Effectiveness of Community Reinforcement Approach (CRA) in the context of Quality of Life in Drug Addicts

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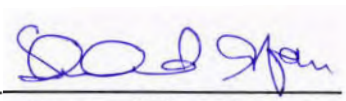

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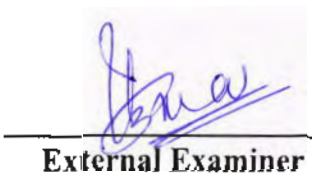

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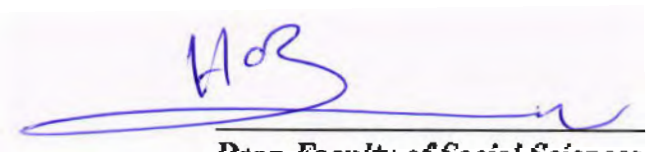

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In the name of Allah, the Most Gracious and the Most Merciful.

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I also place my sense of gratefulness to all faculty members for their support and cooperation. And lastly, I would like to show my appreciation to my friends for giving me guidance and moral support. With their cooperation makes my research work easier.

Muhammad Talha Khalid

DEDICATION

This thesis is dedicated to my beloved Wife

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Abbreviations

AA	Alcoholics Anonymous
AIDS	Acquired Immune Deficiency Syndrome
ANF	Anti-Narcotics Force
APA	American Psychological Association
CASAA	Center on Alcoholism, Substance Abuse, and Addictions
CBT	Cognitive Behavioral Therapy
CL	Confidence Interval
CM	Contingency Management
CMC	Centre for Motivation & Change
CRA	Community Reinforcement Approach
DHQ	Districts Headquarter Hospital
DSM	Diagnostic and Statistical Manual of Mental disorders
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
ENVIR	Environment
HIV	Human Immunodeficiency Virus
HS	Happiness Scale
KPK	Khyber Pakhtunkhwa
LAMA	Left Against Medical Advice
LL	Lower Limit
M	Mean

MET	Motivational Enhancement Therapy
MI	Motivational Interviewing
NA	Narcotics Anonymous
NCADD	National Council on Alcoholism and Drug Dependence
NGO	Nongovernmental Organizations
NIDA	National Institute on Drug Abuse
OTC	Over The Counter
PHSY	Physical
PNCB	Pakistan Narcotics Control Board
PSYCH	Psychological
PTSD	Post-traumatic Stress Disorder
QOL	Quality of Life
RCT	Randomized Control Trial
SD	Standard Deviation
SOCIAL	Social Relationship
SPSS	Statistical Package for the Social Sciences
UL	Upper Limit
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization
WHOQOL	World Health Organization Quality of life
WHOQOL-BREF	World Health Organization Quality of life Brief

Abstract

This study investigates the Effectiveness of Community Reinforcement Approach (CRA) in the context of Quality of Life in Drug Addicts. Community Reinforcement Approach is an evidence based treatment modality for alcohol and drug addiction treatment with proven efficacy and cost-effectiveness. This study is an experimental research and uses a quantitative approach with two groups of participants, i.e., an experimental group and a control group. 60 adult participants with chemical addiction are selected through Purposive Sampling. The Substance Users after detoxification in the inpatient treatment participated in this study. Experimental group got integrated model of Community Reinforcement Approach (CRA) & Minnesota model treatment, whereas; the control group got traditional Minnesota model treatment only. The WHOQOL-BREF scale and Happiness Scale (Meyers & Smith, 2000) were used for data collection. The results show a significant increase in the quality of life in participants of experimental group (M = 299.06, SD = 60.04) than Control Group (M =258.38, SD = 43.61), t (58) = 3.00, p <.01. The scores for Happiness of Life scale were significantly higher for experimental group (M = 79.43, SD = 8.68) than Control Group (M =68.47, SD = 13.90), t (58) = 3.70, p <.001. CRA is an effective and adaptable treatment approach which exhibits quality combinations with other treatment approaches. The proven efficacy, compatibility and cost-effectiveness distinct it from other treatment methods. It should be adapted, assessed and evaluated further in this regard, especially in Pakistan, where there is a pressing need to adopt treatment strategy for addiction problem having proven efficacy.

Chapter-I

Introduction

Drug addiction has a long history in Pakistan. It is one of the major problem in our country. Drugs have been abusing for numerous reasons. Recreation, pleasure, social, medical and psychological problems are few of them (Smith, 1984). According to the National Council on Alcoholism and Drug Dependence (NCAD), it is not only problem of the individuals who do drugs, their loved ones also suffer a lot. For this reason, drug addiction is also called as family disease. Individuals start using drugs for various reasons. They want to feel high, to enhance work performance, curiosity and peer pressure (NIDA; National Institute on Drug Abuse). There are so many types and subtypes of drugs available nowadays. The use and abuse of Cannabis (charas/garda), bhang, afune, alcohol, psychotropic drugs, opium, heroin and glue sniffing is common (Khalily, 2001).

According to the Ministry of Finance, our country's population is over 180 million. (Economic Survey of Pakistan, 2012). We are sixth on the list of most populous countries in the world. In spite of dealing with so many issues, Pakistan has a great role, geographically, politically and economically in the Asian region. The drug abuse is one of them. Drugs have been using in Pakistan for the same reasons as in other parts of the world, but the progression of substance use in Pakistan appeared in three consecutive but relatively overlapping periods of time (Narcotics Control Division, 1990). Since decades, the abuse of prescription and OTC (over the counter) drugs had also increased at different phases. According to the Pakistan Narcotics Control Board (PNCB), the abuse of narcotics, tranquilizers and sedatives in combination with other substances such as mandrax, was common in 1970's (The National Survey on Drug Abuse, 1987). Some drugs were used traditionally, like opium, hashish (charas/garda) or bhang. When the Hudood Ordinance was enforced in 1979, farming, distribution and use of opium were forbidden. In 1990, there was almost one lakh registered

heroin users. (Narcotics Control Division, 1990). In 1980's, the heroin was introduced in the market and started spreading all over the country. When heroin arrived at the international market as well as in Pakistan (Khalily, 2001), the heroin epidemic became worsen. The male population were highly affected by this epidemic, whereas female heroin users were uncommon. Some drugs, such as cannabis (charas/garda), opium and alcohol have somehow, increase are used traditionally in Pakistan. This phenomenon has affected our society destructively, in all aspects of life (Ahmed & Shafi, 1990).

In 1986, the 1st national survey was carried out by PNCB. The results revealed that in Pakistan, 1.3 million individuals are regular substance abusers. Moreover, the 3.4% males were hashish and 1.3% were opium addicts. In 1988, PNCB again conducted a survey. The results were shocking; substance users had reached to 2.24 million in a short period with various routes of administrations. Besides to the negative consequences of drug addiction at individual and social level, it was turned into a public health problem. Several newly experimented routes of administration arose new issues and challenges. According to the narcotics control division, Pakistan, smoking and sniffing are most common and popular routes of administration (NCD, 1993). The statistics show that drug abuse in injection is increasing, not only in the cities but also all over the Pakistan (Anti-Narcotics Force, 2006–07). Likewise, the probability of acquiring and spreading the disease of hepatitis (Mohammed & Suzanne, 2008) and HIV (Human Immunodeficiency Virus) infection (Currant & Hardy, 1988) has fueled. Actually, the problem has become highly complex depicting variety of challenges pressing for multidimensional strategies (Abbott & Chase, 2008).

The present circumstances of drug abuse in Pakistan

In 2015, the Committee on Interior and Narcotics Control, Pakistan was briefed that, there are about 7 million drug addicts in our country. Almost seven hundred individuals die every day as a result of drug addiction and drug related complications (Hanif, 2015). Moreover,

drug-related casualties are higher than those caused by terrorism (Hanif, 2015). Our country is infamous for several issues. But drug farming, processing and addiction has rapidly become one of them, in last two decades. Over and over again, the problem of addiction is distracted by various problems of our country, like unemployment, poverty, inflation, illiteracy and lack of basic needs. And therefore, the speed and ratio of drug addiction in Pakistan is growing fast. Although other Asian countries such as, Nepal, Maldives and India are facing the same issue, but Pakistan is paying the most price it. Today, the Pakistan is considered to have the largest opioid users within south Asian countries. The statistics of a report reveals that, there are 330,000 opium, around 860,000 heroin, four million hashish, 19000 methamphetamines and 430,000 injectable drugs users (Drug use in Pakistan, 2013). This report further reveals that Afghanistan produces the world's most (almost 90%) of the opium. Forty percent of that opium is trafficked illegally through the Karachi port. Consequently, the city has become a heaven for drug addicts who can buy heroin cheaply. It is astonishing fact that, 44 tons' heroin has been consumed yearly in Pakistan and almost 110 tons of morphine and heroin trafficked all the way from Pakistan to national and international markets. The same report says that our neighboring country generates 74% of the total opium of the world. The major chunk (40%) is smuggled to other countries via Pakistan. The 2nd big chuck (34%) trafficked through Iran and remaining one goes through different Asian countries. For all that reasons, the northern areas of Pakistan, specially Khyber Pakhtunkhwa (KPK) has extraordinary drug pervasiveness. Every 27th individual in Pakistan is misusing any substance, whereas, almost 25% young males are engaged in any type of drug misuse.

Overall health (physical, sexual and mental) of substance abusers decline quickly that a handsome young individual looks like an old man. It is obvious that drug addiction steers towards different serious health issues, such as hepatitis, liver failure, heart attack pulmonary arrest, HIV and AIDS, premature death and many more. Substance users high risk of bearing

children with a range of mental and physical problems. Individuals especially youngsters who abuse cannabis can develop addiction of it and are increasing their vulnerability to severe psychological problems like hearing different voices and dysfunction in any of the five senses. Nowadays, prescription drugs and over the counter (OTC) drugs are very commonly abuse drugs. Almost 1.6 million individuals reported the misuse of prescription drugs yearly (Drug use in Pakistan, 2013). The same report states that women are more likely to misuse prescription drugs such as sedatives, tranquilizers, and amphetamines. These facts and statistics vivid the epidemic of drug addiction in Pakistan, which is definitely an alarming condition. Government and the law enforcement agencies should take serious actions to deal these issue, otherwise it will be too late (Khalid, 2016).

Reasons of drug abuse in Pakistan

There are many reasons of the drug abuse in Pakistan. The fast growing population is one of them. According to an analysis of drug abuse networking in Pakistan, when population increases, the dissemination of drug abuse also increases. Among countries with very high poverty rate, Pakistan is placed on 146th number out of the total 186 countries (Malik, 2013) The literacy rate is another major reason of drug addiction in the country. Pakistan has very low literacy rate. Although, it is stated that literacy rate is 58% (the individuals who can read and write), only 46% of women are literate among them. The average duration of formal schooling is only 4.9 years (Pakistan Bureau of Statistics, 2012).

The historical, cultural and geographical values are very important in the onset and progression of drug abuse but socio-demographics, financials and psychological dynamics are key determinants of drug addiction. The results of a research conducted in Pakistan show that The different facets of an individual's life are very much correlated with substance use. The unemployment and the post-traumatic stress disorder (PTSD) are two crucial of them (Henkel,

2011; Javidi and Yadollahie, 2011). Likewise, societal and environmental aspects such as the availability and accessibility to drugs increases the risk and vulnerability of drug misuse.

