodologists. The a coefficients less than .05 are usually considered unacceptable, especially for unidimensional scales (University of Virginia Library, 2015).

Table 4.1: Reliability Test Results

Reliability Test Results	
Variables	Cronbach's Alpha

Physical Wellbeing	0.698
Psychological Wellbeing	0.551
Perception of Family & Relatives	0.706
Attitude towards Life	0.573
Trustworthiness	0.834

The results show that all the variables have a coefficient value greater than 0.5 and are hence acceptable/reliable.

4.2 DESCRIPTIVE ANALYSIS OF THE DEMOGRAPHIC PROFILES

This subsection entails the descriptive analysis on the demographics of the sample under study. Different tools related to graphical analysis, descriptive analysis, and frequency distribution have been deployed to gain an insight on the features and characteristics of the sample. Following is the descriptive analysis of different demographic features:

Table 4.2: Descriptive Analysis of Demographics

Descriptive Analysis of Demographics							
	Mean	Median	Mode	Std. Deviation	Percentiles		
					25	50	75
Age	29.0164	27.0000	24.00	8.73593	24.0000	27.0000	32.5000
Region	-	-	1.00	-	-	-	-
Family Structure	-	-	1.00	-	-	-	-
No. of times Relapsed	-	-	.00	-	-	-	-

Age started Drugs	19.3934	20.0000	16.00[a]	5.71045	-	20.0000	-
Family History	-	2.0000	2.00	-	-	-	2.0000
Peer Pressure	-	1.0000	1.00	-	1.0000	1.0000	1.0000
Started Drugs	-	1.0000	1.00		1.0000	1.0000	
Choice of Drug	-	-	1.00	-	-	-	-
Previous Job	-	-	9.00	-	-	-	9.0000
Independent Members		2.0000	2.00	-	-	2.0000	-
Earning Head	-	-	7.00	-	-	-	7.0000
Monthly Income	-	26000.0000	.00	-	-	26000.0000	-
Drug Expenditure (m)	-	17000.0000	15000.00	-	-	17000.0000	-
Family Expenses Bearer	-	1.0000	1.00	-	-	1.0000	
Treatment Cost Bearer	-	1.0000	1.00	-	-	1.0000	

Treatment Cost (m)	-	33500.0000	15000.00[a]	-	-	33500.0000	-
Total Cost (m)	37566.5574	39500.000				39500.0000	
Education	-	-	3.00	-	3.0000	-	-

a: multiple modes exist. The smallest value is shown

Source: Author's work

4.2.1 MARITAL STATUS

The results of descriptive analysis show that majority of the respondents were single. It can be observed by the value of mode.

Table 4.3: Marital Status

Marital Status			
Marital Status	Frequency	Percent	Cumulative Percent
Single	43	69.4	70.5
Married	14	22.6	93.4
Divorced	3	4.8	98.4
Engaged	1	1.6	100.0
Total	61	100.0	

Source: Author's work

4.2.2 LEVEL OF EDUCATION

The results of descriptive analysis show that the level of education of majority of the respondents is middle but below matric.

Table 4.4: Level of Education

Level of Education

Level of Education	Frequency	Percent	Cumulative Percent
Below Primary	6	9.7	9.8
Primary but below middle	6	9.7	19.7
Middle but below matric	18	29.0	49.2
Matric but below intermediate	12	19.4	68.9
Intermediate but below graduate	7	11.3	80.3
Graduate or above	12	19.4	100

Source: Author's work

4.2.3 AGE GROUP

The descriptive analysis shows that the median age of respondents is 27, which means that 50 percent of the respondents belong to the age group of 15-29 years of age. The standard deviation shows that the variation in the ages of respondents is from 20.27 – 37.73. The sample shows that on average, the drug addicts getting treatment at the rehabilitation centers in Lahore belong to the age groups of primary youth (15-29 years aged) and to some extent to the secondary population (30-59 years aged).

Table 4.5: Age Group

Age (group-wise)			
Age categories	Frequency	Percent	Cumulative Percent
Primary Youth (15-29)	36	58.1	59
Secondary Population (30-59)	24	38.7	98.4
Elderly (60 and above)	1	1.6	100
Total	61	100	

Source: Author's work

4.2.4 REGION

The results have shown that majority of the drug addicts under treatment belonged to the regions of old Lahore. It can be seen by the value depicted by mode. Similar results have been shown by the frequency distribution.

Table 4.6: Region

Region			
Region	Frequency	Percent	Cumulative Percent
Old Lahore	32	51.6	52.5
New Lahore	11	17.7	70.5
Outside Lahore	18	29.0	100
Total	61	100	

Source: Author's work

4.2.5 FAMILY STRUCTURE

The descriptive analysis shows that majority of the respondents live in a joint family structure. This can be depicted using the value of mode. Frequency distribution also supports this result.

Table 4.7: Family Structure

Family Structure			
Family Structure	Frequency	Percent	Cumulative Percent
Joint Family	29	46.8	47.5
Nuclear Family	26	41.9	90.2
Alone	6	9.7	100
Total	61	100	

Source: Author's work

4.2.6 NUMBER OF TIMES RELAPSED

According to the results of descriptive analysis, majority of the drug addicts under treatment are getting treatment for the first time in their lives and hence they haven't relapsed at all.

Table 4.8: Number of times Relapsed

Number of times Relapsed			
Number of times Relapsed	Frequency	Percent	Cumulative Percent

.00	21	33.9	34.4
2.00	20	32.3	67.2
3.00	9	14.5	82.0
4.00	5	8.1	90.2
5.00	1	1.6	91.8
7.00	4	6.5	98.4
13.00	1	1.6	100
Total	61	100	

Source: Author's work

4.2.7 AGE OF DRUG INITIATION

The median age at which respondents started taking drugs is 20 according to the value of median. Standard deviation shows that the variation in ages at which the respondents started taking drugs is 13.68 – 25.1 and hence supports the value of median. The sample shows that the age at which majority of the respondents started taking drugs belongs to the group of primary youth (15-29 years).

Table 4.9 Drug Initiation Age

Drug Initiation Age			
Age started taking Drugs	Frequency	Percent	Cumulative Percent
Children (less than 15 years aged)	11	17.7	18.0
Primary Youth (15-29 years aged)	47	75.8	95.1
Secondary Population (30-59 years aged)	3	4.8	100
Total	61	100	

Source: Author's work

4.2.8 FAMILY HISTORY

According to the value of mode, majority of the respondents have stated that they didn't have any family history of drug addiction.

Table 4.10: Family History of Addiction

Family History			
Family History	Frequency	Percent	Cumulative Percent
Yes	21	33.9	34.4
No	40	64.5	100
Total	61	100	

Source: Author's work

4.2.9 PEER PRESSURE

The value of mode shows that peer pressure played a role in driving majority of the respondents towards drug addiction.

Table 4.11: Peer Pressure

Peer Pressure			
Peer Pressure	Frequency	Percent	Cumulative Percent
Yes	49	79.0	80.3
No	12	19	100
Total	61	100	

Source: Author's work

4.2.10 REASON FOR STARTING DRUGS

The results of descriptive analysis show that majority of the respondents have considered friend's company as a major factor that led them towards drug addiction. The results of mode and median also depict the same.

Table 4.12: Reason for Starting Drugs

Reason for Starting Drugs			
Started Drugs	Frequency	Percent	Cumulative Percent
Friends' Company	33	53.2	54.1
Depression	7	11.3	65.6
Amusement	10	16.1	82.0

Experiment	2	3.2	85.2
Influenced by a family member or relative	9	14.5	100
Total	61	100	

Source: Author's work

4.2.11 CHOICE OF DRUG

According to the results of descriptive analysis, the most commonly used drug among the patients at drug rehabilitation centers is heroin. It can be substantiated with the value of mode.

Table 4.13: Choice of Drug

Choice of Drug			
Choice of Drug	Frequency	Percent	Cumulative Percent
Heroin	22	35.5	36.1
Marijuana	9	14.5	50.8
Alcohol	1	1.6	52.5
Cigarette	1	1.6	54.1
Prescribed and non-prescribed drugs	4	6.5	60.7
A combination of drugs	21	33.9	95.1
Tobacco	1	1.6	96.7
Opium	2	3.2	100
Total	61	100	

Source: Author's work

4.2.12 PREVIOUS JOB

Descriptive analysis shows that majority of the respondents were doing private jobs. This section of private jobs includes working at a firm or hospital as well as working as a peon, helping assistant, or a driver for someone.

Table 4.14: Previous Job

Previous Job			
Previous Job	Frequency	Percent	Cumulative Percent
None	12	19.4	19.7
Student	2	3.2	23.0
Self-employed	15	24.2	47.5
Family Business	10	16.1	63.9
Government Employee	2	3.2	67.2
Private	18	29.0	96.7
Agriculture	2	3.2	100
Total	61	100	

Source: Author's work

4.2.13 INDEPENDENT FAMILY MEMBERS

According to the results of descriptive analysis, it can be seen that majority of the respondents have stated that there are at least 2 independent family members living with them. This result is being supported by the value of mode.

Table 4.15: Number of Independent Family Members

Independent Family Members			
Independent Family Members	Frequency	Percent	Cumulative Percent
.00	1	1.6	1.6
1.00	19	30.6	32.8
2.00	25	40.3	73.8
3.00	7	11.3	85.2
4.00	5	8.1	93.4
5.00	3	4.8	98.4
6.00	1	1.6	100
Total	61	100	

Source: Author's work

4.2.14 EARNING HEAD

Descriptive analysis shows that according to majority of the respondents, their fathers were the main earning members of the house.

Table 4.16: Earning Head

Earning Head			
Earning Head	Frequency	Percent	Cumulative Percent
Self	20	32.3	32.8
Spouse	1	1.6	34.4
Brother	13	21.0	55.7
Father	24	38.7	95.1
Mother	2	3.2	98.4
Other	1	1.6	100
Total	61	100	

Source: Author's work

4.2.15 MONTHLY INCOME

According to the results of descriptive analysis, majority of the respondents have 0 monthly income because they don't earn. However, the result of median suggests that 50 percent of the respondents had income up to PKR 26000. There is huge variation in the data that cannot be explained even through standard deviation. Similar results can be seen in the frequency distribution table. Monthly income has been taken as a continuous variable here and hence some values have been omitted from the frequency distribution table to show data concentration points.

Table 4.17: Previous Monthly Income

Monthly Income			
Monthly Income	Frequency	Percent	Cumulative Percent
.00	12	19.4	19.7
500.00	1	1.6	21.3
-	-	-	-

-	-	-	-
-	-	-	-
22000.00	2	3.2	41.0
24000.00	3	4.8	45.9
25000.00	2	3.2	49.2
26000.00	1	1.6	50.8
30000.00	5	8.1	59.0
40000.00	3	4.8	63.9
50000.00	4	6.5	70.5
55000.00	1	1.6	72.1
60000.00	4	6.5	78.7
70000.00	3	4.8	83.6
100000.00	2	3.2	86.9
-	-	-	-
-	-	-	-
-	-	-	100
Total	61	100	

Source: Author's work

4.2.16 MONTHLY EXPENDITURE ON DRUG CONSUMPTION

According to the results of descriptive analysis, the average expenditure done by respondents for monthly drug consumption was PKR 15000. It can be observed by the value of mode. Median shows that 50 percent of the respondents spend PKR 17000 on drug consumption. The data has huge variation and hence no single amount can be considered as an accurate average. The table of frequency distribution also supports this result. Only the points with data concentration have been shown in the table.

Table 4.18: Monthly Drug Expenditure

Monthly Drug Expenditure			
Monthly Drug Expenditure	Frequency	Percent	Cumulative Percent

.00	2	3.2	3.3
1000.00	2	3.2	6.6
-	-	-	-
-	-	-	-
-	-	-	-
10000.00	4	6.5	27.9
12000.00	3	4.8	32.8
13000.00	1	1.6	34.4
15000.00	9	14.5	49.2
-	-	-	-
-	-	-	-
-	-	-	-
20000.00	3	4.8	59.0
24000.00	1	1.6	60.7
25000.00	3	4.8	65.6
30000.00	8	12.9	78.7
-	-	-	-
-	-	-	-
-	-	-	100
Total	61	100	

Source: Author's work

4.2.17 FAMILY EXPENSE BEARER

According to the results of descriptive analysis, majority of the patients have stated that their parents bear their expenses while they are getting treatment at rehabilitation center.

Table 4.19: Family Expense Bearer

Family Expenses Bearer			
Family Expenses Bearer	Frequency	Percent	Cumulative Percent

Parents	32	51.6	52.5
Siblings	19	30.6	83.6
Self	3	4.8	88.5
Spouse	3	4.8	93.4
Other	1	1.6	95.1
NA	3	4.8	100
Total	61	100	

Source: Author's work

4.2.18 TREATMENT COST BEARER

The descriptive analysis shows that the treatment cost for majority of the respondents was being borne by their parents. These results can be supported by the value of mode.

Table 4.20: Treatment Cost Bearer

Treatment Cost Bearer			
Family Expenses Bearer	Frequency	Percent	Cumulative Percent
Parents	31	50.0	50.8
Siblings	17	27.4	78.7
Self	3	4.8	83.6
Spouse	1	1.6	85.2
Relatives	3	4.8	90.2
Other	4	6.5	96.7
NA	2	3.2	100
Total	61	100	

Source: Author's work

4.2.19 MONTHLY TREATMENT COST

The results of descriptive analysis show that there is a lot of variation in the monthly treatment cost being paid either by respondents or their families. Two modes exist here due

to two different repetitive values. One of the modes show that the PKR 15000 is the monthly treatment cost that is being paid by majority of the respondents. The other mode value shows that PKR 33500 is the monthly treatment cost being paid by the other majority of patients. Similar results can be seen through the frequency distribution table. Continuous values have been taken.

Table 4.21: Monthly Treatment Cost

Monthly Treatment Cost			
Monthly Drug Expenditure	Frequency	Percent	Cumulative Percent
.00	3	4.8	4.9
5000.00	1	1.6	6.6
10000.00	3	4.8	11.5
15000.00	7	11.3	23.0
-	-	-	-
-	-	-	-
32000.00	5	8.1	41.0
33500.00	7	11.3	52.5
35000.00	3	4.8	57.4
-	-	-	-
-	-	-	-
47000.00	4	6.5	73.8
48000.00	2	3.2	77.0
48500.00	4	6.5	83.6
49500.00	1	1.6	85.2
50000.00	5	8.1	93.4
-	-	-	-
-	-	-	-
-	-	-	100
Total	61	100	

Source: Author's work

4.2.20 TOTAL MONTHLY COST

The descriptive analysis indicates the total monthly costs borne by drug addicts at rehabilitation centers. These costs include treatment cost, cost of visitors' travelling, and the cost of things visitors bring in each visit monthly. The value of median indicates that almost 50 percent of the patients incur a monthly cost of PKR 39500 per month during their treatment. The mean of the data indicates the average amount paid monthly for treatment is PKR 37566, which is closer to the value obtained by median. Continuous values have been taken for frequency distribution, which is showing a similar spread of data.

Table 4.12: Total Monthly Treatment Cost

Total Monthly Treatment Cost			
Total Monthly Treatment Cost	Frequency	Percent	Cumulative Percent
.00	1	1.3	1.6
2400.00	1	1.3	3.3
4950.00	1	1.3	4.9
10800.00	1	1.3	6.6
-	-	-	-
-	-	-	-
18400.00	1	1.3	21.3
20000.00	1	1.3	23.0
20200	1	1.3	24.6
-	-	-	-
-	-	-	-
33500	2	2.6	34.4
-	-	-	-
-	-	-	-
43000.00	2	2.6	55.7
-	-	-	-
-	-	-	-
48400.00	2	2.6	73.8

-	-	-	-
-	-	-	-
50050.00	2	2.6	85.2
-	-	-	-
-	-	-	-
80400.00	1	1.3	100.0
Total	61	100	

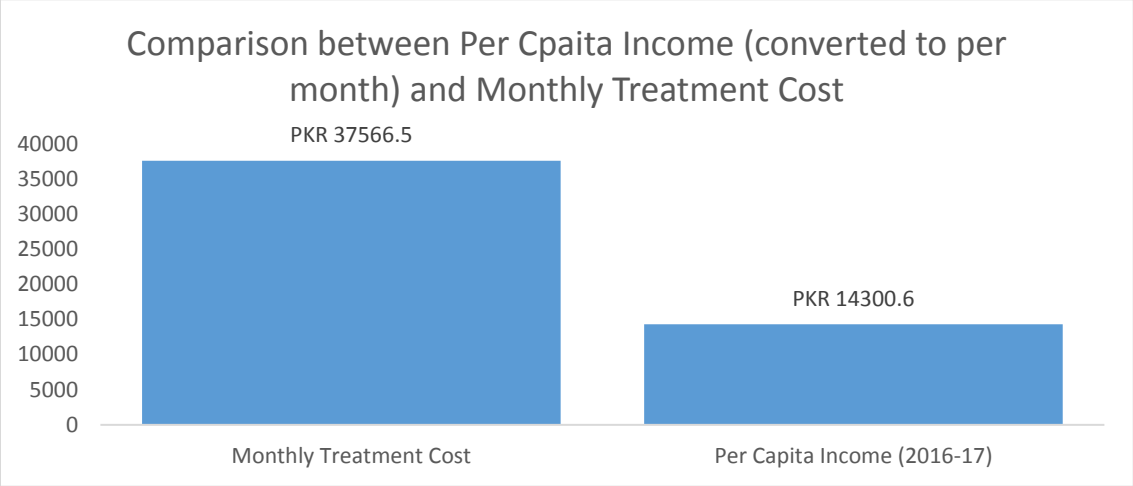
Source: Author's work

4.2.21 A COMPARISON BETWEEN PER CAPITA INCOME AND MONTHLY TREATMENT COST

The Economic Survey of Pakistan for the year 2016-2017 has been recently presented by Pakistan's Finance Minister, Mr. Ishaq Dar. According to the latest statistics, the per capita income (average income earned by an individual in a year) of Pakistan is $1,629 i.e. PKR 171,607.01 (at the conversion rate of $1 = PKR 105.34) (The Times of Islamabad, 2017). If we convert the per capita income into income earned per month, then the average income earned by an individual equals PKR 14,300.6, which is lower than half of what an average patient seeking treatment at a rehabilitation center pays on a monthly basis.

The wide difference can also be observed by the simple bar chart.

