

A STUDY ON THE EFFECTIVENESS OF RELAPSE PREVENTION THERAPY IN SUBSTANCE ABUSERS

CHAPTER 1

INTRODUCTION

INTRODUCTION

Life has become a burden on many of us nowadays, which is why we get to see a havoc picture around. There is a reservoir of stressors, which has and is drowning much of our fellow human beings. As some of the human beings are more vulnerable and want to drift away these stressors in a convenient way, fall prey to these perceived easy stress busters “Drugs”. But unfortunately the condition they are in later is like a person who is drowning in and coming up the surface in this life’s ocean. People have lost the sense of direction in life, ignoring what they actually want, but blindly follow where others and the life is taking them towards, hence end up missing up their lives.

Drug abuse has become a matter of major concern for us today. The term abuse and addiction has been defined and redefined over the years. The 1957 World- Health Organization (WHO) expert committee on addiction producing drugs addiction and habituation as component of abuse:

Drug addiction is a state of periodic or chronic intoxication produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include:

- i) An overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means.
- ii) A tendency to increase the dose.
- iii) A psychic (psychological) and generally a physical dependence on the effects of the drugs.
- iv) Detrimental effect on the individual and on society.

Drug habituation (habit) is a condition resulting from the repeated consumption of a drug. Its characteristics include:

- i) A desire (but not a compulsion) to continue taking the drug for the sense of improved well-being which it engenders.
- ii) Little or no tendency to increase the dose.
- iii) Some degree of psychic dependence on the effects of the drug, but absence of physical dependence and hence of an abstinence syndrome (withdrawal).
- iv) Detrimental effects, if any primarily on the individual.

In 1964, a new WHO Committee found these definitions to be inadequate and suggested using the blanket term “drug dependence”, but committee did not clearly define dependence.

In 2001, the American Academy of pain medicine, the American pain society and the American society of addiction medicine jointly issued “definitions related to the use of opioids for the treatment of pain”, which defined the following terms:

Addiction is a primary, chronic, neurobiologic disease, with genetic, psychosocial and environmental factors influencing its development and

manifestations. It's characterized by behaviours that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.

It should be noted that the Diagnostic Statistical Manual (DSM IV) (2006) spells out specific criteria for defining abuse and dependence. DSM IV uses the term substance dependence instead of addiction; a maladaptive pattern of substances abuse, leading to clinically significant impairment or distress, as manifested by three (or more) specified criteria, occurring at any time in the 12 months period.

Drugs known to cause addiction include illegal drugs as well as prescription or over the counter drugs.

CAUSES AND THEORIES OF DRUG ADDICTION

Many factors influence a person's initial drug use: Individual factors, psychosocial factors, biological factors etc. These factors are less important as drug use continues and the person repeatedly experiences the potent pharmacological effects of the drugs. Therefore, now we will try to understand the underlying and associated causes of drug addition by reviewing there theoretical viewpoints.

Table No. 1.1

Showing Types of Drugs

Classification	Drug	Effect
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Sedative	Alcohol (ethanol) Barbiturates Nembutal (pento barbital) Seconal (secobarbital) Veronal (barbital) Tuinal (secobarbital and amobarbital)	Reduce tension Facilitate social interaction Blot out feelings or events Reduce tension
Stimulants	Amphetamines Benzedrine (amphetamines) Dexedrine (dextoamphetamines) Methedrine (metha-amphetamines) Cocaine (coca)	Increase feelings of alertness and confidence Decrease feelings or fatigue Stay awake for long Decrease feeling of fatigue Increase endurance Stimulate sex drive
Narcotics	Opium and its derivatives Opium Morphine Codeine Heroine Methadone (synthetic narcotic)	Alleviate physical pain Induce relaxation and pleasant revive Alleviate anxiety and tension Treatment of Heroin

Psychedelics and Hallucinogens	Cannabis Marijuana Hashish Mescaline (peyote) Psilocybin (psychotogenic much room)	Induce changes in mood, thought, and behaviour
	LSD (lysergenic acid diethylamide-25) PDC (phencyclidine)	“Expand” one’s mind induce stupor
Anti-anxiety drugs (minor tranquilized)	Librium (chlordan poxide) Miltown (meprobamate) Valium (diazepam) Xanax	Alleviate tension and anxiety induce relaxation and sleep

(a) Psycho Analytic/ Dynamic Theory

Sigmund Freud took great interest in addictions. In 1897 he wrote to a friend that “masturbation is one great habit that is a primary addiction and that the other addictions for alcohol, morphine, tobacco, etc. only enter into life as a substitute and replacement of it” (Frosch, 1985, p.28). Thus it appears that to Freud, both smoking and drinking were related to oral eroticism (Frosch, 1985; Royce and Scratchley, 1996). At other point in his life, Freud postulated that alcoholism was a slow form of suicide which sprang from the death instinct or that latent homosexuality could be a causal contributor to the misuse of alcohol (Haynes, 1988; Royce and Scratchley, 1996). Freud’s primary theories regarding the etiology of alcoholism - slow suicide, oral fixation and latent homosexuality, Royce and Scratchley (1996) conclude that of those three Freudian theories, the first may have some slight foundation, the second does not explain why the oral gratification must be from alcohol and not any other and the

homosexual theory was pretty well refuted when some state laws were changed to allow women to drink in bars and the alcoholics went right on drinking without paying any attention to the sex of whoever was on the next barstools.

Later analytic viewpoint added elements to the traditional Freudian viewpoint that oral gratification was a prime component in the etiology of addiction. In the late

1920's Glover asserted that in addiction attributed to a fixation at oral and anal sadistic stages, alcoholics exhibited a propensity to regress to a "narcissistic state of ego organization which sets into action a primitive ego mechanism of projection "as well as" a disordered and severe primitive conscience leading to fruitless exploitation of the same mechanism of projection" (Frosch, 1985, p.30).

(b) Disease Model/ Theory

The 'disease model' or 'medical model' has been accepted and adopted by the American Medical Association, the World Health Organization and the National Council on Alcoholism (McKim, 1997). In this model, as defined in the International Classification of Disease (ICD-10), addiction is a physical disease, like all other diseases, is characterized by signs and symptoms as well as by its progressive nature. It is destructive in nature if not attended to and it is assumed that the only means of eradicating the disease is to target the toxic agent. In the case of addiction, the substance of abuse is to be avoided. However, one problem with viewing addiction as a disease, is that it is not clear as to how the disease begins.

(c) Physical-Dependence Theory/ Biological Perspective

Among the more biologically based theories, the 'physical-dependence theory' of addiction (i.e. withdrawal relief paradigm or opiate addiction

model) is more specific to opiate dependence. Since chronic use of opiate causes pathological changes in autonomic functioning, producing effects such as withdrawal and tolerance, this model regards compulsive drug taking as the behavioural manifestation of a desperate need to relieve aversive withdrawal symptoms (Lyvers, 1998). In effect, this model regards the behavioural manifestation of drug addiction to take place once the physical dependence has been established. The user becomes an addict and regards himself as such, once he makes a cognitive connection between administration of the opioid and relief of withdrawal distress. This model purposes that the behavioural addiction will cease once the extinction of drug related conditioned response is accomplished. This can be done through temporary relief measures such as administering the narcotics antagonist naltrexone, which blocks the opioid receptors and subsequently the effects of opioids.

Researchers have conducted numerous investigations using animal models and functional brain imaging on humans in order to define the mechanisms underlying drug addiction in the brain. This incorporates several areas of the brain and synaptic changes or neuroplasticity, which occurs in these areas.

Acute effects

Acute (or recreational) drug use causes the release and prolonged action of dopamine and serotonin within the reward circuit. Different types of drugs produce these neurotransmitters by different methods. Dopamine binds to the D1 receptor, triggering a signaling cascade within the cell. CAMP-dependent Protein Kinase (PKA) phosphorylates CAMP response element binding protein (CREB) a transcription factor, which induces the synthesis of certain genes including C/EBPβ (Kolivas and Volkow, 2005).

Reward Circuit: (Reinforcement Model)

Addictive drugs are positive reinforcers, so it's essential to understand the reward circuit, or the pathways in which drugs act and how drugs can alter those pathways. The reward circuit, also referred to as the mesolimbic system, is characterized by the interaction of several areas of brain.

The Ventral Tegmental area (VTA) consists of dopaminergic neurons which respond to glutamate. These cells respond when stimuli indicative of a reward are present. The VTA supports learning and sensitization development and releases dopamine (DA) into the forebrain (Jones and Bonci, 2005). These neurons also project and release DA into the nucleus accumbens (Eisch and Horburg, 2006), through the mesolimbic pathway. Virtually all drugs causing drug addiction increase the dopamine release in the mesolimbic pathway (Rang, H.P., 2003) in addition to their specific effects.

The nucleus accumbens (NACC) consists mainly of medium-spiny projection neurons (MSNs), which are GABA neurons (Kourrich et al., 2007). NACC is associated with acquiring and eliciting conditioned behaviours and involved in the increased sensitivity to drugs as addiction progresses (Jones and Bonci, 2005).

The prefrontal cortex, more specifically the anterior cingulate and orbito-frontal cortex (Kalivas and Volkow, 2005) is important for the integration of information which contributes to whether behaviour will be elicited. It appears to be the area in which motivation originates and the salience of stimuli are determined (Floresco and Ghods Sharifi, 2007).

The basolateral amygdala projects into the NACC and is thought to be important for motivation as well (Floresco and Ghods, Sharifi, 2007).

More evidence is pointing towards the role of the hippocampus in drug addiction because of its importance in learning and memory. Much of this evidence stems from investigations manipulating cells in the hippocampus alter dopamine levels in NACC and firing rates of VTA dopaminergic cells (Eisch and Harburg, 2006).

Stress Response

In addition to the reward circuit, it is hypothesized that stress mechanism also play a role in addiction. Koob and Kreek have hypothesized that during drug use corticotrophin releasing factors (CRF) activate the hypothalamic pituitary-adrenal axis (HPA) and other stress system in the extended amygdala. This activation influences the deregulated emotional state associated with drug addiction. It also appears that μ -opioid receptor system, which enkephalin acts on, is influential in the reward system and can regulate the expression of stress hormones (Koob and Kreek, 2007).

Behaviour

Understanding how learning and behaviour work in the reward circuit can help understand the action of addictive drugs. Drug addiction is characterized by strong drug seeking behaviours in which the addict persistently craves and seeks out drugs, despite the knowledge of harmful consequences (Kalivas and Volkow, 2005; Koob and Kreek, 2007) Addictive drugs produce a reward, which is the euphoric feeling resulting from sustained DA concentrating in the synaptic cleft of neurons in the brain. Operant conditioning is exhibited in drug addicts as well as laboratory mice, cats and primates; they are able to associate an action or behaviour, in this case seeking out the drug, with a reward, which is the effect of the drug (Jones and Bonci, 2005). Evidence shows that this behaviour is most likely a result of the synaptic changes which have occurred due to

repeated drug exposure. (Kalivas and Volkow, 2005; Koob and Kreek, 2007; Jones and Bonci, 2005).

Family History/ Genetic Predispositions

Studies that have investigated generational differences in the transmission of drug abuse revealed that drug abuse is elevated among siblings of drug abusers and that there is a direct relationship between parental drug use or abuse and offspring's use or abuse (Merikangas et al.1992). It was also investigated by Merikangas (1990); and Pukins (1991) that high occurrence of alcoholism among offspring of parents with alcoholism demonstrates that family history is one of the most potent predictors of vulnerability to alcohol abuse, which results to some extent from genetic factors.

Further on high rate of alcohol and opioid dependence has been evidenced in the 1st degree relatives of opioid dependent patients. (Prasant et al., 2006).

It is also witnessed that the knowledge of father's alcohol use and its time of onset may be used to determine children who are at added risk of problematic alcohol use later in life, (Selijamo et al., 2006) indicating familial and genetic influence on addiction. Therefore its seen parenting and familial influence on substance use and substance use disorder are important areas of study both for theories of etiology and for the development of preventive and treatment interventions (Chassin et al., 2006). A growing literature suggests individual differences in vulnerability to develop substance related problems are influenced to a large degree by genetic factors (Prescott et al., 2006). Family, twin and adoption studies provide strong evidence that addiction runs in families and that this is determined in part by genetic factors (David, B., 2008).

(d) Behaviourist : Learning Theories

Other approach to the etiology of addiction was studied by the behaviourists, they explained addiction from the framework using classical and operant conditioning paradigm. Once learned, the behaviour is maintained by reinforcing contingencies (Shaffer and Schneider, 1985). Wilker hypothesized a two stage approach to addiction, utilizing these paradigms for Wilker, the acquisition of an addiction can be explained in terms of the classical conditioning model. This occurs with the addict's pairing of conditioned stimuli such as thoughts or emotions with an unconditioned stimulus, such as a narcotic. The rush euphoria experienced by the addict with the ingestion of narcotics then serves as an unconditioned response. Wilker believed that operant conditioning is responsible for the maintenance of an addiction, asserting that the narcotic's 'fix' averts the unpleasant side effects of the withdrawal. In operant terms, the cessation of the unpleasant effects of withdrawal constitute negative reinforcement (Shaffer and Schneider, 1985; Wilker, 1965). Shaffer and Schneider (1985) contended that the use of Antabuse and Naltrexone as clinical interventions are based in part on Wilker's two stage model. They state that Naltrexone, which is a narcotic agonist, suppressor the link between conditioned stimuli and conditioned responses. Further, Antabuse acts as an aversion consequences replacing previous consequences that were positively reinforcing. Benjamin Rush experimented with aversion therapy in the 1780's. In the early part of the 19th century, a physician known as Dr. Kain "used a tartar emetic as an aversive agent to link the taste and smell of alcohol to nausea" (White, 1998, p.105).

Traditionally, much of behavioural treatment in general, and of addictions specifically is based on the principles of reinforcement: that positive reinforcement, negative reinforcement and punishment serve as powerful behavioural motivators (Atkinson, Atkinson and Hilgoid, 1983). Radical

behaviourism holds that internal cognitive events are inappropriate targets for behavioural assessment and intervention (Atkinson, Atkinson and Hilgoid, 1983; Shaffer and Schneider, 1985). However most practitioners today who are using behavioural approaches to treat addictions take a less restrictive approach. Shaffer and Schneider (1985) describe what they call the “neo classical” approach to behavioural therapy for addictive behaviour as worked by “the centrality ascribed to various internal constructs of dysphoria”. They cite the negative consequences of withdrawal including such unobservable internal states as anxiety, panic and addictive cravings, e.g. as being constructs which are fundamental to such technique as systematic desensitization, reciprocal inhibition and flooding.

(e) Social Learning Theory

Social learning theory assumes that not all behaviour can be attributed solely to external reinforcers. Rather, behaviour can also be learned through the observation of others (Crooks and Stein, 1991). Social learning theory as it applies to etiology and treatment of addiction assumes that, like prosocial behaviour, deviant behaviour patterns are acquired and maintained on the basis of three regulatory systems:

First, social learning theorist assume that some behaviour patterns are under the control of external stimulus events and are effected largely by the classical conditioning model. Secondly, reinforcement process – the main focus of operant conditioning is considered as another major form of behaviour control. Third, and perhaps the most important system of regulatory influence for the social learning school, is the role of cognitive mediational processes (Shaffer and Schneider, 1985, p.46).

Unlike traditional models of classical and operant conditioning, the social learning perspective considers people to be actively involved in the

learning process. Rather than passively responding to environmental contingencies, human beings actively participate in determining their reinforces and interpreting the relevance of those reinforces (Crooks and Stein, 1991; Shaffer and Schneider, 1985). Thus, it is our active interpretation of our environment and of events, which determines their status as subjective reinforcers and which in turn impels us to respond in a particular manner.

Modeling is a prime example of the interaction between environment and cognitions as it applies to learned behaviour. One way in which people learn how to behave appropriately in a given social situation is by picking up on subtle or overt behavioural cues. A number of experiments have indicated that the rate of alcohol consumption in college students increases or decreases in response to the drinking behaviour of a confederate (Caudill and Marlatt, 1975; De Ricco, 1977).

Another form of interpersonal influence is, of course, adherence to group norms and values. Peele's (1988) assertion was that a person's concept of morality was responsible, in part, for his or her addictive behaviour, and his assertion that an individual's code of ethics was determined, in fact, by identification with a particular group. Peele believed that this might help explain the comparatively low rates of alcohol for persons of particular religion denominations, such as orthodox Jews and practicing Mormons.

Also a person's desired identification with his ideal person could serve as a powerful influence in the etiology or maintenance of addictive behaviour. For years, books, movies and television threat upon the public the image of a 'real man'. The 'tough guy' image was a hard drinker, hard smoker, hard bodied and rough in demeanor and style. As early as 1959, Brunn concluded that heavy drinking (though not drunkenness) was

seen as a masculine virtue (Mc Corty, 1985).

Again it has been seen that sociocultural factors that have an impact on drug use or abuse include community drug use pattern (Robins, 1984) and neighbourhood disorganization (Sampson, 1985). Growing up and living in a community with high rates of crime, ready availability of drugs, association with delinquent peers and acceptance of drug use and abuse are all associated with drug abuse (Clayton and Voss, 1981; Elliott et al., 1985; Brook et al., 1988; Cohen et al., 1990; Robin and Mc Envoy, 1990). The larger sociocultural environment also has important effects on drug use. The frequency and nature of representation of alcohol, tobacco and illicit drugs in media (including advertising and modeling by those in the sports and entertainment industries) may have important effects on the normative climate. In addition social and legal policies (taxes, restrictions on conditions of purchase and use, legal status, enforcement) may have important effects on use or abuse.

Ethnographic studies have explored various risk factors for drug use and abuse, as well as the impact of drug abuse on the community. Among Mexican Americans, it has been noted that several risk factors, such as low socio economic status, higher school drop out rates and residing in barrios in large cities exacerbates drug use (Padilla et al., 1979; Carter and Wilson, 1991). Reattachment from conventional norms is expressed in unconventional role like adult role of marriage and employment. It's not surprising that in some African American population, drug abuse continues into adulthood since conventional adult roles are not assumed (Brunswick et al., 1992). Also, delinquency and crime are strongly linked to drug use and there is increasing involvement of reservation youth in gangs.

CONSEQUENCES OF DRUG ADDICTION

The ramification of drug abuse extend for beyond the individual drug abusers, because the health and social consequences of drug abuse HIV (humane immunodeficiency virus/ acquired immune deficiency syndrome) violence, tuberculosis, fetal effects, crime and disruption in family workplace and educational environment have devastating impact on society.

(a) Work, Employment and Productivity

Drug abuse occurs most frequently among young people in the 15-35 age groups, with a particular concentration in the 18-25 age group. It thus includes those who have entered or who are just about to enter the workplace. Given the high unemployment rates in many countries, entering or remaining in the workforce, while frustration caused by failure to find adequate employment favours drug consumption, thus creating a vicious circle.

An earlier study carried out in California, found that “disruptive use of all drugs was significantly correlated with ... loss of job during the past four years, loss of job in the past six months, increased trouble with job, increased vandalism at work and increased seeking of ... advice ... for a work problem (Newconts, 1993). Another study carried out by the International Labour Organization (ILO) and the European countries found that more than half of the interviewed employer’s associations, enterprise and worker’s organizations reported specific performance impairments and absences from work as a result of drug and alcohol-related problems. In approximately two out of five cases, organizations were forced to dismiss employees for drug and alcohol related reasons, which clearly shows the severity of the problem (Smith, 1993). The links between low productivity, accidents and drug taking behaviour are well established. Drug abuses in the workplace impose significant extra cost on

the business sector, thus reducing its competitiveness.

(b) Family and Community

The disintegration of the family appears to be related, in some way, to problems of substance abuse. The country study carried out by UNRISD and the United Nation University on Mexico, for example, shows that illicit drug abuse correlates more strongly with the disintegration of the family than with poverty (Toro, 1995). Similarly, the country study in the same series on the Lao people's democratic republic found that in areas where social controls exercised by the family and the community had broken down, opium and heroin consumption became prevalent among youngmen, women and children and affected as much as ten percent of the population (Henning, 1993).