The availability, accessibility and acceptability are playing most important role in wide spreading and increasing rate of drug use. Drugs are very common and readily available in our society. Towns, streets, parks, universities, colleges and even in schools, drugs are everywhere. The access to drugs are easy and quick nowadays. One can find the drug dealers easily. Even home deliveries are available in advanced areas. Drug dealers in these areas are using social media for advertisement and to stay safe from the police. Furthermore, the acceptability for some drugs like cannabis (charas/garda), beer and alcohol is an alarming condition. Alcohol is often used in local parties and marriage functions, whereas, cannabis is the most common drug among youngsters. Many people think that these drugs can be used recreationally and for fun and they will not affect their lives.

Treatment approaches for drug abuse

Basically, there are two major approaches have been used in Pakistan to counter the problem of drug addiction. The 1st one is known as drug supply reduction, which is executed by different forces, such as ANF, custom police and local police. These law enforcement departments strive for the restriction of drugs availability (Anti-Narcotics Force, 1995). The second approach is demand reduction, which is carried out by general public awareness about drug addiction and prevention strategies. The treatment for drug addiction is major focus within this approach. In Pakistan, drug addiction treatment is provided by various institutions, hospitals and organizations, including public sector, private centres, NGO's and public-private institutions. Usually, Government hospitals have an addiction ward or a psychiatric department, where detoxification and symptomatic treatment is considered as whole treatment for drug addiction. Few hospitals provide a little counseling, which doesn't fulfill the needs of the nature of problem. These wards and departments are located in different hospital in our

country (UNODC, 2000). Unfortunately, there isn't any uniform policy for the treatment of drug addiction, whereas, mostly psychiatrists have little or not trained to treat this serious problem (Khalily, 2011).

Likewise, there isn't a genuine policy or standards for drug treatment and rehabilitation centers in Pakistan (Hanif, 2015). Pakistan spends only 4 rupees annually on each substance abuser in the country (Anti-Narcotics Force, 2015). Almost 4.25 million drug addicts are living in the country and required a standard treatment. Lack of treatment facilities mean that lives of drug addicts are at risk. The Government hospitals have failed to establish well designed and structured treatment and rehabilitation facilities of drug addict. Whereas, the drug addicts are increasing day by day and have reached up to 67 lakhs (Drug use in Pakistan, 2013). There is a dire need of a comprehensive treatment policy that is practical, cultural relevant and in line with the international best evidence based practices (Khalily, 2010).

The disease model (Jellinck, 1960) has been using in most of the treatment facilities, which provides two weeks' detoxification programs. There is severe lack of formal training for the treatment of drug addiction (European Monitoring Centre for Drugs and Drug Addiction, 2003). Furthermore, no any university or institution is providing a degree program with majors in addiction all over the country. The united nation office on drugs and crime (UNODC) has taken many initiatives for the training of individuals working in the field of drug addiction. There are so many organizations offer the drug addiction treatment, but hardly have trained staff (EMCDDA, 2003). Generally, they look for a local ort foreign grant, because government doesn't provide financial support to them. Few private addiction treatment centers are providing detoxification and counseling facilities but they are very costly. The disease model is dominant there also. Whereas, a person with the problem of drug addiction needs intense and tailor made interventions. Typically, drug addiction treatment is carried out in three consecutive stages. First is assessment, second is detoxification and the third is rehabilitation.

The most difficult part of these stages is rehabilitation, requires a lot of focus as at this stage. The behavioral shaping and cognitive restructuring are core part of rehabilitation.

Disease model of Addiction

Disease model describes that addiction is a disease (Jellinek, 1960). Disease can be defined using several criteria (Maltzman, 1994). Disease is a state of illness that produces disruption or bodily dysfunction (Stedman's Medical Dictionary). At least two of three points should meet to become a disease, these are; a tangible substance, observable signs and/or symptoms and bodily changes. There are four characteristics that mark addictive disease in all its forms. It's primary, chronic, progressive, and potentially fatal. Characterizing addiction as "Primary" simply means it is an illness that does not depend on some other condition or disease for its origin. Such as, diabetes, hepatitis, cancer etc. "Chronic" means that the disease of addiction is long lasting. Addiction can't be cured at all. It can be treated only following by lifelong monitoring and manageability. "Progressive" means that the illness runs a predictable course, will worsen over time, and will not just disappear. Finally, addiction is often fatal as the damage done to the internal organs and the brain is cumulative and frequently lead to premature death. In addition, addiction is a major contributing factor in many cases of suicide, homicide, and accidents. (La Hacienda Treatment Center, n.d)

This disease model is limited to the individual and ignores the importance of societal role in initiation of drug use, sustaining and relapse. A new assessment believes that, addiction should be defined in biopsychosocial context mostly rather in physical context only. While defining the addiction, the difference between psychosocial and physical predisposing will not be considered important in future (Gorski, 2001)

The Minnesota Model

Evolution of the Minnesota Model happened gradually from pioneer house to Hazelden and to Wilmar state hospital. It took many years to form a structured existence but 1948 to

1950 were important years. The Wilmar State Hospital started treating drug addiction in 1950's but it was limited to the alcoholics. They treated individuals with symptom based approach through medical specialists following by 12 steps philosophy of Alcoholics Anonymous (AA). Individuals who participated in AA group meetings learned that alcoholism is a disease and it is primary and progressive. And they can achieve recovery through abstinence and continuous attending AA meetings (White, 2001). In fact, the ideology of this model based on 12 steps of Alcoholics Anonymous (Owen, 2000). Minnesota model constitutes on a team including trained and untrained (recovery) counselors, who preaches the 12 steps of AA (Fernandez, 1998). Group counseling is the main therapeutic technique. The older, more advanced residents (recovery individuals) share their experiences and knowledge and values to other patients (Center for Substance Abuse Treatment, 1999).

In Pakistan, this model has been using fully or partially by the addiction treatment centers. The disease model adopts a medical viewpoint and stressed that addiction is a disease that a person has and its origin lies within the individual him/herself. It believes that addiction does not exist on a continuum, it is either present or it isn't. Addicts can't control their intake of a drug. When they consume some drugs, they become powerless to stop themselves having it again. They are overtaken by almost unmanageable cravings when they can't have it. It describes further that the disease of addiction is irreversible. It can't be cured and can be treated only by lifelong sobriety or abstinence. Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) are based on the disease model offering a treatment approach (abstinence/sobriety) that works for some people only. However, it takes off responsibility from the drug user.

Disease model can't be adopted as whole because of the above mentioned issues and therefore, is not supported by a large amount of evidence. This is the era of information because of internet and global networking and in recent years, people are getting awareness about the

different approaches of drug addiction treatment and its effectivity. The disease model doesn't meet the diverse needs of the individuals with drug addiction.

Public health model of addiction

The public health model mainly emphasizes on the global health of general public. Whereas, the conventional healthcare approaches limited it to the individual only. This model comprises of 3 pointed approach to intervention and prevention. We can understand it by explaining a disease process which involves a host, an agent and an environment. A host is a person who can be vulnerable to a disease. An infectious agent is anything which causes a disease. Finally, the environment provides such settings which can cause an infection (Leshner, 2001).

We can understand the same model in terms of drug abuse. Where, an individual is considered as "host", because he/she can be vulnerable to drug abuse. The substance which an individual use or abuse is known as "Agent". And "Environment" provides the cues and settings for drug abuse. This model was originally developed in three sided triangular model for infectious disease, but now includes addictions and has been using widely (Leshner, 2001).

The environment plays a vital role because re-exposure to environmental cues can elicit strong cravings and relapse in a solid recovery even. Similarly, CRA established on the principle that environmental settings and uncertainties are real important to encourage or discourage substance use (Hunt & Azrin, 1973). In Pakistan, the ambient environment of an individual is highly risky in terms of exposure to drugs, because drugs are everywhere. It is most probable that a teenager or a youngster got an offer to do drugs. Age, peer pressure, status symbol, media etc. are some of many factors which influence an individual to incline towards drugs. Therefore, there is a dire need to introduce CRA in our country. Because it utilizes social, recreational, familial, and vocational rein-forcers to assist an individual in the recovery process (Khalily, 2008).

Public health model is multidimensional approach, and we can work on any part of it according to need of the time. Such as, a program or campaign designed for the addiction prevention strategies, like "refusal skills", which can teach and adopt while targeting the hosts (individuals). These skills minimize their vulnerability to drug addiction. Secondly, a plan can be executed to control the accessibility to drugs, also known as agent. This target can be achieved by making new laws to get help in regulating the legal drugs or restricting the access to drugs, which will minimize the exposure of an individual to any type of drug. Thirdly, we can work on the environment by launching drug awareness campaigns for general public to alter their attitude and behaviors for drug addiction (Department of health, 2004).

CRA is a wide-ranging cognitive and behavioral intervention approach for treating substance abuse problems. It constitutes of a number of techniques and treatment strategies. This helps to design a treatment plan for an individual with substance use disorder having diverse needs. It strives for the reconstruction of an individual's society to make him/her feel safe and good in recovery. And his/her life become more rewarding than drug addiction. CRA rationales that an individual's recovery from drugs is highly affected by his/her surrounding environment (Khalily, 2008).

Likewise, CRA always be a most cost effective treatment method for drug addiction (Finney & Monahan, 1996; Holder, Longbaugh, Miller, & Rubonis, 1991; Miller et al., 1995). It has been proving in each study of drug addiction treatment outcomes, where, CRA is listed among top evidence based and high efficacy treatment methods. Despite all advantages of the CRA, it is not as familiar and popular as other conventional methods among substance use treatment practitioners (Miller, et al., 1999). Hence, it is need of the time to introduce CRA in Pakistan and to work on it further to make its use effective, cultural, professional and easy.

Literature Review

CRA established on the principle that environmental settings and uncertainties are real important to encourage or discourage substance use (Hunt & Azrin, 1973). CRA uses familial, social, recreational and vocational rein forcers to assist drug addicts in the recovery process. It is a comprehensive behavioral program for drug addiction treatment. The fundamental ideology of CRA is very clear and simple, that is, with the aim to overcome and deal with the drug addiction problem, it is critical to reorganize the individual's life and hence to have a more pleasurable and rewarding life than addictive lifestyle (Miller et al., 1999).

Its aim is to make a recovery more rewarding than the use of drugs, which attempts to accomplish by removal of positive reinforcement for substance use and increment of positive reinforcement for staying abstinent or sober. CRA has been getting distinction level in all of the studies on drug addiction treatment efficacy, and listed among high efficacy treatment methods. In spite of so many pros of the CRA, it is not as popular as other traditional methods among practitioners (Miller, et al., 1999).

CRA have many treatment strategies any flexible treatment plans which helps to develop a successful intervention and treatment plan for an individual with drug addiction problem. It is based on the theory, that by rearranging the addict's lifestyle in such a way that they feel and experience positive feedbacks, it will be more probable that they continue living a sober life. In 1973, Hunt and Azrin crafted the community reinforcement therapy (CRA) while striving to restructure a patient's community, so that a recovery was more rewarding than addictive life. An important principle of CRA is that drug addiction recovery is highly dependent on the ambient environment of an individual (Sisson and Azrin 1986).

The CRA is a wide-ranging cognitive and behavioral approach for the addictions and has been successfully used with inpatients drug addicts (Azrin, 1976). It has been used with

outpatients with high efficacy (Azrin et al., 2001). Likewise, it has been studied with homeless individuals and resulted in good treatment outcomes (Smith, et al., 1998).