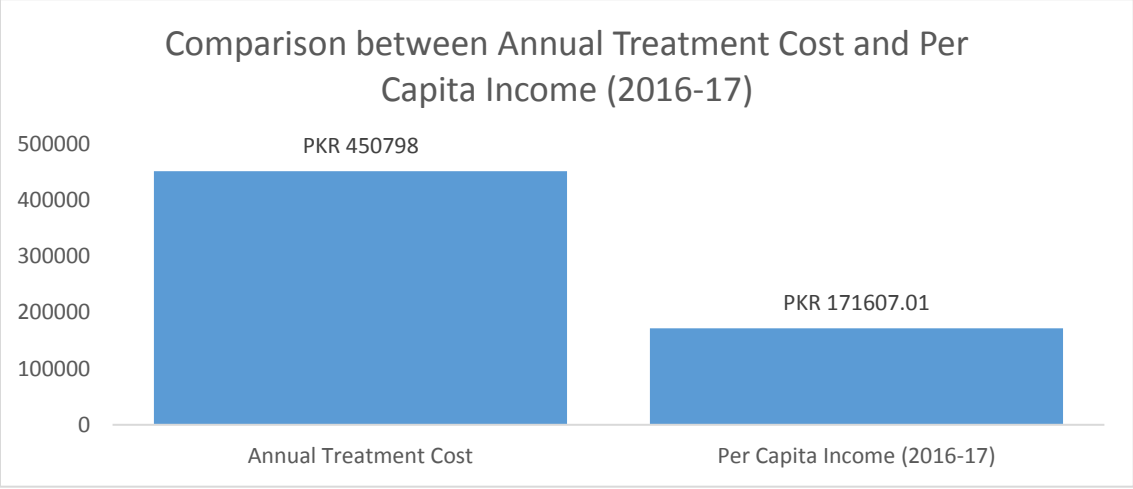
Figure 4.1: Comparison between Per Capita Income (converted to per month) and Monthly Treatment Cost



Source: Author's work

If we convert the monthly treatment cost into annual treatment cost, then it would be PKR 450,798. The comparison between per capita income and the annual treatment cost can be observed in the following bar chart:

Figure 4.2: Comparison between Annual Treatment Cost and Per Capita Income (2016-2017)



Source: Author's work

It is evident from the difference how difficult it is for an average drug addict to gain treatment while bearing a cost more than the per capita income.

4.3 DESCRIPTIVE ANALYSIS OF INDICES

This subsection of the study is based on the descriptive analysis conducted on different indices developed to analyze the trends of those indices.

4.3.1 INDEX OF PHYSICAL WELL-BEING

There are seven aspects of physical wellbeing, which are level of pain in body due to drug craving, level of fatigue, level of nausea, level of physical helplessness, level of loss of appetite, and level of ineffectiveness in fulfilling of daily tasks. The scale provided to respondents was from 1 to 5, where 1 represents not physical issue after addiction and 5 represents physical issues present almost all the time after addiction. If an individual chooses 1 for all of the questions, then his total score would be 7, which means he doesn't feel any physical issue in any of the dimensions. On the contrary, if the respondent chooses 5, then his overall score would be 35, which means he feels physical issues almost all the time. Now, in order to convert these scores to the range of 25 to 100, all of these individual scores will be divided by the highest possible score, which in this case is 35 and the result will be multiplied by 100.

4.3.2 INDEX OF PSYCHOLOGICAL WELL-BEING

There are nine aspects of this index, which are level of depression, level of worriedness, level of frustration, level of missing out on family events, level of being neglected by family, level of being emotionally weak, level of unwillingness to refrain from addiction, level of considering oneself burden on the family, and level of inability to concentrate. Again, the chosen scale varies from 1 to 5. Here, 1 represents no psychological issue at all whereas 5 represents presence of psychological issues almost all the time. If a respondent selects 1 for all the options, then the overall score would be 9, which represents no psychological issue at all. On the other hand, if a respondent selects 5 for each option, then the overall score would be 45, which means persistence of psychological issues/mental stress. All the individual scores will be divided by the total highest score, which is 45 here and will then be multiplied by 100 to convert these scores to the range of 25 to 100.

4.3.3 INDEX OF PERCEPTION OF FAMILY MEMBERS AND RELATIVES

There are two aspects of this index, which are attitude of family members and perception of relatives towards the respondent. The chosen scale again ranges from 1 to 5, where 1 represents extremely positive attitude and perception and 5 represents extremely negative attitude and perception. If a respondent chooses 1 for all questions, then his overall score will be 2, which means that the attitude of his family and the perception of his relatives towards him is extremely positive. Similarly, if a respondent chooses 5 for all questions, then his overall score will be 10, which means the attitude of his family and his relatives' perception towards him is extremely negative. These scores shall then be converted to the range of 25 to 100 by dividing each score by the highest total score, which in this case is 10, and then multiplying it by 100.

4.3.4 INDEX OF ATTITUDE TOWARDS LIFE

There are four aspects of this index, which are perception of life, perception of health, level satisfaction with life, and level of happiness. The scale ranges from 1 to 5, where 1 represents extremely positive attitude and 5 represents extremely negative attitude. If a respondent chooses 1 for all of the questions, then his total score would be 4, which means he has an extremely positive attitude towards life. If the respondent selects 5 for all of the options, then his total score would be 20, which means he has an extremely negative attitude towards life. Each score will then be divided by the total highest score, which is 20 here, and will be multiplied by 100 to convert this index to the range of 25 to 100.

4.3.5 INDEX OF TRUSTWORTHINESS

There are three aspects of this index, which are trust of family members in general, trust of family members in terms of the ability of respondents to financially support them, and general trust of relatives. The scale for this index varies from 1 to 4, where 1 represents highest level of trust, while 4 represents no trust at all. If a respondent selects one for all of the aspects, then the total score would be 3, which means the highest level of trust. Contrarily, if a respondent selects 4 for all options then the total score would be 12, which means no trust at all. In order to convert this index to the range of 25 to 100, all individual

scores shall be multiplied by the individual score, which is 12 here, and it will then be multiplied by 100.

4.3.6 INTERPRETATION OF RESULTS

Table 4.23: Results of Descriptive Analysis for Indices

Statistic\Indices	Mean	Std. Deviation	1st Quartile	2nd Quartile	3rd Quartile
Physical Wellbeing1	59.1101	22.58493	41.4286	60.0000	78.5714
Physical Wellbeing 2	26.5574	9.76380	20.0000	20.0000	31.4286
Psychological Wellbeing 1	53.2240	15.44632	41.1111	53.3333	65.5556
Psychological Wellbeing2	39.8179	9.12010	35.5556	37.7778	44.4444
Perception1	51.8033	22.32399	40.0000	50.0000	60.0000
Perception 2	43.6066	17.51502	30.0000	40.0000	60.0000
Attitude Towards Life 1	60.9836	26.43892	40.0000	60.0000	85.0000
Attitude Towards Life 2	35.9016	17.33273	22.5000	30.0000	40.0000
Trustworthiness 1	55.4645	27.08377	33.3333	50.0000	79.1667
Trustworthiness 2	45.6284	19.46070	29.1667	41.6667	58.3333

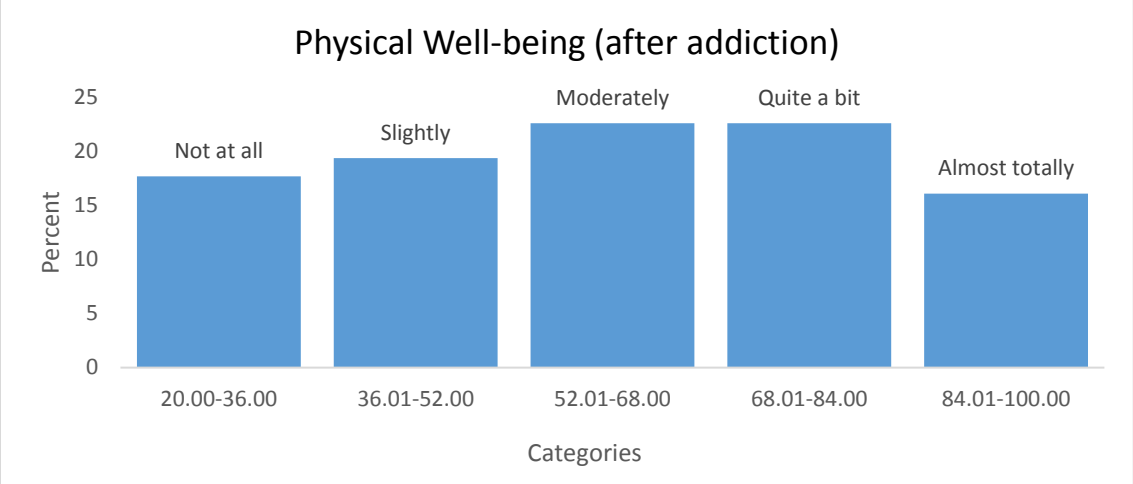
Source: Author's work

Physical Well-being (after addiction and during treatment scenarios)

According to the results of descriptive analysis, in case of physical well-being while the person was an addict, the mean value suggests that majority of the respondents were moderate about their physical well-being. This result indicates that they neither felt too good neither too bad physically. The middle value of second quartile also shows that there were cases where some respondents felt either too good or too bad, but respondents who

were neutral about their feelings are more in number. The value of standard deviation suggests that the index value varies from 36.6-81.6, which means that the physical well-being of respondents varies from slightly worse condition to quite a bit worse condition. Here, it is important to know that the number of respondents who felt to have moderate physical well-being or quite a bit worse physical well-being are more in number. First quartile shows that 25 percent of the values lie below 41.42 index value. Second quartile shows that 50 percent of the values lie below 60.0 index value. Third quartile shows that 75 percent of the values lie below 78.5 index value. The quartiles also demonstrate that most of the values lie between 41.42-78.5 index values.

Figure 4.3: Physical Well-being (after addiction)

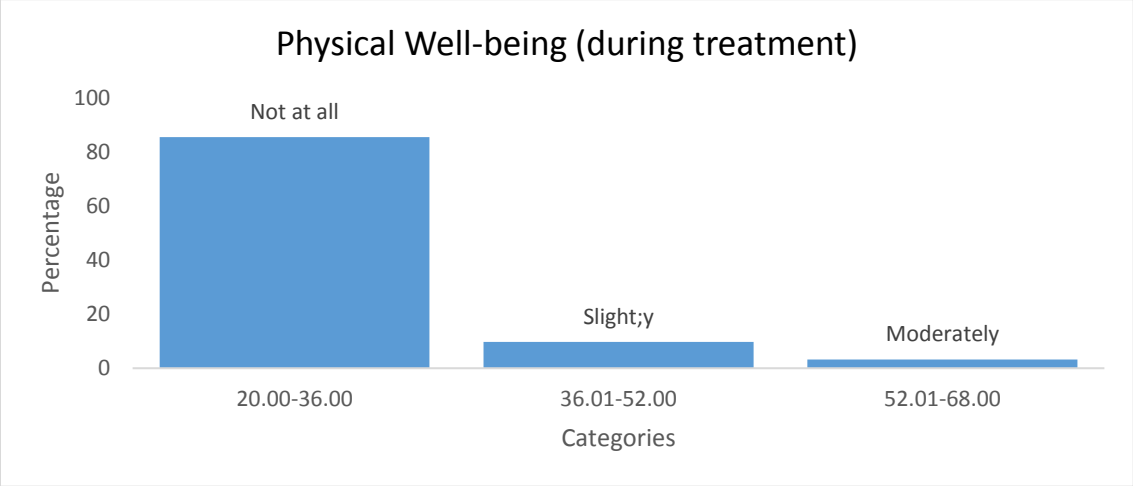


Source: Author's work

In the same way, while analyzing the physical well-being of respondents while they were under treatment at drug rehabilitation centers, the mean value has shown that majority of the respondents were not at all having a worse condition. This signifies that majority of the respondents considered their physical well-being too good while they were under treatment. Standard deviation shows that the index value varies from 16.8-36.2. It also supports the finding that people were considering their physical well-being to be really good under treatment. Similar results are being shown by both the first and second quartiles, which state that 25 and 50 percent of the values lie below the index value 20.0. Third quartile shows that 75 percent of the values lie below 31.4 index value. Quartiles

also suggest that most of the values lie between 20.0-31.4 index values, which means respondents were feeling really good about their physical well-being.

Figure 4.4: Physical Well-being (during treatment)

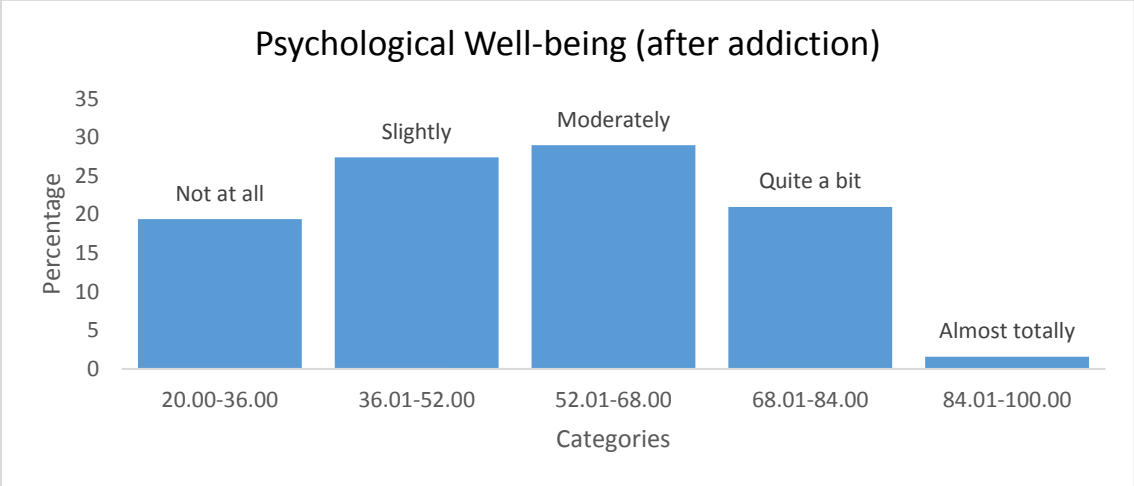


Source: Author's work

Psychological Well-being (after addiction and during treatment scenarios)

The mean value suggests that while being addicts, majority of the respondents have stated that they felt moderate about their psychological well-being. This indicates that there are respondents who felt their psychological well-being to be worst after addiction and there are also patients who consider their psychological well-being to be really good after addiction, but majority neither felt too worse nor too good during that span of time. The value of standard deviation shows that the index value varies from 37.8-68.6. This means that majority of the respondents felt slightly worse to having moderate feelings about their psychological well-being. This also shows that majority of the respondents are not showing a tendency towards having extremely worse conditions. First quartile shows that 25 percent of the values lie below 41.1 index value. Second quartile shows that 50 percent of the values lie below 53.3 index value. Third quartile shows that 75 percent of the values lie below 65.5 index value. Quartiles also show that majority of the values lie between 41.1-65.5 index values, which means majority of the respondents are having either slightly negative psychological well-being or feel moderate about it.

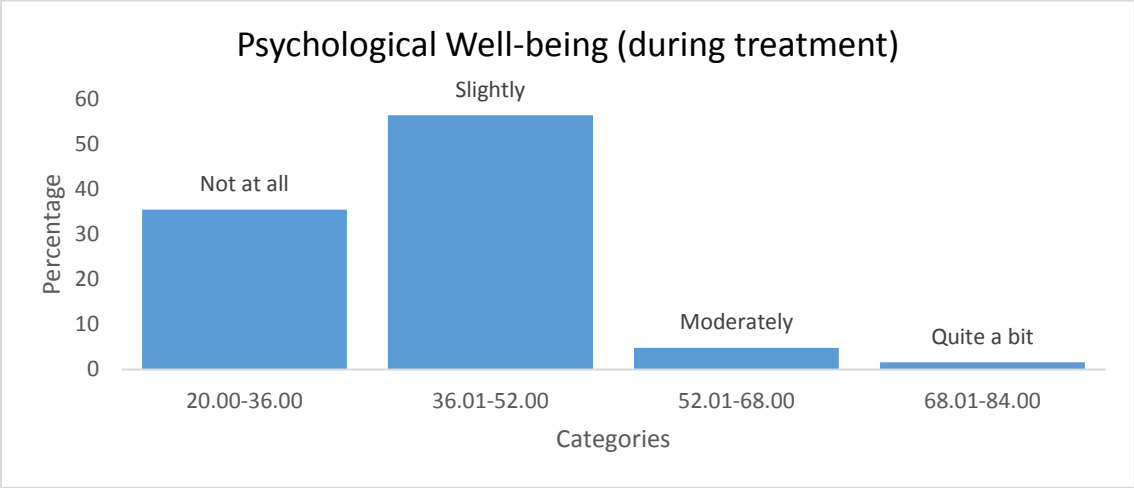
Figure 4.5: Psychological Well-being (after addiction)



Source: Author's work

While assessing the psychological well-being of respondents during treatment, the mean value has suggested that majority of the respondents consider their conditions to be slightly worse and more towards betterment. This means that respondents believe that their psychological well-being is slightly negative and more positive. Standard deviation shows that the index value varies from 30.7-48.9. This shows that majority of the respondents believe that their psychological well-being ranges from being not at all worse to slightly worse. This indicates that majority of the respondents feel good about their psychological well-being while under treatment. First quartile shows that 25 percent of the values lie below 35.5 index value. Second quartile shows that 50 percent of the values lie below 37.7 index value. Third quartile shows that 75 percent of the values lie below 44.4 index value. Quartiles exhibit that more than half of the values lie between 35.5-44.4 index values, which suggests that most of the respondents feel not at all bad or slightly worse about their psychological well-being under treatment.