The country study on Thailand attributes increasing use of heroin and psychotropic substances to urbanization, rapid cultural changes and a breakdown in family cohesion (Renard, 1993). The relationship could also work the other way, with substance abuse straining family relationships and ultimately making families dysfunctional; transforming families from an asset of society into a burden. Family factors thought to lead to, or intensify, drug abuse include prolonged or traumatic parental absence, harsh discipline, failure to communicate on an emotional level and parental use of drugs. When an infant is born, parental abuse of illicit drug or alcohol may continue, often resulting in a chaotic life style and an environment increased or responsive caregiving (Mayes, 1995) abuse and child abuse and neglect (Kolener et al., 1994; Dore et al., 1995). Neumoreous correlational findings suggest that drug abuse impairs parenting capacities (Mayes, 1995). These includes (a) the association of parental drug abuse with other psychiatric disorders, including depression and antisocial personality (b) Multigenerational transmission of both

drug abuse pattern and psychiatric disorder, (c) a high incidence of violence, both between adults and towards children, (d) an increased risk of abandonment and neglect; and (e) a generally poor sense of competence as a parent and a poor understanding of needs of children.

Recently a stress-coping model for conceptualizing the impact of substance abuse on families was studied and was found that substance abuse can have such destructive impact on a family that it can both interrupt and transform entire family life (Master and Samuel, 2006).

(c) Violence

Violence and crime are linked to illicit drug abuse through the often violent nature of drug sales and distributions. Additionally some drug addicts resort to theft to support their drug habits. Pharmacological effects of drug abuse associated with violent actions may occur or with preexisting co-occurring psychiatric disorders. Illicit drug traffickers use violent acts or the threat of violence to protect or expand markets and to deal with competitors, buyers, or sellers suspected of cheating or with witnesses (BTS, 1992). A study of Gun use found that it is predominantly seller of illicit drugs, not users, who employ guns in their activities (Butterfield, 1995). Drugs sales and crime are more strongly related than drug use and crime (Chaiken and Chaiken, 1990). It is noted that majority of crimes committed by drug users are of nonviolent nature (e.g. shoplifting, prostitution) (Goldstein, 1985).

Studies have shown that chronic or problem drinkers have more frequent histories of violence and more previous arrests for violent crimes than comparable samples (Fagan, 1993; NRC, 1993). Alcohol use is a significant risk factor in domestic violence and sexual assaults; studies have reported that 25-68% of batterers use alcohol and that the severity of abuse is correlated positively with alcohol use by the assailant (Rosenberg

et al., 1992; Fagan and Brown, 1994).

Criminal activities significantly increase during times of narcotic dependence; although, crimes by heroin abusers are largely non-violent property crimes (Mc Glothein, 1979; Miczek et al., 1994). Chronic cocaine use in humans has been associated in a small number of cases with triggering a paranoid or psychotic state of leading to aggressive or violent behaviour (APA, 1994).

Confirming the previous results recent empirical evidence also show that patients with a history of criminal offenses and substance use disorder were more likely to exhibit violent behaviour (Mural et al., 2006). Also its seen that criminal activities account for major proportion of the social costs related to illicit drug use. Multivariate analyses showed the frequency of heroin, cocaine and crack use, gender, housing states and fast criminal justice involvement as predictors of property crime (Patrik et al., 2006). In an another study it was found that there was increased likelihood drugs in the sample of mentally ill individuals (Edward et al., 2006).

(d) Health (Fetal and Child development)

Drug abuse can impact the health of the developing fetus and child. Consequences include retardation of fetal growth, fetal alcohol syndrome, neonatal withdrawal syndrome and neonatal neurobehavioural effects. In most instances, however, demonstrating links between prenatal exposure and immediate or later outcomes is complicated by issues such as interactions with associated conditions (e.g. poor nutrition, parental stress and psychiatric illness, sexually transmitted diseases) that may also import on development (Frank et al., 1993; Finnegan, 1994). Maternal cig smoking is also linked to higher rates of negative outcomes, including spontaneous abortions (Risch et al., 1988), still births and prenatal deaths (Gnattingius

et al., 1988; Malloy et al., 1988) and sudden infant death syndrome (SIDS) (Werler et al., 1985; Kandall and Gaines, 1991; Freed, 1992). In high doses, alcohol acts as direct neuroteratogen, affecting all aspects of fetal growth (including brain growth, structure and function) through mechanisms that have been elucidated (Schenker et al., 1990; Goodlett and West, 1992). Newborns who have been exposed parentally to opiates (herion or methadone), taken by the mother chronically during the pregnancy, are born passively dependent on the drug and may exhibit withdrawal symptoms in the first days to week after delivery (Desmond and Wilson, 1975). The withdrawal symptoms are characterized by hyperirritability, tremors, diarrhea, vomiting and tachypnea (Finnegan, 1986). Prenatal opioid exposure increases the risk of reduced birth weight and head circumference (Zogan and Mchanglin, 1984; Doberczak et al., 1987) and of SIDS (Finnegan, 1979; Kandall et al., 1993). Cocaine associated prenatal effects in pregnant women include premature birth, placenta previa, placenta, neonatal crebrorrascular hemorrhage, however the results are inconsistent (Zuckerman and Bresnahan, 1991; Frank et al., 1993; Holzman and Poneth, 1994).

(e) Diseases and Illnesses: Physical/ Brain

While health problems primarily affect the drug abuser concerned and only indirectly affect society in general, the link between drug addiction, middle-sharing, prostitution, AIDS and other diseases are even more clearly demonstrable. It now appears that injection drug use is the leading risk factor for new human immunodeficiency virus (HIV) infections in the U.S. (Holmberg, 1996). Drug and alcohol abuse heightens the risk for unsafe sexual behaviour and is a factor in prenatal transmission of HIV. All drug uses, injecting and non-injecting, place themselves at great risk for HIV transmission when engaging in unsafe sexual behaviour while under the influence of drugs, such as alcohol and cocaine or exchanging sex for

money or drugs (Edlin et al., 1994; O'Connor et al., 1994). HIV can be transmitted through direct needle sharing when contaminated blood remains in the syringe and may be released into the next user or through certain injection drug practices during which blood is drawn into the syringes and mixed with the drug. Transmission of virus can also occur indirectly by the sharing of drug infection equipment such as cotton balls or rinse water (NRC, 1995). Similarly in another study HIV infection among IDU in Guangxi, one of China's major HIV epidemic regions is high and the injection occur predominantly among older IDU males who share rinse water. (Wei Liu et al., 2006). In the Indian scenario, where India ranks second among millions of HIV-infected people in south-east-Asia, studies have pointed out various risk behaviours that contribute to HIV infection. In male patients of opioid/ alcohol dependent syndrome, injection risk was significantly higher than sexual risk. Another aspect examined showed that the mental health repercussions of physical or sexual abuse are often severe. Trauma is associated not only with psychological distress, but also with risky behaviour and social role impairment. Traumatized women engaging in substance abuse and unsafe sex are at high risk for controlling HIV (Saylor and Daliparthi, 2005).

Injection drug users (IDUs) are most likely to develop serious infections and illness (e.g. viral hepatitis, endocarditic, pneumonia, other bacterial infections) than the non-IDU population. Results confirm the significance of cocaine injections as a risk factor and provide the first evidence outside North America of the link between shared use of drug preparation equipment and incident of HIV infection (Maher et al., 2006). Among aging narcotics addicts, it was found 51.9% had high blood pressure, 22.4% had hyperhipiolemlia, 13.3% had increased blood glucose, 33.6% had abnormal pulmonary function, half of the sample had abnormal liver function, and 94.2% were positive for hepatitis C, 85.6% for hepatitis B, 3.8%

for syphitis and 27.3% for TB (Hser et al., 2004).

Additionally some forms of psychiatric disorders may result in part from drug abuse (e.g. depression, PCP-precipitated psychosis). Acute and chronic use of metha-amphetamine drug results in a spectrum of advise paranoid psychosis and tactile hallucination (Rawson et al., 2006). Again in metha amphe-tamine users psychotic symptoms were found 11 times higher than general population (McKetin et al., 2000).

Suicidal behaviour and associated risk factors among opioid dependent individual was found evident in another study (Maloney et al., 2007).

Neuropsychological deficits in long term frequent cannabis users have also been studied. It was found that long term performed significantly worse on verbal memory and psychomotor speed. Long term and short term users had higher deficit on verbal frequency, verbal memory, attention and psychomotor speed. Specific cognitive appear to deteriorate. (Messinis et al., 2006). In another study, it was found that prefrontal and temporal gray matter density decreases in opiate dependence (Lyoo et al., 2006). Major neurobiological changes in SUD relevant to diagnosis include a compromised reward system, over activated brain, stress systems and compromised orbitofrontal/ prefrontal context function (George, 2008).

Ultimately these changes in the brain caused by drugs effect the human behaviour.

(f) Education

Drug abusing students may develop cognitive and behavioural difficulties as addressed above, disrupt classes, have increased psychosocial problems, or be delinquent in attending school or droop out of school (Kandell and Davis, 1996). And violence increases as buying selling of drugs occur at the school site.

PREVENTION OF DRUG ADDICTION

Prevention is better than cure, is a universal fact. So as to deal with the severity of the problem of drug addiction, its most necessary to go to the fundamental level and inhibit the cropping up of a serious epidemic in our society. Many preventive measure are incorporated in the past at school based interventions, family based, media based and community based. We will briefly mention some of these in the following.

School based prevention programming to produce significant long term effects has led to creative attempts to develop interventions focused on several known risk factors for drug use, including deficits in social and peer resistance skills and misperceptions about the extent of drug use among peers. School-based, universal, primary prevention program have been the dominant approach to preventing adolescent drug use. Research efforts have shown significant progress in developing, implementing and evaluating the effects of school based interventions. Research on school based prevention intervention has contributed important knowledge to the boarder field of prevention science. For e.g. recent social influence programs have strengthened the integral relationship between etiology and prevention (Bandura, 1977 a,b, 1985; Hawkins and Weis, 1985; Brook et al., 1992; Brenswicket et al., 1992; Glantz and Rickens, 1992; Hawkins et al., 1992 a; Cloinnger et al., 1993, 1995; Flay and Petraites, 1994).

Fairly consistent research result demonstrate that one can achieve 20% or greater net reductions in rates of initiation of drug use from school programe that focus on counteracting social influences to drug use, these include standardized teacher or staff training multiple class sessions, booster sessions, students peer leaders and achieve social learning methods.

The conjunction of school and media intervention has also produced good results. The National Youth Anti-Drug media campaign may have led to reductions in marijuana use among youth who simultaneously received school based drug prevention (Longshore et al., 2006). In another study Roe and Becker (2005) studied a comprehensive and systematic review of literature on drug use prevention with vulnerable young people. The most common setting for these evaluation was in schools, where life-skills training interventions showed positive results in reducing drug use (at least in the short term). In the community an intensive multi-component intervention (the children at risk programme) was the most effective teach parents to monitor behaviour, use appropriate contingency management, and reduce conceive descriptive have been shown to reduce antisocial behaviour in children (Kozolin, 1987).

Prevention interventions have explained their focus from the individual to the broader community. In part, this interest in community-wide interventions stems from the realization that it is difficult if not impossible to effect changes in individuals when there are countervailing forces in the larger social environment. For example, school based interventions alone will be in effective if they are delivered in a community in which drugs use is widespread and normative (e.g. drugs are widely available and no sanctions are applied against drugs use). Typically, community interventions relating to drugs use have been implemented in conjunctions with political actions that focus on changing laws and policies concerning drug use. Policy goals include strict enforcement of regulations against use, reducing youth access, increasing the cost of legal drugs (e.g. through tobacco taxes) and changing community norms about drug use.

Research on risk and protective factors associated with adolescent drug use and abuse provides several rationales for family based prevention

interventions. First, research suggests that parenting characterized by high level of support, consistent rule enforcement and monitoring of child behaviour is associated with lower rates of drug use (Steinberg, 1991, Hawkins et al., 1992 a). Thus, interventions to improve parenting practices may lower the risk for adolescent drug use. Second, research suggests that parental drug abuse is a risk factor for drug abuse by offsprings (Merikangas et al., 1992) and the disrupted parenting in these families may contribute to the risk (Mayes, 1995). If so, parenting interventions could help to reduce the risk for drug abuse among children of drug abusing parents. Third, research also shown that impaired parental monitoring, poor contingency management and coercive discipline are associated with childhood aggression and conduct problems (Reid, 1993). Parent education and family support intervention have successfully reduced parental stress, enhanced parental confidence and reduced child abuse and neglect (Olds et al., 1986; Wolfson et al., 1992). Although parent training programme alone are in sufficient to reduce drug abuse in children, parent training interventions that directly in the field of adolescent smoking, Perry and et al., (1992) demonstrated that a community intervention improved outcomes above and beyond those of school based interventions alone. In the community an intensive multicomponent intervention was most effective (Roe and Becker, 2005). Or the community level its seen that faith based organizations are uniquely positioned to offer substance use prevention programs to urban African American youth. Results indicate that one-third of the faith-based participation had successfully implemented a substance use prevention programme (Brown et al., 2006).

Media based interventions particularly PSAs (Public Service Announcements) are an interesting but under studies channel for drug abuse prevention. The appeal of using media (Radio, T.V., billboards and print) is that this can be relatively cost- effective way to reach a large audience,

however, few studies have attempted to demonstrate the successes of media based drug preventions. An earlier evaluation found that adolescents who received both school based prevention programme and (independently delivered, radio and T.V. anti-smoking messages showed significant reductions in smoking prevalence compared to those who receive school-based interventions alone (Flynn et al., 1992). Reduction in marijuana use among youth was also found who received media and school based intervention simultaneously (Lomgshore et al., 2006).

Recently web-based substance abuse prevention training programme for health promotions was viewed and was found that web based training was more engaging print based training, it is believed to be more effective in helping to integrate substance abuse prevention (McPherson et al., 2006). This shows the relative effectiveness of a policy change intervention in conjunction with a media intervention and the most effective use of media may be in combination with other interventions.

After reflecting on the possible causes of drug addiction, and their consequences, we viewed the preventive measure that we could adopt to control this epidemic. But the utmost requirement now is to see what has to be done, once they are already gripped by clutches of this life taking monster. So the most important topic we will now cover is the treatment for drug abuse.

TREATMENT OF DRUG ADDICTION

Treatment for drug addiction vary widely according to the types of drugs involved, amount of drug used duration of the drug addiction, medical complications and the social needs of the individual Determining the best type of recovery programme for an addicted person depends on a number of factors, including personality, drug (s) of addiction, concept of spiritually or religion, mental or physical illness, and local availability and

affordability of programs.

Generally the treatment approaches for drug addiction one categorized into the following:

- (a) Pharmacological Treatment.
- (b) Residential Treatment/ Outpatient treatment
 - 1. Long Term-Rehabs
 - 2. Short Term-12 step approach

(c) Counselling

(a) Pharmacological Treatment

Before going to behavioral or cognitive interventions for treatment, its very important to treat physical discomfort or adverse physiological changes that occur in the human body or brain due to illicit drug use. These drug facilitates the patients to enter into counselling and other behavioral interventions essential to recovery and rehabilitation.

Pharmacological treatments for alcohol addiction includes drugs like disulfiram, acomprosate and topiramate (Soyka and Rocsner, 2006; Pettinati and Robinowitz, 2006), rather than substituting for alcohol, these drugs are intended to reduce the desire to drink, either by directly reducing craving as with acomprosate and topiramate, or by producing unpleasant effects when alcohol is consumed, as with disulfiram. Additional drugs acting on glutamate neurotransmission such as modafivil, Lamotrigine, gabapentin and memantine have also been proposed for use in

treating addiction to alcohol and other drugs (Gass and Olive 2008).

Treatment of Stimulant addiction can often be difficult, with substitute drugs often being ineffective, although newer drugs such as nocoine, vanoxerine and Modafivil may have more promise in this as well as the GABAB agonist baclofen (Ling et al., 2006; Preti 2007). Another, strategy that has recently been successfully trialled used a combination of the benzodiazepine antagonist Flumazenil with hydroxyzine one gabapentin for the treatment of methamphetamine addition (Ueschel et al., 2007).

For the Nicotine addiction, various drugs have been used such as bupropion, mecamlamine and the more recently developed varenicline. The cannaboinoid antagonist rimonabant has also been trialled for treatment of nicotine addiction but has not been widely adopted for this purpose. (Garwood and Potts, 2007; Frishman, 2007; Siu and Tyndale, 2007).

Opioid antagonists such as naltrexone and nalmeffene have also been used successfully in the treatment of alcohol addiction, (Srisurapanont and Jaursunaisin, 2005; Karhuwaara et al., 2007) which is often particularly, challenging to treat. These drugs have also been used to a lesser extent for long term maintenance treatment of former opiate addicts, but cannot be stated until the patient has been abstinent for an extended period, otherwise they can trigger acute opioid withdrawl symptoms. (Commer, Sullivan and Hube, 2007). The potential benefit of augmentation with low dose NTX to improve outcome after opioid determination for a preferred group of patients has been seen (Mannelli et al., 2007).

Most commonly used drugs to treat opiates are buprenorphine, methadone and Naltrexone. After the pharmacological treatments others behavioral

and counselling interventions are mentioned below.

(b) Residential Treatment/ Outpatient treatment

It varies in the types and intensity of services offered. Such as treatment costs less than residential or inpatient treatment and often is more suitable for individuals who are employed or who have extensive social supports. Low intensity programs may offer little more than drug education and admonition. Other outpatient models, such as intensive day treatment, can be comparable to residential programs in services and effectiveness, depending on the individual patients characteristics and needs. In many outpatient programs group counselling is emphasized. Some outpatient program are designed to treat patients who have medical on mental health problems in addition to their drug disorders. The efficacy of this treatment has been witnessed by Hubbard et al., 1998; Simpson and Brown, 1998.

1. Long Term Residential Treatment/Rehabilitation

It provides care 24 hours per day, generally in non-hospital settings. The best-known residential treatment model is the therapeutic community (TC), but residential treatment may also employ other models, such as cognitive behavioral therapy.

TC's are residential programs with planned lengths of stay of 6 to 12 months. TCs focus on the "resocialization of the individual and use the program's entire "Community", including other residents, staff and the social context, active components of treatment. Addiction is viewed in the context of an individual's social and psychological deficits, and treatment focuses on developing personal accountability and responsibility and socially productive lines (Lewis et al., 1993). Treatment is highly structured and can at times be confrontational, with activities designed to help

residents examine damaging beliefs, self concepts, and patterns of behavior and to adopt new, more harmonious and constructive ways to interact with others. Many TCs are quite comprehensive and can include employment training and other support services on site.

Compared with patients in other forms of drug treatment, the typical TC resident has more severe problems, with more co-occurring mental health problems and more criminal involvement. (Sacks et al., 1998); Research shows that TCs can be modified to treat individuals with special needs, including adolescents, women, those with severe mental disorders, and individuals in the criminal justice system (Stemens; Arbiter and Glider 1989).

2. Short Term Residential Programme

They provide intensive but relatively brief residential treatment based on a modified 12 step approach. These programs were originally designed to treat alcohol problems, but during the cocaine epidemic of the mid- 1980's many began to treat illicit drug abuse and addiction. The original residential treatment model consist of 3 to 6 week. Hospital based inpatient treatment phase followed by extended outpatient therapy and participation in a self-help group, such as Alcoholic Anonymous. Reduced health care coverage for substance abuse treatment has resulted in a diminished number of these programs and the average length of stay under managed care review is much shorter than in early programs. Involvement of self help groups have shown marked improvements in some of treated outcomes. Many patients treated for SUDs who became involved in 12 step self help group have improved treatment outcome (Kelly et al., 2003).

(c) Counselling/ Therapies

Each approach is designed to address certain aspects of drug addiction and its consequences for the individual, family, and society. The approaches one to be used to supplement or enhance not replace existing treatment programs.

1. Supportive Expressive Psychotherapy

It is a time-limited, focused psychotherapy that has been adapted for heroin and cocaine addicted individuals (Luborsky, 1984). The therapy has two main components.

Supportive techniques to help patients feel comfortable in discussing their personal experiences.

Expressive techniques to help patients identify and move through interpersonal relationship issues.

Special attention is paid to the role of drugs in relation to problem feelings and behaviors, and how problems may be solved without recourse to drugs.

The efficacy of individual supportive-expressive psychotherapy has been tested with patients in methadone maintenance treatment who had psychotic problems. In a comparison with patients receiving only drug counselling both groups fared similarly with regard to opiate use, but the supportive expressive psychotherapy group had lower cocaine use and required less methodone. Also, the patients who received supportive-expressive psychotherapy maintained many of the gains they had made (Woody et al., 1995). In an earlier study, supportive expressive psychotherapy, when added to drug counselling, improved outcomes for opiate addicts in methadone treatment with modality sever psychiatric problems (Woody et al., 1987).