Three meta-analytic studies cited CRA the highly cost effective treatment program in presenting treatment approaches (Holder et al., 1991). In another evaluative study for the most economical treatment method for drug addiction (alcoholism), CRA listed at number one among 24 treatment methods (Finney & Monahan, 1996).

In recent 25 years, numerous researches have proven the During the past 25 years, several studies have proven the effectiveness of CRA in the treatment of substance use disorders. In 1973, the first study was conducted on CRA by Hunt and Azrin. They compared CRA with the traditional approach (disease model). The results indicated that individuals in the experimental group had much better treatment outcomes than in the control group. This study was done on inpatient with the problem of alcoholism. When it was monitored and assessed with proper follow ups, the individuals who received CRA remained sober, socially stable, and happy with life as compare with the individuals received conventional treatment.

When CRA was upgraded and improved, such as monitoring of individual's mood and involvement of partner, the CRA got distinction and credibility over traditional model treatment (Azrin 1976). Initially, most of the researched were carried out on inpatients with drug abuse problems. But subsequently, very soon it was assimilated in outpatient treatment. Consequently, the modifications and improvements in the CRA performed much better outcomes in outpatient treatment than conventional outpatient treatment methods, which were mainly constructed on Minnesota Model approach (Azrin et al. 1982).

Another study on outpatients revealed that CRA was more target oriented in minimizing the drinking behavior of individuals than disease model treatment (Meyers and Miller in press). At centre on alcoholism, substance abuse, and addictions (CASAA), a study was conducted to assess the efficacy of CR among alcoholics without home. The study included men and women

living in the camps or shelters. The outcomes showed higher efficacy in the individuals received CRA than AA group members (Smith et al. 1998).

A study was conducted to evaluate the effectiveness of CRA when it was in consistence with community intervention, such as a social club for the recovery individuals, where they can enjoy different activities and have fun. But the club was designed for non-drinking activities. The sober individuals can spend their leisure time there and socialize with others. The results revealed that the individuals who also went to that club performed very well than other participants without access to the club (Mallams et al. 1982). The above described researched are providing the evidence that CRA is an effective treatment method for inpatients and outpatients, validating it more scientific and evidence based treatment for drug addiction.

The first manual of CRA was published in 1995 by Meyers and Smith. It was a detailed, precise and step by step method of using the CRA for treating drug addicts. It was very useful for the practitioners in the field of substance use disorder, specially alcoholics.

Integration of CRA with other treatment approaches

Initially, CRA was used for the treatment of alcoholism. The one major reason is the influence of alcoholism at that time. Subsequently, other drug such as heroin, cocaine and cannabis use increased, the CRA incorporated in the treatment of these drugs. A study conducted on CASAA on individuals with heroin dependence, who were going through methadone maintenance therapy. Participants were randomly inducted to the experimental (CRA) and control group (traditional treatment). Both of the groups showed effective treatment outcomes, but individuals in CRA group exhibited more effectiveness (Abbott et al. 1998).

Likewise, in treating the cocaine addiction, the CRA was assessed in combination with rewards, such as money vouchers. Again, the results clearly revealed that individuals who received this combined approach showed far much better outcomes than who went through twelve steps treatment (Higgins et al. 1991).

When we talk about the efficacy of CRA with substances other than alcohol, several studies have proven that the integration of CRA with contingency management (CM) if highly significant treatment method for cocaine and heroin addicts. CM utilizes positive reinforcements (rewards) such as money vouchers or prizes which can be exchanged from providing resistance free and drug free urine samples in a certain number of times. Initially, two case design and controlled nonrandomized clinical trials were used in assessment of CRA (Higgins, et al., 1991). Afterwards, controlled & randomized design was used (Higgins, et al., 1993). Combination of CRA, in both of the cases, with CM showed high treatment outcomes as compared with twelve steps and disease model treatment.

CRA has an effective and proven track record of combination with other treatment approaches. It has been successfully integrated with many treatment approaches. Contingency management (CM) motivational interviewing (MI) and family therapy are some popular combinations with CRA, which have proven high efficacy (Miller et al., 1999). Similarly, CRA is compatible and steady with implication in 12-step programs (Miller et al., 1999). The combinations of CRA and other treatment modalities can be tailored to meet with the needs of particular populations and target to a specific population. (Miller, et al., 1999)

CRA employs the therapeutic support in the light of individual meaningful goals within the domain of addiction therapy. The approach which designed primarily for behavior therapy, then linked with social psychology and anthropological thinking traditions.

CRA is flexible in design for further therapy techniques. The Community Reinforcement Approach (CRA) has proved a successful track record with individuals and their families. CRA takes each individual's life circumstances and situations into account as an active part of change. Patients come to understand their behaviors in perspective of their whole lives, their social support network, cues or triggers to use, motivation for change and need for a life that is more rewarding to make giving up older behaviors worthwhile (Stuppe, 2017).

The motivational and cognitive behavioral foundations of CRA collectively serve as the basis for all type of treatment at Centre for Motivation & Change (CMC). Hence, CRA is not a separate way at CMC, but a part of all the work.

Rationale

The drug users have several behavioral dysfunctions and cognitive errors, which affect and damage their every aspect of life (Khalily, 2011). It is necessary to modify their behaviors and thinking pattern so that they can adopt a healthy life style in order to live productively. CRA has always been proving its effectiveness in inpatient, outpatient settings. The traditional methods did not indicate proven efficacy through research work rather rhetorically claiming their effectiveness (Azrin et al. 1982). There is a dire need to integrate traditional treatment modalities with effective and evidence based approaches to meet the present demand and challenges of our society. CRA has shown high efficacy in multiple clinical trials and also when it is integrated with other methods of treatment such as, pharmacological support, contingency management (CM) motivational interviewing (MI) and family therapy (Hendrik et al., 2004). The compatible integration of different approaches can provide the synergized effect with highly effective outcomes. CRA hasn't been combined in such a way that core strengths of CRA and another treatment are assessed and evaluate.

The treatment of drug addiction requires medical help, tailor made individual counseling and group therapy. CRA has been well known of its effective individual counseling structure, whereas, almost same is the case with group settings and group therapy in traditional model treatment approaches. Minnesota model treatment comprises of about 80 to 90 percent group therapy (NIDA). It shows that usually, traditional approaches rely mostly on sharing and semi structured group settings and ignores the importance of structured individual counseling and goal settings. Whereas, the core strength of CRA is individual and family counseling. If we integrate both of these ultimate strengths, then the outcomes of a treatment will be highly

effective and lasting. It is recommended to assess and evaluate CRA flexibly, with different types of drug abuse such as, poly drug abuse and co-occurring disorders. Because, in general, these individuals don't induct in most of the studies (Smith et al., 1998)

Every day, Individuals with drug addiction problems come with diverse needs and there is no single treatment modality, which can meet all of these needs or claim for its effectiveness for all types of drug addiction. Moreover, the traditional methods of drug addiction treatment are not up to the mark and lack of researches, which is also one of the main reasons of high relapse ratio. In Pakistan, there is neither work on CRA with Substance users in this context, nor has any published research been found in this area. It will be the first research on drug addicts to assess through empirical work the effectiveness of an integrative strategy including CRA and Minnesota Model, which makes a unique combination despite of theoretical and philosophical differences. So this study aims to test the effectiveness of this integrative model in a Pakistani population, where addiction is a major and serious problems and requires treatment of proven efficacy.

Objectives

1. Investigate and compare the effectiveness of an integrated approach of the Community Reinforcement Approach (CRA) and Minnesota model with only Minnesota Model treatment among drug addicts.
2. Explore the level of happiness in drug addicts with themselves and their partner.
3. Determining the effects of the treatment on quality of life among drug addicts.

Hypotheses

H1: There is a significant difference in the quality of life among drug addicts treated through integration of the Community Reinforcement Approach & Minnesota model and traditional Minnesota model treatment.

Ho: There is no significant difference in the quality of life among drug addicts treated through integration of the Community Reinforcement Approach & Minnesota model and traditional Minnesota model treatment.

H1: There is a significant difference in the level of happiness with life among drug addicts treated through the integration of the Community Reinforcement Approach & Minnesota model and the traditional Minnesota model treatment.

Ho: There is a no significant difference in the level of happiness with life among drug addicts treated through the integration of the Community Reinforcement Approach & Minnesota model and the traditional Minnesota model treatment.

Chapter-II

Method

Research Design

This study was an experimental research, i.e., Randomized Control Trial (RCT) and uses a quantitative approach with two groups of participants. One group received combined Community Reinforcement Approach (CRA) & Minnesota model treatment, whereas; the other group received traditional Minnesota model treatment. The Quality of life and Happiness of life were assessed after the completion of intervention. The treatment guideline for the CRA was adopted as treatment.

Participants

The participants of the study included Inpatient individuals in Fountain House (mental health and drug addiction rehabilitation center), Lahore, Pakistan, between October 2016 to February 2017. The total admitted patients meeting inclusion criteria were part of the study.

Sampling Strategy

The 70 participants of the study were selected through simple random sampling. The 35 participants were randomly allocated to each group, i.e., Experimental and Control group.

Inclusion Criteria

The Adult Inpatients with Chemical Addiction of Cannabis, Heroin and Alcohol were part of the study.

Exclusion criteria

The participants who were admitted for Non-chemical addiction and out-patients were excluded from sample selection.

Instruments

The following instruments were used for data collection

1. Demographic Questionnaire

2. The WHOQOL-BREF scale
3. Happiness of Life Scale

Demographic Data Sheet. Personal Information of participants and their drug use was collected through a self-made questionnaire. It included; age, gender, education, marital status, education, number of siblings, birth order, drug of choice, route of administration, drug user in family, number of treatment, number of relapse, started smoking at age and started drug at age.

The WHOQOL-BREF scale (The WHOQOL Group, 1996). Originally, quality of life scale comprised of 100 items. It allowed a comprehensive assessment of different aspects of life related to the quality of life of an individual. But it was lengthy and consume a lot of time to fill it out, especially in one sitting. This problem was affecting the studies' outcomes. Moreover, if the assessments or responses of a questionnaire are easy, accurate and short then they can be included easily in a study (Berwick et al, 1991). For these reasons and others, the team of "quality of life" scale derived a brief scale from the original scale and tested extensively. The new scale consisted of 26 items (The WHOQOL Group, in press). WHOQOL-BREF is a five-pointed Likert scale. Few item are reversely scored, which are; f3, f4 and f26. This scale expresses quality of life in four domains of an individual. Theses domains are named as physical health, psychological health, social relationship and environment. The score of these domains are positively correlate (0.89) with the original scale of 100 items. The range of Cronbach alpha values for domains of WHOQOL-BREEF (WHO, 1998).

Likewise, the important values of WHOQOL-BREF are also excellent, which proves it a reliable and valid scale such as, discriminant and content validity, internal consistency and reliability (WHO, 1998).

Therefore, this new scale can be used as an alternative of original scale. The outcomes of a study prove that WHOQOL brief scale is detailed and cross cultural, valid and reliable scale to evaluate the quality of life of an individual (Skevington et al., 2004).

It is anticipated that this brief scale will be extremely helpful in that type of studies which strive for the brief evaluation of quality of life of an individual. Likewise, it is also helpful in finding out the effectiveness of a treatment method (WHO, 1998). The WHOQOL-BREF has translated and available in 19 languages including Urdu (WHO, 1996).