Figure 4.6: Psychological Well-being (during treatment)

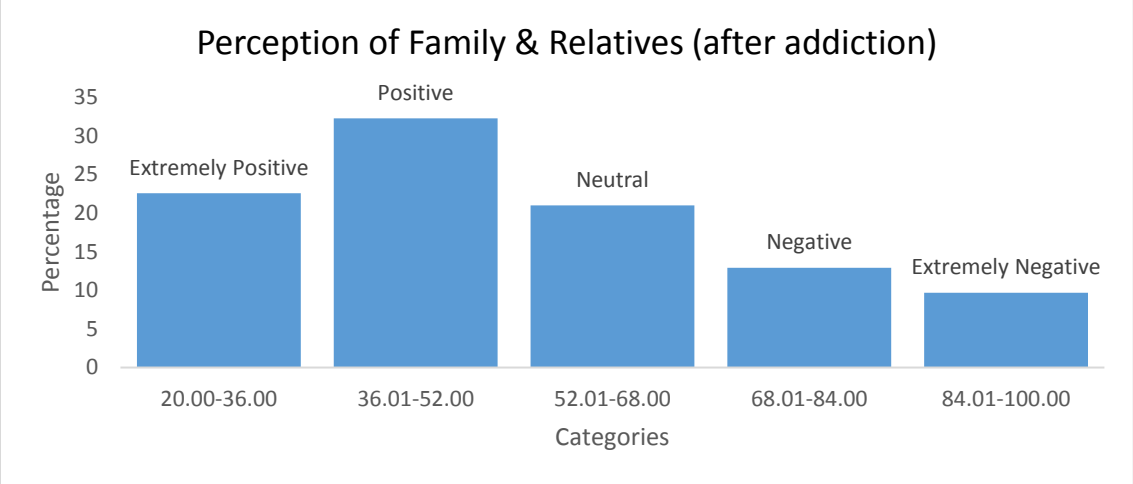


Source: Author's work

Perception of Family & Relatives (after addiction and during treatment scenarios)

The mean value in descriptive analysis suggests that the perception of majority of the respondents' family members and relatives towards them was moderate after the former got into addiction. This means that there were respondents whose family members and relatives had slightly worse or extremely worse perception about them, but majority of the respondents had observed a moderate attitude. The value of standard deviation shows that the index value varies from 29.5-74.1. This shows that majority of the respondents consider the perception of family members and relatives to be ranging from positive to negative. First quartile shows that 25 percent of the values lie below 40.0 index value. Second quartile shows that 50 percent of the values lie below 50.0 index value. Third quartile shows that 75 percent of the values lie below 60.0 index value. Quartiles also signify that majority of the values lie between 40.0-60.0 index values, which means that majority of the respondents believe that their relatives and family members have perception about them ranging from positive to moderate.

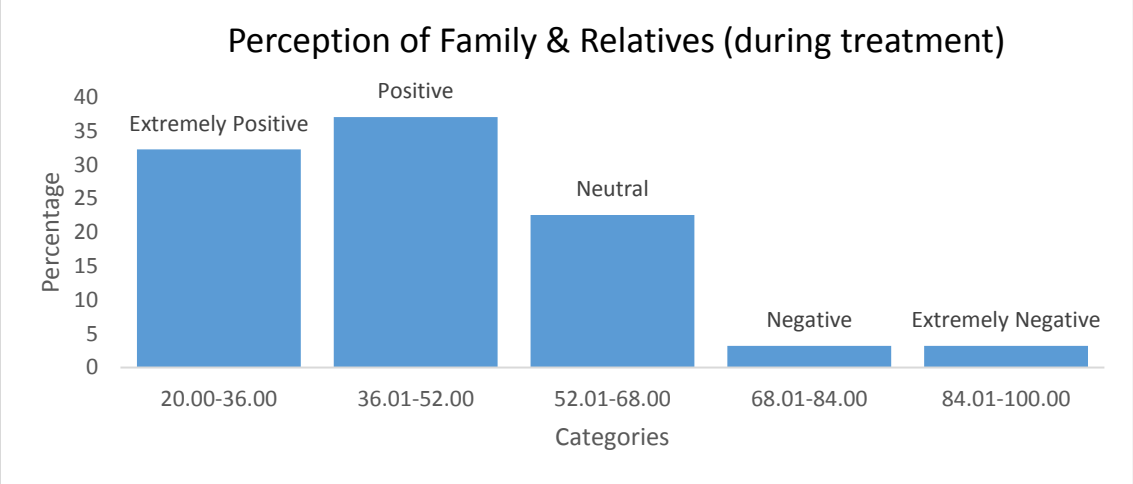
Figure 4.7: Perception of Family & Relatives (after addiction)



Source: Author's work

According to the mean value, majority of the respondents believe the perception of their family members and relatives to be positive towards them while being under treatment. The value of standard deviation manifests that index value varies from 26.1-61.1, which means that majority of the respondents' family members and relatives had extremely positive to moderate perception about them. First quartile shows that 25 percent of the values lie below 30.0 index values. Second quartile shows that 50 percent of the values lie below 40.0 index values. Third quartile shows that 75 percent of the values lie below 60.0 index values. Quartiles also show that majority of the values lie between 30.0-60.0 index values, which means that majority of the respondents consider the perception of their family members and relatives to be ranging from extremely positive to moderate towards them while being under treatment.

Figure 4.8: Perception of Family & Relatives (during treatment)

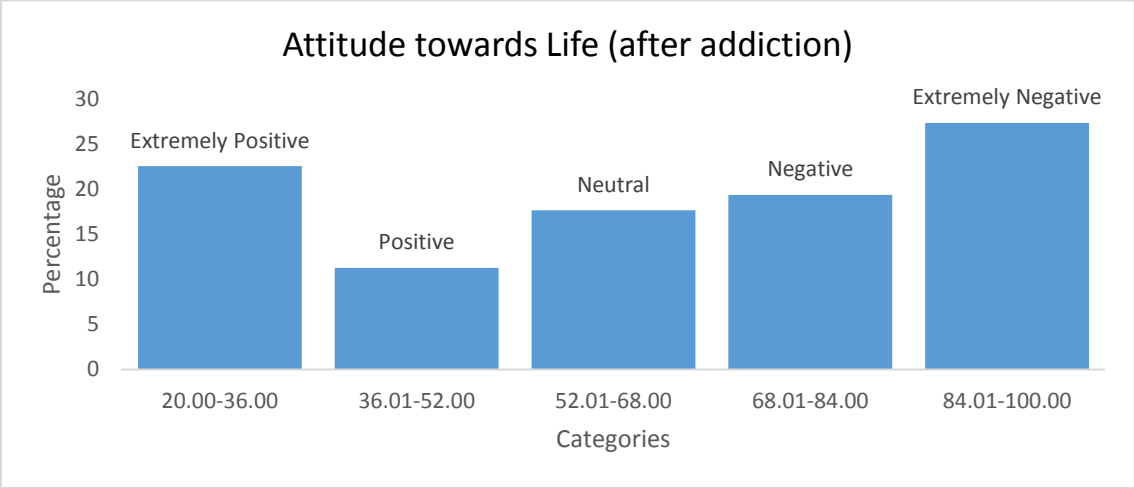


Source: Author's work

Attitude towards Life (after addiction and during treatment scenarios)

The mean value exhibits that majority of the respondents consider their attitude towards life to be moderate after addiction. The value of standard deviation shows that the index value varies from 33.6-86.4, which means that the respondents' attitude towards life varies from being extremely positive to negative. First quartile shows that 25 percent of the values lie below 40.0 index value. Second quartile shows that 50 percent of the values lie below 60.0 index value. Third quartile shows that 75 percent of the values lie below 85.0 index value. Quartiles also suggest that majority of the values range from 40.0-85.0 index values, which indicates that majority of the respondents had their attitude towards life ranging from positive to negative.

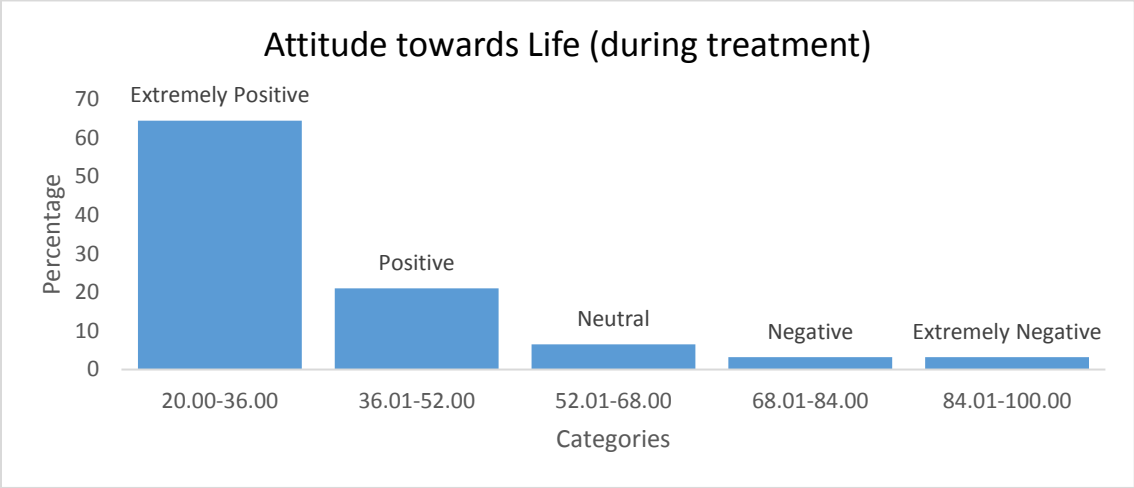
Figure 4.9: Attitude towards Life (after addiction)



Source: Author's work

The mean value suggests that majority of the respondents consider their attitude towards life to be extremely positive under treatment. Standard deviation represents index value varies from 18.6-53.2, which means the respondents' attitude towards life varies from being extremely positive to moderate under treatment. First quartile shows that 25 percent of the values lie below 22.5 index value. Second quartile shows that 50 percent of the values lie below 30.0 index value. Third quartile shows that 75 percent of the values lie below 40.0 index value. Quartiles exhibit that majority of the values range from 22.5-40 index values. This means that more than half of the respondents consider their attitude towards life to be ranging from extremely positive to moderate.

Figure 4.10: Attitude towards Life (during treatment)

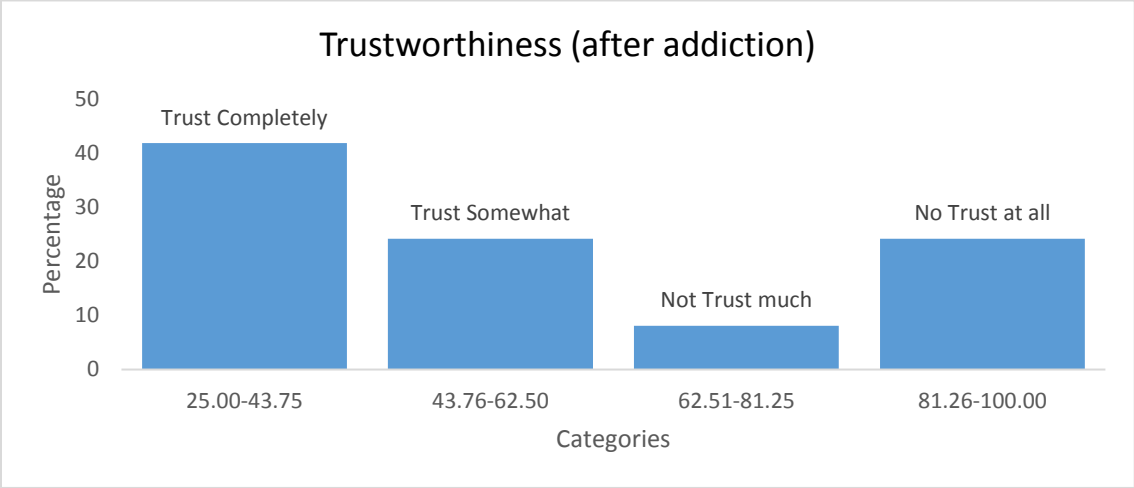


Source: Author's work

Trustworthiness (after addiction and during treatment scenarios)

When inquired about the level of trust the respondents expected from their family members and relatives after addiction, majority of the respondents believed that they were somewhat trusted. This could be manifested by observing the value of mean. The value of standard deviation shows that the index value varies from 28.4-82.4. This means that responses vary from being trusted completely to no trust at all. This shows a lot of variation in the responses, since the standard deviation is covering all the options. First quartile shows that 25 percent of the values lie below 33.3 index value. Second quartile shows that 50 percent of the values lie below 50.0 index value. Third quartile shows that 75 percent of the values lie below 79.1 index value. The range of quartiles suggests that the responses vary from 33.3-79.1. This means that the responses vary from trust completely to not much trust.

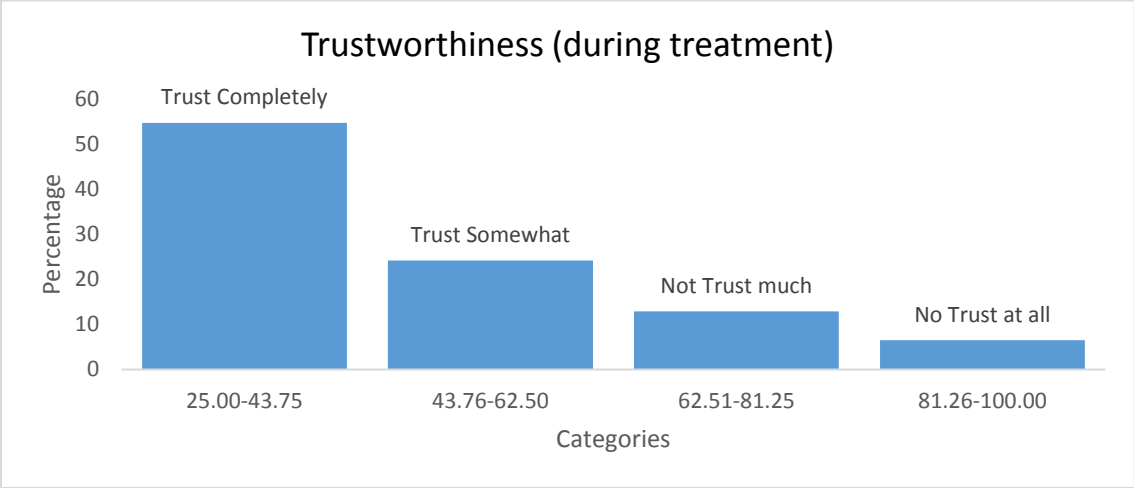
Figure 4.11: Trustworthiness (after addiction)



Source: Author's work

Similarly, the mean value shows that majority of the respondents believe that they are trusted somewhat by their family members and relatives while being under treatment. Standard deviation shows that the index value varies from 26.2-65.0. This means that majority of the respondents' belief about being trusted by their family members and relatives varies from complete trust to not much trust. First quartile shows that 25 percent of the values lie below 29.1 index value. Second quartile shows that 50 percent of the values lie below 41.6 index value. Third quartile shows that 75 percent of the values lie below 58.3 index value. The quartiles suggest that the trust of relatives and family members varies from 29.1-58.3 i.e. complete trust to somewhat trust.

Figure 4 12: Trustworthiness (during treatment)

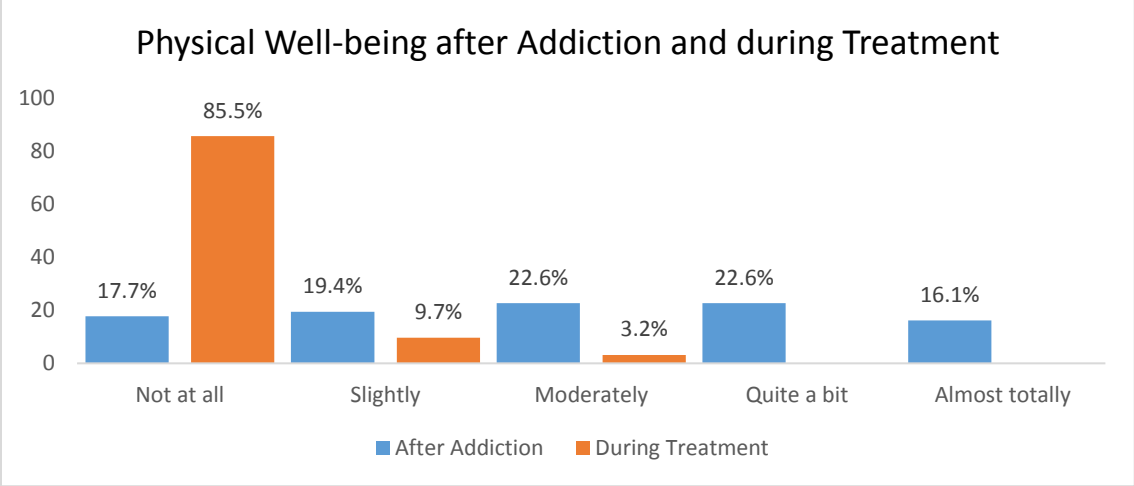


Source: Author's work

Comparison between After Addiction and During Treatment Scenarios

Physical Well-being

Figure 4.13: Physical Well-being after Addiction and during Treatment

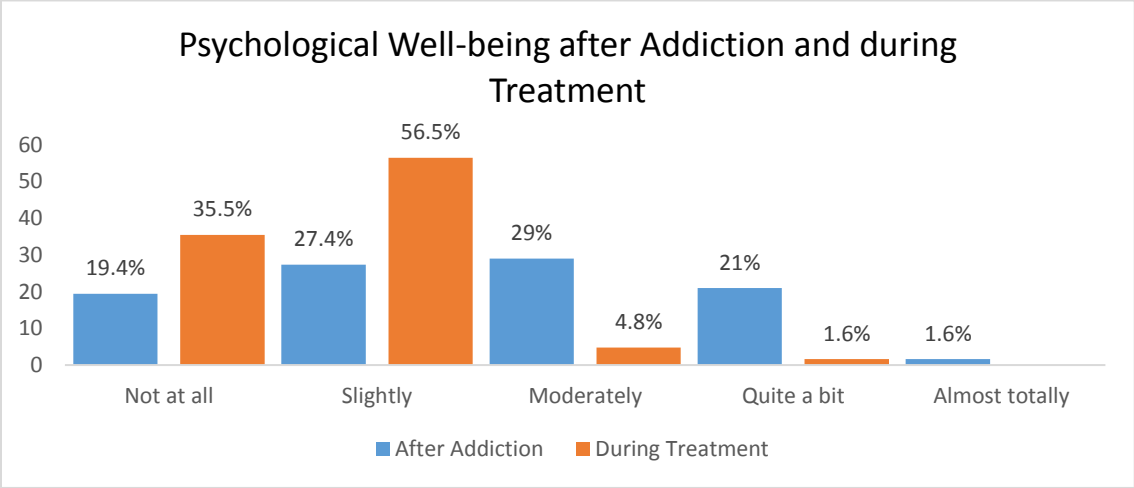


Source: Author's work

It is evident from the graph that patients' physical well-being was better off during treatment as compared to while they were addicts.