2. Individualized Drug Counseling

It focuses directly on reducing or stopping the addicts illicit drug use. It also addresses related areas of impaired functioning-such as employment status, illegal activity, family/social relations as well as the content and structure of the patients recovery program. (Mclellan et al., 1993). Through its emphasis on short-term behavioral goals, individualized drug counselling helps the patient develop coping strategies and tools for abstaining from drug use and maintaining abstinence. The addiction counselor encourages 12-step participation and makes referrals for needed supplemental medical, psychiatric, employment, and other services. Individuals are encouraged to attend sessions one or two times per week. (Mclellon et al, 1988).

In a study that compared opiate addicts receiving only methadone to those receiving methadone coupled with counselling, individuals who received only methadone showed minimal improvement in reducing opiate use. The addition of counselling produced significantly more improvement. The addition of onsite medical/psychiatric, employment and family services further improved outcomes. (Woody et al., 1983).

In an another study with cocaine addicts, individualized drug counselling, together with group drug counselling, was quite effective in reducing cocaine use. Thus, it appears that this approach has great utility with both heroin and cocaine addicts in outpatient treatment (Crits – Cristoph et al., 1983).

3. Motivational Enhancement Therapy

It is a client centered counselling approach for initialing behavior change by helping clients to resolve ambivalence about engaging in treatment and

stopping drug use. This approach employs strategies to rapid and internally motivated change in the client, rather than guiding the client stepwise through the recovery process. (Budney et al., 1996). This therapy consists of an initially assessment battery session, followed by two to four individual treatment sessions with a therapist. The first treatment session focuses on providing feedback generated from the initial assessment battery to stimulate discussion regarding personal substance use and to elicit self motivational statements. Motivational interviewing principles are used to strengthen motivation and build a plan for change (Miller, 1986).

In a single session of motivational interviewing evidence change was seen in various indicator of risk and harm, but not as widely as the change in drug consumption. It reduced their use of cig, alcohol and consist mainly through module use rather than cessation (MacCambridge and Strang, 2004). In another study same year (Caroll, 2004) found good evidence that motivational intervening decreased substance use.

Coping strategies for high risk situations one suggested and discussed with the client. In subsequent sessions, the therapist monitors change, reviews cessation strategies being used, and continues to encourage. Commitment to change on sustained abstaining. Clients are sometimes encouraged to bring a significant other to sessions. This approach has been used successfully with alcoholics and with marijuana - dependent individual (Stephens; Roffman and Simpson 1994).

4. Behavioral Therapy for Adolescents

It incorporates the principles that unwanted behaviour can be changed by clear demonstration of the designed behavior and consistent reward of incremental steps toward achieving it. Therapeutic activities include filling specific assignments, rehearsing designed behavior and recording and

reviewing progress, with praise and privileges given for meeting assigned goals (Azrin; Aciero et al., 1998). Urine sample are collected regularly to monitor drug use. The therapy aims to equip the patient to gain three types of control.

Stimulus Control helps patients avoid situations associated with drug use and learn to spend more time in activate incompatible with drug use. Urge Control helps patients recognize and change thoughts, feelings and plans that lead to drug use. Social Control involves family members and others people important in helping patients avoid drugs. A parent or significant other attends treatments sessions when possible and assists with therapy assignments and reinforcing desired behavior.

According to research studies, this therapy helps adolescents become drug free and increases their ability to remain drug free after treatment ends (Azrin, Macmohan et al., 1999). Adolescents also show improvement in several other areas employment/school attendance, family relationship, depression institutionalization, and alcohol use (Azrin et al., 1994). Such favourable results are attributed largely to including family members in therapy and remording drug abstinence as verified by urine analysis. There has been marked progress in recent years in the development of effective behavioral therapies for substances. Use disorders (Carroll, 2004).

5. Multi dimensional family therapy (MDFT) for Adolescents

It's an outpatient family based drug abuse treatment for teenagers. MDFT views adolescent drug use in terms of network of influence (that is, individual, family, peer, community) and suggests that reducing unwanted behaviour and increasing desirable behavior occur in multiple and family sessions held in the clinic, in the home, or with family members at the family court, school, or other community locations (Diamond and

Liddle, 1996).

During individual sessions, the therapist and adolescent work on important developmental tasks, such as developing decision making, negotiation, and problem- solving skills. Teenagers acquire skills in communicating their thoughts and feelings to deal better with life stressors, and vocational skills. Parallel sessions are held with family members, parents examine their particular parenting style, learning to distinguish influence from control and to have a positive and developmentally appropriate influence on their child (Schmidt; Liddle and Dakof , 1996).

6. Multisystemic Therapy (MST)

It address the factors associated with serious antisocial behavior in children and adolescents who abuse drugs (Henggeler et al., 1996). These factors include characteristics of the adolescents (for example, favorable attitudes towards drug use), the family (poor discipline, family conflict, parental drug peers (positive attitudes towards drug use) school (dropout poor performance) and neighborhood (Criminal subculture). By participating in intense treatment in natural environments (homes, schools, and neighbourhood settings) youths and families complete a full course of treatment. MST significantly reduces adolescents drug use of treatment and for at least 6 months after treatment numbers of incarcerations and out of home placement of juvenilies offset the cost of providing this inter-service and maintaining the clinicians low caseloads (Schoenwald et al., 1996; Henggler et al., 1998).

7. Combined Behavioral and Nicotine Replacement Therapy for Nicotine Addiction

It consists of two main components.

The transdermal nicotine patch or nicotine gum reduces symptoms of withdrawals, producing better initial abstinence (Fiore et al., 1994).

The behavioral component concurrently provides support and reinforcement of coping skills, yielding better long term outcomes.

Through behavioral skills training, patients learn to avoid high risk situations for making relapse early on the later to plan strategies to cope with such situations. Patients practice skills in treatment, social, and work settings. They learn other coping techniques, such as cognitive refusal skills, assertiveness, and time management (APA, 1996). The combined treatment is based on the rationales that behavioral and pharmacological treatments operate by different yet complementary mechanisms that produce potentially addictive effects (Hughes, 1991).

8. Vouches-Based Reinforcement Therapy in Methadone Maintenance Treatment

It helps patients achieve and maintain abstinence from illegal drug by providing them with voucher each time they provide a drugfree urine sample. The voucher has monetary value and can be exchanged for goods and services consistent with the goals of treatment. Initially, the voucher value are low, but their value increases with the number of consecutive drugfree urine specimens the individual provides. Cocaine, Heroin positive urine specimens reset the value of the vouchers to the initial low value. The contingency of escalating incentives is designed specifically to reinforce periods of sustained drug abstinence. Studies show that patients receiving vouchers for drugfree urine samples achieved significantly more weeks of abstinence and significantly more weeks of sustained, abstinence than patients who were given vouchers independent of urine analysis results (Silverman et al., 1996). In another study, urine analysis positive for Heroin decreased significantly when the voucher program was stable and increased significantly when the program was stopped (Silverman et al., 1996).

Furthermore, in ninety Cannabis-dependent adults seeking treatment were randomly assigned to receive CBT, abstinence based voucher incentives or combination. It was found that abstinence based vouchers were effective for engendering extended period of continuous marijuana abstinence during treatment. Similarly Lussier et al. (2006) found voucher based reinforcement therapy generated significantly better outcomes than did the control treatment group.

9. Day Treatment with Abstinence Contingencies and Vouchers

It was developed to treat homeless Crack addicts for the first 2 months, participants must spend 5 hours daily in the program, which provides lunch and transport them to and from shelters. Interventions include individual assessment and goal setting, individual and group counseling, multiple psycho educational groups (for example, didactic groups on community resources, housing, Cocaine and HIV/AIDS prevention establishing and reviewing personal rehabilitation goals, relapse prevention; weekend planning), and patient governed community meeting during which patients review their goals and provide support and encouragement to each other. Individual counselling occurs once a week, and group therapy sessions are held three times a week. After 2 months of day treatment and at least 2 weeks of abstinence, participants graduate to a 4-month work component that pays wages that can be used to rent inexpensive, drugfree housing. A voucher system also rewards drug free related social and recreational activities (Milky; Coldwell et al., 1996).

This innovative day treatment was compared with treatment consisting of twice-weekly individual counseling and 12-step groups, medical examinations and treatment, and referral to community resources for housing and vocational services. Innovative day treatment allowed by work

and housing dependent upon drug had more positive effect on alcohol use, Cocaine use and days homeless (Milby et al., 1996).

To date most successful treatment house included combination of Motivation Enhancement Treatment plus Cognitive Behavioral coping skills training and contingency management approaches (Litt et al., 2008). Significant amount of research supports the efficacy of contingency management intervention in the treatment of drug abuse (Carroll 2004; Rawson et al., 2006).

The therapist functions simultaneously as teacher and coach, fostering a positive, encouraging relationship with the patient and using that relationship to reinforce positive behavior change. The interaction between the therapist and the patient is realistic and direct but not confrontational or parental. Their patients are trained to conduct treatment sessions in a way that promotes the patients self esteem, dignity, and self worth. A positive relationship between patient and therapist is a critical element for patient retention.

Treatment materials draw heavily on other tested treatment approaches. Thus, this approach includes elements pertaining to the areas of relapse prevention, family and group therapies, drug education, and self help participation. Detailed treatment manuals contain work sheets for individual sessions; other components include family educational groups, early recovery skills groups, relapse prevention groups, conjoint sessions, urine tests, 12-step programs, relapse analysis, and social support groups.

A number of project have demonstrated that particle patients treated with Matrix model demonstrate statistically significant reductions in drugs and alcohol use, improvement in psychological indicators and reduced risky sexual behavior associated with HIV transmission. These reports, along with evidence suggesting comparable treatment response for Methamphetamine users and Cocaine users and demonstrated efficacy in

enhancing Naltrexone treatment of opiate addicts, provide a body of empirical support for case of the model (Huber, et al., 1997; Rawron et al., 1995).

RATIONALE OF THE STUDY

While going through the available literature with regard to the present investigation, the present investigator found that no study has been conducted to study on the effectiveness of relapse prevention therapy in substance abusers. The present investigator feels that there is a need to conduct a study on the effectiveness of relapse prevention therapy in substance abusers. The present study is an attempt in this direction.

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OBJECTIVES OF THE STUDY

The following objectives are formulated for the proposed study:

- To study the effectiveness of relapse prevention therapy for the treatment of drug addictions.
- To study the personality correlates of drug abstinence.
- To study the personality correlates of drug relapse.
- To study link between coping strategies and drug abstinence.
- To study link between coping strategies and drug relapse.
- To study the personality differences in the addicts undergoing group therapy and the addicts without any therapeutic intervention.
- To study the difference in coping strategies of addicts undergoing group therapy and the addicts without any therapeutics intervention..

HYPOTHESES OF THE STUDY

The following hypotheses are formulated to empirically validate the above objectives:

- ✓ Relapse prevention therapy have a positive effect on maintaining abstinence and preventing relapse.
- ✓ There exists an association between personality traits and treatment outcome.
- ✓ There exists a link between maladaptive coping strategies and relapse.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Review of literature is a vital part of any research. It helps the researcher to know the areas where earlier studies had focused on and certain aspects untouched by them.

As the aim of the present study is to see the effectiveness of Relapse Prevention therapy intervention, we will exhaust this therapy in detail and also we will trail out the empirical evidence related is this Cognitive behavioral intervention.

Relapse Prevention Therapy (RPT): Relapse Prevention Therapy (RPT) is a cognitive behavioral approach to the treatment of addictive behavior that specifically address the nature of the relapse process and suggest coping strategies usefull in maintaining change (Marlatt and Gordon, 1985; Parks, Marlatt and Anderson, 2001). It's based on the idea that addictive behaviors are acquired, own learned habits with biological, psychological and social determinants and consequences. Engaging in an addictive behavior typically provides immediate remords that increase pleasure and/or decrease pain. In other words, people engage in addictive behaviors to 'feel Good' (enhanced pleasure) or to 'Feel better' (self medication of pain) although both motives can exist at the same time.

Utilizing this cognitive behavioral analysis of addictive behaviours, RPT begins with the assessment of a client's potential interpersonal, environmental, and physiological risks for relapse and the unique set of factors and situations that may directly precipitate a lapse. Once potential relapse triggers and high risk situations are identified, cognitive and behavioral techniques are implemented that incorporate both specific interventions to prevent lapse or manage them if they do occur and more global strategies to address life style balance, craving and cognitive distortions that might set up exposure to high risk situation when relapse is most likely.

The initial therapeutic component in RPT is the identification of a client's unique profile of high risk situation for relapse and evaluating that clients ability to cope with these high risk situations without having a lapse. Coping skills are here inferred with by factors such as low motivation, low self-efficacy or anxiety.

In addition to teaching more effective coping responses, a major component of RPT is the enhancement of self-efficacy. Self-efficacy is defined as the extend to which an individual feels capable of performing a specific task (Bandura, 1977; Bandura, 1986). Higher levels of self-efficacy are predictors of improved treatment outcome.

As in most cognitive-behavioral treatments, RPT incorporates topic focused psycho educational components and cognitive restructuring techniques to correct misperceptions and challenge and replace maladaptive thoughts. Eliminating myths related to positive outcome expectancies and discussing the psychological components of substance use such as self-efficacy and attributions for substance effects may provide a client with opportunities to make more healthy choices in high- risk situations. Positive outcome expectancies play particularly influential

role in the relapse process. Many addicts glorify their alcohol and drug use experience by focusing only on positive expectancies such as euphoria and excitement or pain relief and relaxation, while the more negative consequences of the experience (i.e. hangovers, health risks and legal consequences) are not acknowledged or are rationalized or minimized.

A lapse becomes more likely when a client is faced with substance related cues in a high-risk situation and is beginning to feel incapable to cope effectively (low self-efficacy) without resuming the addictive habit clients in RPT are taught to recognize and cope with substance use triggers and related high risk situations that may precipitate a lapse. This first component of RPT is called “relapse prevention” because it focuses on self-efficacy and coping effectively with high-risk situations to prevent slip or a lapse from occurring.

Clients are taught to attribute lapses to specific predictable, and potentially controllable events (both internal and external) rather than to personal failings and character flaws.

Education about the Relapse process and the likelihood of a lapse may better equip clients to navigate the rough terrain of the multiple cessation attempts typically necessary to achieve stable change in addictive behaviours.

Immediate Precipitants

This model was developed over the past 30 years by Marlatt and his colleagues (Marlatt and Gordon, 1985; Parks, Anderson and Marlatt, 2001).

The cognitive-behavioral model of relapse flowchart refers to the immediate precipitants of relapse that occur once a client is exposed to a high risk situation. If a client has not learned an effective coping response to avoid a lapse in response to high-risk situation, or if an effective coping response is not implemented due to a lack of motivation or anxiety, then there is an increased likelihood of a lapse. This increased probability of relapse is mediated by positive expectancies for the initial use of a substance coupled with a decrease in self efficacy created by a lack of ability to cope with the high risk situations. Low self-efficacy to cope without drinking and drug use combined with positive outcome expectations for alcohol and drug effects are the immediate precursors to a lapse.

After a lapse, clients may experience the abstinence violation effect (AVE) that involves a loss of perceived control experienced after the client's failure to adhere to his or her self imposed rules of conduct regarding alcohol and drug use (Curry, Marlatt and Gordon, 1987). On an emotional level, the AVE increases the probability of relapse because once a lapse occurred, the shame, guilt, self-blame and other negative feelings motivates further drinking or using drugs.

An Empirically Derived Taxonomy of High Risk Situation

The initial source of the category system of high risk situation for relapse that has been used in research and clinical practice for the past 20 years came as result of questions asked following a study on aversion therapy for alcoholics. A key aspect of the study was to conduct detailed interviews with the 48 out of 65 patients (74%) who consumed atleast one drink during the first 3-month following the end of the aversion

treatment. Responses to four open-ended questions probing determinants for the initial lapse were classified and assigned to an eight category typology based on a content analysis approach.

The eight categories of high risk-situations for relapse (five with in the interpersonal/environmental class and three with in the interpersonal class) are described below.

1. Intrapersonal-Environmental Determinants

The first category includes all determinants that are primarily associated with intrapersonal factors (within in individual), and/or reactions to non personal environmental events.

(a) Coping with negative emotional states

Determinants involve coping with a negative (unpleasant) emotional state, mood, or feeling.

(i) Coping with frustration and/or anger: Determinants involve an experience of frustration (reaction to a blocked goal-directed activity), and/or anger (hostility, aggression) in terms of the self or some nonpersonal, environmental events. Includes all reference to guilt, and responses to demands (“hassles”) from environmental sources or from with in the self that are likely to produce feelings of anger.

(ii) Coping with other negative emotional states: Determinant involves coping with emotional states other than frustration, anger that are unpleasant or aversive including feelings of fear, anxiety, tension, depression, loneliness, sadness, boredom, worry, apprehension, grief, loss

and others similar dysphoric states. Includes reaction to evaluation stress (examinations, promotions, public speaking etc.) employment and financial difficulties and personal misfortunes or accidents.

(b) **Coping with negative physical-physiological states**

(i) **Coping with physical states associated prior substance use:** Coping with physical states that are specifically associated with prior use of drug or substance, such as “withdrawal agony or “physical craving” associated withdrawal.

(ii) **Coping with other negative physical state:** Coping with pain, illness, injury, fatigue and specific disorders (e.g. headache) that are not associated with prior substances use.

(c) **Enhancement of positive emotional states**

Use of substance to increase feeling of pleasure, joy, freedom, celebration and so on. (.e.g when travelling or vacation). Includes use of substance for primarily the effects to “get high” or to experience the enhancing effects of a drug.

(d) **Testing personal control**

Use of substance to “test” one’s ability to engage in controlled or moderate use; to “just try it once” to see what happens; or in cases in which the individual is testing the effects of treatment of a commitment to abstinence (including tests of “willpower”).

(e) **Giving in to temptations or urges**

Substances use in response to “internal” urges, temptations, on other prompting. Includes references to “Craving” or intense subjective desires in the absence of inter personal factors.

- (i) In the presence of substance cues: Use occurs in the presence of cues associated with substance use (e.g. running across a pack of cigarette, passing by a bar, seeing an ad for cigarettes).
- (ii) In the absence of substance cues: Here the urge or temptation comes “out of the blue” is followed by the individual’s attempts to procure the substance.

2. Interpersonal Determinants

The second category includes determinants that are primarily associated with interpersonal factor: reference is made to the presence or influence of other individuals as part of the precipitating event.

(a) Coping with inter personal conflict

Coping with a current, relatively recent conflict associated with any interpersonal relationship such are marriage, friendship, family patterns and employer-employee relations.

- (i) Coping with frustration and/or Anger: Determinants involve frustration (reaction to blocked goal directed activity) and/or anger (hostility, aggression) stemming from an interpersonal source. Emphasis is on any situation in which then person feels frustrated or angry with someone and includes involvement in arguments, disagreements, fight, jealousy, discord, hassles, guilt and so on.

(ii) Coping with interpersonal conflicts: Determinants involve coping with conflicts other than frustration and anger stemming from an interpersonal source. Feeling such as anxiety, fear, tension, worry, concern, apprehension, etc. which are associated with interpersonal conflict, are e.g. Evaluation stress in which another group or person is specifically mentioned would be included.

(b) Social Pressure

Determinants involves responding to the influences of another individual or group of individual who exert pressure (either direct or indirect) on the individual to use the substance.

(i) Direct Social Pressure:- “Here is direct contact” (usually with verbal interaction) with another person or group who puts pressure on the user or who supplies the substances to the user (e.g. being offered a drug by someone, being urged to use a drug by someone else). Distinguish from situation in which the substance is obtained from someone else at the request of the user (who has already decided to use).

(ii) Indirect social pressure: Responding to the observation of another person or group that is using the substance or viewers as a model of substance use for the user.

(c) Enhancement of positive emotional states

Use of substances in a primarily interpersonal situation to increase feeling of pleasure, celebration, sexual excitement, freedom and the like. Distinguish from situation in which the other person(s) is using the substance prior to the individual's first use (classify these under section II-B

above). Often, clients report finding themselves in rapidly escalating scenario they could not deal with effectively. It seems as if, perhaps unknowingly, even paradoxically, some clients set themselves up for relapse.