Happiness Scale (Meyers & Smith, 2000). This scale is used in Community Reinforcement Approach (CRA) to evaluate the current happiness with life of an individual in ten different areas of life. It is developed by Meyers & Smith who are among the founders of the community reinforcement approach. It is ten point Likert scale. The extreme values 1 and 10 indicate the completely unhappiness and completely happiness with life respectively in each area of life listed above. It is self-administered scale in which the respondent asks himself "How happy am I with this area of my life?" as he/she rates each area from 1-10 exactly how he feels today. The therapist/counsellor used the responses to design goals of the counseling.

Statistical Analysis

A popular software named statistical package for social sciences (SPSS), among scholars and students was used for the analysis of collected data. The latest Version (24.0) was used. Descriptive analysis was used on the sociodemographic and clinical characteristics of the sample. T-test for the independent sample was used to analyze the data.

Ethical Considerations

The permissions from the Fountain house, Lahore was taken. The permission from the original authors was taken for using tools. The consent was taken from the participants. They were assured that information obtained from them would not be disclosed or misused. rather it will be used only for research purposes. It was an obligation of the researcher to report the results accurately.

Procedure

To conduct this study, first of all, permission from the authors of the instruments was taken, to be use in the present research. Researcher got training of community reinforcement approach from the internationally well-known trainer and my supervisor, Dr. Muhammad Tahir Khalily. Researcher also contacted with Dr. Bob, who sent very rich articles about CRA, which gave clarity in working and writing the initial synopsis. He also recommended the book "A guideline for the alcohol treatment, The community reinforcement approach". Researcher studied it and got deeper insight about the CRA.

The official permission from Fountain House, Lahore was taken to collect the data from the sample. Informed consent was taken from the participants and they were briefed about the objectives of the study. The questions and queries were asked regarding any confusion that they might had. Study participants were divided into two groups. The integration of the Community Reinforcement Approach (CRA) and Minnesota model was applied to the first group (experimental group) while the other group remained in traditional Minnesota model treatment. All of the participants were still attending the group therapy sessions and other activities in the facility. But they went through the individual therapeutic session according to the CRA guidelines. In this study each individual in this group received 3 one-to-one sessions ranging from 45 minutes to 1 hour.

In first session, rapport building, initial history taking was conducted. Functional analysis for using behaviors and CRA functional analysis for pro-social behavior were filled by the individual. The happiness scale and The Quality of life scale-BREF were also administered in this session. The help was provided at every point as needed.

In second session the goals of the counseling were designed according to CRA's goal of counseling form. The Treatment plan/goals of counseling for an individual wrote in the light of responses in the happiness scale and the relationship happiness scale. The individuals'

involvement and acceptance were insured in this task. The individuals were counseled about the communication skills according to communication worksheet of CRA.

In third session the working was done on the drink/drug refusal skills and the problem solving skills according to the problem solving worksheet. The individuals were briefed about the ending of the individual sessions and the ongoing working on the counseling goals he would have to do.

After initial working (permissions, sample selection, sampling and allocation of groups), the duration of application of treatment was 3 months. At the end of the treatment post-tests were conducted from all of the individuals took part in the study from both of the groups. A comparison was made to check the significant differences among both applied treatments.

Chapter-III

Results

This research assessed the Effectiveness of Community Reinforcement Approach (CRA) in the context of Quality of Life in Drug Addicts. In this chapter, the results of the whole study are represented numerically in the tables. A reliable software named statistical package for social sciences (SPSS), was used for the analysis of collected data. The latest Version (24.0) was used. Descriptive analysis represents the sociodemographic and clinical characteristics of the sample. The psychometric properties of quality of life scale, its subdomain and happiness of life scale are shown in the tables. T-test for the independent sample is also presented below to analyze the data.

Table 1

Sociodemographic Characteristics of Participants (n=60)

Variables	Categories	N	%	M	SD	Range
Age		60	100	29.75	6.19	17-46
Marital Status						
	Single	31	51.7			
	Married	29	48.3			
Siblings				5	6.20	1-14
	1	2	3.3			
	2	1	1.7			
	3	8	13.3			
	4	15	25.0			
	5	12	20.0			
	More than 5	22	36.7			
Birth Order				3	2.16	1-12

	1st	14	23.3
	2nd	8	13.3
	3rd	11	18.3
	4th	13	21.7
	5th	4	6.7
	Last	10	16.7
Education			
	Illiterate	2	3.3
	Primary	3	5.0
	Middle	11	18.3
	Matric	21	35.0
	Intermediate	14	23.3
	Bachelors	8	13.3
	Masters	1	1.7
Monthly Income			
	Below 13 k	34	56.7
	Above 13k	26	43.3

Sociodemographic Characteristics of Participants shows that the average age of the individuals in the study was 30 years with the range of 17-46. The 51.7percent were single and 48.3 were married. The median of the number of siblings was 5 with the range of 1-14. The median of birth order was 3rd with the range of 1-12. In the level of education, the percentages

were; 3.3 illiterate, 5.0 primary, 18.3 middle, 35.0 matriculation, 23.3 intermediate, 13.3 bachelors and 1.7 masters. The 56.7 percent participants had monthly income below 13 thousand (minimum standard wage) and 43.3 percent above 13 thousand.

Table 2

Clinical Characteristics of Participants (n=60)

Variables	Categories	N	%	M	SD	Range
Started Smoking at Age		60	100	15	5.5	5-36
Started Drug at Age		60	100	18	6.7	9-41
Drug User in Family						
	Yes	11	18.3			
	No	49	81.7			
Drug of Choice						
	Cannabis	17	28.3			
	Heroin	41	68.3			
	Alcohol	2	3.3			
Route of Administration						
	Smoking	24	40			
	Snorting	10	16.7			
	Inhaling fumes	14	23.3			
	IV Injection	10	16.7			
	IM Injection	0	0			
	Swallowing	2	3.3			
No. of Treatment						1-16

	1st	23	53.3			
	2nd	8	13.3			
	3rd	7	11.7			
	4th	3	5.0			
	5th	2	3.3			
	5+	8	13.4			
No. of Relapse				1	3.12	0-15
	Never	32	53.3			
	1st	8	13.3			
	2nd	7	11.7			
	3rd	3	5.0			
	4th	2	3.3			
	5th	1	1.7			
	More than 5	7	11.7			

Clinical Characteristics of Participants showed that the mean age of starting smoking was 15 with range 5-36. The mean age of starting drugs was 18 with range 9-41. There were 18.3 percent participants have Drug users in family whereas 81.7 percent participants have no any drug user among family members. Mostly participants were heroin users i.e., 68.3percent. Among others, 28.3 were cannabis users and 3.3percent were alcohol users. The maximum route of drug administration was smoking i.e., 40percent, the second highest was inhaling fumes, 23.3percent. The percentage of snorting and IV Injection was same, 16.7. The minimum percentage was of swallowing, 3.3. The median of number of treatment was 1 with the range of 1-16. The 58.3percent participants were going through first time treatment,

Table 3

Psychometric Properties of Study Major Variables (n=60)

Measurements	No. of items	α	Range		M	SD	Skew.	Kurt.
			Min	Max				
QOL	26	0.87	100	379.17	278.72	55.92	-0.34	0.40
PHYS	7	0.70	35.71	100	77.02	13.84	-0.30	0.08
PSYCH	6	0.53	37.5	100	70.9	14.19	-0.37	-0.37
SOCIAL	3	0.39	25	100	65.25	18.77	-0.07	-0.59
ENVIR	8	0.74	34.38	100	68.96	17.05	-0.17	-0.94
HS	10	0.74	34	93	73.9	12.77	-1.06	1.41

Note. QOL = Quality of Life Scale; PHSY = Physical domain; PSYCH = Psychological domain; SOCIAL = Social Relationship domain; ENVIR = Environment domain; HS = Happiness Scale.

The reliability of the Happiness Scale, QOL scale and its domains was above 0.7. The reliability of the Psychological domain and Social Environmental domain was slightly being slightly lower than 0.7. Before we performing parametric tests assumptions include normality, homogeneity, independence and interval level of data were insured. Leven's Test for homogeneity, for normality skewness and kurtosis were less than +2 and -2.

Table 4

t-test analysis between Experimental group & Control group, on variable of Quality of Life and its subdomains and Happiness of Life (n=60)

	Experimental Group1 (n=30)		Control Group1 (n=30)				95% CI		
Variable	*M*	*SD*	*M*	*SD*	*t(58)*	*p*	LL	UL	Cohen's *d*
1. QOL	299.06	60.04	258.38	43.61	3.00	0.004	13.56	67.80	0.78
2. PHYS	83.12	12.55	70.85	12.50	3.75	0.000	5.67	18.62	0.98
3. PSYCH	78.02	10.62	64.03	13.95	4.32	0.000	7.52	20.47	1.13
4. SOCIAL	71.26	17.99	59.44	18.01	2.53	0.014	2.46	21.18	0.66
5. ENVIR	74.14	18.03	63.96	14.67	2.38	0.021	1.62	18.74	0.62
6. HS	79.43	8.68	68.47	13.90	3.70	0.000	5.18	17.16	0.95

Note. QOL= Quality of life; PHYS= Physical domain; PSYCH= Psychological domain; SOCIAL= Social Relationship; ENVIR= Environmental domain; HS= Happiness Scale; M= Mean; SD= Standard Deviation; LL = lower limit, UL = upper limit; CI = confidence interval;

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An independent samples t-test showed that QOL scores were significantly higher for Experimental group (M = 299.06, SD = 60.04) than Control Group (M =258.38, SD = 43.61), t (58) = 3.00, p <.01, Score for Physical domain were significantly higher for Experimental group (M = 83.12, SD = 12.55) than Control Group (M =70.85, SD = 12.50), t (58) = 3.75, p <.001, Score for Psychological domain were significantly higher for Experimental group (M = 78.02, SD = 10.62) than Control Group (M =64.03, SD = 13.95), t (58) = 4.32, p <.001, , Score for Social Relationship domain were significantly higher for Experimental group (M = 71.26, SD = 17.99) than Control Group (M =59.44, SD = 18.01), t (58) = 2.53, p <.05, , Score for Environmental

domain were significantly higher for Experimental group (M = 74.14, SD = 18.03) than Control Group (M =63.96, SD = 14.67), t (58) = 2.38, p <.05, , Scores for Happiness of Life Scale were significantly higher for Experimental group (M = 79.43, SD = 8.68) than Control Group (M =68.47, SD = 13.90), t (58) = 3.70, p <.001.