Psychological Well-being

Figure 4.14: Psychological Well-being after Addiction and during Treatment

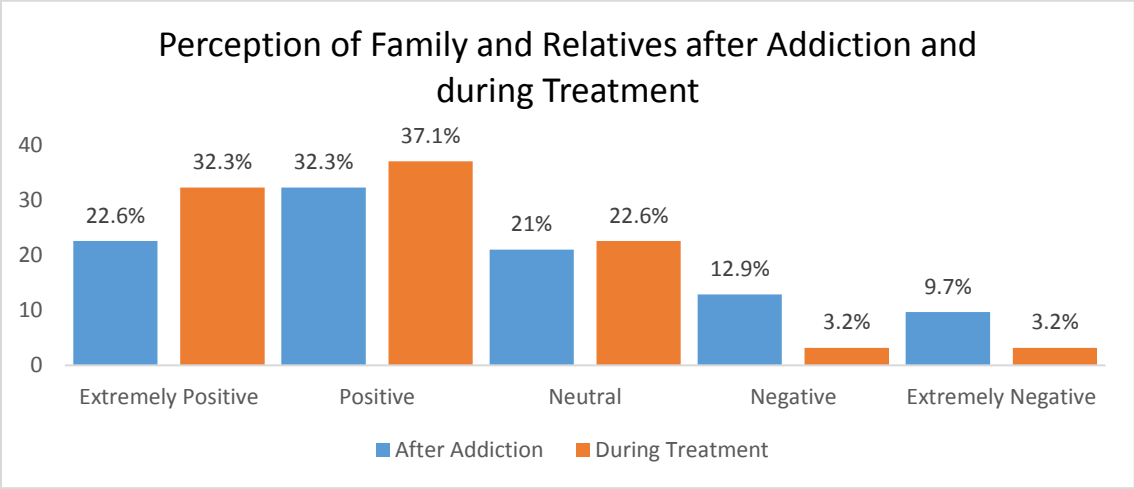


Source: Author's work

The graph shows that the psychological well-being of patients was better during treatment as compared to while they were addicts.

Perception of Family and Relatives

Figure 4.15: Perception of Family and Relatives after Addiction and during Treatment

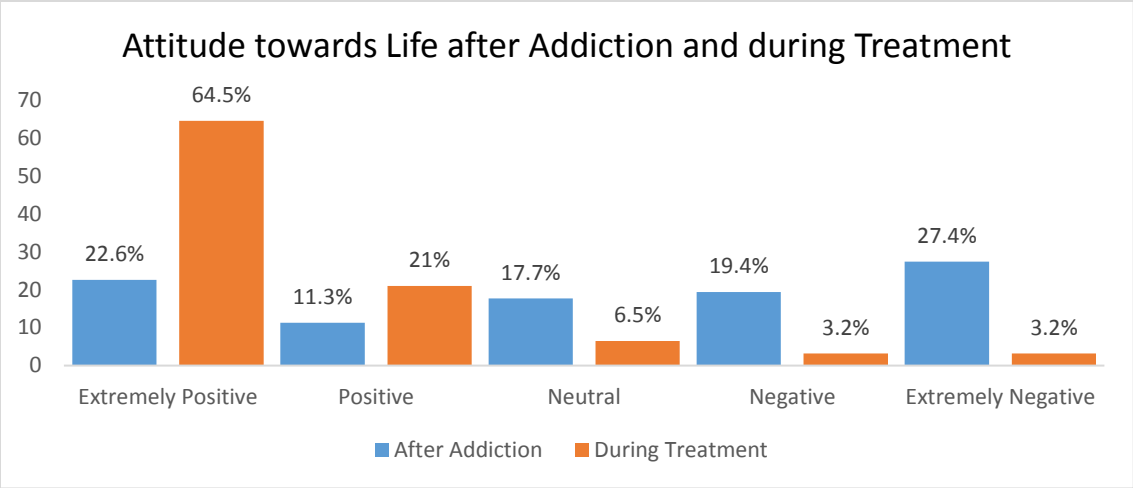


Source: Author's work

The graph shows that there is not enough difference between after addiction and during treatment scenarios while discussing family's and relatives' perception about the patients. Least negative responses can be observed.

Attitude towards Life

Figure 4.16: Attitude towards Life after Addiction and during Treatment

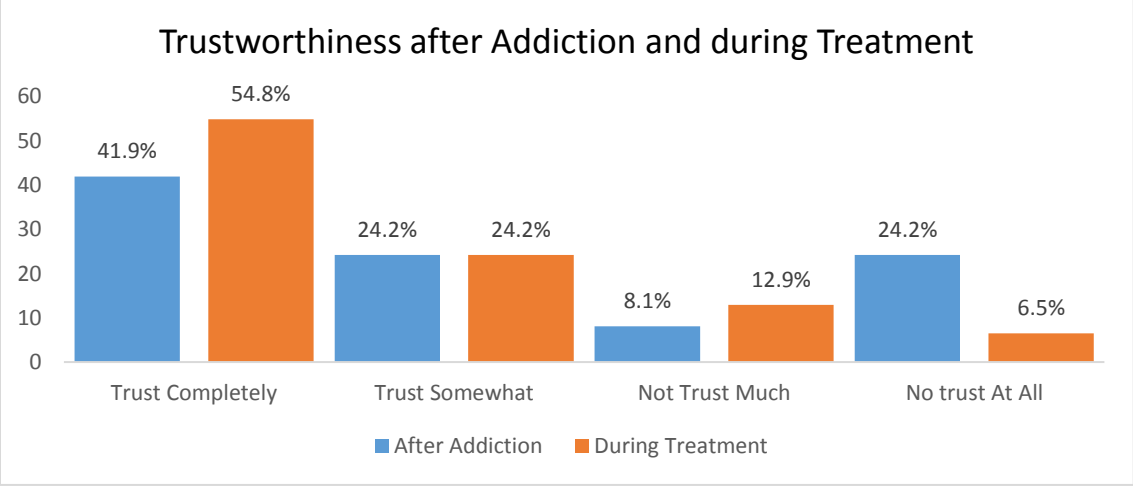


Source: Author's work

The graph indicates that majority of the patients consider their attitude towards life to be better while being under treatment as compared to being an addict.

Trustworthiness

Figure 4.17: Trustworthiness after Addiction and during Treatment



Source: Author's work

It can be observed through the graph that majority of the patients feel trusted by their families and relatives while being under treatment as compared to the stage of addiction.

4.4 HYPOTHESIS TESTING

The following hypothesis can be assessed here:

1. There is a difference in number of family members dependent on drug addicts' income before and after addiction, and during treatment.
2. There is a difference in monthly income of drug addicts before and after addiction, and during treatment.
3. There is a difference in drug addicts' household consumption pattern before and after addiction, and during treatment.
4. There is a difference in the subjective well-being of drug addicts after addiction and during treatment.

4.4.1 WILCOXON SIGNED-RANK TEST

Hypothesis testing is being conducted using Wilcoxon Signed-Rank test. It is important here to give a brief introduction of this method and its procedure.

The Wilcoxon signed-rank test is a non-parametric test, which is equal to the dependent t-test. Since, this test does not assume the normality of the data, it can still be used even the normality assumption has been violated and using dependent t-test is inadequate. This test is used to compare two score sets gathered from similar participants over two different periods of time to investigate any change in responses from one point to another, or if there is a change in individuals' condition. In order to understand the procedure, it is necessary to first understand the assumptions required to perform this test. The assumptions are as follows:

1. The dependent variable has to be measured at the continuous or ordinal level. The ordinal variables include Liker scales e.g. a 7-point or 5-point scale. The continuous variables include ratio or interval variables like weight measured in kg, time measured in hours, and intelligence measured as the IQ score.

2. The independent variable must have two categorical groups including “matched pairs” and “related groups”. Related groups include that similar subjects are present in both of the groups. The test is also utilized to compare subjects within the study design of matched-pairs, though this does not happen very often.

3. The differences between the two related groups should be distributed symmetrically. Even if this assumption is not met, it is possible to overcome it by transforming the data to reach a symmetrical distribution (Laerd Statistics, 2017).

The following hypotheses have to be tested here:

H_o: The median difference is zero

H_1: The median difference is positive i.e. a = 0.05

Results are interpreted using the p-value with the rule of thumb to reject the result if less than .05 and do not reject it if greater than .05.

4.4.1.1 HYPOTHESIS TESTING FOR SUBJECTIVE WELL-BEING

The Wilcoxon signed-rank test is being used to test if there exists a notable difference between the average of “after addiction” and “during treatment” scenarios for drug addicts getting treatment at drug rehabilitation centers.

Table 4.24: Hypothesis Testing to Compare the Subjective Well-being for "after addiction" and "during treatment" Scenarios

Wilcoxon Signed-Rank Test Results			
Variables	P-value	z-test	Hypotheses
Level of Pain	.000	-5.758	Reject H_o
Level of Fatigue	.000	-4.125	Reject H_o
Level of Nausea	.000	-3.937	Reject H_o
Physical Helplessness	.000	-5.012	Reject H_o
Loss of Appetite	.000	-6.161	Reject H_o
Ineffective in Fulfilling Daily Tasks	.004	-2.880	Reject H_o
Level of Sleeplessness	.000	-4.860	Reject H_o

Level of Depression	.002	-3.078	Reject H_o
Feeling Unworried About Oneself	.039	-2.068	Reject H_o
Level of Frustration	.000	-4.805	Reject H_o
Missing Out on Family Events	.000	-4.921	Reject H_o
Level of Feeling Neglected by Family	.001	-3.295	Reject H_o
Level of Emotional Weakness	.000	-5.641	Reject H_o
Feeling Unwilling to Refrain from Addiction	.000	-3.581	Reject H_o
Considering Oneself a Burden	1.000	.000	Do not reject H_o
Inability to Concentrate	.004	-2.901	Reject H_o
Attitude of Family	.000	-3.564	Reject H_o
Perception of Relatives	.011	-2.558	Reject H_o
Perception About Life	.000	-4.519	Reject H_o
Perception About Health	.000	-4.435	Reject H_o
Level of Satisfaction with Life	.000	-4.191	Reject H_o
Level of Happiness	.163	-1.394	Do not reject H_o
Trust by Family in General	.002	-3.080	Reject H_o
Trust by Family in terms of Financial Support	.000	-3.702	Reject H_o
Trust by Relatives in General	.025	-2.236	Reject H_o

Source: Author's work

The hypothesis testing is done to assess the significance of difference between the "after addiction" and "during treatment" scenarios for variables including pain due to drug craving, fatigue, feeling of nausea, physical helplessness, loss of appetite, ineffectiveness in fulfilling daily tasks, sleeplessness, depression, feeling unworried about oneself, frustration, missing family events, feeling neglected by family, emotionally weakened, unwillingness to refrain from addiction, considering oneself a social and economic burden on family, concentration, attitude of family, thoughts/perception of relatives, perception about life, perception about health, satisfaction, happiness, trust by family in general, trust by family in terms of future financial support provision, and trust by relatives in general. The key purpose is to analyze if there exists a significant difference of averages between both of the scenarios. The p-value for all the variables, except for one, is less than 0.05. This indicates that there exists a significant difference between both the scenarios for majority of the variables. H_o has been rejected for almost all of the cases. The two variables, which are not significant are considering oneself a social and economic burden on family and the level of happiness. This insignificance can be justified by the fact that unlike other cases, majority of the respondents considered themselves a social and economic burden on their families in both the scenarios. Hence, there doesn't exist a significant difference between their sample means. On the contrary, the insignificance for the level of happiness can be justified by the fact that majority of the respondents considered themselves happy in both the scenarios. Many of the respondents had stated that they felt happy while being under the influence of drug.

Ranks assigned to each response have been considered here. The higher the ranks for a particular scenario, the higher the value has been assigned by the respondents. The ranks for variables including pain due to craving, fatigue, nausea, physical helplessness, loss of appetite, ineffectiveness in fulfilling daily tasks, sleeplessness, depression, feeling unworried about oneself, frustration, being neglected by family, emotional weakness, unwillingness to refrain from addiction, and concentration, missing out on family events, attitude of family, thoughts of relatives, perception about life, perception about health, satisfaction, happiness, trust by family in general, trust by family in terms of future financial support provision, and trust by relatives in general are more for "during treatment" as compared to "after addiction". For the variable of missing out on family

events, majority of the respondents stated that they were not missing out on family events while being addicts and hence the z-value was positive. So, we can state that the respondents considered themselves worse while being addicts and better of wile being under treatment. Hence, there does exist a significant difference between the well-being of respondents after addiction and during treatment, and the respondents considered their well-being to be better while under treatment.

4.4.1.2 HYPOTHESIS TESTING FOR COST-OF-ILLNESS

Wilcoxon signed-rank test is now being utilized to assess the difference in costs borne by drug addicts and their families in different scenarios through various questions.

Table 4.25: Hypothesis Testing for Cost-of-Illness

Variables	P-value	z-value	Hypothesis
Household's Monthly Expenditure (before addiction and after addiction)	.014	-2.447	Reject H_o
Household's Monthly Expenditure (after addiction and during treatment)	.000	-4.997	Reject H_o
No. of people dependent on the addict (before addiction and after addiction)	.069	-1.821	Do not reject H_o
No. of people dependent on the addict (after addiction and during treatment)	.000	-4.120	Reject H_o
Previous family income and how much the family earns now	.000	-4.900	Reject H_o
Monthly financial contribution (before addiction and after addiction)	.173	-1.361	Do not reject H_o
Monthly financial contribution (after addiction and during treatment)	.002	-3.084	Reject H_o

Monthly expenditure on drug consumption and monthly income	.019	-2.348	Reject H_o
Current family income and total monthly cost of treatment	.000	-6.577	Reject H_o

While assessing the "before addiction" and "after addiction" scenarios for monthly household expenditures, the ranks have been considered again. The values of the ranks have shown that the respondents' families were spending more "after addiction" as compared to "before addiction". This shows that there was an increase in household expenditure when the respondents got indulged into addiction. The rank values for household's monthly expenditure while analyzing "after addiction" and "during treatment" scenarios indicate that the monthly expenditure has increased during treatment. This could be justified by another finding, which states that majority of the patients' treatment cost is being borne by their family members. So, this cost has added to the monthly household expenditure too. The p-value for the number of people dependent on the addict while assessing "before addiction" and "after addiction" scenarios is greater than .05. This shows that there is no significant difference between the two scenarios. Therefore, H_o has not been rejected here. The ranks for the number of people dependent upon the addict while studying "after addiction" and "during treatment" scenarios indicates that majority of the respondents had people depending on them while they were addicts, but fewer people are depending on them while they are under treatment due to lack of earning.

The ranks for the assessment of previous and current family income shows that majority of the respondents' family income was more while they were not under treatment. This could be supported by the fact that many of the respondents were the earning heads in their households, therefore their absence made a significant impact on what their families were earning. The p-value for respondents' monthly financial contribution at home "before addiction" and "after addiction" is greater than .05. This means that there was no significant difference between the financial contribution of respondents before and after addiction. Thus, we do not reject H_o. Similarly, the ranks for respondents' monthly financial contribution at home "after addiction" and "during treatment" show that majority of the respondents were contributing more as being addicts than being under treatment. The ranks

for previously earned monthly income and monthly expenditure on drugs show that majority of the respondents were earning more than what they were spending on drug consumption. In the same way, the ranks for previous monthly family income and monthly expenditure on drug consumption suggest that majority of the respondents' family income was more than what they were spending on drug consumption. This also explains why the significant number of people who were not earning were also able to afford drugs. Finally, the ranks for monthly treatment expenditure and current family income indicate that the current family income is more than the monthly treatment expenditure. This high current income could be explained by the fact that majority of the respondents have more than 1 earning members in household.

The values of ranks can be found in the appendix.

4.5 ETHNOGRAPHIC STUDY

It was a sunny afternoon of April 7, 2017 when I set off to gather data from the first rehabilitation center. The three-wheeler dropped me in the quiet street and I waited for someone to open the door for me. It was a double-storey house and belonged to my mother's first cousin. She is a Psychiatrist and running that center along with her husband, who happens to have mastered the similar field. They have kept the first storey for residence and have been using the second storey for patients' residence. It was a good start for me since I knew I was safe with my relatives, an important factor of consideration for me given the population I wanted to interview. The door got opened and an irritated, mid-aged man opened the door for me. Upon inquiring about my aunt, he showed me the door to her office and asked to wait there. She greeted me in the best way and called another man who was a caretaker of the patients and even resided on the similar floor with his family. I started climbing up the stairs with a throbbing heart and almost choked when a dog started barking loudly at the landing. He barked so badly that I couldn't notice he was locked up in a cage and not outside. His name was Cruise and he was my enemy throughout my visits to the center. My aunt was all praises for Cruise and told me how he has proved to be the best guard of patients and starts barking at a mere sight of a stranger or some irregular activity. Anyhow, I kept on climbing the stairs and upon reaching that particular landing felt like he would come out of the cage to grab me. He didn't calm even when the

caretaker accompanying me told him to and stopped only once I was out of his sight. I reached the second landing and saw a locked metal fence gate behind which there was a bustle to see who was coming upstairs. It was a frightening sight for me. I was given a chair to sit outside the gate and interview people one by one. There was no fan and I started sweating immediately. The caretaker told a young man to bring patients for interview. He was one of those patients who had displayed good behavior and were hence given the position of a "maid", who ensures a peaceful environment on the floor and reports any unusual activity to the authorities.

The first patient I interviewed was a 54-year old man. My aunt and her sister had joined me by the time I started my interview. Upon asking the time span since that patient had been residing here, the patient responded that it's been six months. My aunt started laughing and said in Punjabi "*Jaan deyo baba ji, jhoot na bolo*." (Translation: "Please don't lie, uncle.") It turned out that he was under treatment since the past 4 years at the center. There was another boy in his teenage, who volunteered to get interviewed. His interview was in progress when one of his fellow patients said "*Madam is ki baat na sunein, yeh to pagal hai*." (Translation: Madam, don't listen to him, he is mad.") Upon which the boy confidently said "*Nahin main pagal nahin hoon, main bikul theek hoon*." (Translation: "No, I am not mad, I am perfectly fine.") I decided to continue his interview and terminate it midway if I get a hint of unusual behavior from his side. His later interview proved that he was indeed in his senses to provide me all the crucial information including his household's financial status appropriately. I managed to interview only 5 people that day.