Cognitive distortions such as denial and rationalization make it easier to set up one's own relapse episode without having to take personal responsibility. Not only do individuals deny they had any intent to resume use or relapse, but they often discount the importance of any long run negative consequences of their indulgent actions. These process of relapse is often determined by a member of covert antecedents that eventually lead to the exposure to a high risk situation (shown in fig 1.2). This often allows the individual to deny any responsibility by saying, "This is not what I expected or wanted to happen and its not my fault".

Therapeutic Components of the RPT

RPT is designed to equip clients for the journey of habit change by providing them with the necessary tools and skills to reach their destinations and to guide them through the early stages of the trip. Specifically, the RPT consists of the followings components:

1. RPT Teaches Coping Strategies – (Constructive ways of thinking and behaving) to deal with the immediate problem that arise in the early stages of the habit change journey such as coping with the urges and craving for alcohol and drugs
2. RPT provides clients with maps showing the location of various temptation situations, pitfalls, and danger spots along the way that can throw clients off course with the lure to temptation. RPT will give clients information on detours to avoid temptation situation where possible

and to help them to acquire the skills to cope with challenges successfully without giving into temptation or giving up in the habit change process altogether.

3. RPT helps guide clients through the tricks their minds sometimes play on them when they have doubts in the journey of attitude and behaviour change. RPT teaches clients to recognize the early warning signals that alert them to danger of relapse including the psychological tricks of making Apparently Irrelevant Decisions (AIDs) that are secretly designed to set them up for trouble by bringing them closer to situations that are extremely tempting and difficult to resist. RPT also shows clients how their minds often play tricks on them such as denial and rationalization that increase the danger of relapse. RPT teaches clients how they can learn to identify and cope with the cognitive distortions.

4. RPT helps clients make important changes in their day to day life style, so that the gratification they have obtain from alcohol or drugs is replaced with other non-distractive, ultimately more satisfying activities. Alcohol or drugs become an addiction or dependency because clients use them as a means of coping with life's continual ups and downs. It becomes increasingly difficult for clients to just let things be, without increasing or decreasing the intensity of their experiences by getting drink or high. RPT teaches clients new method of coping with stress and how to increase the number of 'wants' or desirable, self-fulfilling activities in their daily life style.

5. Finally, RPT helps clients anticipate and be prepared in advance for possible breakdowns or relapses along the route. Many people begin their journey of habit change with very high expectations and demands for themselves. They frequently expect themselves to act perfectly without a single error, so that if they have any difficulty they think this process they do not "have what it takes". Although many clients hope they will make

it through the first time without any problems, an unrealistic expectation of perfection may set them up for failure; they may be tempted to give up altogether the first time they have a problem or a slip along the way. RPT encourages clients to take a more realistic approach, to learn to anticipate and cope with the road conditions that might otherwise cause a slip or a breakdown.

RPT Intervention Strategies

RPT assessment techniques and intervention strategies are designed to teach clients to anticipate and cope with the possibility of relapse. In the beginning of RPT training, clients are taught to recognize and cope with high-risk situations that may precipitate a lapse and to modify cognitions and other reactions to prevent a single lapse from developing into a full-blown relapse. Because these procedures are focused on the immediate precipitants of the relapse process, they are referred to collectively as Specific RPT Intervention strategies. As clients master these techniques, clinical practice extends beyond a microanalysis of the relapse process and the initial lapse and involves strategies designed to modify the clients lifestyle and to identify and cope with covert determinants of relapse (early warning signals, cognitive distortions, and relapse set-ups). As a group these procedures are called Global RPT Intervention Strategies.

Both specific and global strategies can be placed in five categories: Assessment procedures, insight/ awareness raising techniques coping skills training, cognitive strategies, and lifestyle modification (Wanigaratne et al., 1995).

a) Assessment Procedures are designed to help clients appreciate the nature of their addictive behavior problems in objective terms, to measure motivations for change and to identify high risk situation and other risk factors that increase the probability of relapse.

- b) Insight Awareness Raising Technique: Are designed to provide clients with alternative beliefs concerning the nature of the habit change process (i.e. to view it, as learning process) and through self mentoring to help clients identify by their patterns of emotions, thought and behaviour as they relate to the challenges of the habit change process.
- c) Coping Skills Training: Strategies include teaching clients both behavioural and cognitive response to cope-high risk situations.
- d) Cognitive strategies: Are utilized to introduce coping imagery and cognitive restructuring to deal with urges and craving, to identify AIDs as early warning signals, and to reframe reaction to the initial lapse (restructuring of the AVE).
- e) Lifestyle Modification: Strategies (e.g. meditation, relaxation, and exercise) are designed to strengthen clients' overall coping capacity to reduce the frequency and intensity of urges and craving that are often the product of the stress and distress caused by an unbalanced life style.

Application of relapse prevention therapy within a stagewise model

Relapse prevention approaches may be best suited for persons in the action or maintenance stages of treatment or recovery. In the action stage, the individual is exposed to a functional analysis of the antecedents to and consequences of his or her substance use. Personal knowledge about this process helps to enhance motivation and facilitate initial abstinence. In the maintenance stage, however, the individual has achieved some stability in his or her abstinence from substances and is focusing on lifestyle change and on dealing with changes in family and social relationships. The availability of ongoing professional care and monitoring is often less emphasized but remains important during this stage.

Within a context of the stagewise approach to continuing care, addiction treatment may be conceptualized in stages based on readiness for change. Indeed, assessment provides the basis for appropriate interventions at all stages. Therapeutic approaches can be aligned to readiness on the basis of assessment findings. Specific evidence-based practices are indicated at each of these stages (Mc Govern and Carroll, 2003). In other words, the therapeutic task varies according to the stage of treatment readiness (Mueser et al., 2003; Mc Hugo et al., 1995).

For example, for persons at the precontemplative stage, motivational enhancement therapies or contingency management approaches promote therapeutic engagement, increased readiness, and movement toward the action stage. Offering active treatments (that is, those directed at achieving and stabilizing abstinence) at this juncture is premature, poorly received, and likely to be met with noncompliance (Chaney, O'Leary and Marlatt, 1978). In contrast, persons at the action stage seek tools and skills to stop using substances and are motivated to receive such help. As with the reductionistic limitations to any linear model of human processes, including the newer model of relapse prevention (Witkiewitz and Marlatt, 2004), this stagewise model is, in reality, dynamic, recursive, and essentially chaotic. Nonetheless, it serves as a framework within which relational goals and treatment services may be organized.

The stagewise model for integrated dual diagnosis treatment (Mueser et al., 2003) is highly consistent with the chronic disease model for addiction as developed by McLellan and associates (Mc Lellan, Lewis and O'Brien et al., 2000). These authors noted that the traditional approach to both treatment of and research on addiction has been naively based on an acute condition paradigm. In this paradigm, a single episode of treatment is hypothetically required to "fix" a relatively circumscribed problem. It is as though a single course of treatment will result in long-term abstinence.

In contrast, McLellan and associates compared the etiology, course, outcomes, and treatment compliance for substance use disorders with those for other chronic medical conditions, such as asthma, hypertension, and diabetes. The similarities are striking. In the case of substance use, both the clinical reality and longitudinal studies show that treatment duration, continuing care, and monitoring are likely to be associated with positive outcomes more than is the type or amount of the index treatment at the acute phase (Mc Lellan et al., 2000; Mckay et al., 2004; Dennis, Scott and Funk, 2003).

Evolving conceptions of relapse prevention services extend beyond the index episode and are conceptualized as ongoing routine care-much like an internist would monitor and treat expected variability in the blood pressure of a person with hypertension over the course of a long-term relationship (Mc Lellan et al., 2000). As part of ongoing positive lifestyle changes, the focus becomes recovery, not just remission. In fact, the self-help recovery model has long recognized this-for example, by emphasizing the benefits of service to others in securing one's own abstinence and improving quality of life (Pagano et al., 2004). Likewise, for persons with chronic and persistent mental illness, developing a meaningful life becomes the larger ongoing goal that supports the proximate objective of symptom remission. These are in fact core principles of evidence-based practice in the areas of illness management and recovery (Mueser et al., 2002; Gingerich and Mueser, 2005).

Relapse prevention with co-occurring disorders

Within the stagewise model, during maintenance of the recovery stage for persons with substance use disorders, monitoring and treating co-occurring psychiatric disorders that are not substance related is clinically essential. Individuals who have more severe and persistent disorders, such

as schizophrenia, bipolar disorder, and severe mood disorders, should be receiving integrated treatments (Mueser et al., 2003). The form and timing of treatments for disorders of the mild to moderately severe type, such as depression, anxiety, social phobia, posttraumatic stress disorder, and axis II disorders, are less certain, although these too will require ongoing monitoring and care (Cacciola et al., 2001).

In fact, few studies have specifically examined relapse prevention therapies for persons with substance use and other psychiatric disorders. Given that co-occurring psychiatric disorders are common among persons with substance use disorders, and these are typically associated with negative outcomes, this area of research remains critically important.

The rapidly developing research literature on integrated mental health and addiction treatment for persons with dual disorders has focused on the engagement and persuasion stages of the therapeutic relationship. The goals of these stages involve engaging clients in treatment and initiating abstinence rather than on the prevention of relapse to substance use. Longitudinal data about correlates of remission and recovery for persons with dual diagnoses have only recently become available, but no interventions have been formally tested during the maintenance stage (Dark, Wallach and Mc Govern, 2005). Three recent reviews found 26 controlled trials of integrated dual disorder treatments and verified the paucity of research during the maintenance phase of treatment (Brunette et al., in press; Dark et al., 2004; Mueser et al., in press).

One promising approach to integrated group therapy (as opposed to integrated treatment services) for relapse prevention was developed by Weiss and colleagues and is currently being tested in stage III effectiveness trials (Weiss et al., 2000). This integrated group therapy focuses on relapse prevention skills for co-occurring substance use and bipolar disorders and addresses triggers and relapse risks for both disorders during the course

of a structured manual-guided psychotherapy (Weiss, Majauits and Greenfield et al., 2000). However, studies of this approach focus only on symptom change and substance use associated with the index treatment (Leshner, 1999).

No studies of relapse prevention therapies have been reported for the maintenance stage or within the context of ongoing or continuing professional care for persons with co-occurring disorders.

The scientific approach to relapse of substance use can be credited to the early work of Brownell and colleagues (1986) as well as Marlatt (1985). Consistent with behavioral and cognitive-behavioral psychology, these authors carefully studied the relapse process, using the methods of functional analysis of the antecedents and consequences of substance use. This model articulated and studied relapse as a process, not simply an event or a "breakdown of willpower" (Marlatt and Gordon, 1985).

On the basis of a number of studies of relapse antecedents, attempts to categorize them and develop predictive schemes, limitations to the original model of relapse have been identified (Lawman et al., 1996; Donovan and Kadden, 1996; Greenfield et al., 2000; Cohen et al., 2002; Rohsenow and Monti, 1999; Miller and Rollnick, 1991; Beattie and Longabaugh, 1999). Among these are the nonlinearity of the true relapse process, limited emphasis on culture and context, and, perhaps most significantly, lack of attention to neurobiology, particularly the fundamental brain changes inherent in the addiction process (Kandden, 2001; Vastag, 2003; Morgolis and Jweben, 1998; McLellan et al., 2000). The most current relapse prevention model is less linear and hierarchical as well as more complex, developmental, recursive, and dynamic (Witkiewitz and Marlatt, 2004).

Relapse prevention therapy as a specific intervention is one of a number of evidence-based practices for substance use disorders and now has a well-documented track record of producing positive outcomes (Allsop et al., 1997; Chaney et al., 1978; O'Farell et al., 1998). Recent reviews have shown relapse prevention therapy to be "empirically supported" (Mc Crady, 2000) and evidence based (Mc Govern, 2003). Relapse prevention therapy, a form of cognitive-behavioral therapy, consists of a number of key ingredients (Carroll and Schottenfeld, 1997; Carroll, 1996) reducing exposure to substances, fostering motivation for abstinence (decisional balancing of pros and cons of use and abstinence and processing ambivalence), self-monitoring (situations, settings, and states), recognizing and coping with cravings and negative affect, identifying thought processes with relapse potential, and deploying, if necessary, a crisis plan.

Aspects of relapse prevention therapy have evolved to become core ingredients in nearly all psychosocial treatments for substance use disorders, including traditional 12-step model rehabilitation programs (Mc Govern, 2004). In an analysis of 24 randomized controlled trials of relapse prevention, Carroll (1996) concluded that relapse prevention was an effective treatment for disorders related to nicotine, alcohol, cocaine, marijuana, and other drugs. Minimal differences in effectiveness were found across classes of substances. Compared with a control condition, relapse prevention demonstrated effectiveness approximately 50 percent of the time; more often than not, the effects were sustained at follow-up. Compared with alternative active psychotherapeutic treatments, relapse prevention results were comparable but not significantly better.

Relapse prevention, was initial designed as an adjunct to existing treatments. It has also been extensively used as stand-alone treatment and serves as the basic for several other cognitive and behavioural treatment (Witkowitz et al., 2005). On this preceded Shanton (2005) commented that relapse

prevention needs more emphasis on interpersonal factors i.e. social support as it as a phasic response that interacts with coping behaviour and affective state, in addition to its role as a distal risk. In other studies the efficacy and effectiveness of relapse prevention was again provided for addictive disorders (Witkiewitz and Marlatt, 2004; Carroll, 1996; Irvin et al., 1999).

Several studies have shown sustained main effects for RP, suggesting that RP may provide continued improvement over a longer period of time (indicating a “delayed emergence effect”), whereas other treatments may only be effective over a shorter duration (Carroll, Rounsaville, Nichigordon, 1994; Hawkins, J.D., Latacano and Gillmore 1989; Rawson et al., 2002). Moreover, Goldstein and Colleagues (1989) had found a significant delayed effect for an RP condition as compared to an educational support control condition at six months for smokers treated in a 10-week group program (Niaura et al., 1989). Later Carroll and Colleagues (1994) also found, while comparing RP with an operationalized clinical management condition and pharmacotherapy using desipramine hydrochloride or placebo, a significant psychotherapy-by-time effect at one-year follow-up, indicating a delayed response to treatment among patients who received RP. Then, Rawson and Colleagues also identified a “sleeper effect” for RP in patients with cocaine dependence (Rawson et al., 2002). These findings of delayed effects of RP are consistent with the notion that learning new coping skills to deal with high risk situations takes time and leads to a decreased probability of relapse over time. Polivy and Herman (2002) have demonstrated that 90 percent of individuals who attempt to change their behaviour struggle with lapses and do not achieve change on their first attempt.

We view RP as having an important role in the continuous development of brief interventions for alcohol and drug problems, such as motivational interviewing (Miller and Rollnick, 2002), brief physician advice (Fleming et al., 1997), and brief assessment and feedback (Dimeff et al., 1999; Monti, Colby and O'Leary, 2001). Incorporating the cognitive-behavioural model of relapse and RP techniques, either within the brief intervention or as a booster session, will provide additional help for the individuals who are attempting to abstain or moderate their use following treatment. Relapse prevention techniques may also be supplemented by other treatments for addictive behaviours, such as pharmacotherapy (Schmitz et al., 2001) or mindfulness meditation (Marlatt, 2002). Medication and meditation have already been used successfully as adjuncts to RP (Schmitz et al., 2001; Taub et al., 1994).

It has been seen that individuals with higher levels of impairment along dimensions such as psychiatric severity appear to benefit most from RP compared with those with less severe levels of impairment.

Irvin and Colleagues (1999) conducted a meta-analysis of 26 published and unpublished clinical trials on RP techniques between 1978 and 1995, involving a total sample of 9,504 participants. These studies have assessed the efficacy of RP and were also consistent with Marlatt and Gordon's approach to RP. The strongest treatment effects were for alcohol and polysubstance use outcomes, reducing substances use and improving psychosocial adjustment. The effects were weaker for smoking and cocaine. Some studies empirical limitation could be responsible for the inconsistent support for the effects of RP on smoking cessation. Other randomized trials of RP for smoking showed that additional supportive elements such as stress management, emotion regulation techniques, and abstinence "resource renewal" may be needed in addition to RP in a

smoking intervention (Hajek et al., 2005). The results of these studies indicate that more research should focus on modifying and improving RP techniques in the context of other substance user such as cocaine, nicotine, and opioids. The analysis also showed that individual, group and marital modalities were equally effective. Another finding was that medication seem to be very helpful in reducing relapse rates in the context of alcohol problems.

Further it is seen that recent randomized control trails support the reported efficacy of combined CBT-like therapies and naltrexone for alcohol-dependent individuals (Anton et al., 2005). The combine (effects of combined pharmaeotherapies and behavioural interventions) study suggested that medical management of an alcohol dependent patient with a physician providing treatment with natrexone and basic advice and information is as effective as cognitive- behavioural therapy (CBT). The trial enrolled 1,383 alcohol dependent subjects and randomly assigned them to one of eight groups that could include naltrexone, acamprosate, or both of the drugs, with or without what was identified as a cognitive-behavioural intervention (CBI). One group received the CBI alone, without placebo. The patients who received a medication received medical management that was fairly rigorous (9 appointments over 16 week), during which the physician or a nurse discussed the patients diagnosis and progress and suggested attendance to AA. Those who got the CBI received up to 20 sessions, which was comparable with a streamlined version of outpatient alcoholism treatment. Subjects receiving medical management with naltrexone, CBI, or both fared better on drinking outcomes, whereas acomparosate showed no evidence of efficacy, with or without CBI. Putting it more into clinical significance, the percentages, of subjects with a good clinical outcome were 58% for those who received only medical management and placebo, 74% for those who received

medical management with naltrexone and cognitive- behavioural treatment, and 71% for those who received medical management with placebo and cognitive behavioural treatment. The subjects were also followed for a year after the 16-week treatment, and although the patterns of efficacy remained much the same, there was appreciable fall-off for all groups (Anton et al., 2006). In a recently completed trial, 121 cocaine-dependent individuals were randomized to one of four conditions in a 2x2 factorial design: disulfiram plus CBT, disulfiram plus Interpersonal Therapy (IPT) that did not include RP components, placebo plus CBT, and placebo plus IPT. This study showed significant main effects for CBT over IPT. The patients assigned to CBT reduced their cocaine use more significantly than those assigned to IPT and patients assigned to disulfiram reduced their cocaine significantly more than those assigned to placebo. In addition, the CBT x time effect remained statistically significant after controlling for retention, which was a significant predictor of better drug use outcomes (Carroll et al., 2004).

Furthermore, the results of a study randomizing 128 cocaine users to either CBT or 12-step facilitation (TSF) suggested that CBT was more effective than TSF overall. Several matching hypothesis were supported. CBT was differentially effective for participants with low levels of abstract reasoning skills (Maude Griffin et al., 1998).

The literature evaluating the efficacy and effectiveness of RP with stimulant users has been nearly all conducted with cocaine users as the study participants. Some data support the view that the response to RP treatment is quite comparable between cocaine-dependent individuals and those dependants on methamphetamines (Rawson et al., 2000). Rawson and Colleagues (2004) conducted a study with methamphetamine-dependent individuals assessing the effectiveness of the Matrix- treatment protocol (based on cognitive behavioural principals described in Marlatt and

Gordon, 1985, used as an outpatient intensive approach for the treatment of stimulant users: Rawson et al., 1989, 1995, 2002; Shoptaw et al., 2004) versus “treatment as usual” in eight community treatment organizations. The in-treatment approach has positive empirical evidence for treating methamphetamine-dependent individuals when compared to a group of community treatment programs. Rawson et al. (2002) recently compared group CBT, voucher contingency management (CM), and a CBT/CM in combination with standard methadone maintenance treatment for cocaine-using methadone maintenance patients. During the acute phase of treatment, the CM group had significantly better cocaine use outcomes. However, during the follow-up period, a CBT sleeper effect emerged again, where the CBT group had better outcomes at the 26-week and 52-week follow-up than the CM group. Another similar study in the context of intensive methadone maintenance showed similar results with best one year outcomes for the CM + CBT combination (Epstein, Hawkins et al., 2003). Two trails have compared the delivery of RP in individual versus group format. Schmitz et al. (1997) and Marques and Formigoni (2001) found no differences in-group versus individually delivered CBT. These results suggest that CBT/RP can be effectively implemented in either format. Furthermore, a recent study has demonstrated that stress induced cocaine craving could be of benefit in improving relapse outcomes in cocaine dependence (Sinha et al., 2006).