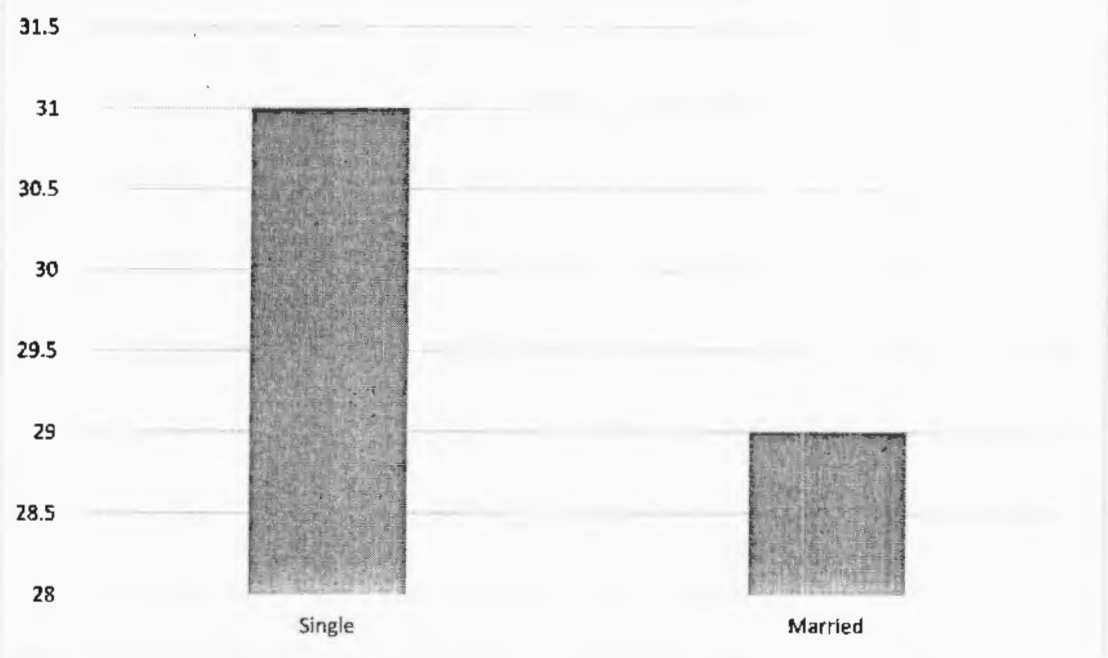

Figure 1. Graphical Representation of Marital Status in the Study Population

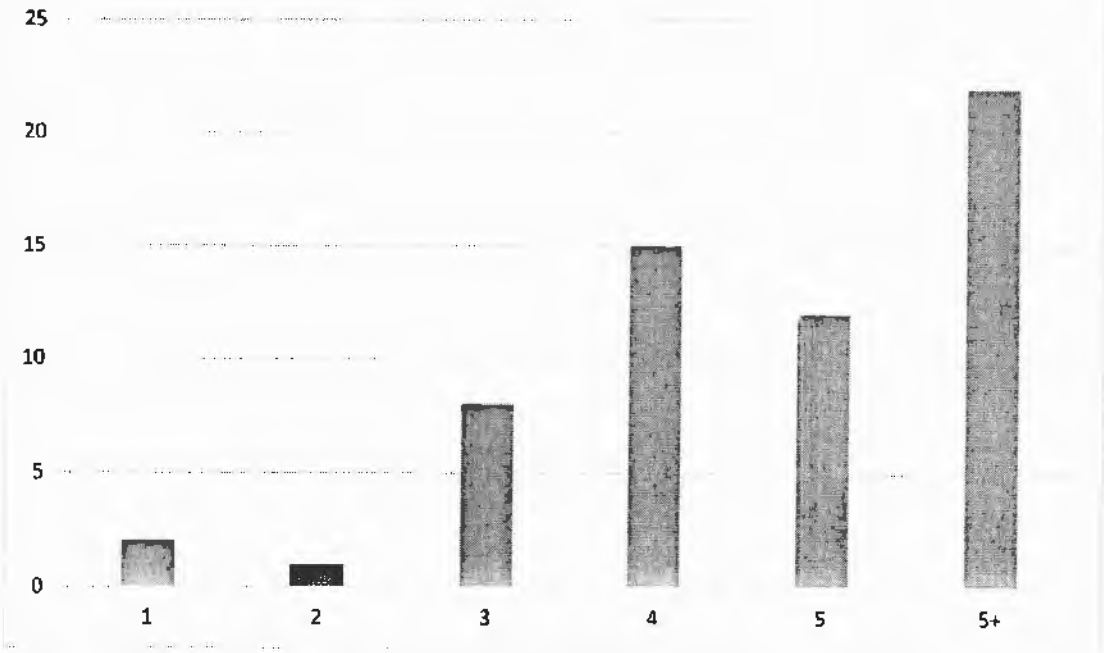

Figure 2. Graphical Representation of Number of Siblings in the Study Population

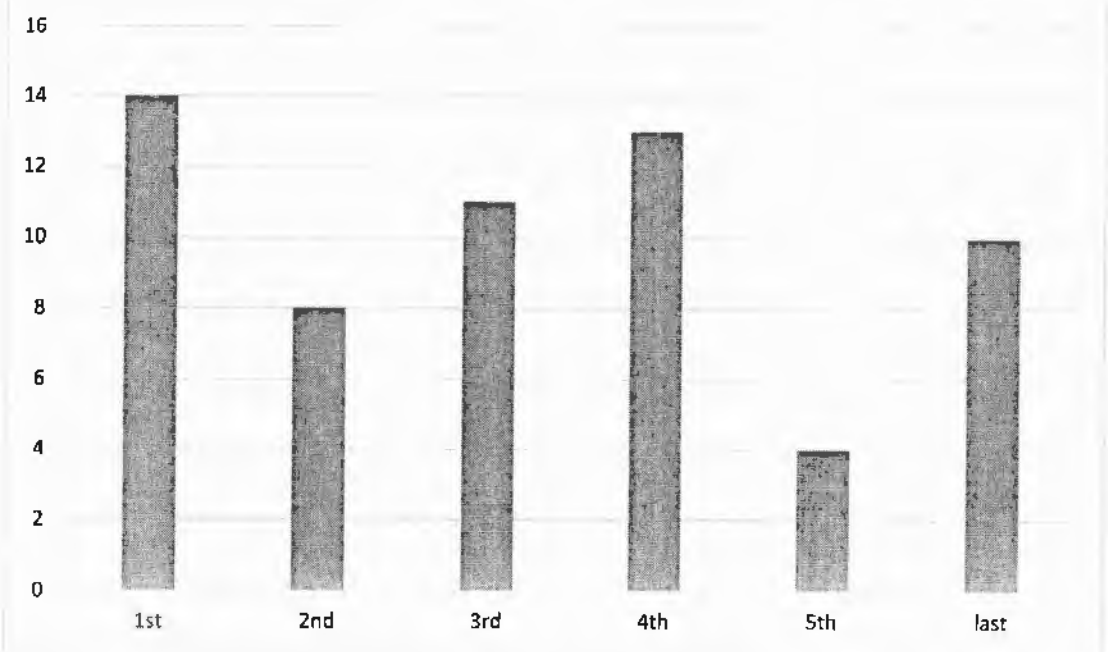

Figure 3. Graphical Representation of Birth Order in the Study Population

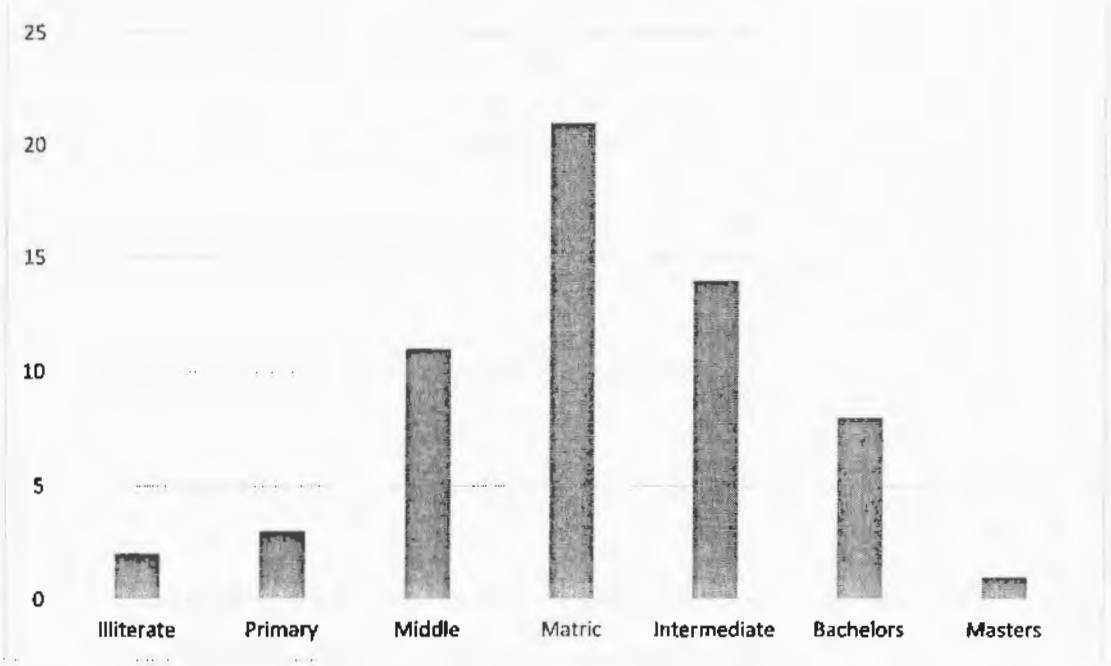

Figure 4. Graphical Representation of level of Education in the Study Population

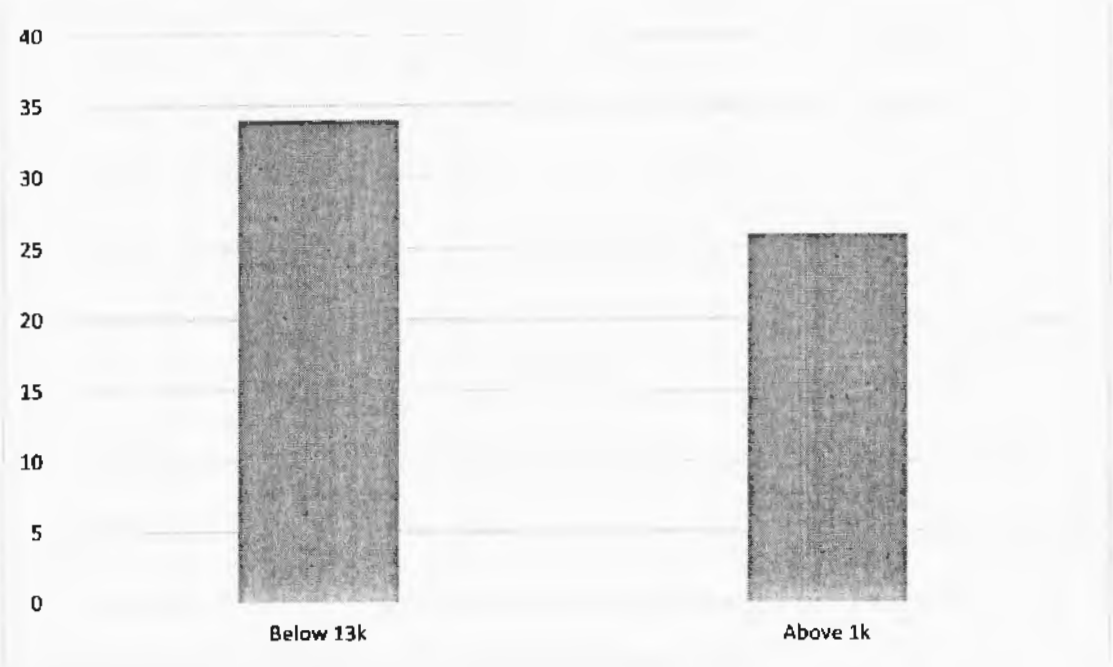

Figure 5. Graphical Representation of Monthly Income in the Study Population

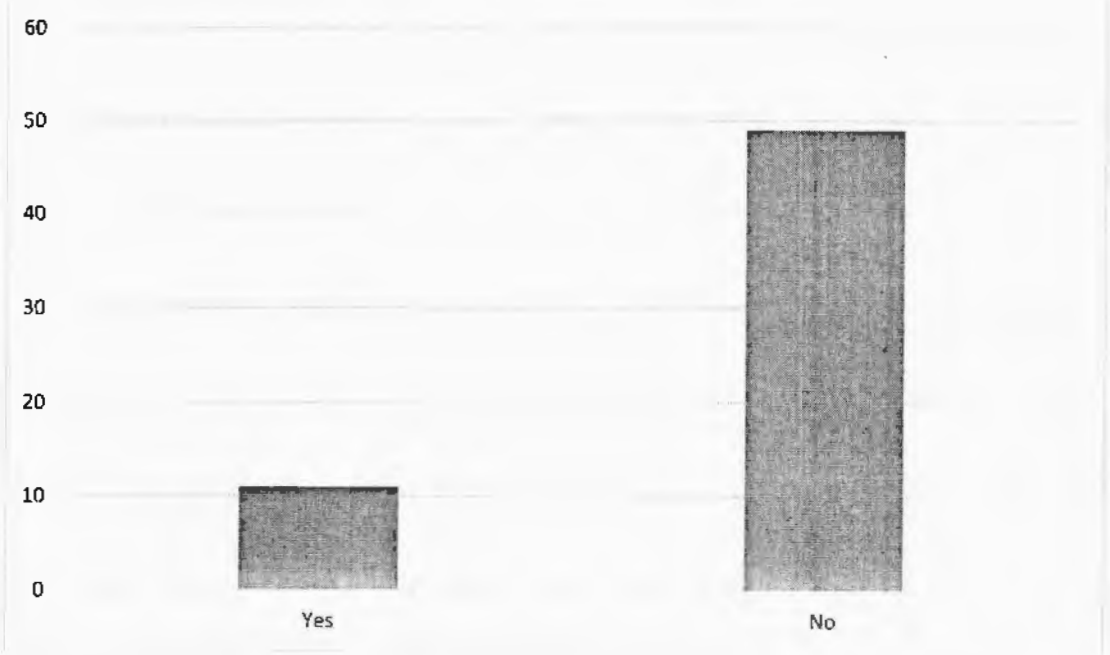

Figure 6. Graphical Representation of Drug Users in Family in the Study Population

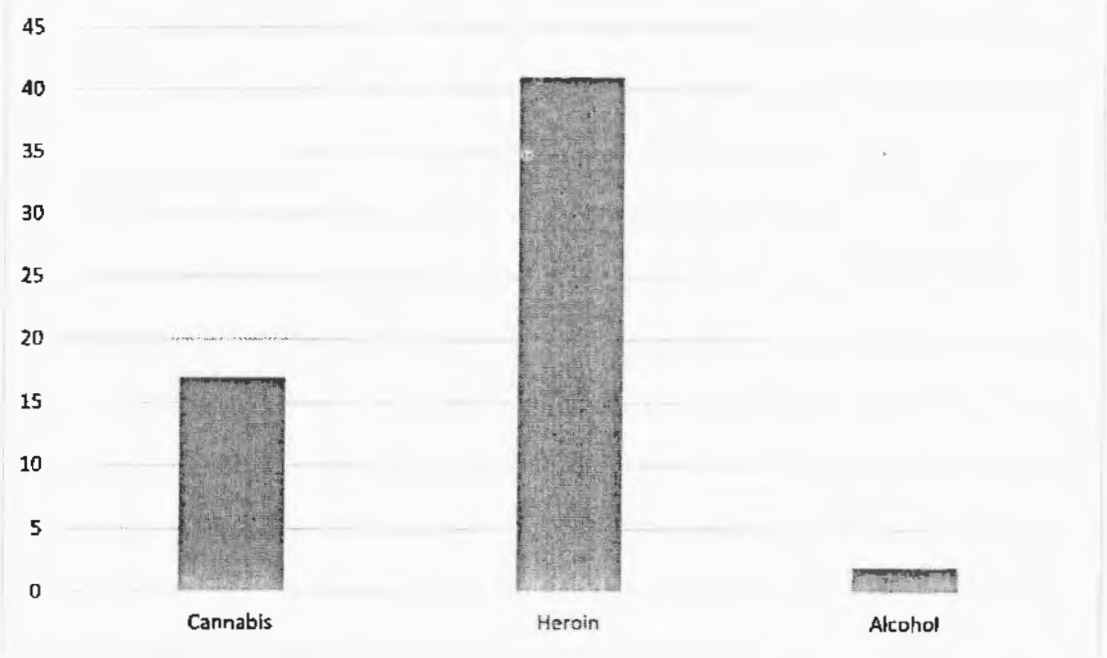

Figure 7. Graphical Representation of Drug of Choice in the Study Population

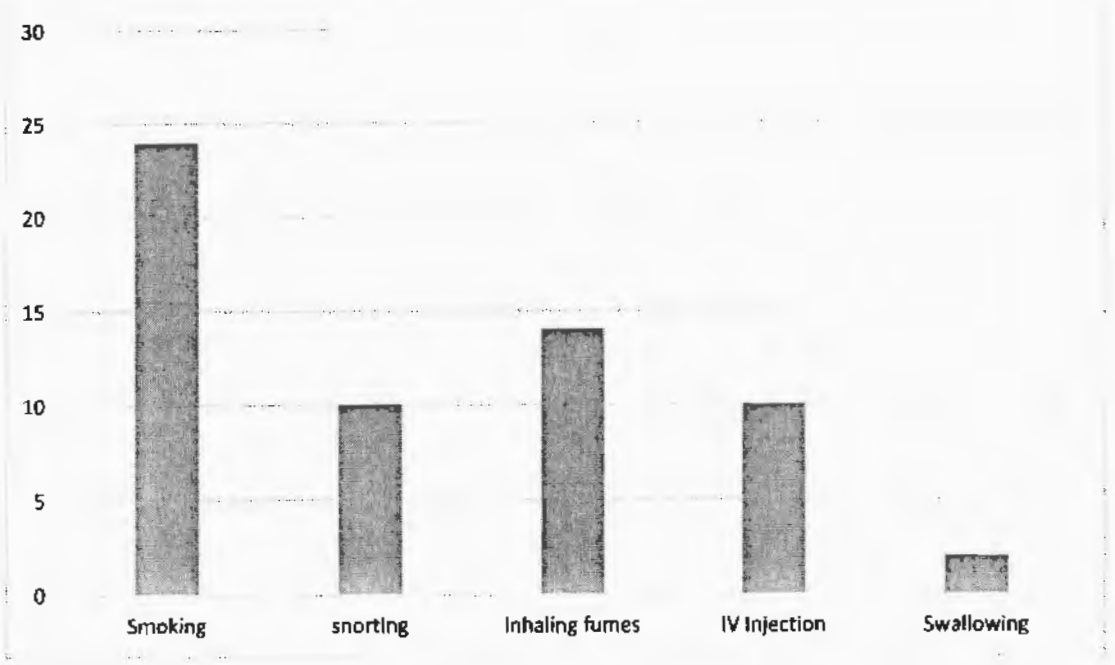

Figure 8. Graphical Representation of Route of Drug Administration in the Study Population