The next afternoon i.e. April 8, 2017, I went to the center again. A family was sitting in my aunt's office when I entered. My aunt told me the family belonged to one of the patients and had come to meet him. The man came downstairs and his family greeted him. While he was talking to his family, my aunt told me in an undertone how that person's wife (sitting next to him then) was working as a maid to earn some extra money for her family. Another woman setting on the next sofa was that person's sister-in-law, whose husband had died due to drug addiction a few months ago. That revelation was quite heartbreaking for me as I noticed two young children with that widow. My aunt told that patient how he needed to fight off drug addiction as he was the only hope and support of

the family. Much to my surprise, the patient's mother was quite firm and didn't cry at all, unlike his wife and sister-in-law, and told my aunt that her son could stay here as long as he can unless he returns fully recovered. The patient's family left a few minutes later and I started my interview with him. Much to my relief, I was allowed to interview all the trusted patients while sitting in the office. There was another young man in his early twenties I interviewed, who didn't even clearly remember how many times he had relapsed so far. "*15 se ziada dafa aa chuka hoon*." (Translation: "I have come for treatment for more than 15 times.") He belonged to quite a well-off family and didn't seem to care much of what he had been doing with himself by getting indulged in such a practice. When inquired about why he has relapsed so many times, he pointed towards a couple of staff members and said, "*Mera in se pyaar hi buhat ziada hai. Baji (my aunt) to meri second mom jaisi hain.*" (Translation: I share deep love with these people. Sister (my aunt) is like a second mother to me.") I managed to gather data from 7 people that day.

I got a chance to witness a "rehab release" scene the next day i.e. April 9, 2017. Two of the men were being released after their treatment and their families were coming to pick them. One of them was an aged man while the other was young. I understood later that interestingly, both of them were related with the older one being the father-and-law of the younger one. Both of them had been seeking treatment. My aunt though was not much hopeful about the recovery of the younger one since she believed he hadn't spent enough time there to leave addition easily, but she had to abide by the will of the patient's family. The young man's wife worked as a teacher at some school and had taken a half-day off to collect her husband. She was accompanied by 2 young daughters aged around 8 and 5, who were very happy to meet their father and wanted to share a lot of stuff with him. My aunt told both the patients how they needed to behave properly and take their medicines on time, and avoid all such events and gatherings which even had a slightest chance to drive them back towards addiction. It was a delightful sight indeed to see the kids leaving happily with their father. The older man left the center with his son. I got a chance to interview a 21-year old boy too that day about whom my aunt kept on telling me that he had ruined his life. I didn't understand the purpose of differentiating him from the lot since this was pretty much what everyone else had done. When inquired if that patient had got any severe disease as a result of drug addiction, my aunty revealed he was HIV (Human Immunodeficiency

Virus) positive. It was for the first time that I met an HIV positive patient and I felt bad for he was too young. I was shocked to know that there was possibly no drug or way of taking drug left that he hadn't tried. My aunt told me he was brought through intervention when he lied that he came through his own will. Intervention is a process where a drug addict is abducted for treatment with the addict's family's consent. My aunt described how that entire place was filled with smoke like fog when they reached to abduct him. He had gained a good reputation among patients by them and was also the maid. "*Main bus apni mama ke liye theek hona chahta hoon. Un ki buhat umeedein hain mujh se*." (Translation: I want to recover for my mother only. She has high hopes from me.")

The interviews continued the next day as well. In total, I gathered data from 17 people from that particular rehabilitation center.

It was a warm morning of April 13, 2017 when I started data collection from another rehabilitation center. It took me more than a weak to get approval to gather data from there. I had to make a personal visit to know the progress of my application. Fortunately, I met an old colleague of my same aunt who runs her own rehabilitation center. He recognized me due to our introduction at some family gatherings and got my application approved within minutes. There were three floors of this building from where I was supposed to gather data. The ground floor was dark and also seemed something without purpose since there was nothing other than the staircase. I climbed up the stair case and reached a door at the second landing. I noticed a bell and rang it. The door was opened by a man in his early thirties. I told him I wanted to interview drug addicts in rehab and he allowed me to get in. There was a long corridor at one end of which there was an office and I couldn't make what was at the other end since I never got a chance to roam about. I was told to wait in the office. A psychiatrist came there a few minutes later and asked for my questionnaire. Without even reading the entire questionnaire, he started telling me about the do's and don'ts of interviewing the patients (most of which was focused towards the latter). Instructions included not to keep cell-phone in the bag and not to allow patients to have your phone to call their family, interviewing patients in the corridor and not in the meeting hall, and to let the authorities know if any of the patients asked you to contact their family members on their behalf.

I waited for about half an hour till the patents came back from their morning's religious lecture. Interviewing patients was tough here since there were other girls too who wanted to interview them. All of them were students of Psychology and had come there for either their thesis or due to placements. The interview time given here started from 10 am and ended at 12 pm. It took me the first whole day just to explain the staff that I am no regular Psychology student doing a series of interviews with one single patient. The time constraint allowed me to interview only 2 patients on the first day. It was after the time had finished that I managed to explain my data gathering technique and purpose to a person who seemed more like one of the caretakers of that floor. He understood and agreed on cooperating fully.

The next day i.e. April 14, 2017, involved lesser hassle and I managed to interview quite a few people. I interviewed an interesting person that day who was in his early thirties. He was an addict of *charas* (cannabis resin) and believed it was not harmful. He explained to me how *charas* was different and not at all harmful as compared to heroin. "*Aap ko koi takleef nahin hoti, bus aap thori der ke liye relax ho jate ho. Charas heroin jaisa bura nasha nahin hai. Heroin use karne waalon ki haalat itni kharab hoti hai aur woh apne aap ko sanbhal nahin sakte. Yahan dekhen jo heroin ke patients rehte hain*." (Translation: You don't feel any pain, you just get relaxed for a while. *Charas* is not a lethal drug like heroin. Heroin users have severe conditions and they can't handle themselves. Look at the heroin patients living here.") He believed his parents were wasting their and his time by putting him for rehab, since his addiction did not do any harm to him. "*Jab main yahan aaya tha to acha bhala dubla tha, ab itna mota ho gaya hoon. Yahan kuch karne ko nabin hota, bus khaate hain aur baith jate hain. Main yahan bilkul mutmain nahin hoon aur yahan se bahar nikalna chahta hoon. Yeh ek qaid hai aur qaid ho ke koi khush nahin hota*" (Translation: I was in good shape and thin when I came here, but now I have gained a lot of weight. There is nothing to do here, we just eat and sit. I am not at all satisfied here and want to leave. This is imprisonment and no one feels happy being imprisoned.")

I also interviewed a man in his late thirties, who was really intelligent and well-educated. He told me about the concepts of psychology, pharmacology, and sociology. Hence, it took my whole day to interview him alone. He also told me the use of term

"*peepay*" on their floor. "*Peepay*" are the patients who receive lots of stuff sent from their families. It was interesting to see that out of all the people at that center, I got to know about this term from quite an educated person. I moved on to the next floor on April 17, 2017 to continue interviews there. Once again I had to elaborate my data collection method to the management on that floor. I was interviewing a person when I noticed an aged man talking rudely to the caretakers of that floor. "*Naukar bana ke rakha hua hai humein. Koi izzat nahin karta yahan*." (Translation: You have made me a servant here. No one respects here.") The caretakers also responded rudely and told him to go away. Later, that similar old man was sent to me for the interview. I had this idea already that he would not prefer the interview, and that's exactly what happened next. "*Dekho beti, tum mujhe batao ke jab insan ka dimag hi sahi nahin ho ga to woh kya jawab de ga aur tum us se kya nateeja nikalo gi. Is kaam ka koi faida nahin hone wala tumhein.*" (Translation: Listen daughter, tell me what are you going to conclude from the answers of a person who is not in his mind? There is going to be no use of this work to you.") I agreed with him, he left, and I continued with other patients. I also happened to interview a 64-year old man, who also worked as an exercise instructor for both the floors. Everyone call him "dada abu". He was a divorcee and told me how he willed to re-marry after the treatment.

Data collection at this center took 7 days due to time constraint at both of the floors. I gathered data from 27 patients from there.

I started data collection from the third and final rehabilitation center on April 24, 2017. I had already taken permission from the owner via phone prior to my visit. The owner was not there when I reached that morning and I had to take permission from another senior psychiatrist. He assigned the duty of my interviews to another young psychologist, who was supposed to accompany me throughout the interviews. He guided me really well with the conditions of patients. I started my interview from a young man in his early twenties. He shared another interesting perspective about drug addiction. "*Center waale humein yahan laate hain addiction se nikaalne ke liye, phir humein yahan rakhte hain aur hum theek ho jate hain. Phir bhi yeh humein jaane nahin dete, kehte hain hum ne recover nahin kiya. Aur yahan reh ke hum itne bore aur udaas ho jate hain ke depression mein chale jaate hain. Yani yeh humein ek bure phase se nikaal ke doosre bure phase mein daal dete hain*."

(Translation: The management at rehab centers bring us here to pull us out of addiction, then they keep us here and we get fine. Still, they don't let us go and say we haven't recovered fully. And they keep us here and we get so bored and upset that we go into depression. They pull us out of one bad phase and put us in another one.") I managed to gather data from 4 patients that day.

I went for data collection next morning i.e. April 25, 2017 around 10:00 am and started interviewing patients. The young psychologist accompanied me once again and helped in understanding the patients' psyche. For example, when one of the patients told me that he started addiction as a result of depression due to his father's death, the psychologist told me how these patients get defensive by giving excuses. I interviewed this person who was in his early fifties and had been diagnosed with HIV positive. He told me how he had escaped from Amritsar and came to Lahore via border. His entire family resided in Amritsar, but he never tried to contact anyone. He was residing at some shrine in Lahore.

My data collection ended at this center after 5 days and I managed to gather data from 18 patients. Overall it was a good experience interviewing at all the centers.

While doing the pilot study, I happened to visit a government hospital that treated drug addicts too. In my experience, it was the most disappointing drug rehabilitation center I had ever visited. Unlike the policies for all the rehabilitation centers of not allowing patients to meet their family members before the completion of a month, this center had allowed family members to visit as they please. Even the patients were not restricted and could come and go according to their convenience. The only positive thing about that center was it charged only PKR 75 per month from the patients, however, least guaranteed their recovery. I also got to know from patients at other rehabilitation centers that this center's security even facilitated patients with drugs if they gave some "*tip*". I refrained from gathering data from that center since I was not sure if the patients were in the correct state to respond. But it is worth mentioning here that government rehabilitation centers, if working appropriately, can ensure recovery of drug addicts at a cheaper cost.

4.5.1 KEY POINTS

1. I liked this culture at all the three centers that almost all the patients, who received food and other eatables from their home, shared it with their friends. Those who didn't receive it told me that others shared it with them.

2. Majority of the patients I interviewed had relapsed at least once in their lives.

3. There were quite a few patients, who requested me to ask the management why they were being kept there, and they wanted to contact their families to take them from there.

4. Majority of the patients belonged to old Lahore (walled city and nearby locations).

5. Majority of them had sold either their or their families' possessions at least once in their lives to pay for the drugs. There were also many who used to fight at home to get money.

6. Even if they had been admitted 15 days ago, majority of the patients stated that they would never touch drugs again, which seems a white lie. Another important fact to mention here is that these patients lie a lot to prove their innocence.

7. Majority of the patients agreed upon the fact that their physical and mental well-being had improved during treatment as compared to while they were addicts.

8. Many patients also complained about the lack of adequate activities that had made them dull and lethargic.

9. None of the patients were tested for any major disease prior to admitting them at the rehabilitation centers.

10. Some of the patients also introduced me to this concept of going into depression at rehabilitation centers and considered it equally bad as their addiction habit.

The next and final chapter will sum up the findings and will give an insight into the limitations of the current study, suggestions for future research in similar area, and policy recommendations.

CHAPTER 5. RESULTS AND DISCUSSION

This section summarizes the objectives and findings of this study.

5.1 OBJECTIVES

The prime objective of this study was to gain an insight into the costs that are being borne by patients seeking treatment at drug rehabilitation centers in Lahore and to assess their subjective well-being. It compares how there has been a significant difference between the economic conditions of the addicts' household ever since they got indulged into addiction. It also compares the patients' current family incomes and the total monthly cost they are paying for the treatment of their loved ones. It also assess the subjective well-being of patients in two different scenarios of "after addiction" and "during treatment". This study has also analyzed several other socio-economic factors of drug addicts under treatment through descriptive analysis.

5.2 COST-OF-ILLNESS

The results through the application of Wilcoxon signed-rank test have shown that many of the patents under treatment had their households' monthly expenditure to be more after addiction as compared to before addiction. The reason behind this is that the households were spending more after addiction as compared to before addiction due to the amount spend on the drug consumption of the addicts. The households' expenditure also increased during treatment as compared to after addiction, since it was now required for majority of the households to pay monthly treatment cost for the treatment of addicts.

The reason why the number of people dependent upon the drug addict were more after addiction than before addiction was due to the reason that majority of the respondents started addiction at a very early age, and hence they were not earning at that point. The number of people dependent on the drug addict were significantly more after addiction as compared to during treatment, since the majority of the patients were not able to support their families. Patients' families earned more prior to treatment as compared to the current situation when they had to pay significant monthly treatment cost. The monthly financial contribution of the addict was more after addiction as compared to before addiction due to

the similar reason of majority of the respondents not earning before addiction. However, the significant difference between the monthly financial contributions of the patient after addiction than during treatment shows how the household's overall income has deteriorated.

It has also been observed that the pervious income of majority of the addicts was more than the amount paid on drug consumption. This shows that majority of the people were able to afford their drug usage. The difference between previous household income and expenditure on drug consumption shows that majority of the respondents' family income was enough to cater to their drug addiction. The results have also shown that the monthly treatment expenditure is more than the family income of majority of the addicts.

5.3 SUBJECTIVE WELL-BEING

The results of descriptive analysis of indices and Wilcoxon signed-rank test have shown that majority of the respondents considered their overall subjective well-being to be better during treatment as compared to their phase of addiction. Majority of the patients have reported a poor condition while being addicts. The reliability test has also testified the reliability of the indices.

5.4 DESCRIPTIVE ANALYSIS OF DEMOGRAPHIC PROFILE OF THE SAMPLE

The results have shown that most of the respondents were single. This shows that lesser family burden has more tendency to drive a person towards addiction. Majority of the respondents had middle but below matric education, 19% had matric but below intermediate, and surprisingly 19% of the respondents were graduate or above. Majority of the respondents belonged to the age group of primary youth (15-29 years).The results also show that majority of the respondents belonged to old Lahore. Also, majority of the patients live in a joint family structure. The results also indicate that majority of the respondents have relapsed at least once in their lifetime. It has also been observed that the age at which majority of the respondents started taking drugs was 16 or 22, which belong to the age group of primary youth (15-29 years). It has also been found that majority of the drug

addicts did not have any family history of addiction. Peer pressure played a major role in driving majority of the people towards addiction.

Majority of the patients were using either heroin or a combination of drugs like heroin and marijuana, and heroin and alcohol, etc. prior to getting into treatment. Private jobs were being done by majority of the respondents. These ranged from working at a hospital or firm to working as a driver or peon. More than 50% of the respondents have more than 1 earning member in their household. Fathers were the earning heads in majority of the respondents' households and parents were bearing the family expenses in the absence of the addict. Similarly, treatment cost was also being borne by the parents of 50% of the respondents. Half of the respondents had a monthly income of PKR 26000. The average amount spent on drug consumption was found to be PKR 15000 and PKR 17000.Total monthly cost including the cost of treatment, things brought by visitors, and visitors' travelling costs were PKR 37566 on average. Also, the analysis shows that the average total monthly cost being paid for treatment is higher than the per capita income of Pakistan.

5.5 LIMITATIONS AND FUTURE RESEARCH

This subsection will focus on the limitations of this research, which can be tackled by future researchers.

1. A larger sample can be chosen by future researchers to study the impact of similar variables.

2. If available, a sample of female drug addicts can also be added to have a comparative study.

3. The domain of cost-of-illness can be explored further to derive useful econometric approaches to study them.

4. A comparative study of well-being could be done by comparing the characteristics of drug addicts under treatment and street addicts.

5.6 POLICY RECOMMENDATIONS

This section has been designed to propose policy implications that could help treatment of drug addicts.

1. Such researches can be utilized to create awareness among people that not only drug addiction destroys your physical and mental health, its treatment cost can ruin the financial condition of your family. Media can play a strong role in this regard. Regular seminars or short plays should be conducted at schools, colleges, and offices to educate the masses.

2. As majority of the patients reported a lack of activities for recreation, certain activities should be adopted by all drug rehabilitation centers while making participation of all the patients necessary. Almost none of the patients had been tested by the centers prior to admitting them, which can have serious consequences for many other patients. Hence, it should be compulsory for centers to admit patients after detailed blood tests.

3. Rehabilitation should be encouraged by the masses at large to help those in need. There is a need of more government-run rehabilitation centers, which can provide treatment at a cheaper cost but with the best quality.

4. It is important to provide drug rehabilitation to female population as well. A study conducted by United Nations Office on Drugs and Crime (2010), focused on female drug users in Pakistan. 3,538 interviews had been conducted from 13 cities in order to gain an insight on female proportion involved in drug abuse. 4,632 female drug users were estimated to be found in the selected cities. Only 71 out of them had been identified as female drug injecting users. The highest number of female drug users was found to be in Karachi, then Lahore, and then Faislabad. The highly consumed drug was found to be charas (by 28%) followed by bhang (14.2%). A fairly large proportion of women also reported to be using heroin (13.6%), which is followed by the use of pharmaceutical drugs (12.6%). The mean age of the women was found to be 32 years, with majority of the drug users being within the range of 21 to 40 years. Only 13.2% of the women stated that they have been tested for drug abuse at least once. Majority of the women stated that they seek help from private clinics for their treatment, which is followed by help from non-governmental organizations (NGO's) and public hospitals. 73% of the women stated that

they needed to be treated and also showed willingness in participating in programs for treatment, if offered.

APPENDIX

QUESTIONNAIRE

The following questionnaire has been designed to gather information regarding the costs that are borne by drug addicts and their families during the stay of addicts at the rehabilitation centers. These costs include economic, social, and psychological ones. The research will also focus on the problems faced by the addicts, along with the facilities that are provided to them at their respective rehabilitation centers. The subjective well-being of patients shall also be measured. This research will provide an insight into how different rehabilitation are treating their patients while charging specific amounts of money. However, the data collected shall be solely for the purpose of conducting research and shall not be subjected towards breaching respondents' or treatment centers' confidentiality. None of the questionnaires shall be filled out without respondent's consent.

DEMOGRAPHICS

This section would encompass the personal details of the drug addict.

Name: _____

Marital Status:

Single	Married	Divorced	Engaged	Other

Gender:	Religion:	Age:	Region:

HISTORY AND BACKGROUND

The information regarding the life and history of the respondent, as well as his reasons for staying at the rehabilitation center would be gathered in this section.

With whom do you live?

How many children do you have?

How many family members do you have living with you?

Total	Dependent	Independent

Is it the first time you are being held at a rehabilitation center?

Yes	No

(If no to the previous question, then) how many times have you relapsed?