The empirical literature on testing RP strategies (12 trails) for cannabis abuse has also incorporated treatment components focusing on aversion training, motivational enhancement, contingency, reinforcement and case management. A multisite study involving 450 marijuana-dependent individuals demonstrated that a nine-session individual approach that integrated cognitive behavioural therapy and motivational interviewing approach, which in turn was more effective than a delayed- treatment control condition (MTP Research Group, 2004). The relatively modest long-

term outcomes reported in the trails conducted thus far suggest that intervention protocols need to be developed to effectively meet the needs of this population.

Several studies included spouses in the RP intervention (O'Farell et al., 1993). A recent study evaluated conjoint treatments in 90 men with alcohol problems and their female partners. The subjects were randomly assigned to one of the three outpatient conjoint treatments: alcohol behavioural couples therapy (ABCT), ABCT with relapse prevention techniques (RP/ABCT) (as per Marlatt and Gordon, 1985), or ABCT with interventions encouraging Alcoholic Anonymous (AA) involvement (AA/ABCT). Couples were followed for 18 months after treatment. Across the three treatments, drinkers who provided follow-up data maintained abstinence on almost 80% of days during follow-up, with no differences in drinking or marital happiness outcomes between groups. In the RP/ABCT treatment, attendance at post-treatment booster sessions were related to post treatment abstinence during follow-up treatment in both concurrent and time-lagged analysis (Mc Crady, Epstein et al., 2004). Despite strong evidence for efficacy of psychological treatments of alcohol use disorder, aggregate rates of continuous abstinence after treatment are well below 50% and relapses are more.

Theory based active ingredients of effective treatment for substance use disorder have been reviewed and found four effective psychosocial treatments: motivational interviewing and motivational enhancement therapy, 12-step facilitation treatment, cognitive-behavioural treatment and behavioural family counseling and contingency management and community reinforcement approaches (Moos, 2007).

Cognitive behavior therapy (CBT) has also shown its effectiveness in combination with antidepressants among alcohol and substance dependent adolescents and adults with co-existing depression (Hides et al., 2009). On the other hand in a recent meta-analysis, behavioural couple therapy (BCT) showed clear advantage over individual based treatment for alcoholism and drug abuse problem (Powers, Vedel and Emmelkamp, 2008).

Shifting our attention back to relapse prevention therapy, a form of cognitive-behavioral therapy, it has been evidenced to be useful with adolescents in treatment for substance use disorder (Ramo, Myers and Brown, 2007). Importance of relapse prevention has been witnessed time and again and stated that successful treatment of drug addiction must involve relapse prevention informed by our understanding of the neurobiological bases of drug relapse (Fuchs, Lasseter and Yie, 2009).

Recently, new innovative component has been reviewed for substances use relapse prevention: psychodrama group therapy in the context of relapse prevention. The proposed psychodrama group format features facilitator guidelines for directing relapse prevention behavioral role plays, substances use specific role plays, and a format for post role play processing of group participants experiences (Somov, 2008).

Psychological theory and interventions relevant to relapse and relapse prevention (RP) were reviewed, with a focus on addictive behaviour. The past two decades have produced increased attention toward the relapse problem and important advances in the conceptualization of relapse (i.e. a process rather than a discrete event) (Thomas, Jennifer and Erika, 2007).

No single model of RP could ever encompass all individuals at different levels of behaviour change. Therefore a comprehensive evaluation of the determinants of relapse and underlying processes may be more helpful to identify RP strategies. Relapse prevention techniques need to be studied

in more diverse samples of individuals, including ethnic minority groups (De La Rosa, Segal and Lopez, 1999) and adolescent who receive formal treatment (Mc Carthy et al., 2003).

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CHAPTER 3

RESEARCH METHODOLOGY

The common idea of methodology is the collection, the comparative study, and the critique of the individual methods that are used in a given discipline or field of inquiry. It can be defined as “a body of methods, rules, and postulates employed by a discipline”, or a particular procedure or set of procedures or the analysis of the principles or procedures of inquiry in a particular field”. Any piece of research is incomplete without a proper plan of action. A research is designed to enable the researcher to arrive at as valid, objective and accurate selection of the given problem as possible. Research design, is, thus, a detailed plan of how the goals of research will be achieved.

Every study is distinguished on the basis of its different purposes and approaches. Therefore, so many methods have been adopted. For the present study, Descriptive Method was used. Because it is considered as one of the best method in education, it describes the current status of the research work. It involves interpretation, comparison, measurement, classification, evaluation and generalization all directed towards an understanding and solution of significant educational problems.

SAMPLE

For the experimental group (which underwent relapse prevention therapy), sample of 103 opiate drug addicts was taken from Bhatia

Neuropsychiatric and Drug Addiction Center Amritsar.

For the control group, (which did not undergo relapse prevention therapy) sample of 50 opiate drug addicts was taken from Red Cross Drug Addiction Center, Amritsar.

The addicts were selected from various socio-economic strata and their age ranging from 18 to 46 years.

PROCEDURE

I. Tests used

i) Ways of coping questionnaire by (Lazarus and Folkman, 1984).

The ways of coping questionnaire assesses thoughts and actions individuals use to cope with the stressful encounters of everyday living. It is derived from a cognitive phenomenological theory of stress and coping that is articulated in stress, appraisal and coping (Lazarus and Folkman, 1984) and elsewhere (e.g. Lazarus, 1981; Lazarus and Launier, 1978). This questionnaire has been used primarily as a research instrument in studies of the coping process. It is designed to identify the thoughts and actions an individual has used to cope with a specific stressful encounter. It measures coping processes, not coping disposition or styles.

Description of scales, administration and scoring

The sample from which the coping scales were developed was composed of 75 middle and upper middle class white married couples who had at least one child living at home. Husband and wives were interviewed separately in their homes by different interviewers once a month for five

months. Subjects were asked describe the most stressful encounter experienced during the previous week and then to fill out the ways of coping questionnaire.

Three separate factors analyzes were completed, using different strategies for combining person – occasions, or observation. This analysis called for eight factors and the resulting eight scales are described as follows table no. 1.

Description of the coping scales

1. **Confrontive Coping:** Describes aggressive efforts to alter the situation and suggests some degree of hostility and risk taking.
2. **Distancing:** Describes cognitive efforts to detach oneself and to minimize the significance of the situation.
3. **Self Controlling:** Describes efforts to regulate one's feelings and actions.
4. **Seeking social support:** Describes efforts to seek informational support, tangible support and emotional support.
5. **Accepting Responsibility:** Acknowledges one's own role in the problem with a concomitant theme of trying to put things right.
6. **Escape Avoidance:** Describes wishful thinking and behavioural efforts to escape or avoid the problem. Its on this scale contrast with those on the distancing scale, which suggest detachment.
7. **Planful Problem Solving:** Describes deliberate problem focused efforts to alter the situation, coupled with an analytic approach to solving the problem.
8. **Positive Reappraisal:** Describes efforts to create positive meaning by focusing on personal growth. It also has a religious dimension.

Administration

The ways of coping questionnaire can generally be completed in about ten minutes, although the time will vary with respondents. Items on the questionnaire have been designed to be answered in relation to a specific stressful encounter, although no single standardized method has been devised for eliciting it. Although the ways of coping questionnaire is self administered, an interview can be held before administration to help the individual reconstruct the focal encounter. The interview can range from a brief summary of the encounter to a full exploration of its content, depending on the purpose of the research.

In our study we used the self-administrated method, to complete the questionnaire, preceded by brief instructions as to recalling stressful events and on its basis completing the questionnaires.

Scoring

There are two methods for scoring the ways of coping questionnaire, raw and relative. Raw scores describe coping effort for each of the eight types of coping, whereas relative scores describe the proportion of effort represented by each type of coping.

In both methods of scoring, individuals respond to each item on a 4-point likert scale, indicating the frequency with which each strategy is used: indicates “does not apply and/or not used”, 1. Indicates “used somewhat”, 2. Indicates “used quit a bit” and 3. Indicates “used a great deal”.

In the raw scoring the raw scores are the sum of the subjects responses to the items that comprise a given scale. This method, used in the majority of our research, provides a summary of the extend to which each type of coping was used in a particular encounter. These scores are raw scores and not

factor scores.

Relative scores, which were suggested to us by Peter Vitaliano (Vitaliano et al., 1987), describe the contribution of each coping scale relative to all of the scales combined. A relative score for each scale is computed by (a) calculating the average item score for the items on a given scale by dividing the sum of the rating on the scale by the number of items on that scale, (b) calculating the sum of the average item score across all eight scales, and (c) dividing the average item score for a given scale by the sum of the average item scores across all eight scales.

Reliability and Validity

Ways of Coping Questionnaire has been tested for reliability by examining the internal consistency. Estimates of coping measures generally fall at the low end of the traditionally acceptable range. Although the alpha coefficients for the 8 scales i.e. Confrontive coping (.70), Distancing (.61), Self Controlling (.70), Seeking Social Support (.76), Accepting Responsibility (.66), Escape Avoidance (.72), Planful Problem Solving (.68), Positive Reappraisal (.79), are found higher than the alphas reported for most other measures of coping process. And this test has been used successfully in Indian Context.

Ways of Coping Questionnaire has been found to have Construct validity. The evidence of which is in the fact that results of the studies done by e.g. Braukmann, Filipp, Angleitner and Olbrich (1981), Happner, Reeder and Larson (1983). Kirmeyer and Diamond (1985), and Manne and Sandler (1984), are consistent with the theoretical predictions.

ii) **NEO Five-Factor Inventory (NEO-FFI) by Costa and Mc Crae (1992).**

The NEO-FFI is a 60 item version of form 5 of the NEO PI-R that provides a brief, comprehensive measure of the five domains of personality. It consists of five

12-item scales that measure each domain. Information on specific facets within each domain is not provided, and the shortened scales are somewhat less reliable and valid than the full NEO-PI-R domain scales.

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The Five Domains

1. Neuroticism (N)

The general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt and disgust is the core of the N domain. Men and women high in N are also prone to have irrational ideas, to be less able to control their impulses and to cope more poorly than others with stress. As the same suggests, patients traditionally diagnosed as suffering from neuroses generally score higher on measure of N (eg. Eysenck and Eysenck, 1964). But the N scale of the NEO PI-R like all its other scales, measures a dimension of normal personality. N should not be viewed as psychopathology, but individuals may be at risk for kind of problem. Individuals low on these scores are emotionally stable. They are usually calm, even-tempered and relaxed and they are able to face stressful situations without becoming upset or rattled.

2. Extraversion (E)

Extraverts are of course sociable, but sociability is only one of the traits that comprise the domain of extraversion. In addition to liking people and preferring age groups and gatherings, extraverts are also assertive, active and talkative. They like excitement and stimulation and tend to be cheerful in disposition. They are upbeat, energetic and optimistic. Thus, introverts are reserved rather than unfriendly, independent rather than followers, even-paced rather than sluggish. Introverts may say they are shy when they mean that they prefer to be alone: they do not necessarily suffer from social anxiety. Finally introverts are not unhappy or pessimistic.

3. Openness (O)

As a major dimension of personality, openness to experience is much less well known than E. the elements of O – active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, intellectual curiosity and independence of judgement – have often played a role in theories and measures of personality, but their coherence into a single broad domain has seldom been recognized. Open individuals are curious about inner and outer worlds, and their lives are experientially richer. They are willing to entertain novel ideas and unconventional values and they experience both positive and negative emotions more keenly than do closed individuals. Openness is especially related to aspects of intelligence, such as divergent thinking that contribute to creativity (Mc Crae, 1987). But its by no means equivalent to intelligence.

4. *Agreeableness (A)*

Like extraversion, agreeableness is primarily a dimension of interpersonal tendencies. The agreeable person is fundamentally altruistic. He or she is sympathetic to others and eager to help them, and believes that others will be equally helpful in return. By contrast, the disagreeable or antagonistic person is egocentric, skeptical of others intentions, and competitive rather than cooperative.

5. *Conscientiousness (C)*

A great deal of personality theory, particularly psychodynamic theory, concerns the control of impulses. During the course of development most individuals learn how to manage their desires and the inability to resist impulses and temptations is generally a sign of high N among adults. But self control can also refer to a more active process of planning, organizing and carrying out tasks and individual differences in this tendency are the basis of conscientiousness. The conscientious individual is purposeful, strong-willed and determined.

Validity and Reliability

The NEO-PI-R has been translated in several languages and used in more than 50 cultures (McCrae and Terracciano, 2005). Evidence of convergent and discriminant validity is presented in the manual (Costa and McCrae, 1992) and a large literature demonstrates cross-observer agreement and prediction of external criteria such as psychological well-being, health risk behaviors, educational and occupational achievements, coping mechanisms and longevity (Costa and McCrae, 1992; Terracciano et al., 2008). In a previous study Lockenhoff et al. (in press) tested the validity of personality assessment in the ECA sample and found adequate alpha reliabilities, retest-stability and factor structure of the NEO-PI-R scales.

II. Relapse Prevention Therapy

Relapse Prevention Therapy, in group setting will be used as an treatment intervention. Comprehensive guidelines of relapse prevention techniques will be collaborated from empirically tested models of relapse prevention therapy.

Following modules of RPT are determined in convenient and brief version:

1. Session I

(i) *Introduction and building of rapport*

In this session the patients were introduced to what drug addiction is?

It is a desire or compulsive need to continue taking the drug and to obtain it by any means.

It's a tendency to increase the doze.

It's a psychic (psychological) and a physical dependence on the drugs. It's a detrimental effects on the individual and society.

Q.: Why do we continue taking drug?

a) to eliminate pain (negative reinforcement)

b) to feel high (positive reinforcement)

a) One takes drug to eliminate physiological distress i.e. physical withdrawals or psychological distress i.e. to handle depression and stressful events. People try to use drug as a coping strategy due to habitation.

b) Or one takes drugs to feel high, euphoric or good, to feel the kick.

(ii) *Comprehensive information on how drugs work on brain*

There are three related stages in addiction:

Stage 1: Acute drug effect

At this early stage, the individual experiences the rewarding effects of the addictive drug. Dopamine is the key brain chemical involved at this stage.

Stage 2: Transition to Addiction

At this stage, the individual transitions from recreational use to actual addiction. Glutamine is the key brain chemical involved at this stage.

Stage 3: End Stage Addition

At the final stage, the individual experiences a strong urge to get the addictive drug, loses control of the drug seeking desire, experiences a diminished pleasure after using the addictive drug.

The Dopamine Connection

The biological link among all addictions is dopamine. This brain chemical is released during pleasurable activities ranging from sex and eating to more detrimental behaviour such as drinking and drug taking “if a drug or an activity produces a sharp spike in dopamine, then the people will like it, they will experience it as pleasurable, and it will be addictive. A powerful drug like cocaine or any other drug elevates dopamine level much faster than normal pleasurable activities.

Getting and Staying Hooked

Coming down from a drug high is caused by a decrease in dopamine levels. If you force brain cells to produce excessive dopamine on a regular basis, they become stressed and produce less dopamine. Over time addicts become depressed and need drugs just to stimulate dopamine to normal levels. Then one becomes trapped in a cycle of craving and addiction to avoid withdrawal symptoms and depression.

(iii) Discussing Mental Health Issues/ Consequences of Drug Abuse

Drug abuse heightens the risk for HIV infections through needle sharing, prostitution i.e. indulging in unsafe sexual behaviours. Injection drug users are most likely to develop serious infections and illnesses (e.g. viral hepatitis, endocarditis, pneumonia etc.). It is found among narcotic addicts, health conditions like high blood pressure, hyperlipidemia, increased blood glucose, abnormal pulmonary, abnormal liver function, positive hepatitis C,

symphtitis and TB are msot frequently witnessed. Some form of psychiatric disorders may result from drug abuse e.g. paranoid psychosis, tactile hallucinations, suicidal behaviour, depression. Drugs have deteriorating effect on verbal memory, verbal fluency, attention and psychomotor speed etc.

2. Session II

(i) *Recognizing denial and working on acceptance*

What is denial?

It is a “quilting drugs is easy. I have done it many times”.

Denial is when an addict thinks, he does not have a problem in managing his drug abuse behaviour he can control himself. He can handle drugs and can leave drugs anytime he wants without any help, on his own.

When he thinks, “I am not that seriously in addiction yet, my doze of drugs is small”.

When he thinks, “I have not reached that stage yet, which others have reached, others are more sick, I can control it”.

Note: if any individual is in denial state, he can not move forward towards recovery.

What is acceptance?

1. First and foremost an addicts has to accept that he has a problem of drug addiction, he has to admit “I am an addict”.
2. Has to accept that, this is his weakness for the whole life, he does not have to forget it, because the day he forgets, he will have every chance

to relapse.

3. Has to accept that, he needs help, without professional help he cannot manage this problem on his own.
4. Has to accept that, he cannot control himself from taking drugs but has to learn how to manage or cope with his drug abuse behaviour.
5. Has to accept that he need to learn how to recognize, avoid or cope with any situation which leads to drug abuse behaviour.

Motivational Conversation

One important question is why do you want to leave drugs?

Is it that you want to leave drugs, because you have family conflicts? Or others are telling you to leave or you are in a financial crisis or you are in a health crisis?

If these are the reasons for you to learn drugs then you can relapse any moment, as these situation can arise in your life any time even when you are clean, so these associations are dangerous.

So the reason for you to leave drugs should be that you want to live your life. And leave them for yourself not for others that you want to have a healthy, fulfilling life, where each moment is a bliss.

As we know life of an addict is a crippled a life, he is totally dependant on drugs, from waking up in the morning when he cannot start his day without drugs, then the people he has to avoid, who stop him from taking drugs, the food he has to take, so that it does not hamper the drugs effect, till the time he has to sleep, which he cannot have without drugs. So he is not living his life but is living a life dictated by drugs.

So this brings us to another important question that you must introspect: Do you want to live a handicapped life?

Have you got freedom? Are you happy?

Have you made anyone else happy lately?

Have you progressed in your life in the recent past, in any sphere of your life like, health, wealth or relationships?

Answers to the above questions will help you to make one very important decision in your life, an important choice that you must make, as you have only two from which to choose i.e. life or death.

You have got only two choices, if you do not choose life then you are defiantly moving towards your doom. But if you choose life and totally surrender to the programme then we would help you to find a new meaning in life.

3. Session III

(i) *What is relapse?*

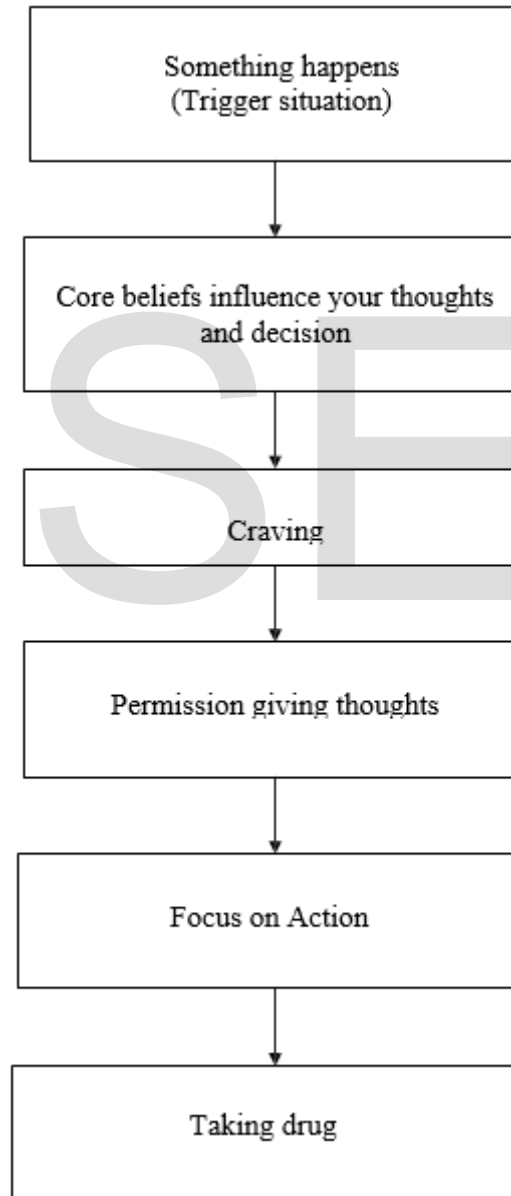
After the treatment, when an addict again starts taking addictive substance frequently, he/she has relapsed. Relapse process is shown in (Fig. 2.1).