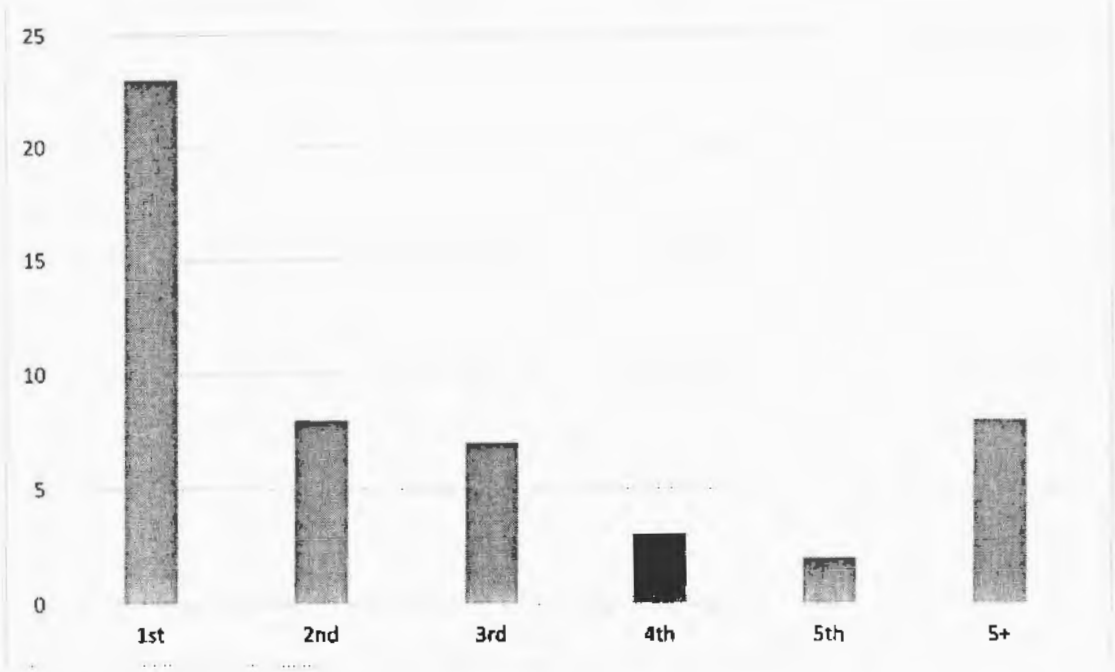

Figure 9. Graphical Representation of Number of Treatment in the Study Population

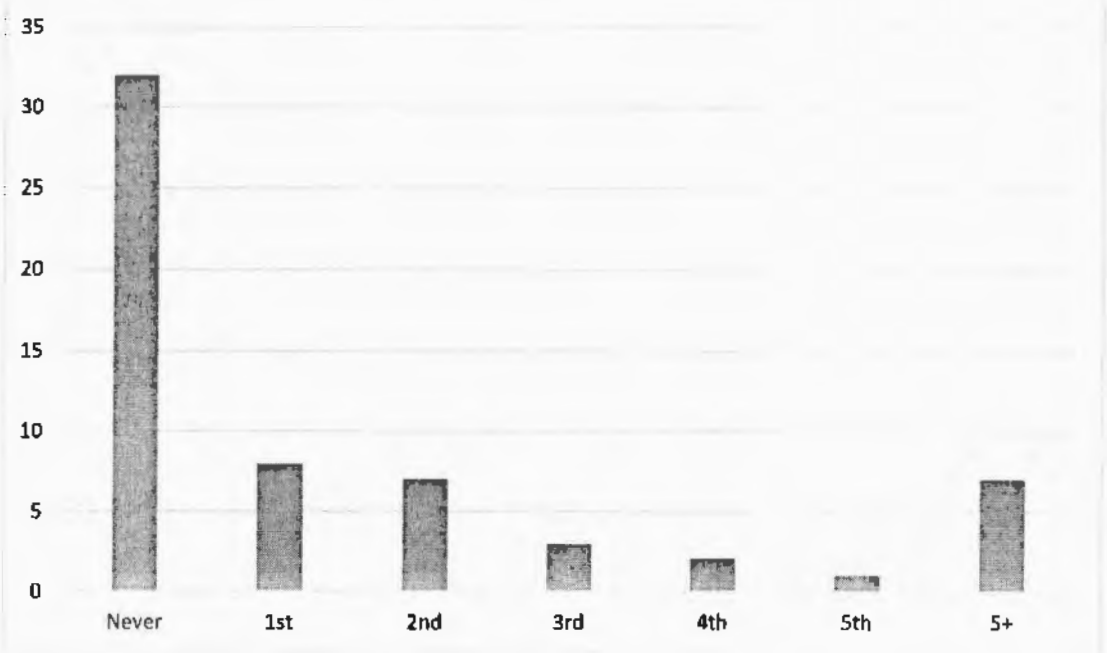

Figure 10. Graphical Representation of Number of Relapse in the Study Population

Chapter-IV

Discussion

The primary aim to conduct this study is to evaluate the effectiveness of community reinforcement approach on the quality of life among drug addicts, when it is integrated with another treatment model. To achieve this purpose, the strengths of CRA and Minnesota Model were combined together. The individual counseling and therapeutic work was done on the participants according to the guidelines of CRA, whereas the group therapy was done as per Minnesota model. The outcomes of the study show a substantial increment in the quality of life in different aspects of life of the participants in the experimental group. The same is the case with the happiness of life in individuals received combined treatment than who went through traditional treatment.