Since how long have you been staying here?

What was your age when you were brought for rehabilitation for the first time?

51-60 yrs.	41-50 yrs.	31-40 yrs.	21-30 yrs.	11-20 yrs.

At what age did you start taking drugs?

51-60 yrs.	41-50 yrs.	31-40 yrs.	21-30 yrs.	11-20 yrs.

Do you have any family history of drug addiction?

Yes	No

(If yes, then) What is your relation with that person?

Do you think you got influenced from it?

a. N/A	b. No	c. Don't know	d. Yes

How did you start taking drugs?

Was there any peer pressure involved in driving you towards drugs?

Yes	No

Were you brought to the rehabilitation center with your own willingness?

Yes	No	Brought through intervention

What were you addicted to?

In which way did you use to take drug?

Were you aware of the consequences that you might face later?

Yes	No	Wasn't sure

CURRENT SITUATION

The current situation being faced by the respondent shall be discussed in this section.

How long are you expected to stay here?

How often do you still feel craving for drugs?

Never	Rarely	Often	Very Often

How much are you satisfied with the environment here?

Very much	Somewhat satisfied	Not much	Not at all

How much are you satisfied with the level of cleanliness here?

Very much	Somewhat satisfied	Not much	Not at all

Do you think the treatment has positively affected you in some way?

Very much	Affected somewhat	Not much	Not at all

Do you feel satisfied with the treatment?

Very much	Somewhat satisfied	Not much	Not at all

How much do you feel secured here?

Very much	Secured somewhat	Not much	Not at all

Have you ever been abused during your stay here?

Yes	No

How would you rate your health?

Good	Satisfactory	Not so good	Bad

Have you got any severe disease?

Yes (please specify):	No

How much do you pay for the treatment of that disease?

Before	
After addiction	
During treatment	

What kind of relationship do you have with the staff?

Good	Satisfactory	Not so good	Bad

What kind of relationship do you have with your fellow patients?

Good	Satisfactory	Not so good	Bad

OCCUPATION

This section would provide details regarding patient's occupation.

What job were you doing before coming to the rehabilitation center for treatment?

None	Student	Contract-based	Self-employed	Family business
Govt. job	Civil Servant	Semi-govt.	Private	Agriculture

Were there any facilities provided to you? What were they?

ECONOMIC CONDITION

This section would provide the details regarding economic background and sources of income of the drug addict.

Who is the head of your family in terms of earning?

Self	Wife	Brother/Sister	Son/Daughter

How many earners were present in your house before your coming here?

One (Not me)	One (myself)	2	3	Other

How many people were dependent upon you?

Before Addiction	
After Addiction	
During treatment	

What was your monthly income before coming here? _____

What was your family income? _____

How much does your family earn after your coming here? _____

What was your household's monthly expenditure?

Before Addiction	
After Addiction	
During Treatment	

Do you own a vehicle?

Yes (please specify):	No

How much money did you use to give at home for monthly expenditure?

Before Addiction	
After Addiction	
During Treatment	

What was your monthly expenditure on drug consumption?

How much debt did you use to take for drugs on a monthly basis? _____

Have you cleared all the debt?

Yes	No

Who bears your family expenses while you are not earning?

What is the income of that person? _____

Who is bearing the cost of your treatment?

What is the income of that person? _____

COST

This section would take under consideration the costs that are borne by the respondent's family.

How much do you pay for your treatment monthly? _____

How much are you paying on medication?

What is the cost of your visitors' travelling? _____

What is the income of your visitor? _____

What is the cost of things the visitors bring in each visit? _____

EDUCATION

What is the level of your education?

Below Primary	Primary but below middle	Middle but below matric
Matric but below intermediate	Intermediate but below graduate	Graduate or above

VISITORS

Do you receive any visitors here?

Yes	No	Not so far

Is your area closer to the area of your residence?

Yes	No

From how much distance do your visitors come?

Same area	< or = 50km	51-100km	101-150km	151-200km	>200km

What is the mode of your visitors' travelling?

Own Car	Rented Car	Local Van	Bus	Train	Airplane	Motorcycle	Rikshaw/Taxi	By Walk

How frequently do they visit you in a month?

If your relatives come from some other city, where do you stay?

N/A	They leave after meeting	Relative's house	Friend's house	Hotel

What kind of things do your visitors bring for you?

Homemade food and bakery items	Homemade food	Bakery Items	Nothing so far	Other:

PHYSICAL WELL-BEING

	After addiction	During treatment
Did you feel pain in your body due to drugs craving?		

How would you rate the level of pain due to drugs craving?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel fatigued?		

To what extent did you feel fatigued?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel nauseous?		

How often and severe did you get nauseous?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment

Did you feel helpless physically?		

How much helpless did you feel physically?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel loss of appetite?		

How often did you feel less or no appetite?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Were you ineffective in fulfilling daily tasks?		

How much were you ineffective in fulfilling daily tasks?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel sleepless?		

How often did you feel sleepless?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

PSYCHOLOGICAL WELL-BEING

	After addiction	During treatment
Did you feel depressed?		

How often did you feel depressed?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally

After addiction					
During treatment					

	After addiction	During treatment
Did you feel unworried about yourself?		

To what extent did you feel unworried about yourself?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel frustrated?		

To what extent did you feel frustrated about yourself?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you miss out on family events?		

How often did you miss out family events?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel neglected by your family?		

How much do you feel neglected by your family?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel emotionally weakened?		

How much did you feel emotionally weakened?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you feel unwilling to refrain from addiction?		

To what extent did you feel unwilling to refrain from addiction?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Did you consider yourself a burden on your family?		

To what extent did you consider yourself a social and economic burden on your family?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

	After addiction	During treatment
Were you able to concentrate on whatever you were doing?		

To what extent were you able to concentrate on whatever you were doing?

	Not at all	Slightly	Moderately	Quite a bit	Almost totally
After addiction					
During treatment					

PERCEPTION OF PEOPLE

	After addiction	During treatment
Was the attitude of your family members' positive towards you?		

What is the attitude of your family members toward you?

	Very Cooperative	A little Cooperative	Neutral		Not really Cooperative	Not at all Cooperative
After addiction						

During treatment						

	After addiction	During treatment
Are the thoughts of your relatives' positive about you?		

What are the thoughts of your relatives about you?

	Extremely Positive	Positive	Neutral	Negative	Extremely Negative
After addiction					
During treatment					

ATTITUDE TOWARDS LIFE

	After addiction	During treatment
Did you perceive your life positively?		

How do you perceive your life?

	Extremely Positive	Positive	Neutral	Negative	Extremely Negative
After addiction					
During treatment					

	After addiction	During treatment
Did you perceive your health positively?		

What is your perspective on your health?

	Extremely Positive	Positive	Neutral	Negative	Extremely Negative
After addiction					
During treatment					

	After addiction	During treatment
Did you feel satisfied with your life?		

How much satisfied were you with your life?

	Extremely Satisfied	Satisfied	Neutral	Not so satisfied	Extremely dissatisfied
After addiction					
During treatment					

	After addiction	During treatment
Did you feel happy?		

How did you use to consider yourself in terms of happiness?

	Very happy	Happy	Neutral	Not so happy	Not at all happy
After addiction					
During treatment					

TRUSTWORTHINESS

	After addiction	During treatment
Do your family members trust you in general?		

How much do you think your family trusts you in general?

	Trust completely	Trust somewhat	Do not trust very much	Do not trust at all
After addiction				
During treatment				

	After addiction	During treatment
Does your family trusts you in terms of your ability to support?		

How much do you think your family trusts you in terms of your future ability to support them?

	Trust completely	Trust somewhat	Do not trust very much	Do not trust at all
After addiction				
During treatment				

	After addiction	During treatment
Did you think your relatives trust you in general?		

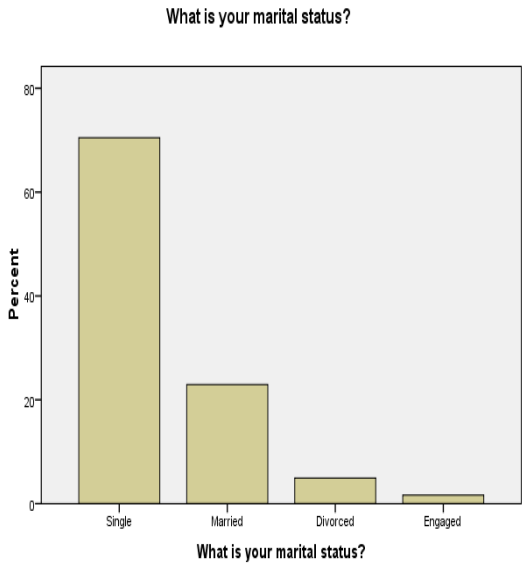
How much do you think your relatives trust you in general?

	Trust completely	Trust somewhat	Do not trust very much	Do not trust at all
After addiction				
During treatment				