(ii) *How relapse happens:*

1. **Something Happens (Trigger situation):** Sometime an individual encounters a situation in which his thoughts of drug taking gets triggered e.g. passing from the place from where he/she use to procure drugs, meeting an acquaintance with whom he/she use to take drugs, sudden stressful situation etc.

2. Core Beliefs (you thoughts and decision): After the situation has arisen, what the person thinks at that time, about himself handling the situation, i.e. his self efficacy is low or high is very important. If he thinks I can handle this situation without drugs, then he/she will make use of effective coping strategies and stay away from drugs and will not move to next stage. But if he/she thinks they are helpless, or cannot handle this situation, or use ineffective coping strategy in that situation they will move to the next stage.
3. Craving: Next stage is craving. Here the urge to take drugs starts accelerating.
An individual's energy starts to move towards one dominant thought i.e. drugs. It starts with mental craving and progresses to physical craving e.g. one starts feeling anxiety, restlessness etc.
4. Permission Giving Thoughts: After the craving gets heavy on an individual, he permits himself to take drug rationalizing his actions with thoughts like he cannot handle carving, or thinks I will take only once, or I deserve this break, or I need this drug etc.
5. Focus on Action: After permitting himself/ herself to take drug, the individual focuses on how to procure the drug.
6. Drink or Drug: The last stage is when an individual actually takes the drug.

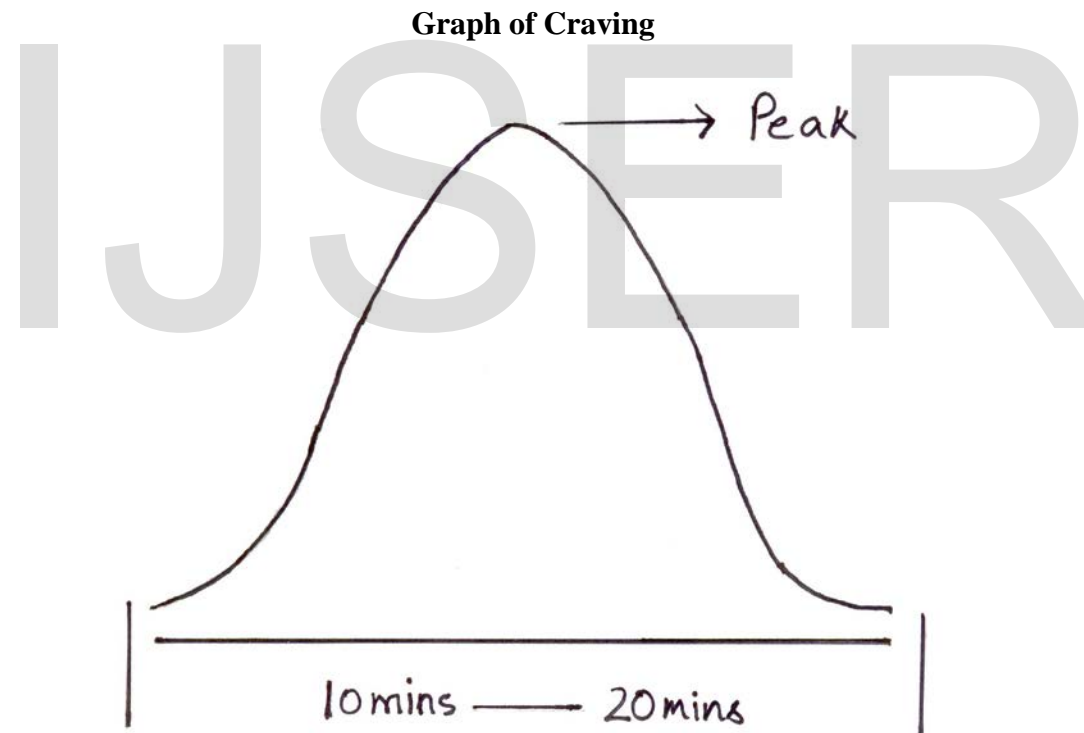
Fig. 3.1: Understanding How Relapse Happens



4. Session IV

(i) *Understanding craving and how to handle it?*

Craving is an internal urge to take drugs. One starts with mental craving i.e. an individual starts to get multiple drug related thoughts and it progress towards physical craving i.e. physical symptoms like body aches, heart's palpitation etc. start to appear.



It is a bell shaped graph, where craving starts with a few thoughts regarding drugs and then the thoughts starts to multiply and it starts increases and

moves upwards towards its peak where craving is maximum. At this point an individual, if does not use effective coping strategy then, might give himself/ herself the permission thought to go take drug. But if the individual copes with it and let it pass, then gradually the craving subsides and fades away. Its not going to stay forever. Its of brief time period, if this time period is handled effectively then he can stay away from drugs.

(ii) *How to handle craving? Cognitive intervention*

1. The first and the most important aspect is to recognize craving. You have to identify first that you have begun with thoughts of drug. And remember it eventually goes away.
2. Think of negative effects if you take drug. Think of all the success you have had will turn into failure in an instance.
3. Motivate yourself/ challenge yourself. Take it as a challenge that you have to win and later feel good about that you made it.

Behavioural interventions

1. Change the environment immediately if you can and come into a safety zone.

Where you get no cues of drugs and where you are sure you won't be getting drugs at all.

2. Talk to someone about your craving, or confess that you are having craving and ask for help.
3. Eat something at that time. Preferably sweet which would fill you stomach.
4. Last but the most important step is to divert your mind with some activity (Physical/ mental) which is of your interest and which would need some cognitive effort on your part, so that your thoughts get diverted.

5. Session V

Discussing relapse situations/ triggers and how to cope with them

Coping with negative emotional status - These determinants involve coping with negative emotional states mood or feelings like sadness, loneliness, boredom, guilt, resentments and grudges.

Tips to work on the above feelings:

1. Write down your negative thoughts and replace them with positive ones.
2. Question yourself, (a) "I am having these thought, is it because I am going through a low phase or is the situation really this bad? Because generally we get more negative thoughts when we are feeling depressed. (b) Would these thoughts and feelings help in my recovery or would they hinder it and take me towards relapse?"
3. Understand the chain of reaction of your negative thoughts.

Negative thoughts lead to negative emotions and then it leads to negative behaviour so change your approach, by enforcing a positive behaviour which would lead to positive emotions and that would lead to positive thoughts.

Don't set ideal, do some activity.

Increase positive psychomotor activity. (indulge in hobby etc.) Be solution focused. "I have to find a solution"

Increase socialization and communication. Break the chain of negative thoughts.

Replace your thoughts with good times in past. Imagine good times in your future.

Remind yourself this phase will pass, its not going to stay forever.

6. Session VI

Discussing relapse situations/ triggers and how to cope with them.

Sudden stress/trauma/Crisis: Financial or emotional at home or work place. Tips to work on above situations:

Postpone any sudden decision for a while.

Talk to a few people for solution, who are sincere to you.

Find out a number of possible solutions, before taking a final decision. Don't be alone.

Remember this is a temporary phase. Remember you can handle it.

7. Session VII

Discussing relapse situations/ triggers and how to cope with them

People, places and objects – These determinants involve coping with people (Paraphernalia) who are associated with your drug taking behaviour i.e. using drugs or procuring them. Associations with places where you use to procure drugs or use to use them. And association with objects which trigger the thoughts of drugs e.g. Foil paper, match box etc.

(i) *Tips to cope with people*

Recognize these people are dangerous for you. Avoid meeting these people.

If you meet accidentally, do not indulge in friendly conversation. Say “No” assertively, do not leave any open doors for future.

Cut all associations with them.

To avoid meeting these people, go out with some of your family member or sincere friend, who would hinder both you and these people to get in touch.

(ii) Tips to cope with places

Recognize these places are dangerous for you. Remind yourself that you can do it.

Avoid going or passing from these places, even if you have to take a longer way to reach your destination.

Don't go or pass alone from these places, go with some of your family member or your sincere friend.

Challenge and motivate yourself before passing that place that you have to pass or go through it successfully.

(iii) Tips to cope with objects

Recognize that these objects are dangerous for you. Avoid getting in contact with them if you can.

Remove any such object with which you have associated drugs from your house.

Recondition yourself with the faulty associations you have made with these objects and drugs e.g. foil paper is also used for wrapping food at home and for children to take to school.

8. Session VIII

Discussing relapse situation/ triggers and how to cope with them.

(i) Celebration/ parties (Rewarding one's self/ challenge one's self that "I can control urges")

These determinants deal with coping with high risk situations like parties and celebrations where drugs will be used. Here the individual either justifies himself that he is too exhausted or feels there is nothing exciting or good in his life, so he deserves a shot, "just once". He thinks he would not take it again and goes to a party to take the drug. But unfortunately falls into the vicious circle again.

Tips to deal with above situation

Recognize these situations are dangerous for you. Avoid going to such celebrations.

If you have to go, go with a family member initially.

Remember if you take once, you will definitely fall into the vicious circle. Celebrate with your family, go for a holiday.

Find other activities in your life which give you equal amount or level of excitement which you use to get from drugs.

Remember its your over confidence, if you are thinking you will control yourself from taking drugs when you get in contact with them.

Remember always drugs are stronger than you, if you get in contact with them, they will definitely overpower you.

Don't forget you always have to stay away from drugs.

Never forget you are an addict, that drugs are your weakness, so you have to keep away.

(ii) Family Trust

This determinant involves coping with interpersonal situation with family members and friends who have doubt that an individual is still into drugs, specially when he/she is out of their site, or is sitting alone, not communication or socializing. This situation arises in the early stages of recovery, as the addict is going through a low phase, he/she coping skills are less, health is low. And in initial stage families trust is low. If in this situation such a problem arises the addicts feel triggers to take drugs as this allegations increase there stress level, anger and frustration, and they feel “I might as well take drugs and prove them right”.

Tips to cope with above situation:

Remember, your family is not doubting you, its there deep rooted love and insecurity.

You don't have to gain anyone's trust, will come by itself.

It's there problem, if they are doubting you, you don't have to take there problem in your life.

Remember, you have nothing to prove to anyone, you are leaving drugs for yourself not anyone else.

To satisfy your family members, take them along wherever you have to go. Don't sit alone at home.

Participate in family activities, spend more time with your family, which you don't use to.

If you are out and can't take your family along, then keep in touch with them through phone calls frequently.

(iii) Free time/ no employment

This determinant involves to cope with addicts who do not have any job to do and have allot of ideal time for themselves. This situation is of high risk to them as free mind is devil's workshop.

Tips to deal with above situation:

Develop your hobbies.

Make a strict time table to follow the whole day, discipline your life e.g. waking up and sleeping, eating, exercise, time for religious activity.

Do all your works yourself.

Induce yourself in doing small-small works at home. Help everyone around you.

Do voluntary works.

ASSESSMENT

At the end of 12 weeks, the effectiveness of RT was assessed. The criteria for assessment was the compliance with treatment shown by the addicts.

ANALYSIS

The data obtained were processed to obtain the following information:

1. Frequency distribution, mean, standard deviation and skewness and kutoses of all the variables included in the study;
2. 2-Test was applied to see the difference between the two groups i.e. experimental and control group.
3. Discriminant Analysis

Discriminant analysis is a multivariate statistical technique appropriate to obtain information as to, are the two groups significantly different on the basis of variables under investigation? What are the numbers of misclassification in each group, and which variables are associated with group 1 and which are associated with group 2, along with their respective discriminate weights?

DELIMITATIONS OF THE STUDY

- The study is based on the data collected from Bhatia Neuropsychiatric and Drug Addiction Center Amritsar only.
- The study is further delimited to sample of 103 opiate drug addicts from Bhatia Neuropsychiatric and Drug Addiction Center Amritsar only.

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CHAPTER 4

DATA ANALYSIS & INTERPRETATIONS

Data analysis is the act of transforming data with the aim of extracting useful information and facilitating conclusions. Data analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. According to Shamoo and Resnik (2003) various analytic procedures provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data.

The organization, analysis and interpretation of data and formulation of conclusions and generalizations are necessary steps to get a meaningful picture out of the raw information collected. The analysis and interpretation of data involves the objective material in the possession of the researcher and the subjective reactions and desires to derive from the data the inherent meanings in their relation to the problem.

The results of the study have been discussed under three major headings:

- Descriptive statistics

- Z-test
- Discriminant analysis

DESCRIPTIVE STATISTICS

Frequency distributions of the scores on all the variables were setup. The scores on all the thirteen variables were collected for the two groups (i.e. experimental and control group) selected from the sample. The means, standard deviations, skewness and kurtosis of these scores on all the variables were computed and are reported in tables 4.1 to 4.4.

A careful look at the table reveals that most of the variables are more or less normally distributed with a few exceptions.

However, these slight deviations from normality should cause no concern because discriminant analysis used for this investigation, is found to be a robust technique by several authors (see in particular Lachenbruch, 1975), and can tolerate some deviations from the assumption of “multivariate normal distribution” of discriminating variables.

**Table 4.1: Frequency distribution of scores on ways of Coping Questionnaire
 (Control Group, N=50)**

CI	Confrontive Coping	Distancing	Self Control Coping	Seeking Social Support	Accepting Responsibility	Escape Avoidance	Planful Coping	Positive Reappraisal
1-3	3	2	3	6	2	2	-	-
4-6	5	7	-	10	15	2	9	2
7-9	10	13	13	2	21	6	8	1
10-12	13	13	15	21	12	10	16	18
13-15	15	12	15	6	-	13	13	11
16-18	4	2	3	5	-	9	3	9
19-21	-	1	1	-	-	8	1	9
Mean	10.66	10.24	11.32	9.58	7.84	13.5	10.94	14.2
SD	3.77	3.60	3.81	4.477	2.63	4.59	3.55	4.16
Skewness	-.356	0.287	-0.327	-0.196	-.43	-.42	.26	.01
Kurtosis	-.82	.43	.716	-.57	-.19	-.01	-.26	-.51

**Table 4.2: Frequency distribution of scores on ways of Coping Questionnaire
 (Experimental Group, N=103)**

CI	Confrontive Coping	Distancing	Self Control Coping	Seeking Social Support	Accepting Responsibility	Escape Avoidance	Planful Coping	Positive Reappraisal
0-2	5	2	3	5	2	2	1	-
3-5	14	7	7	17	20	3	9	5
6-8	23	25	13	16	32	18	19	9
9-11	24	28	32	26	40	24	19	12
12-14	22	25	23	20	9	25	29	17
15-17	15	15	9	13	-	14	18	23
18-20	1	1	13	6	-	11	8	25
21-23	-	-	2	-	-	6	-	12
Mean	9.5243	10.24	11.32	9.92	7.89	12.33	11.39	14.63
SD	4.12	3.77	4.67	4.65	2.71	4.66	4.13	4.89
Skewness	-0.078	-.001	.031	-.071	-.463	.087	-.227	-.612
Kurtosis	-.812	-.552	-.377	-.834	-.542	-.292	-.802	-.479

Table 4.3

Frequency Distribution of Scores on NEO-FFI (Control Group, N=50)

C.I.	N	E	O	A	C
11-15	1	1	-	-	2
16-20	11	10	8	6	3
21-25	13	15	27	16	7
26-30	18	20	13	20	17
31-35	5	4	2	6	19
36-40	-	-	-	-	2
41-46	2	-	-	2	-
Mean	24.92	25.04	23.28	26.52	28.5
SD	6.11	4.44	3.64	5.00	5.44
Skewness	.556	-.304	.164	.728	-.965
Kurtosis	.724	-.77	.219	1.028	.939

Table 4.4

Frequency Distribution of Scores on NEO-FFI (Experimental Group, N=103)

C.I.	N	E	O	A	C
6-9	-	1	-	-	-
10-13	-	1	2	-	1
14-17	7	7	7	-	2
18-21	21	18	27	7	6
22-25	28	25	37	31	15
26-29	23	31	22	35	27
30-33	17	13	8	28	29
34-37	4	7	-	2	-
38-41	3	-	-	-	-
Mean	25.17	25.01	23.11	26.79	29.24
SD	5.77	5.73	4.23	3.77	5.43
Skewness	.363	-.325	-.184	-.188	-.257

Kurtosis	-.045	.262	-.055	-.315	.121
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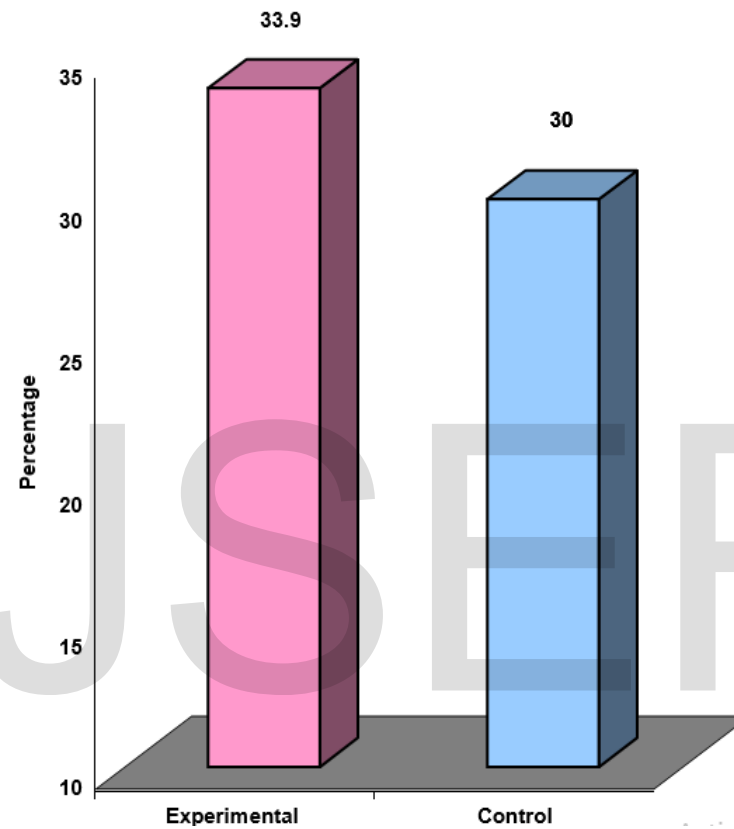
Table 4.5

Showing Percentages of Successful Cases of Experimental and Control Group

Sr. No.	Groups	N	Successful cases	Percentage
1.	Experimental	103	35	33.9
2.	Control	50	15	30

Graph 4.1

Showing Percentage of Successful Cases of Experimental and Control Group



Z-TEST

To see the effectiveness of Relapse Prevention Therapy (RPT) on drug addicts, percentage of successful cases of both groups, control and experimental were viewed (shown in table 4.5 and graph 1).

Further Z-test was applied to see the difference between these groups. Calculated value of Z score came out to be ($P > .05$).

So, from the above statistics we can infer that RPT does not have a significant usefulness in preventing relapse in our sample, as percentage of both groups where therapy was given (experiment group) and where therapy was not given (control group) came out to be more or less the same. The value of Z score further confirmed the inference as no significant difference was found on both the successful groups, hence the effectiveness of RPT was not apparently visible on the experimental group.

Thus our hypothesis was rejected, as RPT therapy was not effective for treatment for drug addiction.

What we can comprehend from the above, is that RPT was found less useful in the treatment of drug addicts in our sample. On the contrary over the years, RPT has provided an important heuristic and treatment framework for clinicians working with several types of addictive behaviour (Carroll, 1996). The efficacy and effectiveness of Relapse Prevention Therapy for addictive disorders have been witnessed often (Witkiewitz and Marlette, 2004; Carroll, 1996; Irvin et al., 1999). Relapse Prevention was initially designed as an adjunct to existing treatments and has also been extensively used as standalone treatment (Witkiewitz, 2005).

In Lau of the empirical evidence on efficacy of RPT, as stand-alone treatment, it was used on our sample for the present study. But our results showed its effect on the contrary. Not much evidence is there to support our findings, but a meta-analysis conducted by Irvin et al. (1999) reported that although relapse prevention therapy has become widely adopted cognitive behavioural treatment

intervention for alcohol, smoking and other substance use, outcome studies have yielded an inconsistent picture of this approach or condition for maximal effectiveness. Previous study reported the same findings, as to its inconsistent picture for effectiveness. (Rawson et al., 1993).