While studying chronic diseases, the quality of life is an important factor to evaluate. But unfortunately, there is very little work on it and specially in substance use disorders (Smith & Larson, 2003). It is astonishing that the researches reveal that drug addicts and the individuals with psychiatric disorders have almost same level of quality of life (Vaarwerk & Gaal, 2001). To increase the efficacy and for better management of the drug addiction treatment, the studies should be conducted to compare the quality of life and self-perceived health (Padaiga et al., 2007). If drug addiction is untreated, the quality of life declines quickly in all aspects of life of an individual. The good news is that structured and tailor made treatment can improve the quality of life in sober life (Assari & Jafari, 2010). For this purpose, various drugs have been studied and many questionnaires have been used. It can be observed that that QOL in drug addicts is not studied as much as other psychiatric disorders (Assari & Jafari, 2010). The quality of life is not a famous area of study in substance use disorders. The progression of drug addiction has three

levels named as drug use, drug abuse and full blown addiction. These stages have been defined in various contexts and can have diverse impacts on the quality of life of an individual (Assari & Jafari, 2010). The t-test investigation (Table 3) proves the hypothesis that individuals treated through integration of the Community Reinforcement Approach & Minnesota model have much improved quality of life than who received traditional Minnesota model treatment.

Usually, people don't understand adverse drug effects on their behaviors (Khalily, 2001). In drug addiction the physical and psychological changes affect an individual badly in every aspect of life. He/she becomes unhappy and less satisfied with the life (Khalily, 2001). A comprehensive study was conducted on adolescents to check the relationship between perceived life satisfaction and their drug using behavior (Zullig et al., 2001). This study included different types of drugs like cigarette smoking, Cannabis, chewing tobacco, cocaine, alcohol use and binge drinking, injectable and steroid use. Results indicated that substance use is strongly associated with reduced life satisfaction (Zullig et al., 2001). Many recovering individuals report that they quit drug use because they are tires and sick of drug life (Laudet & White, 2008).

Community reinforcement approach helps the drug addict to reconstruct their different aspects of life by making a sober lifestyle more rewarding than the drug addiction (Miller, et al., 1999). It is achieved by providing frequent rewards for good behaviors towards treatment and sober life, while removal of any type of encouragement for drug addiction. And when an individual gets frequent rewards then he/she obviously, becomes more satisfied and happy with his/her life.

Results (Table 3) presented a substantial increment in the happiness of life of the individuals treated through the integration of the Community Reinforcement Approach & Minnesota model and the traditional Minnesota model treatment. A results of a study

investigating quality of life of drug addicts reveals that the physical functioning of adult drug addicts was at similar levels as for individuals with other chronic diseases. The QOL provides details about well-being and functioning, that are not expressed by conventional measures of drug addiction. This may very soon start playing a key role in assessing the effectiveness of treatment services for drug addicts. (Smith & Larson, 2003).

The present study also explores the sociodemographic of the study participants. In our country, it is notable that increasing rate of population yielding various issues. Drug Addiction is one of them. Because when Population increases, the diffusion of drug abuse also increases (An analysis of drug abuse networking in Pakistan). Also the number of siblings and the birth order may be important factors to start drug addiction. The middle born and last born individuals are most likely to use drugs and be sexually active than their firstborn siblings (Argys et al., 2006).

In sociodemographic (Table 1), the results indicate that the 25% participants have 4 siblings, 20% have 5 siblings and 36.7 % have more than 5 siblings. The siblings are ranging from 1 to 14. If we look at the birth order, 23.3 % are 1st born which is highest percentage among the birth order (Table 1). These figures show that the more number of family member, the more vulnerability to the drug addiction. Whereas, the 1st born and the last born are also more vulnerable towards drug addiction. It can vary culturally but these factors are real important and need further investigation.

In Clinical Characteristics of Participants (Table 2), it was observed that the onset age of drug using behavior is also very important. The mean age of onset age of drug use is 18. It shows that the adolescents and youngsters need to learn addiction preventions skills so that they can stay away from the addiction while living in the environment full of drug addiction cues. As the drug use in early age such as tobacco and correlates and associated with later drug misuse (Lloyd

et al., 2000). The outcomes of a research suggested to use goal settings for harm reduction and classroom approaches in school drug education (Mcbride et al., 2004).

There are many treatment modalities for the addiction but each model has its own strengths and limitations. A comprehensive research was conducted to analyze the efficacy of treatment for drug addiction. The therapeutic communities and outpatient drug free programs showed the high efficacy and longer sober life with the improvement in different areas of life of individuals with substance use disorders after treatment. Whereas, there was remarkably poorer outcomes were recorded for a group of comparison patients and outpatient detoxification programs (Simpson & Sells, 1982). Moreover, there is not a single treatment modality which is taken as universal treatment model for the treatment of addiction. There is no uniform treatment model appropriate for every individual. The treatment varies based on the drug of choice and the characteristics of the drug addicts. Tailor made treatment plans and interventions are critical for the rehabilitation of drug addicts so that they can become a positive part of the society (NIDA).

Cognitive Behavioral Therapy (CBT) was developed for treating alcoholism and relapse, later it was used for cocaine addicts (Principles of drug addiction treatment). CBT, contingency management (CM), couple therapy, family therapy and a many of other types of behavioral treatment have been proved to be effective interventions for different forms of drug addiction (Carroll & Onken, 2005). Contingency Management (CM) Interventions and Motivational Incentives are used to treat Alcohol, Stimulants, Opioids, Marijuana and Nicotine addiction (Prendergast et al., 2006). Community Reinforcement Approach (CRA) Plus Vouchers is used to treat Alcohol, Cocaine and Opioids (Roozen et al., 2004). Motivational Enhancement Therapy (MET) is used to treat Alcohol, Marijuana and Nicotine addiction (Baker et al., 2002). The Matrix Model is used specifically for the treatment of Stimulants' addiction (Rawson et al.,

1995). And 12-Step Facilitation Therapy is used for the treatment of Alcohol, Opioids and Stimulants (Donovan & Wells, 2007).

Integration approaches can bring effective outcomes than a single or tunnel viewed model. The results of research have shown that treatment of opioid addiction with methadone maintenance is more successful when it combines with individual and/or group counseling. The results become more effective, when patients are provided different services such as medical and psychiatric aid (Principles of drug addiction treatment). Combination of Motivational enhancement therapy and cognitive behavioral therapy is very successful with cannabis abusers. (Principles of drug addiction treatment). Pharmacotherapies are recommended to use with the combination of behavioral techniques including individual and group therapies.

Conclusion

This research aims to assess the usefulness of Community Reinforcement Approach in the context of quality of life, when it is combined effectively with the traditional treatment method. The results show a notable increment in the quality of life of individuals received the treatment of combined approach than who received traditional treatment. Likewise, the happiness of life of the participants in integrated method also increased than the participants in Minnesota model treatment.

The integration approach can yield much higher results than that of any single treatment modality. We can integrate, customize and tailor the strengths of different modalities with respect to the culture, type of addiction and treatment method (indoor & outdoor).

CRA is highly flexible and proved effective combinations with different treatment methods in treatment of substance use disorders. The high efficacy, compatibility and cost-effectiveness distinct it among other treatment methods

Limitations and Recommendations

The varying sample size is the most important limitation of this research because the numbers of inpatients vary due to various reasons, i.e., LAMA (left against medical advice), family's dissatisfaction from treatment and others. Furthermore, the practical limitations of conducting an experimental study in a drug treatment Centre such as, the permission issue, non-compliance of the staff and administration, lack of facilities and ambient environment are some those.

In spite of all issues, there is a dire need to work on the CRA and its integration approach with present treatment methods. That is way towards the quality treatment for drug addiction. It may be adapted, assessed and evaluated further in this regard, especially in Pakistan, where there is a pressing need to adopt and adapt treatment strategies for addiction problem having proven efficacy. This method can bring revolution in the field of drug addiction treatment.

Utilization of Research Results

This study can be used in the planning and policy making of treatment methods for substance use disorders. Traditional methods are not supporting the present time's needs, and therefore, look for a better treatment method. CRA can help them because, it is flexible and effective treatment approach with proven efficacy. We can use CRA according to our cultural norms. It is the right time to introduce CRA in our country. This study provides mental health professionals evidence to use this integrative model of the Community Reinforcement Approach and Minnesota Model for the treatment of addiction as evidence based strategy. CRA has proven efficacy and the result of this study exhibit its significance when it is integrated with another treatment approach. This research opens the door for CRA to incorporate in existing treatment policies in Pakistan.