Source: Author's work

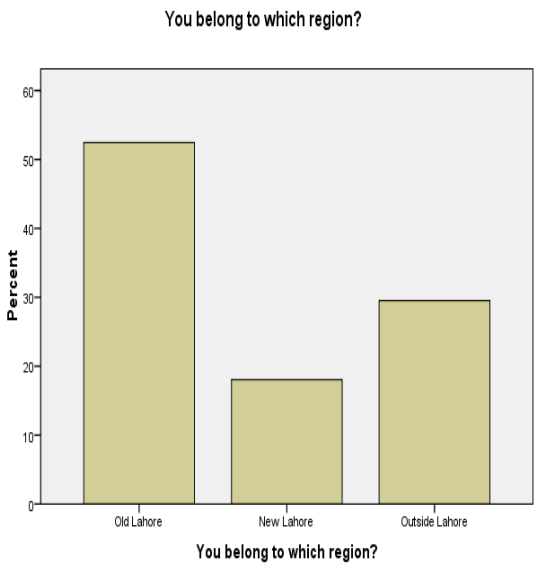
DESCRIPTIVE ANALYSIS OF DEMOGRAPHIC PROFILES OF THE SAMPLE

FIGURE 1: MARITAL STATUS



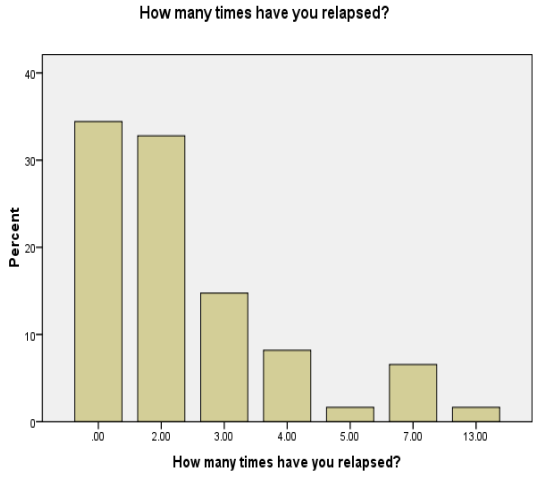
Source: Author's work

FIGURE 2: REGION



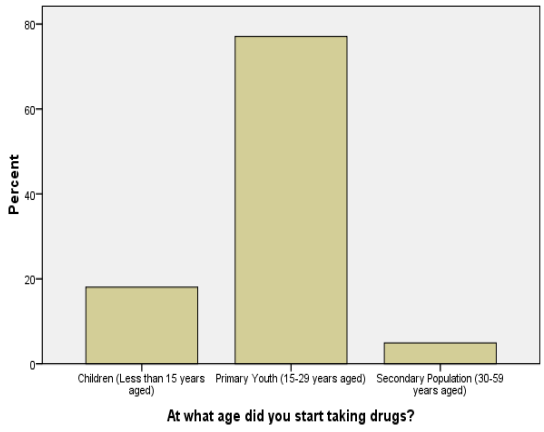
Source: Author's work

FIGURE 3: NO. OF TIMES RELAPSED



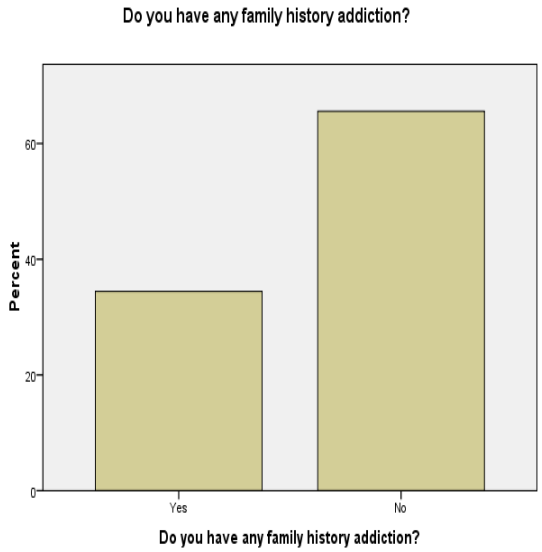
Source: Author's work

FIGURE 4: AGE STARTED DRUGS



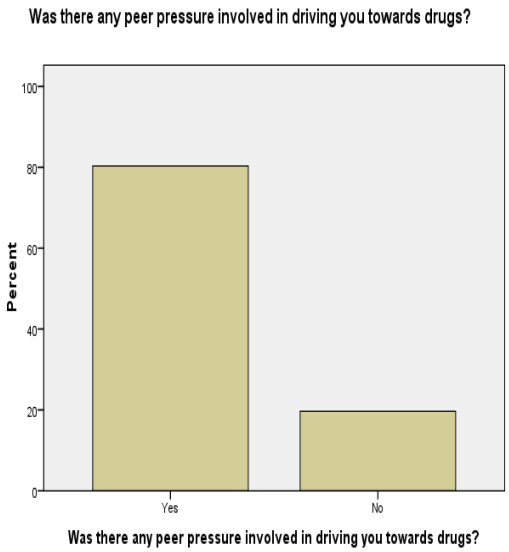
Source: Author's work

FIGURE 5: FAMILY HISTORY OF ADDICTION



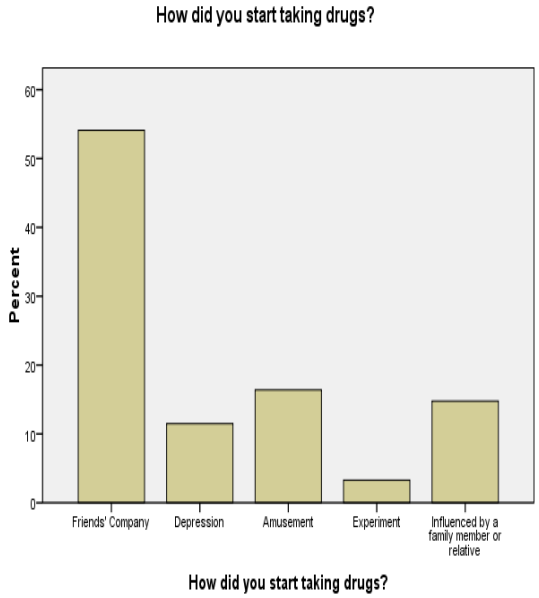
Source: Author's work

FIGURE 6: ROLE OF PEER PRESSURE



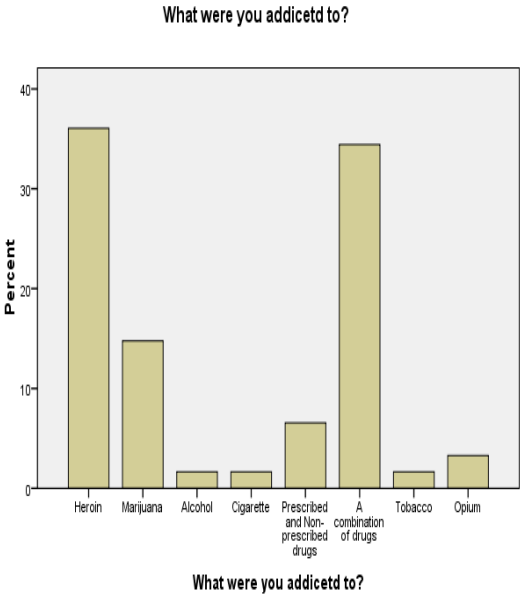
Source: Author's work

FIGURE 7: REASON OF STARTING DRUGS



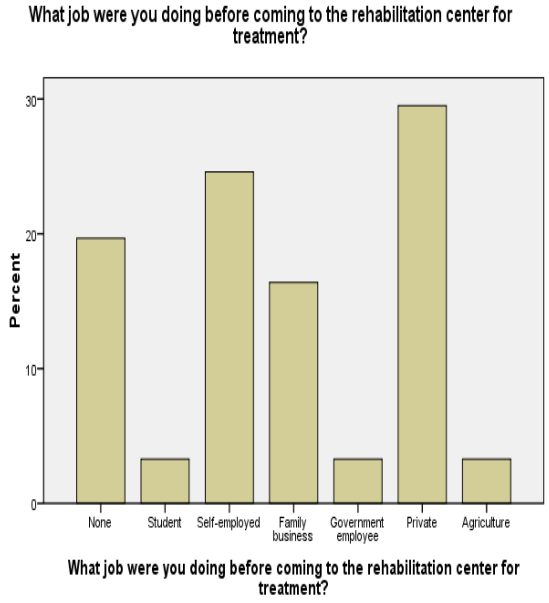
Source: Author's work

FIGURE 8: DRUG ADDICTED TO



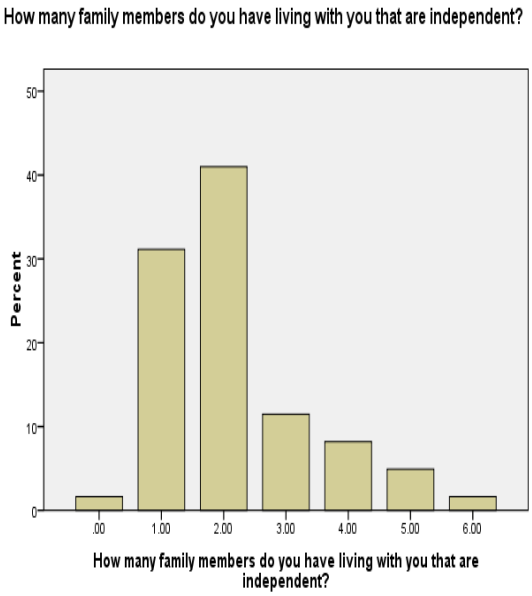
Source: Author's work

FIGURE 9: JOB BEFORE TREATMENT



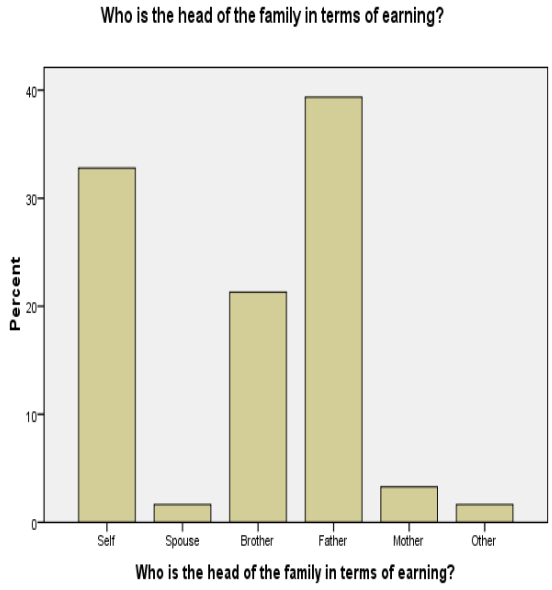
Source: Author's work

FIGURE 10: INDEPENDENT HOUSEHOLDMEMBERS



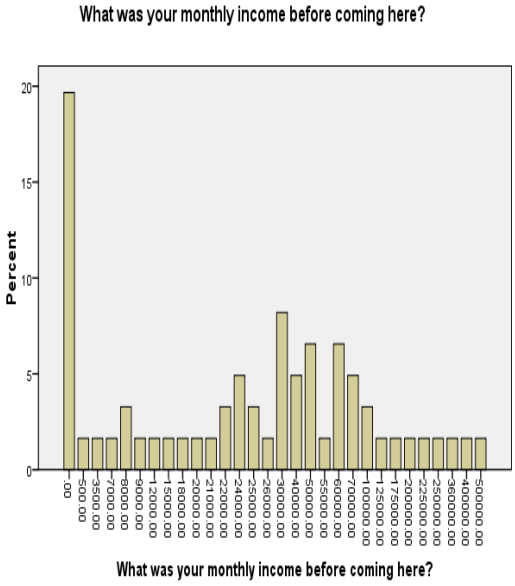
Source: Author's work

FIGURE 11: HEAD EARNING MEMBER



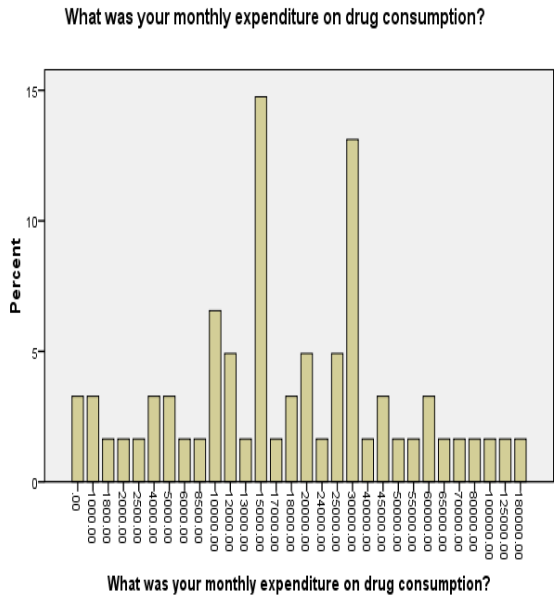
Source: Author's work

FIGURE 12: PREVIOUS MONTHLY INCOME



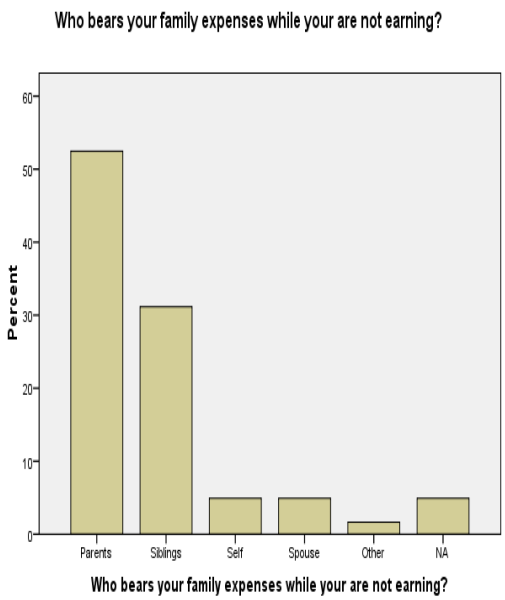
Source: Author's work

FIGURE 13: MONTHLY EXPENDITURE ON DRUGS



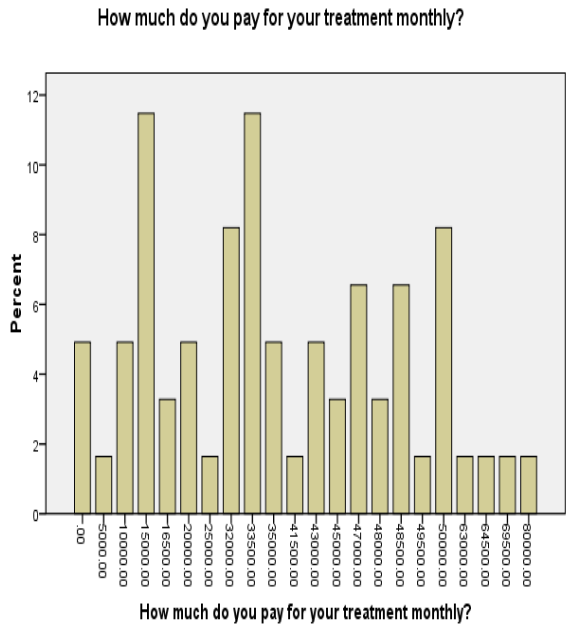
Source: Author's work

FIGURE 14: BEARER OF FAMILY EXPENSES



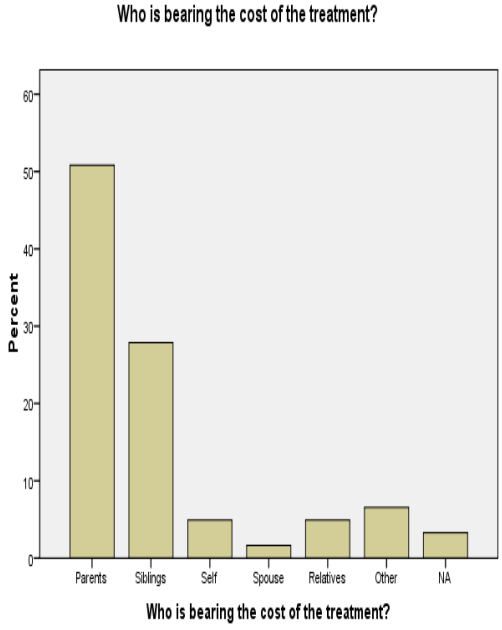
Source: Author's work

FIGURE 15: MONTHLY TREATMENT COST



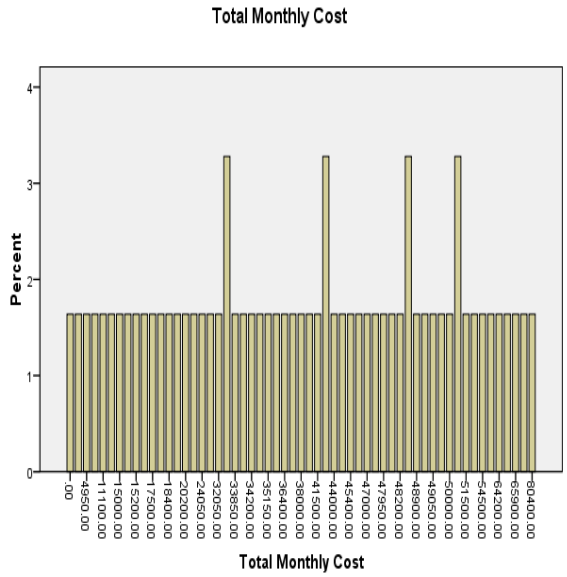
Source: Author's work

FIGURE 16: TREATMENT COST BEARER



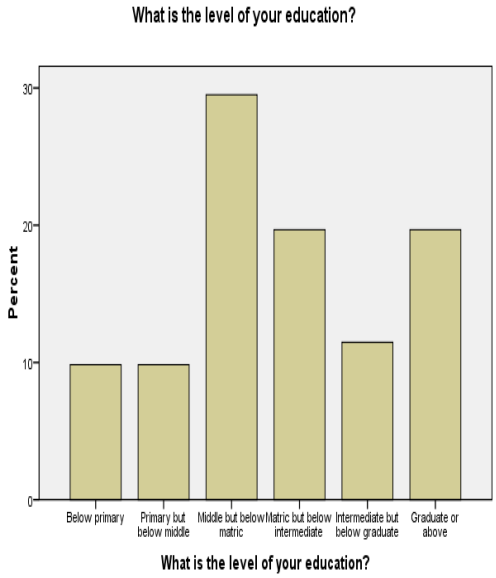
Source: Author's work

FIGURE 17: TOTAL MONTHLY COST



Source: Author's work

FIGURE 18: LEVEL OF EDUCATION



Source: Author's work

FREQUENCY DISTRIBUTION OF INDICES

TABLE 1: FREQUENCY DISTRIBUTION OF PHYSICAL WELL-BEING AFTER ADDICTION

PW1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	11	17.7	18.0	18.0
	36.01-52.00	12	19.4	19.7	37.7
	52.01-68.00	14	22.6	23.0	60.7
	68.01-84.00	14	22.6	23.0	83.6
	84.01-100.00	10	16.1	16.4	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 2: FREQUENCY DISTRIBUTION OF PHYSICAL WELL-BEING DURING TREATMENT

PW2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	53	85.5	86.9	86.9
	36.01-52.00	6	9.7	9.8	96.7
	52.01-68.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 3: FREQUENCY DISTRIBUTION OF PSYCHOLOGICAL WELL-BEING AFTER ADDICTION

PSYW1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	12	19.4	19.7	19.7
	36.01-52.00	17	27.4	27.9	47.5
	52.01-68.00	18	29.0	29.5	77.0
	68.01-84.00	13	21.0	21.3	98.4
	84.01-100.00	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 4: FREQUENCY DISTRIBUTION OF PSYCHOLOGICAL WELL-BEING DURING TREATMENT

PSYW2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	22	35.5	36.1	36.1
	36.01-52.00	35	56.5	57.4	93.4
	52.01-68.00	3	4.8	4.9	98.4
	68.01-84.00	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 5: FREQUENCY DISTRIBUTION OF PERCEPTION OF FAMILY AND RELATIVES AFTER ADDICTION

Per1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	14	22.6	23.0	23.0
	36.01-52.00	20	32.3	32.8	55.7
	52.01-68.00	13	21.0	21.3	77.0
	68.01-84.00	8	12.9	13.1	90.2
	84.01-100.00	6	9.7	9.8	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 6: FREQUENCY DISTRIBUTION OF PERCEPTION OF FAMILY AND RELATIVES DURING TREATMENT

Per2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	20	32.3	32.8	32.8
	36.01-52.00	23	37.1	37.7	70.5
	52.01-68.00	14	22.6	23.0	93.4
	68.01-84.00	2	3.2	3.3	96.7
	84.01-100.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 7: FREQUENCY DISTRIBUTION OF ATTITUDE TOWARDS LIFE AFTER ADDICTION

ATL1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	14	22.6	23.0	23.0
	36.01-52.00	7	11.3	11.5	34.4
	52.01-68.00	11	17.7	18.0	52.5
	68.01-84.00	12	19.4	19.7	72.1
	84.01-100.00	17	27.4	27.9	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 8: FREQUENCY DISTRIBUTION OF ATTITUDE TOWARDS LIFE DURING TREATMENT

ATL2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00-36.00	40	64.5	65.6	65.6
	36.01-52.00	13	21.0	21.3	86.9
	52.01-68.00	4	6.5	6.6	93.4
	68.01-84.00	2	3.2	3.3	96.7
	84.01-100.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 9: FREQUENCY DISTRIBUTION OF TRUSTWORTHINESS AFTER ADDICTION

TW1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25.00-43.75	26	41.9	42.6	42.6
	43.76-62.50	15	24.2	24.6	67.2
	62.51-81.25	5	8.1	8.2	75.4
	81.26-100.00	15	24.2	24.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

TABLE 10: FREQUENCY DISTRIBUTION OF TRUSTWORTHINESS DURING TREATMENT

TW2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25.00-43.75	34	54.8	55.7	55.7
	43.76-62.50	15	24.2	24.6	80.3
	62.51-81.25	8	12.9	13.1	93.4
	81.26-100.00	4	6.5	6.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		

Source: Author's work

WILCOXON SIGNED RANK TEST

TABLE 11: RANKS OF PHYSICAL WELL-BEING

Ranks

		N	Mean Rank	Sum of Ranks
How would you rate the level of pain due to drugs craving during treatment? - How would you rate the level of pain due to drugs craving after addiction?	Negative Ranks	41[a]	21.90	898.00
	Positive Ranks	1[b]	5.00	5.00
	Ties	19[c]		
	Total	61		
To what extent did you feel fatigued during treatment? - To what extent did you feel fatigued after addiction?	Negative Ranks	33[d]	23.48	775.00
	Positive Ranks	9[e]	14.22	128.00
	Ties	19[f]		
	Total	61		
How often did you get nauseous during treatment? - How often did you get nauseous after addiction?	Negative Ranks	21[g]	13.64	286.50
	Positive Ranks	3[h]	4.50	13.50
	Ties	37[i]		
	Total	61		
How much helpless did you feel physically during treatment? - How much helpless did you feel physically after addiction?	Negative Ranks	36[j]	24.46	880.50
	Positive Ranks	7[k]	9.36	65.50
	Ties	18[l]		
	Total	61		
How often did you feel or no appetite during treatment? - How often did you feel or no appetite after addiction?	Negative Ranks	48[m]	26.08	1252.00
	Positive Ranks	2[n]	11.50	23.00
	Ties	11[o]		
	Total	61		
How much were you ineffective in fulfilling daily tasks during treatment? - How much were you ineffective in fulfilling daily tasks after addiction?	Negative Ranks	15[p]	10.07	151.00
	Positive Ranks	3[q]	6.67	20.00
	Ties	43[r]		
	Total	61		
How often did you feel sleepless during treatment? - How often did you feel sleepless after addiction?	Negative Ranks	33[s]	20.08	662.50
	Positive Ranks	4[t]	10.13	40.50
	Ties	24[u]		
	Total	61		

Source: Author's work

TABLE 12: TEST STATISTICS RESULTS FOR PHYSICAL WELL-BEING

Test Statistics[b]

	Z	Asymp. Sig. (2-tailed)
How would you rate the level of pain due to drugs craving during treatment? - How would you rate the level of pain due to drugs craving after addiction?	-5.758[a]	.000
To what extent did you feel fatigued during treatment? - To what extent did you feel fatigued after addiction?	-4.125[a]	.000
How often did you get nauseous during treatment? - How often did you get nauseous after addiction?	-3.937[a]	.000
How much helpless did you feel physically during treatment? - How much helpless did you feel physically after addiction?	-5.012[a]	.000
How often did you feel or no appetite during treatment? - How often did you feel or no appetite after addiction?	-6.161[a]	.000
How much were you ineffective in fulfilling daily tasks during treatment? - How much were you ineffective in fulfilling daily tasks after addiction?	-2.880[a]	.004
How often did you feel sleepless during treatment? - How often did you feel sleepless after addiction?	-4.860[a]	.000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 13: TEST STATISTICS RESULTS FOR PSYCHOLOGICAL WELL-BEING

Test Statistics[d]

	Z	Asymp. Sig. (2-tailed)
How often did you feel depressed during treatment? - How often did you feel depressed after addiction?	-3.078[a]	.002
To what extent did you feel unworried about yourself during treatment? - To what extent did you feel unworried about yourself after addiction/	-2.068[a]	.039
To what extent did you feel frustrated during treatment? - To what extent did you feel frustrated after addiction?	-4.805[a]	.000
How often did you use to miss out on family events during treatment? - How often did you use to miss out on family events after addiction?	-4.921[b]	.000
To what extent did you feel neglected by your family during treatment? - To what extent did you feel neglected by your family after addiction?	-3.295[a]	.001
To what extent did you feel emotionally weak during treatment? - To what extent did you feel emotionally weak after addiction?	-5.641[a]	.000
To what extent did you feel unwilling to refrain from addiction during treatment? - To what extent did you feel unwilling to refrain from addiction after addiction?	-3.561[a]	.000

To what extent did you consider yourself a social and economic burden on your family during treatment? - To what extent did you consider yourself a social and economic burden on your family after addiction?	.000[c]		1.000
To what extent were you unable to concentrate on whatever you were doing during treatment? - To what extent were you unable to concentrate on whatever you were doing after addiction?	-2.901[a]		.004

a. Based on positive ranks.

b. Based on negative ranks.

c. The sum of negative ranks equals the sum of positive ranks.

d. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 14: RANKS FOR PERCEPTION OF FAMILY AND RELATIVES

Ranks

		N	Mean Rank	Sum of Ranks
What is the attitude of your family members towards you during treatment? - What is the attitude of your family members towards you after addiction?	Negative Ranks	16[a]	8.50	136.00
	Positive Ranks	0[b]	.00	.00
	Ties	45[c]		
	Total	61		
What are the thoughts of your relatives about you during treatment? - What are the thoughts of your relatives about you after addiction?	Negative Ranks	8[d]	4.50	36.00
	Positive Ranks	0[e]	.00	.00
	Ties	53[f]		
	Total	61		

Source: Author's work

TABLE 15: TEST STATISTICS RESULTS FOR PERCEPTION OF FAMILY AND RELATIVES

Test Statisticsb

	What is the attitude of your family members towards you during treatment? - What is the attitude of your family members towards you after addiction?	What are the thoughts of your relatives about you during treatment? - What are the thoughts of your relatives about you after addicton?
Z	-3.564[a]	-2.558[a]
Asymp. Sig. (2-tailed)	.000	.011

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 16: RANKS FOR ATTITUDE TOWARDS LIFE

Ranks

		N	Mean Rank	Sum of Ranks
How did you perceive your life during treatment? - How did you perceive your life after addiction?	Negative Ranks	38[a]	21.16	804.00
	Positive Ranks	4[b]	24.75	99.00
	Ties	19[c]		
	Total	61		
To what extent did you perceive your health positively during treatment? - To what extent did you perceive your health positively after addiction?	Negative Ranks	41[d]	25.72	1054.50
	Positive Ranks	8[e]	21.31	170.50
	Ties	12[f]		
	Total	61		
How much satisfied did you feel with your life during treatment? - How much satisfied did you feel with your life after addiction?	Negative Ranks	34[g]	21.15	719.00
	Positive Ranks	6[h]	16.83	101.00
	Ties	21[i]		
	Total	61		
To what extent did you feel happy during treatment? - To what extent did you feel happy after addiction?	Negative Ranks	32[j]	18.36	587.50
	Positive Ranks	11[k]	32.59	358.50
	Ties	18[l]		
	Total	61		

a. How did you perceive your life during treatment? < How did you pereive your life after addiction?

b. How did you perceive your life during treatment? > How did you pereive your life after addiction?

c. How did you perceive your life during treatment? = How did you pereive your life after addiction?

d. To what extent did you perceive your health positively during treatment? < To what extent did you perceive your health positively after addiction?

e. To what extent did you perceive your health positively during treatment? > To what extent did you perceive your health positively after addiction?

f. To what extent did you perceive your health positively during treatment? = To what extent did you perceive your health positively after addiction?

g. How much satisfied did you feel with your life during treatment? < How much satisfied did you feel with your life after addiction?

h. How much satisfied did you feel with your life during treatment? > How much satisfied did you feel with your life after addiction?

i. How much satisfied did you feel with your life during treatment? = How much satisfied did you feel with your life after addiction?

j. To what extent did you feel happy during treatment? < To what extent did you feel happy after addiction?

k. To what extent did you feel happy during treatment? > To what extent did you feel happy after addiction?

l. To what extent did you feel happy during treatment? = To what extent did you feel happy after addiction?