In another review by Carrolls (1996) concluded that little support existed for the notion that RP (Relapse prevention) was differentially effective across class of substance use disorder. But later Irvin et al. (1999), conducted a meta analysis and found that RP, was significantly more effective in treating alcohol and poly-substance use than in treating smoking or cocaine use. So from this evidence we can infer that RP is not significantly effective across classes of substance uses disorder and opiate sample was not particularly mentioned in the studies. And these studies indicated that more research should focus on modifying and improving RP techniques in the context of other substance users as cocaine, nicotine and opioids. Therefore we can comprehend that usefulness of RP on opiate addicts is not empirically supported and so was the case in our study.

An important shortcoming of RPT has been pointed out by Stalin (2005), he commented that relapse prevention needs more emphasis on interpersonal factors, i.e. social support, as it a phasic response that interacts with coping behaviour and affective state, is addition to its role as a distal risk. It has been noted that the vast majority of opiate addicts in drug-treatment programs relapse within a year of detoxification, regardless of the type of the treatment used, because of the addict's environment. According to Lyvers, Wikler proposed that withdrawal symptoms become classically conditioned to the environment in which the addict hustles

for and self-administers opiates (as cited in Lyvers, 1998). In addition to this Maulik, Tripathi and Rajpal (2002), also found that environmental factors are important for first use and for relapse prevention. Further research with the important people instrument has shown that social support for abstinence is related to treatment outcomes. Size of the daily network predicted less drinking, less drug use and less problem severity during the 6 months after treatment. Increasing the number of people the patient sees daily while replacing substance-involved with abstinent-supportive people may improve treatment outcomes (Zywiak et al., 2009). Another important meta-analysis has pointed out that behavioral couple therapy produces better outcomes than individual based treatment for alcoholism and drug abuse problems (Powers, Vedel and Emmelkamp, 2008). So the treatment should involve family and should emphasize on interpersonal relationships. Therefore from the above we can reckon that the social support system of the addicts i.e. the family, important people and environment has a major influence, on the treatment outcome.

This factor is particularly very important in the Indian context, as family plays a major role in an individual's, social support system. Individual has maximum interaction with the family and in addiction this interpersonal interaction is badly hampered and needs is to be attended to very importantly. And lacking of this important component might have affected the outcome of our therapy.

One reason for the non-success of our therapy in context of Indian society can be attributed to the fact that in our society alcohol use is socially acceptable and addicts after the treatment take alcohol causally and in its intoxication effect on brain end up in taking their

mother drug and relapse. Another important aspect of relapse prevention (RP) has been studied by Carroll and Colleagues (1994), who found a significant psychotherapy-by-time effect at one year follow-up, indicating a delayed response to treatment among patients who received RP. Then, Rawson and Colleagues also identified a “sleeper effect” for RP in patients with cocaine dependence (Rawson et al., 2002). These findings of delayed effect of RP are consistent with the notion that learning new coping skills to deal with high risk situations takes time and leads a decreased probability of relapse overtime. Polivy and Herman (2002) have demonstrated that 90 percent of individuals who attempt to change their behavior struggle with lapses and do not achieve change on their first attempt.

This renders us to another possibility that our therapy did not show its effect as soon as three months from their treatment, as this was a short duration follow up. Although the therapy was given to the addicts who volunteered to join the therapy sessions, but there is a possibility that among these who joined the therapy were some unidentified addicts who were yet in the pre contemplation and the contemplation stage of recovery. Whereas it has been studied that RP is most effective in the action and the maintained stage of recovery, where motivational interventions were needed more extensively.

Also, over the years it has been seen through scientifically researched studies (NIDA Report) that no single treatment is enough for addiction. It is also seen that choice of treatment should be based primarily on the needs of the individual clients (Paul and Kathleen, 2003). So we can understand that for an effective treatment plan, we must first attend to the individual needs of the addicts and also

assess the readiness for change parameter of the addict to assign him into the most effective treatment plan for him/her. Also more emphasis should be give to social support and interpersonal relationship and the environment of addicts which become a major cause for relapse.

So from the above discussion we can gather that, RPT alone may not be always sufficient to treat drug addiction. Additional therapeutic intervention and techniques like social support, motivation enhancement therapy, and individual focused therapy, family based therapies and other behavioural techniques etc. should be combined with RPT.

Our results bring us to reflect on another perspective. As we have seen sometimes even after vigorous therapeutic interventions, individuals do not leave drugs and on the other hand some people leave drugs even without any external intervention, the same condition was witnessed in our sample. The same percent of drug addicts became successful to abstain from drugs without the therapy i.e. controls group and the addicts of the experimental group where therapy was given (shown in table 4.5).

This brings us to an important conclusion that individual differences i.e. personality traits and coping strategies exerted a great influence in our sample to abstain from drugs.

Thus we accept our other two hypotheses, stating that there exists an association and links between personality traits and treatment outcomes, and maladaptive coping strategies and relapse.

After getting clear that individual differences were more important to bring success, we would like to know which variables were congenial to facilitate abstinence in drug addicts. For this purpose we applied discriminant analysis to the different groups.

DISCRIMINANT ANALYSES

Discriminant analysis is a multivariable statistical technique appropriate to obtain information as to, are the two groups significantly different on the basis of variables under investigation? What is the number of misclassification in each group? and which variables are associated with group 1 and which are associated with group 2, along with their respective discriminant weights?

Discriminant analysis was applied to following groups:

- (a) Relapse cases of experiment and control group Vs successful cases of experiment and control group (combined).
- (b) Relapse cases Vs successful cases of experimental group alone. (c) Relapse cases Vs successful cases of control group.
- (d) Relapse cases of experiment group Vs relapse cases of control group.
- (e) Successful cases of experiment group Vs successful cases of control group.

A total of thirteen variables (eight pertaining to coping strategies and five pertaining to personality) were employed in the study to test their discriminating powers for the above defined groups.

Again stating the analysis was done with the purpose of finding the significance of difference between the groups and the discriminant co-efficient of all the variables included in the study, so as to identify the variables, which are best predictors of successful cases and relapsed cases. The results of the discriminant analysis are presented in table 4.6 to 4.10. The variables along with their discriminant co-efficient are arranged in descending order in the tables i.e. variable having maximum weightage in predicting group membership is placed at the top, while the variables at the lower end are having minimum weightage.

(a) Discriminant analysis applied on relapse Vs successful group (group A experimental and group B Control combined)

Table 4.6 shows the results of discriminant analysis applied to both the groups, where group A consists of relapse cases of both the groups and group B consist of successful cases of both the groups. The results reveal that group differs dominantly on the variable Neuroticism, implying Neuroticism to be highly associated trait among relapsed cases. This indicates individuals who are high on Neuroticism are prone to relapse. This shows the individuals belonging to this group are high on negative emotionality. They are more anxious that makes them more fearful, prone to worry, nervousness, tensed and they are more jittery. These people have the tendency to experience anger and related states such as frustration and bitterness more often. They experience depressive affect easily; feelings of guilt, sadness, hopelessness and loneliness accompany them mostly. So we can see that negativity surrounded the relapsed drug addicts conspicuously. Negative emotionality, Sensation-seeking and lack of self regulation have the highest correlation with drug abuse and dependence

(Chassin et al., 2004; Trull and Sher, 1994), the individuals high on this traits are vulnerable to drugs, which has been the case in our study as well. Neurotic individuals are high on emotions of shame and embarrassment. These individuals are uncomfortable around others, sensitive to ridicule and prone to feelings of inferiority. Impulsiveness is another characteristic associated with neuroticism and empirically witnessed opiate addicts tend to be impulsive and aggressive with impaired social relationships (Fieldman et al., 1995) as already mentioned above. So we can see that the individual who relapsed in our sample were experiencing more negative emotionality, showed angry hostility, had low sociability and very importantly were high on impulsiveness, as this reflects there inability to control cravings and urges. In these individuals desires were perceived as being so strong that the individual could not resist them, although they might have regretted that later.

The individuals with neurotic characteristics are highly vulnerable to stress. They feel incapability to cope with stress. The role of personality in coping process has been studied over the years. Studies have linked the personality trait dimension of Neuroticism to increased use of Avoidance and other maladaptive coping strategies (Bolger, 1990). The use of Avoidance technique has been identified as risk factor for relapse in substances abuses (Cooper et al., 1992). Particular trait dimension Neuroticism is believed to be critical to the stress coping process. Quirk and Mc Cormick (1998) found that substance abusers scoring the highest on Neuroticism and the lowest on Agreeableness, Extraversion and Conscientiousness compared to other substances abusers reported having the highest level of Escape avoidance coping.

Further the table shows that Planful coping, Positive Reappraisal, Seeking Social Support, Distancing, Confronting Coping, Self Control, Accepting Responsibility, Conscientiousness are important predictors of the Group B (successful cases). Now reflecting on the predictors of group B i.e. successful cases, we can see that personality trait Agreeableness, Openness and coping strategy, Escape Avoidance are low predicting variables of the successful group. It can be seen that Planned solving of the problems, Seeking Social Support and Positive Reappraisal are dominant strategies used by the group of the cured addicts. This indicates those individuals who use these coping strategies are successful to abstain from drugs. Other variables i.e. Extraversion, Escape Avoidance, Openness and Agreeableness are also found to be predictors of successful group but these are less important because of low discriminant co-efficient.

Table 4.6

Showing the Variables along with the Discriminant Coefficients found to be Significant in Relapse and Successful Cases of Combined Experimental and Control Group

Variables significant for Group I (Relapsed)	Discriminant Coefficients	Variables significant for Group II (Successful)	Discriminant Coefficients
Neuroticism	.15	Planful Coping	1

		Positive Reappraisal	.678
		Seeking Social Support	.571
		Distancing	.467
		Confrontive Coping	.453
		Self Control Coping	.452
		Accepting Responsibility	.362
		Conscientiousness	.342
		Extraversion	.336
		Escape Avoidance	.116
		Openness	.087
		Agreeableness	.061

Wilk's Lambda = .954 < .008

Stress can be a major trigger for both the initial development of addiction as well as maintaining it. So to cope with stress is a very important factor to study in drug addicts. This group highest predicting weightage of success is given to the variables Planfull coping, Positive reappraisal and Seeking social support. This implies the successful group made deliberate problem focused

efforts to alter the stressful situation, coupled with an analytic approach to solving the problem. They created positive meaning out it by focusing on their personal growth. And also they made efforts to seek informational support, tangible support and emotional support. Our findings are empirically supported that male alcoholics and abusers who utilized fewer Self Blame coping and more supported significantly less alcohol three month following treatment.

This group also used Distancing, with making a cognitive effort to detach one self and to minimize the significance of the stressful situation which could have been their initial efforts, but studying the use of other vigorous coping strategies to manage stress has mellowed down the impact of this coping. These individuals also showed some aggressive efforts to alter the situation but at the same time they also used the self controlling coping strategies with which they could regulate their feelings and actions. Here it is important to note that the analysis of these groups is combined of both the experiment and control group. So it is inclusive of the drug addicts who underwent the RPT. This reflects that therapy might have exerted some usefulness in subsiding the non-effective coping strategies.

Further, the personality dimension of Conscientiousness was seen in this group which is associated with increased use of Problem solving, Positive reappraisal of stressful episodes and Support Seeking Coping techniques (Vickers et al., 1989) and increased use of active, Planful Coping (Watson and Hubbard, 1996). Our study has replicated the same findings. So, on the personality dimension the successful group comprised of Conscientious individuals who are competent, orderly, dutiful, achievement

stressing, self disciplined. And Conscientiousness has been found to be positively associated with Problem solving, Planning and Seeking Social Support coping strategies (George et al., 2001) as was witnessed in our sample.

On the other hand, this group and relatively used less Escape Avoidance Coping strategy, were low on Openness, Extraversion and Agreeableness personality dimensions.

Now from the results we can infer that the successful cases, used more of positive coping strategies and had personality dimension, Conscientiousness associated with them, which facilitated them to remain abstinent.

Thus the conclusions that could be drawn from results of table 4.6 are:

1. Relapsed drug addicts differ significantly from the successful drug addicts.
2. Neuroticism is a single dominant trait predicting relapses in the drug addicts.
3. Coping strategies like planfull coping, Positive Reappraisal and Seeking

Social Support are highest predictor of success in drug addicts.

4. Personality variable Conscientiousness is positively associated with success of drug addicts.

5. Escape avoidance coping strategy is found to be low predictor of success in drug addicts.
6. Openness and Agreeableness personality traits were found to be least predicting traits of success.

Table 4.7

Showing the Variables along with the Discriminant Coefficients found to be Significant in Relapse and Successful Cases of Experimental Group

Variables significant for Group I (Relapsed)	Discriminant Coefficients	Variables significant for Group II (Successful)	Discriminant Coefficients
Neuroticism	.219	Positive Reappraisal	1
		Planful Coping	.653
		Seeking Social Support	.647
		Distancing	.633
		Confrontive Coping	.532
		Self Control Coping	.514

		Accepting Responsibility	.466
		Extraversion	.37
		Conscientiousness	.352
		Escape Avoidance	.215
		Agreeableness	.171
		Openness	.127

Wilk's Lambda = .94 < .01

(b) Relapse cases Vs successful cases of experimental group.

Table No. 4.7 shows the results of discriminant analysis applied on thirteen variables of experimental group separately, where group 1 consists of relapse cases and group 2 consists of successful cases in the experimental group. Discriminant analysis on these groups was applied to further clarify that which variables were important for relapse and which variables were helpful in success to abstain from drugs. The table shows more or less consistent results with the preceding findings of combined cases of both the experimental and control group. Wilks Lambda value .94 which is significant at .01 level, indicating that the two groups are significantly different from each other. Once again Neuroticism is found to be a dominant predictor of the relapsed group which is again solidifying that neuroticism has negative impact on abstaining from drugs. On 1997 Ball et al., studied the personality, temperament and character

dimensions and DSM-IV personality disorders in substance abusers and found Neuroticism was associated with many disorders. So we can comprehend that facets like anxiety, angry hostility, depression, vulnerability, impulsiveness contrib.- uted to quite an extend to the relapse of the drug addicts.

On the other hand, the successful group again showed coping strategies like Positive Appraisal, Planfull Coping, Seeking Support, Distancing, Confronting Coping, Self Control and Accepting Responsibility to be strong predictors of successes.

These consistent results, further press upon the importance of these coping strategies in abstaining from relapse. Also the personality traits of Extraversion, Conscientiousness exert positive effect on success in drug addicts. Once again the coping strategy escape avoidance proved to be a weak predictor of the successful group. The use of Avoidance Coping skills has been identified as a risk factor for relapse in substance abusers (Cooper et al., 1992). We can infer from this is that escape avoidance coping is not used by the successful group predominating. Personality trait Agreeableness and Openness again are bearing very low coefficient value indicating these traits to be less important for the success of this group where RPT was given.

On the whole seeing the results of the successful group, we come to know that effective coping strategies were used by this group i.e.

Positive Reappraisal, Planfull

Coping, Seeking Social Support, Self Control, Accepting Responsibility, which have been identified to be useful for abstaining from

drugs (Ebrahimi, A., 2002). Whereas this group was witnessed to use some of the non-effective coping strategies like Distancing and Confrontive Coping as well. But viewing the proportion of other effective copings, which is more, we can understand the effect of these coping was mellowed down. As it is clear from the results, if these addicts used Distancing and Confronting Coping and at the same time used Positive Reappraisal, Planful Coping and Seeking Support, which has higher coefficient value, then the effect of positive coping strategies dominated the former non-effective strategies.

Conclusions that can be drawn from the results of table 4.7 are:

1. The two groups i.e. relapse and successful groups of experimental group are significantly different from each other.
2. Neuroticism is a single dominant trait predicting relapse in the drug addicts.
3. Coping strategies Positive Reappraisal, Planfull Coping and Seeking Social

Support are most important predictors of successful group in drug addicts.

4. Personality traits of Extraversion and Conscientiousness were positively associated with successful group.
5. Escape Avoidance coping was found to be a low predictor of success in drug addicts.
6. Openness and Agreeableness personality variables were found to be least predicting traits of success.

Table 4.8

Showing the Variables along with the Discriminant Coefficients found to be Significant in Relapse and Successful Cases of Control Group

Variables significant for Group I (Relapsed)	Discriminant Coefficients	Variables significant for Group II (Successful)	Discriminant Coefficients
Neuroticism	.436	Agreeableness	.61
Escape Avoidance	.255	Accepting Responsibility	.103
Self Control Coping	.196	Conscientiousness	.088
Confrontive Coping	.151	Positive Reappraisal	.062
Planful Coping	.126	Extraversion	.026
Seeking Social Support	.064		
Distancing	.013		
Openness	.001		

Wilk's Lambda = .772 < .01

(c) Relapse cases Vs successful cases of control group

Table 4.8 shows the results of discriminant analysis applied on scores on thirteen variables, obtained from two groups of control condition in which, no therapy was given only clinical management was given. Here group 1 consists of relapse cases and group 2 consists of successful cases. The results show that the two groups are significantly different from each other. This can be inferred from the Wilks Lambda value which came out to be .772 which is significant at 0.01 level.

Neuroticism and Escape Avoidance coping strategy are identified to be predominant variables predicting the relapsed group. Followed by Self Control Coping, Confronting and Planful Coping, which bear low weightage to predict relapse and at the bottom like the Seeking Social Support Coping and Distancing Coping and the Personality variable Openness show negligible co-efficient, indicating the least important predictors of this group. So once more, we witnessed Neuroticism and Escape Avoidance coping to be highly associated with relapse. Studies have reported Neuroticism to be consistently associated with increased use of passive, ineffective coping mechanisms (Endler and parker, 1990; Costa and Mc Crae, 1989). In association between Neuroticism and responses to the Ways Of Coping checklist (Folkman and Lazarus, 1980; 1985), Neuroticism correlated with increased use of Wishful Thinking, Self Blame, Avoidance and Emotion Focused Thinking (Bolger, 1990; Hooker et al., 1994 and Smith et al., 1989). The use of ineffective coping skills is not unexpected considering correlated of the trait dimensions of Neuroticisms; neurotic individuals tend to respond to negative events with sadness, guilt, anxiety and anger. So from this information we gather that

relapsed cases were high on Neuroticism which leads them to use escape avoidance coping strategy to handle stress. And rendering them to this ineffective coping leads addicts towards relapse.

This group also used some other in-effective coping strategies i.e. Confronting Coping and Distancing Coping, indicating some level of aggressive/ hostility and risk taking, and some level of cognitive efforts to detach themselves from the stressful situation, although the co-efficient values on these variable is low and almost negligible for the later variable, still we cannot ignore the negative effect it had on the addicts to abstain from drugs. Some of the effective strategies like Self Control, Planfull Coping and Seeking Social Support were also used by this group, but reflecting on the co-efficient values, their influence is negligible as compared to other ineffective coping strategies.

Now attending to our second group, this comprised of successful cases of the control group. The results show the personality trait of Agreeableness to be most conspicuous predictor of this group. Indicating the successful individual are straight forward, sincere and ingenious, they have concern for others feelings, they inhibit aggression and believe in forgive and forget. These individuals are also humble and are high on self efficacy. All these characteristics have been found to be congenial for abstaining from drugs; hence it was proved in our investigation. Further the personality traits of Conscientiousness and Extraversion are found to be associated with this group i.e. in other words associated show low values, but the positive impact cannot be overlooked. It has been found that individuals high on Extraversion, Agreeableness and Conscientiousness reported utilized fewer Escape Avoidance coping on the

least maladaptive coping patterns (Quirk and Mc Cormick, 1998). Consistent results came in our investigation, along with personality trait of Agreeableness, Conscientiousness and Extraversion, this group used effective coping strategies like accepting responsibility and positive reappraisal, which had a positive impact on these addicts to abstain from drugs, even though they received no abstain from drugs, even though they received no psychological therapy. So, we can conclude that these individual differences, i.e. these personality characteristics and these coping strategies played a very important part in keeping them away from drugs.

Conclusions drawn from the results of table 4.8 are:

1. The two groups were found significantly different from each other.
2. Personality trait of Neuroticism was once again found to be a strong predictor of the relapsed cases and personality trait of Openness exerted negligible effect.
3. Coping strategies, Escape Avoidance was a high predictor of relapse.
4. Further coping strategies Self Control, Confronting Coping, Planful Coping, Seeking Social Support and Distancing were associated with relapse, but imperatively exerted low effect on them.
5. Personality trait, Agreeableness was found to be a strong predictor of success.

6. Personality traits, Conscientiousness and Extraversion were also found to be associated with success.
7. Coping strategies Accepting Responsibility and Positive Reappraisal were found to be associated with successful group.