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Appendices

WHOQOL-BREF

ہدایات:

اس سوالنامہ میں آپ کی زندگی کے معیار، صحت اور زندگی کے دیگر پہلوؤں کے بارے میں پوچھا جائے گا۔ براہ مہربانی اپ تمام سوالات کے جواب دیں۔ اگر آپ کسی سوال کے جواب کے بارے میں یقینی طور پر کچھ نہیں کہ سکتے تو سب سے مناسب جواب کا چناؤ کریں۔ عموماً یہ وہ جواب ہو سکتا ہے جو کہ آپ کے ذہن میں سب سے پہلے آئے۔
آپ سے گزارش ہے کہ اپنے ذاتی معیار، اُمیدیں، خوشیاں اور خدشات ذہن میں رکھیں۔ سوالات دیتے وقت پچھلے دو ہفتوں کی زندگی کو ذہن میں رکھیں۔
مثلاً

کیا آپ کو دوسروں کی ایسی مدد حاصل ہے جو آپ چاہتے ہوں؟

بالکل نہیں	تھوڑی بہت	درمیانی حد تک	بہت زیادہ	بہت ہی زیادہ
1	2	3	4	5

اگر پچھلے دو ہفتوں سے آپ کو دوسروں کی بہت زیادہ مدد حاصل رہی ہو تو آپ نمبر 4 پر دائرہ لگا سکتے ہیں۔
کیا آپ کو دوسروں کی ایسی مدد حاصل ہے جو آپ چاہتے ہوں؟

بالکل نہیں	تھوڑی بہت	درمیانی حد تک	بہت زیادہ	بہت ہی زیادہ
1	2	3	4	5

لیکن اگر پچھلے دو ہفتوں سے آپ کو دوسروں کی مدد بالکل بھی نہیں ملی تو آپ نمبر 1 پر دائرہ لگا سکتے ہیں۔
آپ کے تعاون کا شکریہ

آپ سے گزارش ہے کہ ہر سوال کو غور سے پڑھیں اور اپنے احساسات کا جائزہ لیں اور پھر اُس نمبر پر دائرہ لگائیں جو آپ کے احساسات کو بہتر طور پر ظاہر کرتا ہو۔

1	آپ اپنے معیار کی زندگی کو کس درجہ کا محسوس کرتے ہیں۔	بہت برا 1	برا 2	نہ اچھا نہ برا 3	اچھا 4	بہت اچھا 5
2	آپ اپنی صحت سے کس حد تک مطمئن ہیں۔	بہت غیر مطمئن 1	غیر مطمئن 2	نہ مطمئن نہ غیر مطمئن 3	مطمئن 4	بہت مطمئن 5

مندرجہ ذیل سوالات میں آپ کچھ مخصوص چیزوں کے بارے میں پوچھا جائے گا کہ ان سے آپ کا پچھلے دو ہفتوں میں کس حد تک تجربہ ہوا ہے۔

3	آپ کس حد تک محسوس کرتے ہیں کہ جسمانی درد آپ کے لئے وہ کام کرنے میں رکاوٹ بنتی ہے جس کا کرنا آپ کے لئے ضروری ہوتا ہے۔	بالکل نہیں	تھوڑا بہت	درمیانی حد تک	بہت زیادہ	بہت ہی زیادہ
4	روزمرہ کاموں کی ادائیگی کے لئے آپ کس حد تک طبی علاج کی ضرورت پڑتی ہے۔	1	2	3	4	5
5	آپ کس حد تک اپنی زندگی سے لطف اندوز ہوتے ہیں۔	1	2	3	4	5
6	آپ کس حد تک اپنی زندگی کو بامعنی محسوس کرتے ہیں۔	1	2	3	4	5
7	آپ کس حد تک اپنے آپ کو توجہ مرکوز کرنے کے قابل سمجھتے ہیں۔	1	2	3	4	5
8	آپ روزمرہ زندگی میں اپنے آپ کو کس حد تک محفوظ کرتے ہیں۔	1	2	3	4	5
9	آپ کے اردگرد کا طبعی ماحول کس حد تک صحت مندانہ ہے۔	1	2	3	4	5
10	کیا آپ روزمرہ زندگی کے لئے مناسب توانائی محسوس کرتے ہیں۔	1	2	3	4	5
11	کیا آپ کے لئے اپنی ظاہری جسمانی شکل وصورت قابل قبول ہے۔	1	2	3	4	5
12	کیا آپ کے پاس اپنی ضروریات پوری کرنے کے لئے مناسب پیشہ موجود ہے۔	1	2	3	4	5
13	آپ کو روزمرہ زندگی گزارنے سے متعلق کتنی ضروری معلومات دستیاب ہیں۔	1	2	3	4	5
14	آپ کو سیر و تفریح کے مواقع کس حد تک میسر ہیں۔	1	2	3	4	5
15	آپ اپنے اردگرد جسمانی طور پر کس حد تک چلنے پھرنے کے قابل ہیں۔	1	2	3	4	5

مندرجہ ذیل سوالات میں آپ سے پوچھا گیا ہے کہ پچھلے دو ہفتوں سے آپ نے اپنے زندگی کے مختلف پہلوؤں کے حوالے سے کس قدر اچھا یا مطمئن محسوس کیا۔

16	آپ اپنی نیند سے کس حد تک مطمئن ہیں	انتہائی غیر مطمئن	غیر مطمئن	نہ مطمئن نہ غیر مطمئن	مطمئن	انتہائی مطمئن
		1	2	3	4	5
17	آپ اپنی روزمرہ کام سرانجام دینے کی صلاحیت سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
18	آپ اپنی کام کرنے کی صلاحیت سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
19	آپ اپنی ذات سے کس حد تک مطمئن ہیں۔	1	2	3	4	5

20	آپ اپنے تعلقات سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
21	آپ اپنی جنسی زندگی سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
22	آپ اپنے دوستوں سے ملنے والی مدد سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
23	آپ اپنی رہائش کی جگہ کے حالات سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
24	آپ طبی سہولتوں تک اپنی رسائی سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
25	آپ اپنے ذرائع آمد و رفت سے کس حد تک مطمئن ہیں۔	1	2	3	4	5
26	آپ کس حد تک منفی احساسات کا شکار رہتے ہیں مثلاً اداسی، مایوسی، پریشانی اور افسردگی وغیرہ۔	کبھی نہیں 1	بعض اوقات 2	کبھی کبھار 3	بہت زیادہ 4	ہمیشہ 5

HAPPINESS SCALE

This scale is intended to estimate your *current* happiness with your life in each of the ten areas listed below. Ask yourself the following question as you rate each area:

How happy am I with this area of my life?

You are to circle one of the numbers (1-10) beside each area.

Numbers toward the left indicate various degrees of unhappiness, while numbers toward the right reflect various levels of happiness.

In other words, state according to the numerical scale (1-10) exactly how you feel today.

Remember: Try to exclude all feelings of yesterday and concentrate only on the feelings of today in each of the life areas. Also try not to allow one category to influence the results of the other categories.

	Completely Unhappy									Completely Happy
Drug use	1	2	3	4	5	6	7	8	9	10
Job or Education Progress	1	2	3	4	5	6	7	8	9	10
Money Management	1	2	3	4	5	6	7	8	9	10
Social Life	1	2	3	4	5	6	7	8	9	10
Personal Habits	1	2	3	4	5	6	7	8	9	10
Marriage/Family Relationships	1	2	3	4	5	6	7	8	9	10
Legal Issues	1	2	3	4	5	6	7	8	9	10
Emotional Life	1	2	3	4	5	6	7	8	9	10
Communication	1	2	3	4	5	6	7	8	9	10
General Happiness	1	2	3	4	5	6	7	8	9	10

Name:_____ Date:_____

(Meyers & Smith, 2000)

Demographic Performa

1۔ عمر: _____ 2۔ جنس: _____

3۔ تعلیم: _____ 4۔ ماہوار آمدنی: _____

5۔ ازدواجی زندگی: _____ 6۔ بہن بھائیوں کی تعداد: _____

7۔ بہن بھائیوں میں آپ کا نمبر: _____ 8۔ نشے کی نوعیت: _____

9۔ نشہ استعمال کرنے کا طریقہ: _____

10۔ گھر میں کوئی اور نشے کا فرد (اگر ہاں تو کون؟): _____

11۔ آپ نے کل کتنی دفعہ علاج کروایا: _____

12۔ ریلیپس کتنی دفعہ ہوئے: _____

13۔ آپ کو نشہ چھوڑے کتنا عرصہ ہو چکا ہے: _____

14۔ آپ نے نشہ کرنا پہلی دفعہ کس عمر میں شروع کیا؟: _____

15۔ آپ نے سموکنگ کرنا پہلی دفعہ کس عمر میں شروع کیا؟: _____

اجازت نامہ

اسلام علیکم!

میں انٹرنیشنل اسلامک یونیورسٹی اسلام آباد کے شعبہ نفسیات (جو کہ ایک تحقیقی ادارہ ہے اور مختلف سماجی و معاشرتی موضوعات پر تحقیق کرتا ہے) میں ایم۔ایس کا طالبعلم ہوں اور میں اپنی اس تحقیق میں نشے کی بیماری میں مبتلا افراد میں معیار زندگی کے تناظر میں CRA تھراپی کے اثرات دیکھ رہا ہوں۔ مجھے اس تحقیق میں آپ کا تعاون درکار ہے۔ میں آپ کو یقین دلاتا ہوں کہ آپ سے حاصل کردہ تمام معلومات صرف تحقیقاتی مقاصد کیلئے ہی استعمال ہوں گی اور صیغہ راز میں رکھی جائیں گی۔

محمد طلحہ خالد

شعبہ نفسیات

انٹرنیشنل اسلامک یونیورسٹی اسلام آباد

دستخط تحقیق کنندہ۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔

میں اپنی مرضی سے اس تحقیق میں شامل ہو رہا ہوں۔ مجھے معلوم ہے کہ مجھ سے لی گئی تمام معلومات صرف تحقیقاتی مقاصد کیلئے استعمال ہوں گے اور صیغہ راز میں رکھی جائیں گی۔ مجھے مکمل اختیار حاصل ہے کہ دوران تحقیق اگر میں کسی مقام پر ضرورت محسوس کروں تو اس تحقیق کو مکمل کیے بغیر چھوڑ سکتا ہوں۔

دستخط شرکت کنندہ۔۔۔۔۔۔۔۔۔۔۔۔۔۔۔

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The approved study for this User Agreement is:

Study Title	**Effectiveness of Community Reinforcement Approach (CRA) in the Context of Quality of Life in Drug Addicts**
Principal Investigator	Muhammad Talha Khalid
Sample characteristics	Drug Addicts
Sample size	60-70
Treatment Intervention	Community Reinforcement Approach
Total number of assessments	4
Assessment time points	Post-test
"WHOQOL-100" or WHOQOL-BREF version	WHOQOL-BREF Version English and Urdu
Other measures	Happiness of life

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e. the overall findings and conclusions.

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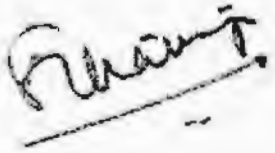
WHO:



Dr. Somnath Chatterji
Health Statistics and Health Information Systems (HSI)
World Health Organization
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CH 1211 Switzerland

Date:

USER:

By: Muhammad Talha Khalid
Title: Permission of scale
Institution: International Islamic university Islamabad, Pakistan
Address: Department of Psychology, Sector H-10 ‹Islamabad 44000, Pakistan

Date: 27 April, 2016

Gmail Muhammad Talha <muhammad.talha347@gmail.com>

Reminder

Robert Meyers <bmeyers@unm.edu> Sat, Jun 25, 2016 at 10:31 PM
To: Muhammad Talha <muhammad.talha347@gmail.com>

also try and buy this book. It explains how all the forms work.

Clinical Guide to Alcohol Treatment: The Community Reinforcement Approach by Robert J. Meyers, Jane Ellen Smith.

Robert J. Meyers, Ph.D. Associate Emeritus Professor of Psychology

University of New Mexico, & Director of Robert J. Meyers Ph.D., & Associates

http://www.robertjmeyersphd.com/

From: Muhammad Talha <muhammad.talha347@gmail.com>
Sent: Saturday, June 25, 2016 6:27:17 PM
To: Robert Meyers
Subject: Re: Reminder

[Quoted text hidden]

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18 attachments

FA Relapse.doc
35K

Communication Problemsolving.doc
29K

Communication Worksheet.doc
22K

crachecklist.doc
57K

drinking initial assessment.doc
33K

drinking initial assessment-filled in.doc
38K

Goals of Counseling (CRA 121505).doc
90K

Goals of Counseling-filled in.doc
30K

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  47K
- **happiness scale.doc**
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- **nondrinking behavior activity-filled in.doc**
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