Source: Author's work

TABLE 17: TEST STATISTICS RESULTS FOR ATTITUDE TOWARDS LIFE

Test Statistics[b]

	How did you perceive your life during treatment? - How did you pereive your life after addiction?	To what extent did you perceive your health positively during treatment? - To what extent did you perceive your health positively after addiction?	How much satisfied did you feel with your life during treatment? - How much satisfied did you feel with your life after addiction?	To what extent did you feel happy during treatment? - To what extent did you feel happy after addiction?
Z	-4.519[a]	-4.435[a]	-4.191[a]	-1.394[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.163

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 18: RANKS FOR TRUSTWORTHINESS

Ranks

		N	Mean Rank	Sum of Ranks
How much do you think your family members trust you in general during treatment? - How much do you think your family members trust you in general after addiction?	Negative Ranks	18[a]	10.33	186.00
	Positive Ranks	2[b]	12.00	24.00
	Ties	41[c]		
	Total	61		
How much did your family trust you in terms of your ability to support them during treatment? - How much did your family trust you in terms of your ability to support them after addiction?	Negative Ranks	21[d]	12.26	257.50
	Positive Ranks	2[e]	9.25	18.50
	Ties	38[f]		
	Total	61		
How much did your relatives trust you in general during treatment? - How much did your relatives trust you in general after addiction?	Negative Ranks	5[g]	3.00	15.00
	Positive Ranks	0[h]	.00	.00
	Ties	56[i]		
	Total	61		

a. How much do you think your family members trust you in general during treatment? < How much do you think your family members trust you in general after addiction?

b. How much do you think your family members trust you in general during treatment? > How much do you think your family members trust you in general after addiction?

c. How much do you think your family members trust you in general during treatment? = How much do you think your family members trust you in general after addiction?

d. How much did your family trust you in terms of your ability to support them during treatment? < How much did your family trust you in terms of your ability to support them after addiction?

e. How much did your family trust you in terms of your ability to support them during treatment? > How much did your family trust you in terms of your ability to support them after addiction?

f. How much did your family trust you in terms of your ability to support them during treatment? = How much did your family trust you in terms of your ability to support them after addiction?

g. How much did your relatives trust you in general during treatment? < How much did your relatives trust you in general after addiction?

h. How much did your relatives trust you in general during treatment? > How much did your relatives trust you in general after addiction?

i. How much did your relatives trust you in general during treatment? = How much did your relatives trust you in general after addiction?

Source: Author's work

TABLE 19: TEST STATISTICS RESULTS FOR TRUSTWORTHINESS

Test Statistics[b]

	How much do you think your family members trust you in general during treatment? - How much do you think your family members trust you in general after addiction?	How much did your family trust you in terms of your ability to support them during treatment? - How much did your family trust you in terms of your ability to support them after addiction?	How much did your relatives trust you in general during treatment? - How much did your relatives trust you in general after addiction?
Z	-3.080[a]	-3.702[a]	-2.236[a]
Asymp. Sig. (2-tailed)	.002	.000	.025

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

WILCOXON SIGNED-RANK TEST TO MEASURE COST-OF-ILLNESS

TABLE 20: RANKS FOR HOUSEHOLD EXPENDITURE

Ranks

		N	Mean Rank	Sum of Ranks
What was your household's monthly expenditure after addiction? - What was your household's monthly expenditure before addiction?	Negative Ranks	2[a]	5.25	10.50
	Positive Ranks	11[b]	7.32	80.50
	Ties	37[c]		
	Total	50		

a. What was your household's monthly expenditure after addiction? < What was your household's monthly expenditure before addiction?

b. What was your household's monthly expenditure after addiction? > What was your household's monthly expenditure before addiction?

c. What was your household's monthly expenditure after addiction? = What was your household's monthly expenditure before addiction?

Author's work

TABLE 21: TEST STATISTICS FOR HOUSEHOLD EXPENDITURE

Test Statistics[b]

	What was your household's monthly expenditure after addiction? - What was your household's monthly expenditure before addiction?
Z	-2.447[a]
Asymp. Sig. (2-tailed)	.014

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 22: RANKS FOR HOUSEHOLD EXPENDITURE

Ranks

		N	Mean Rank	Sum of Ranks
What was your household's monthly expenditure during treatment? - What was your household's monthly expenditure after addiction?	Negative Ranks	3[a]	22.33	67.00
	Positive Ranks	41[b]	22.51	923.00
	Ties	12[c]		
	Total	56		

a. What was your household's monthly expenditure during treatment? < What was your household's monthly expenditure after addiction?

b. What was your household's monthly expenditure during treatment? > What was your household's monthly expenditure after addiction?

c. What was your household's monthly expenditure during treatment? = What was your household's monthly expenditure after addiction?

Source: Author's work

TABLE 23: TEST STATISTICS FOR HOUSEHOLD EXPENDITURE

Test Statistics[b]

	What was your household's monthly expenditure during treatment? - What was your household's monthly expenditure after addiction?
Z	-4.997[a]
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 24: RANKS FOR NUMBER OF PEOPLE DEPENDENT

Ranks

		N	Mean Rank	Sum of Ranks
How many people were dependent upon after addiction? - How many people were dependent upon before addiction?	Negative Ranks	6[a]	10.58	63.50
	Positive Ranks	15[b]	11.17	167.50
	Ties	40[c]		
	Total	61		

a. How many people were dependent upon after addiction? < How many people were dependent upon before addiction?

b. How many people were dependent upon after addiction? > How many people were dependent upon before addiction?

c. How many people were dependent upon after addiction? = How many people were dependent upon before addiction?

Source: Author's work

TABLE 25:TEST STATISTICS FOR NUMBER OF PEOPLE DEPENDENT

Test Statistics[b]

	How many people were dependent upon after addiction? - How many people were dependent upon before addiction?
Z	-1.821[a]
Asymp. Sig. (2-tailed)	.069

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TAB;E 26: RANKS FOR NUMBER OF PEOPLE DEPENDENT

Ranks

		N	Mean Rank	Sum of Ranks
How many people were dependent upon during treatment? - How many people were dependent upon after addiction?	Negative Ranks	22[a]	11.50	253.00
	Positive Ranks	0[b]	.00	.00
	Ties	39[c]		
	Total	61		

a. How many people were dependent upon during treatment? < How many people were dependent upon after addiction?

b. How many people were dependent upon during treatment? > How many people were dependent upon after addiction?

c. How many people were dependent upon during treatment? = How many people were dependent upon after addiction?

Source: Author's work

TABLE 27: TEST STATISTICS FOR NUMBER OF DEPENDENT PEOPLE

Test Statistics[b]

	How many people were dependent upon during treatment? - How many people were dependent upon after addiction?
Z	-4.120[a]
Asymp. Sig. (2-tailed)	.000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 28: RANKS FOR CURRENT AND PREVIOUS FAMILY INCOME

Ranks

		N	Mean Rank	Sum of Ranks
How much does your family earn after your coming here? - What was your family income?	Negative Ranks	38[a]	19.50	741.00
	Positive Ranks	1[b]	39.00	39.00
	Ties	20[c]		
	Total	59		

a. How much does your family earn after your coming here? < What was your family income?

b. How much does your family earn after your coming here? > What was your family income?

c. How much does your family earn after your coming here? = What was your family income?

Source: Author's work

TABLE 29: TEST STATISTICS FOR CURRENT AND PREVIOUS FAMILY INCOME

Test Statistics[b]

	How much does your family earn after your coming here? - What was your family income?
Z	-4.900[a]
Asymp. Sig. (2-tailed)	.000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 30: RANKS FOR MONTHLY FINANCIAL CONTRIBUTION

Ranks

		N	Mean Rank	Sum of Ranks
How much money did you use to give at home for monthly expenditure after addiction? - How much money did you use to give at home for monthly expenditure before addiction?	Negative Ranks	13[a]	9.38	122.00
	Positive Ranks	13[b]	17.62	229.00
	Ties	33[c]		
	Total	59		

a. How much money did you use to give at home for monthly expenditure after addiction? < How much money did you use to give at home for monthly expenditure before addiction?

b. How much money did you use to give at home for monthly expenditure after addiction? > How much money did you use to give at home for monthly expenditure before addiction?

c. How much money did you use to give at home for monthly expenditure after addiction? = How much money did you use to give at home for monthly expenditure before addiction?

Source: Author's work

TABLE 31: TEST STATISTICS FOR MONTHLY FINANCIAL CONTRIBUTION

Test Statistics[b]

	How much money did you use to give at home for monthly expenditure after addiction? - How much money did you use to give at home for monthly expenditure before addiction?
Z	-1.361[a]
Asymp. Sig. (2-tailed)	.173

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 32: MONTHLY FINANCIAL CONTRIBUTION

Ranks

		N	Mean Rank	Sum of Ranks
How much money did you use to give at home for monthly expenditure during treatment? - How much money did you use to give at home for monthly expenditure after addiction?	Negative Ranks	17[a]	10.09	171.50
	Positive Ranks	2[b]	9.25	18.50
	Ties	40[c]		
	Total	59		

a. How much money did you use to give at home for monthly expenditure during treatment? < How much money did you use to give at home for monthly expenditure after addiction?

b. How much money did you use to give at home for monthly expenditure during treatment? > How much money did you use to give at home for monthly expenditure after addiction?

c. How much money did you use to give at home for monthly expenditure during treatment? = How much money did you use to give at home for monthly expenditure after addiction?

Source: Author's work

TABLE 33: TEST STATISTICS FOR MONTHLY FINANCIAL CONTRIBUTION

Test Statistics[b]

	How much money did you use to give at home for monthly expenditure during treatment? - How much money did you use to give at home for monthly expenditure after addiction?
Z	-3.084[a]
Asymp. Sig. (2-tailed)	.002

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 34: MONTHLY EXPENDITURE ON DRUG CONSUMPTION

Ranks

		N	Mean Rank	Sum of Ranks
What was your monthly expenditure on drug consumption? - What was your monthly income before coming here?	Negative Ranks	38[a]	31.47	1196.00
	Positive Ranks	21[b]	27.33	574.00
	Ties	2[c]		
	Total	61		

a. What was your monthly expenditure on drug consumption? < What was your monthly income before coming here?

b. What was your monthly expenditure on drug consumption? > What was your monthly income before coming here?

c. What was your monthly expenditure on drug consumption? = What was your monthly income before coming here?

Source: Author's work

TABLE 35: TEST STATISTICS FOR MONTHLY EXPENDITURE ON DRUG CONSUMPTION

Test Statistics[b]

	What was your monthly expenditure on drug consumption? - What was your monthly income before coming here?
Z	-2.348[a]
Asymp. Sig. (2-tailed)	.019

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

TABLE 36: RANKS FOR TOTAL MONTHLY COST

Ranks

		N	Mean Rank	Sum of Ranks
How much does your family earn after your coming here? - TotalMonthlyCost	Negative Ranks	3[a]	2.00	6.00
	Positive Ranks	55[b]	31.00	1705.00
	Ties	0[c]		
	Total	58		

a. How much does your family earn after your coming here? < TotalMonthlyCost

b. How much does your family earn after your coming here? > TotalMonthlyCost

c. How much does your family earn after your coming here? = TotalMonthlyCost

Source: Author's work

TABLE 37: TEST STATISTICS FOR TOTAL MONTHLY COST

Test Statistics[b]

	How much does your family earn after your coming here? - TotalMonthlyCost
Z	-6.577[a]
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Source: Author's work

ELIABILITY TEST

TABLE 38: SCALE: PHYSICAL WELL-BEING (AFTER ADDICTION AND DURING TREATMENT)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.698	.660	14

Source: Author's work

Item Statistics

	Mean	Std. Deviation	N
How would you rate the level of pain due to drugs craving after addiction?	3.3934	1.80996	61
How would you rate the level of pain due to drugs craving during treatment?	1.1148	.45086	61
To what extent did you feel fatigued after addiction?	2.8852	1.71365	61
To what extent did you feel fatigued during treatment?	1.5082	1.16366	61
How often did you get nauseous after addiction?	2.1967	1.58976	61
How often did you get nauseous during treatment?	1.2787	.77741	61
How much helpless did you feel physically after addiction?	3.1967	1.78717	61
How much helpless did you feel physically during treatment?	1.4590	1.00952	61
How often did you feel or no appetite after addiction?	3.8361	1.62461	61
How often did you feel or no appetite during treatment?	1.1475	.60100	61
How much were you ineffective in fulfilling daily tasks after addiction?	2.0492	1.57508	61
How much were you ineffective in fulfilling daily tasks during treatment?	1.4262	1.21736	61
How often did you feel sleepless after addiction?	3.1311	1.89275	61
How often did you feel sleepless during treatment?	1.3607	1.00055	61

Source: Author's work

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
29.9836	75.850	8.70917	14

Source: Author's work

TABLE 39: SCALE: PSYCHOLOGICAL WELL-BEING (AFTER ADDICTION AND DURING TREATMENT)

Case Processing Summary

		N	%
Cases	Valid	61	98.4
	Excluded[a]	1	1.6
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Source: Author's work

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.551	.555	17

Source: Author's work

Item Statistics

	Mean	Std. Deviation	N
How often did you feel depressed after addiction?	2.5082	1.71875	61
How often did you feel depressed during treatment?	1.5574	1.19058	61
To what extent did you feel unworried about yourself after addiction/	2.2787	1.75244	61
To what extent did you feel unworried about yourself during treatment?	1.7705	1.52089	61
To what extent did you feel frustrated after addiction?	3.0656	1.62141	61
To what extent did you feel frustrated during treatment?	1.3279	.96127	61
How often did you use to miss out on family events after addiction?	3.5246	1.77582	61
To what extent did you feel neglected by your family after addiction?	2.2131	1.57178	61
To what extent did you feel neglected by your family during treatment?	1.3770	1.00273	61
To what extent did you feel emotionally weak after addiction?	3.3934	1.62561	61
To what extent did you feel emotionally weak during treatment?	1.3115	.95814	61
To what extent did you feel unwilling to refrain from addiction after addiction?	2.0984	1.59901	61
To what extent did you feel unwilling to refrain from addiction during treatment?	1.2459	.90656	61

To what extent did you consider yourself a soical and economic burden on your family after addiction?	3.2623	1.86995	61
To what extent did you consider yourself a soical and economic burden on your family during treatment?	3.2623	1.92269	61
To what extent were you unable to concentrate on whatever you were doing after addiction?	1.6066	1.29459	61
To what extent were you unable to concentrate on whatever you were doing during treatment?	1.0656	.51215	61

Source: Author's work

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
36.8689	74.816	8.64962	17

Source: Author's work

TABLE 40: SCALE: PERCEPTION OF FAMILY & RELATIVES (AFTER ADDICTION AND DURING TREATMENT)

Case Processing Summary

		N	%
Cases	Valid	61	98.4
	Excluded[a]	1	1.6
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Source: Author's work

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.706	.705	4

Source: Author's work

Item Statistics

	Mean	Std. Deviation	N
What is the attitude of your family members towards you after addiction?	1.7869	1.29248	61
What is the attitude of your family members towards you during treatment?	1.2623	.77248	61
What are the thoughts of your relatives about you after addiction?	3.3934	1.51963	61
What are the thoughts of your relatives about you during treatment?	3.0984	1.46862	61

Source: Author's work

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.5410	14.319	3.78406	4

Source: Author's work

TABLE 41: SCALE: ATTITUDE TOWARDS LIFE (AFTER ADDICTION AND DURING TREATMENT)

Case Processing Summary

		N	%
Cases	Valid	61	98.4
	Excluded[a]	1	1.6
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Source: Author's work

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.573	.539	8

Source: Author's work

Item Statistics

	Mean	Std. Deviation	N
How did you perceive your life after addiction?	3.1475	1.54743	61
How did you perceive your life during treatment?	1.5410	1.00952	61
To what extent did you perceive your health positively after addiction?	3.3934	1.72510	61
To what extent did you perceive your health positively during treatment?	1.8852	1.21241	61
How much satisfied did you feel with your life after addiction?	2.9180	1.63600	61
How much satisfied did you feel with your life during treatment?	1.5738	1.08718	61
To what extent did you feel happy after addiction?	2.7377	1.61143	61
To what extent did you feel happy during treatment?	2.1803	1.50009	61

Source: Author's work

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
19.3770	33.205	5.76242	8

Source: Author's work

TABLE 42: SCALE: TRUSTWORTHINESS (AFTER ADDICTION AND DURING TREATMENT)

Case Processing Summary

		N	%
Cases	Valid	61	98.4
	Excluded[a]	1	1.6
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Source: Author's work

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.834	.839	6

Source: Author's work

Item Statistics

	Mean	Std. Deviation	N
How much do you think your family members trust you in general after addiction?	1.9508	1.29649	61
How much do you think your family members trust you in general during treatment?	1.5246	.84866	61
How much did your family trust you in terms of your ability to support them after addiction?	2.1475	1.35199	61
How much did your family trust you in terms of your ability to support them during treatment?	1.5574	.90415	61
How much did your relatives trust you in general after addiction?	2.5574	1.36045	61
How much did your relatives trust you in general during treatment?	2.3934	1.29459	61

Source: Author's work

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.1311	28.116	5.30244	6

Source: Author's work

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