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Table 4.9

Showing the Variables along with the Discriminant Coefficients found to be Significant in Relapse Cases of Experimental and Control Group

Variables significant for Group I (Experimental)	Discriminant Coefficients	Variables significant for Group II (Control)	Discriminant Coefficients
Neuroticism	.506	Confrontive Coping	.356
Agreeableness	.486	Escape Avoidance	.258
Conscientiousness	.185	Openness	.215
Seeking Social Support	.053	Self Control Coping	.145
Planful Coping	.035	Extraversion	.093
		Positive Reappraisal	.074
		Distancing	.063
		Accepting Responsibility	.018

Wilk's Lambda = .891 < .01

(d) Discriminant analysis applied on relapse cases of experimental group Vs relapse case of the control group.

Table No. 4.9 shows the results of discriminant analysis applied on scores on thirteen variables, obtained from two groups of relapsed cases, where group 1 consists of relapsed cases of experimental group and group 2 consists of relapsed cases of control group. The results show that, the two groups are significantly different from each other. This can be inferred from the Wilks Lambda value which came out to be .891 which is significant at 0.5 level.

Discriminant analysis on these two groups was done to see if there was any difference in the addicts who opted for undergoing group therapy and the addicts who opted not to undergo any therapeutic intervention and rely only on clinical management, but eventually failed in keeping themselves away from drugs.

The results show, the group which opted to join RPT group sessions, Neuroticism and Agreeableness personality traits are the dominant predictors of this group and Conscientiousness and coping strategic; Seeking Social Support and Planful Coping are lighter predictors of this group. As we can see although this group seem to be using some useful coping strategies but their effect here is very less.

Once again Neuroticism has been found to be highly associated with the relapsed group.

Although this group is high on Neuroticism, reflecting some negative emotionality, hostility and impulsiveness in these addicts, but

at the same time they have shown considerable values of the traits Agreeableness and Conscientiousness, which highlights the characteristics like trust, that they believe that others are honest and well intentioned and would help them out of drugs. And they are concerned for other welfare that may be there near and dear ones and also they are compliant with the therapeutic environment, attending group therapies. Conscientiousness reflected some characteristics like competence i.e. they believe that they could do it, they were orderly, self-disciplined, dutiful to the experts and had sense of stressing to achieve their goals i.e. to abstain from drugs. These entire characteristic rendered them to enter the therapy group but viewing very high Neurotic tendencies in them, these individuals were unsuccessful to abstain from drugs as Neuroticism is significantly associated with relapse in drug abusers (Battlender and Soyka, 2005). Now, viewing the results of the control group, where therapy was not a desired option, Confronting Coping and Escape Avoidance were the most dominant predictors of the addicts. Followed by, personality trait Openness and Self Controlling Coping strategy. At the bottom lie the variable having least weightage predicting this group that are Extraversion, Positive reappraisal, Distancing and Accepting responsibility.

Reflecting on these results we can comprehend that these individuals who did not opt for group therapy used very ineffective coping strategies to handle stress, like aggressiveness, using hostility and got involved in some amount of risk taking behaviour. Also they indulged in non-effective cognitive efforts like wishful thinking and used behavioural efforts to escape or avoid the situation, which suggests there decision not to enter the therapy as they wanted to escape from these drug related problem which would be discussed

in the therapy or they did not want to give so much of importance to this problem, which would need psychological intervention. Using aggressive measures they thought they could make alteration in their behaviour and abstain from drug. But essentially it went against them. Further this group is associated with personality trait of Openness, which reflects that these individuals wanted to try out their own ideas to handle their drug problems. And they also showed associated self control coping strategies to handle stress, which gave them confidence that they could rely on themselves to handle this problem of drugs in their life.

Now we came on the minor predictor of this group, which show that these individuals used some effective coping i.e. Positive Reappraisal and Accepting Responsibility but their proportion is much less than the ineffectiveness. Another ineffective coping strategy used by them is Distancing, which had adverse effect on their efforts, as they used cognitive efforts to detach themselves and they tried to minimize the significance of the situation, along with Escape Avoidance these traits went against them, to join the therapy group as they thought leaving drugs was not a very big problem for them, they could do it on the own. The personality trait of Extraversion induced in these individual's optimism that they could handle this situation on their own, and assertiveness making them dominant, forceful, excited high on self efficacy that they do not need any professional psychological help.

Conclusions drawn from the results of table 4.9:

1. The two groups are significantly different from each other.

2. Neuroticism, Agreeableness and Conscientiousness personality variables are important predictors of relapse cases of experimental group.
 3. Seeking Social Support and Planful Coping were low predictors of relapse cases of experimental group.
 4. Confrontive Coping and Escape Avoidance are important predictors of relapse cases of central group.
 5. Openness personality trait is associated with this control group.
 6. Self controlling coping strategy is also associated with the control group.
 7. Extraversion, Positive Reappraisal, Distancing, Accepting Responsibility are low predictors of the relapse cases of control group.
 8. Neuroticism, Confronting Coping and Escape Avoidance Coping are highly associated with relapse.
- (e) Successful cases of experimental group Vs successful cases of control group

Table No. 4.10 shows the results of discriminant analysis applied on scores on thirteen variables obtained from two groups of successful cases, where group I consists of successful cases of experimental group and group 2 consists of successful cases of control group.

The results show that the two groups are significantly different from each other. This can be inferred from the Wilks Lambda value which came out to be .007 was significant at .05 level.

Discriminant analysis on these two groups was applied to see which were the most important variables that, helped addicts to abstain from drugs successfully. This would be clarified from the difference found in the groups which underwent therapy and the ones who became successful even without the therapy, indicating that personality variables and the coping strategies they use were high determinant of their success.

Looking at the results of group I, we gather that Neuroticism was a most dominant predator of the successful individuals in the experimental group. Followed by Accepting Responsibility, Escape avoidance and Confronting coping.

Retrospecting our previous analysis, similarity in the experimental group is witnessed. In both the experimental groups i.e. (relapsed and successful) Neuroticism is found to be a dominant trait. So from this we can understand that these individual entered the psychotherapy group, as they were accompanied by negative emotionality i.e. guilt, embarrassment, anxiety and apprehension about their future. So, all these vulnerable characteristics lead them to decide to take professional help. This is also reflected from the next important variable which is predicting this group i.e. Accepting Responsibility. So we can render that these individuals acknowledged their own role in the problem and made a concomitant of trying to put things right. And this leads them to success for maintaining abstinence. Further as we see this group is associated with the Escape Avoidance coping which is quite likely as

we have discussed earlier that Neuroticism is highly correlated with escape avoidance coping (George et al., 2001). Then at the last Confrontive Coping is found to be a low predictor of this group, indicating that these individual used some aggressive means to alter their situation, which to some extent as we can see worked positively for them. In this group Accepting Responsibility seem to have worked very well, because we know individuals who never accept their own responsibility and blame other for their problems, always except others to solve their problem which is never possible.

Shifting our attention to the results of 2nd group, which got successful without the RPT, we can gather the personality traits of Conscientiousness, Agreeableness and Extraversion are strong predictors of this group. Openness personality trait is comparatively less associated with them, but still the influence is evident. Further, the coping strategies, which are found to be associated with this group in hierarchy are, Distancing, Planful Coping, Positive Reappraisal having more weightage than Self control and Seeking Social Support which show low co-efficient indicating weak predictors of this group.

Table 4.10

Showing the Variables along with the Discriminant Coefficients found to be Significant in Successful Cases of Experimental and Control Group

Variables significant for Group I (Experimental)	Discriminant Coefficients	Variables significant for Group II (Control)	Discriminant Coefficients
Neuroticism	.881	Conscientiousness	.87
Accepting Responsibility	.242	Agreeableness	.74
Escape Avoidance	.229	Extraversion	.217
Confrontive Coping	.194	Distancing	.211
		Openness	.18
		Planful Coping	.17
		Positive Reappraisal	.15
		Self Control Coping	.04
		Seeking Social Support	.01

Wilk's Lambda = .997 < .01

From the above, we can reckon, Conscientiousness, Agreeableness, Extraversion, followed by Openness personality variables are most important traits associated with the success for leaving drugs. This finding is consistent with the earlier analysis we have exhausted, Agreeableness, Conscientiousness and Extraversion have been found to be highly associated with maintaining success in

abstaining from drugs. Our results are supported by McCormick et al. (1998) that high levels of Conscientiousness, Agreeableness and Extraversion are associated with greater confidence in ability to refrain from use. Especially the personality trait Conscientiousness is associated with preventing relapse (Bottlender and Soyka, 2005).

In the discriminant analysis of these two groups, the significance of these variables is most important. These individuals being high on Conscientiousness are high on competence, which refers to the sense that one is capable, sensible, prudent and effective, they are well organized individuals dutiful making them high on being governed by conscience, also they are high on aspiration level and worked hard to achieve their goals, these individuals are self-discipline so they have ability to motivate themselves to get their jobs done, and they thought carefully before acting. So we can relate that these characteristic played a very important role in keeping them away from drugs, even though they didn't under go any therapeutic intervention.

Further Agreeableness personality trait, as we have discussed earlier makes these individuals sincere, ingenious, complaint, modest and most important tender minded which worked for them positively. Extraversion is another personality trait which is associated with success in the drug addicts to abstain from drugs. This trait reflects that these individuals are full of optimism, positive emotions, they are assertive, had high level of energy which again worked in favor of them to keep away from drugs. Openness inculcated some good traits in them like good aesthetic sense, fantasy, ideas, willingness to try novel activities and ideas, these qualities made it easy for them to channelize their energies to more positive fruitful activities, which kept them away from drugs and

they could easily fill the void they felt after leaving drugs.

Now, moving on to the important coping strategies associated with success. This group used mostly effective coping strategies like Planful Coping, Positive Reappraisal, Self Controlling and Seeking Social Support and it has been studied that positive coping strategies are associated with reduced likelihood of using substance abuse (Mohammad, 2009), although the coefficient bourn by these variables are low but we cannot ignore the positive effect they exerted on the success of this group. The only non-effective coping used by this group was distancing coping but viewing the proportion of other effective Coping and Positive personality traits, it is use was negligible by the addicts. So we can comprehend that these addicts used planful and analytic approach to solve their problems, they created a positive meaning out of the situation by growing personally, they exerted control on their feelings and actions and made a few efforts to seek information, support which was negligible as they mostly relied own their own assets. The sign of Distancing Coping used by these individual reflects that they tried cognitively to detach themselves and minimize the significance of the situation, but these efforts were less significant as we have a overall look at other important character they possess.

Conclusions drawn from the results of table 4.10:

1. The two groups were significantly different from each other.

2. Personality trait of Neuroticism was strong predictor of experimental successful group.
3. Accepting Responsibility, Escape Avoidance, and Confrontive Coping were predictors of experimental successful group.
4. Personality traits of Conscientiousness, Agreeableness and Extraversion were strong predictors of control successful group.
5. Openness personality trait was comparatively low predictor of this group.
6. Coping strategy distancing was relatively high predictor of control group.
7. Planful Coping, Positive Appraisal, Self Controlling and Seeking Social Support Coping were associated with success of control group but were relatively low predictor of this group.

CHAPTER 5

CONCLUSIONS

CONCLUSION

The results of our study indicated that Relapse Prevention Therapy (RPT) was relatively less useful for the treatment of drug addiction in our sample. The possible reasons for this could be attributed to the facts that in RPT, the component of social support has been less emphasized. Whereas social support at the family, as well as significant others plays a very important role in producing good results in abstaining from drugs (Zywiak et al., 2009). Another perspective could behold that the effectiveness of RPT could be seen later after the three months of treatment as sleeper's effect has been witnessed for RPT in substance abusers (Rowson et al., 2002). Our results also reflect that drug addiction treatment needs to be a collaborative approach. No single approach is sufficient for the treatment. Initial assessment of the individual's needs, functional analysis and the assessment of the stage of addiction should be done before exposing him to the respective treatment.

Another very important aspect which came forth from our results was that the individual differences played a very dominant role in preventing relapse and abstaining from drug use in our sample. It was observed that relapsed addicts differed significantly from

the successful drug addicts giving support to the preceded statement.

The personality trait neuroticism was a dominant trait predicting relapse. This finding is consistent with empirical review stating this trait to be highly associated with relapse (Fisher, Elias and Ritz, 1998; Mecormuck et al., 1998; Bottlender and Soyka, 2005). This reflects, that relapsed addicts in our sample were high on Anxiety, Angry hostility, Depression, Self consciousness, Impulsiveness and Vulnerability. All these traits rendered them maladjusted in the environment outside them as well as inside them. Neuroticism might have influenced their ability to develop and access their coping resources, as we know that more neurotic people are less able to find and cultivate strong, healthy friendship and are less able to draw in social support in the time of stress. And we have already studied that social support is one of the important factor which helps addicts to abstain from drugs. Also Neuroticism has been shown to be a predictor of cue-elicited craving, suggesting that individuals high on Neuroticism may be biologically predisposed to attend to such stimuli thereby increasing their risk for relapse (Powell, Bradky and Gray, 1992). So from this we understand that relapsed addicts in our sample might have given in for craving cues easily and another trait associated with high vulnerability in our sample is high impulsivity, which is through of as two related dimensions reflecting an increased sensitivity to reward and a separate trait related to impulsive decision making (Dawe et al., 2007). This means they could not delay their gratification to case of pain (psychological or physiological) and wanted immediate reward and made impulsive decision to take drugs. Neuroticism also associated with lowered lack of confidence in self restraint, (McCormick et al., 1998). Neuroticism is found to be related to a greater

perception of threat in a given stressor and Neuroticism was related to the use of more emotion- focused coping strategies (Schewchuk et al., 1999). So we can understand that addicts in our sample were high with emotional negatively and were highly vulnerable to stress and had low self efficacy and as we know that addict's life is full of stressors, so when they faced these stressors they could not cope effectively with them and took drugs as their conditioned coping strategy. They had their own irrational ideas about the environment as they were filled with negative effect like resentments for others, grudges, guilt, shame which all rendered them vulnerable and were less able to control their impulses and could cope poorly with stress so they relapsed.

On the other hand personality traits, consciousness was found highly correlated with the successful group, indicating positive effect on abstaining from drugs. Conscientiousness reflected in our successful addicts the traits like competence, order, dutifulness, achievement striving, self-discipline, which helped them to abstain from drugs. Achievement striving trait made these addicts highly aspired to work hard and achieve their goal of abstinence. Also very important aspect of their personality is reflected from this score, that they had a sense of direction in life, which had a very dominant effect on their life and motivated them to leave drugs. They being self disciplined and competent, made it easy for them to achieve their goal. Conscientiousness has also been to predict more problem-solving and cognitive restructuring (Connor-Smith and Flachsbart, 2007).

A survey analysis showed that Neuroticism and consciousness were significant predictors of relapse. Odds ratio showed that the risk of relapsing was greatest for those patients who were low in Conscientiousness and high in Neuroticism (Fisher,

Elias and Ritz, 1998), these results were reproduced in our study. Further the Agreeableness and Extraversion traits of personality were also found to be positively associated with the successful group, showing its positive effect on addicts to abstain from drugs. Agreeableness, shows that successful addicts were high on trust, straightforwardness, altruism, compliance, modesty and tender mindedness. This mean that successful addicts had low level of negative emotionality, as these traits reflect a very healthy state of mind. They trusted others, did not carry any negativity towards them like resentments, grudges and did not show aggression. They were also cooperative with the people in their lives and had love for all. These traits really helped them come out of drugs, as they had a positive energy within themselves, which helped them through it. And now, coming to the trait of Extraversion, which rendered these successful individuals with Warmth, Gregariousness, Assertiveness, Activity, Excitement-seeking and Positive emotions. This means that these individual were affectionate and friendly, so could access their social support which they obviously had more than neurotics and as we have studied that social support is one of the most important factor associated with abstinence. Its seen that Extraversion predict, Support Seeking (Connor-Smith and Flachsborn, 2007). Gregariousness again reflects their strong social support. We also come to know that these individuals were assertive to reach their goals, also very important aspect is reflected of successful addicts here, that high assertiveness shows they were able to control their impulses and could say “No” to drugs when came in contact either by themselves or by anyone’s offers, and protected themselves from relapse. Excitement seeking shows that these individuals found some recreational and stimulating activities that could fill the void which generally leads addicts to negative emotional states, but these addicts were full of positive emotions which gave them the positive energy to

abstain from drugs and find something meaningful in life to live for. It has been studied by McCormick et al. (1998) that Conscientiousness, Agreeableness and Extraversion were associated with greater confidence in ability to refrain from use, where as Neuroticism was associated with a corresponding lack of confidence in self restraint, hence it supports our findings.

As we have reviewed earlier there exists a link between personality traits and coping strategies. Personality may facilitate or constrain coping for e.g. it has been studied that personality traits Extraversion and Conscientiousness predicted more problem-solving and cognitive restructuring, Neuroticism. Neuroticism predicted problematic strategies like Wishful Thinking, withdrawal and emotion focused coping and Extraversion, also predicted Support Seeking (Connor-Smith and Flachsbart, 2007). Similar findings were seen in our sample as well, where positive coping strategies and personality traits like Conscientiousness, Agreeableness and Extraversion were associated with the success and maladaptive coping strategies and Personality trait Neuroticism was associated with relapsed cases. Now we will direct our attention to the coping strategies used by our successful and relapsed addicts.

Most major theories and models of addiction identify stress as an important factor in increasing drug use and in relapse. Substantial pre-clinical data support the notion that stress exposure enhances drug self-administration and that stress reinstates drug-seeking behavior (Sinha, 2005). So, now we reflect the different coping strategies they use to deal with stress. Our results showed that positive coping strategies like Planful Coping Strategy, positive reappraisal and seeking social support was associated with the

successful group. Planful Problem solving reflects that the successful addicts made deliberate problem focused efforts to alter the situation when they were encountered with stressors. They used an analytic approach to solving their problems rather than using non-effective strategies like Escape Avoidance or Confrontive Coping. Further these individuals tried to find a positive meaning out of the situation by focusing on personal growth, used some religious ideologies also e.g. if they were not faced by these difficulties in their lives they might have not got any chance to grow in life or improve themselves. And the use of Seeking Social Support coping gave these individuals the biggest strength, as these individuals seek informational support, tangible and emotional support. This means that they totally surrendered to the important other in their life that helped them out of this. It also shows as we have studied above that these individuals trusted others and asked for help. When they asked for help meant that they had fully accepted their illness and they were ready to try every means to make things right in their life. On the other hand, Escape Avoidance Coping strategy was identified to be a strong predictor of relapsed group. This coping reflects that the relapsed addicts made use of wishful thinking things would just turn out their way without working any efforts on their parts and they also made efforts to escape or avoid problem in life. And the biggest escape they took was into drugs. Avoidance coping strategies has been associated with low self-efficacy (Levin, Ilgen and Moos, 2007), indicating that relapsed addicts had low confidence in facing any stressors in their lives and also handling cues to use or craving for drugs. Findings have supported our preceding statement that a within- day mechanism through which coping strategies, especially Avoidance coping, may influence daily variation in craving and in turn affect abstinence (Cleveland and Harris, 2009). It has been found that positive coping strategies were associated with reduced likelihood of using

substance abuse, where as negative coping strategies were associated positively with using substances (Mohammad, 2009), which was also the case in our study.

So, from the above we can gather that positive personality traits and positive coping strategies exerted a more dominant and positive effect on the success in our sample, where as RPT could not correspond to the addicts for abstaining from drugs.

IMPLICATIONS

Drug addiction is a grave concern to our society. Drug addiction is endangering the very roots of our society. A large number of youth is getting engulfed in this epidemic. The present study was a small attempt to handle this life threatening disease and some important implications were drawn out of this investigation, which are stated as follows:

1. Drug addiction treatment should incorporate more than one therapeutic intervention, in accordance to the individual need of the addicts.
2. There should be a more emphasis on strengthening and developing social support system in the life of addicts which should be emphasized in the treatment intervention. More people should be encouraged to get involved in the therapy sessions like spouse, family and close friends for better results.

3. Addicts should be assigned to different treatment techniques after assessing in which stage of recovery they are in.
4. Special emphasis should be made on the assessment of personality of addicts and so that the treatment intervention would try to rectify any maladaptive traits of personality. Like, in our sample Neuroticism trait of personality was a big hindrance, so special individual sessions would be needed to help them.
5. Initially addicts should be given individual counseling and then they should be made to join the group sessions.
6. The socio culture milieu of the patients should also be considered while developing RPT for them..

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