Chapter 6
Summary
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SUMMARY

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SUMMARY

6.1 INTRODUCTION

Substance dependence commonly called drug addiction is a compulsive need to use drugs in order to function normally. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), substance dependence is defined as: when an individual persists in use of alcohol or other drugs despite problems related to use of the substance, substance dependence may be diagnosed. Compulsive and repetitive use may result in tolerance to the effect of the drug and withdrawal symptoms when use is reduced or stopped. This, along with Substance Abuse is considered Substance Use Disorders.

Goldstein and Volkow (2002); Fernández-Serrano et al., (2010) concluded that drug addiction is seen as a chronic relapsing disorder with persistent brain alterations associated with cognitive, motivational and emotional alterations. All addictive drugs effect our cognitive functioning by which our perception, memory, thinking, problem-solving capacity, adjustment, language, logic, decision making ability process affect. The focus of present research is to find out the comparison of cognitive impairment in stimulants (cocaine) and depressant (alcohol) abusers and the management of addicts by counselling.

6.2 PROBLEM

The following problems were formulated based on the topic, ‘Comparative study of cognitive impairment in stimulant (cocaine) and depressant (alcohol) abusers and the management of addicts by counselling’ for the present research:
1. What is the effect of cocaine abuse on cognitive impairment (memory, personality and concept formation)?
2. What is the effect of alcohol on cognitive impairment (memory, personality and concept formation)?
3. What is the effect of duration of abuse on cognitive impairment?
4. Is there any difference between cocaine abusers and alcohol abusers on cognitive impairment (memory, personality and concept formation)
5. Is there any effect of psychological counselling in the management of cocaine and alcohol addicts?

6.3 HYPOTHESES

Following hypotheses were formulated based on the present problems:

1. To study the cognitive impairment in cocaine abusers.
2. To study the cognitive impairment in alcohol abusers.
3. To study the effect of duration of abuse on cognitive impairment.
4. To compare the severity of cognitive impairment in cocaine and alcohol abusers.
5. To evaluate the effect of psychological counselling in the management of cocaine and alcohol.

6.4 METHOD

6.4.1 DESIGN

In the present study factorial design has been used. Independent variables are manipulated through selection and extraneous variables are controlled through selecting groups matched on extraneous variables. Duration of taking cocaine and alcohol is independent variables manipulated through selection. The duration of taking cocaine and alcohol varied at three levels e.g. one year, three years
and five years. The normal group was taken to compare with experimental group.

The dependent variables are response variable. The responses of the subjects were measured for memory, personality and concept formation by standardized psychological tests. Memory was assessed with P.G.I. memory scale which includes ten different sub-tests of memory. To measure personality Eysenck Personality Questionnaire was used. For concept formation Kansanian Hoffman’s concept formation test was used.

6.4.2 PARTICIPANTS(SUBJECTS)
The subjects of this study were distributed in groups selected from Delhi, Lucknow, Varanasi and Faizabad. The researcher asked subjects “from how many years do you take cocaine or alcohol”, and on the basis of their replies they were selected. The groups were formed on the basis of duration of using drugs. The groups were:

- Cocaine user (1 year)
- Cocaine user (3 year)
- Cocaine user (5 year)
- Alcohol user (1 year)
- Alcohol user (3 year)
- Alcohol user (5 year)

Control subjects

In each group there were thirty subjects. Purposive sampling technique was applied to select the subject. The groups of cocaine and alcohol addicts were the experimental group of the study while the group of normal subjects has been selected as a control to compare the clinical group.

6.4.3 TOOLS
To collect the data the researcher has used the following tests and techniques:
• **Case study sheet**- the addicts and control subjects were interviewed by the investigator. The detailed evaluation were recorded in a structured proforma which included the socio-demographic variables i.e., age, sex, education, socio-economic status (SES)domicile, occupation and duration of taking drug etc.

• **P.G.I. Memory Scale (PGIMS)** - PGIMS was used to test the memory ability of the subjects. This test was developed by Dwarka Prasad and N.N. Wig from Dept. of Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh. PGIMS was constructed and standardized in 1977. It contain ten subtests- remote memory, recent memory, mental balance, attention and concentration, delayed recall, immediate recall (sequential reproduction of sentences), retention of similar pairs, retention of dissimilar pairs, visual retention and recognition.

• **Eysenck Personality Questionnaire (Hindi adaptation):** For this study Eysenck Personality Questionnaire (Hindi adaptation) was used. This test was originally developed by Eysenck in 1975 and Hindi adaptation of this test was done by G.P. Thakur and Manju Thakur.

  There are 101 items in E.P.Q. (Eysenck&Eysenck, 1975), which measured Psychoticism, Extraversion, Neuroticism and Social Desirability set was translated into Hindi language. This test contains four scales: Psychoticism, extroversion, neuroticism.

• **Hanfmann,&Kasanin’s concept formation test:** The concept formation test was devised by Vigotsky and adopted by Hanfmann, E. &Kasanin, J. (1937). The box contains twenty two blocks differing in colour, shape, size and height and under:

  Colour: white- 4, yellow- 5, orange- 5, green-4, blue-4
Surface shape: triangular- 4, quadrilateral- 4, square- 4, hexagonal- 2, circular- 4, semicircular- 4.
Surface size: large- 11, small- 11
Height: tall- 10, flat- 12
Thus there are five colours, six shapes, two sizes and two heights. Each block carries one of the four printed names at its bottom, which is a three letter nonsense syllables. The names are log, mur, bik, and cev. Log means large and tall 5 blocks. Mur means small and tall 5 blocks. Bik means large and flat 6 blocks. Cev means small and flat 6 blocks.

- **Global Assessment of Functioning Scale (GAF Scale):** DSM-IV Axis V consisted of the Global Assessment of Functioning (GAF) scale, representing the clinician's judgment of the individual's overall level of "functioning on a hypothetical continuum of mental health-illness." GAF Scale was used to assess the pre and post condition of the subject in the process of counselling. It contains supplemental information on relevant medical conditions, psychosocial and environmental problems, and a global assessment of functioning (GAF), respectively. This scale ranges from 100 (excellent functioning, no problems or symptoms) to 1 (extremely impaired functioning).

- Ten sessions of counselling were provided to substance abusers for the management of addiction.

**6.5 FINDINGS OF THE STUDY**
Aim of the present study was to explore the cognitive impairment in stimulant (cocaine) and depressant (alcohol) abusers and the management of addicts by counselling.
The salient findings of present study are:
Socio-demographic studies

In cocaine abusers group, they were 19 (21.1%) in 21-30 years of age, 44 (48.9%) in 31-40 years of age and 27 (30%) in 41-50 years of age. In alcoholic group the 21 to 30 aged subjects were 40 (44.4%), 31-40 aged were 32 (35.56%) and 41-50 aged were 18 (20%).

In present study 88 (99.78%) cocaine abusers were male and 02 (0.22%) were female whereas alcohol abusers were 82 (91.11%) male and 08 (8.88%) female out of 90 subjects.

In this study educational level of subjects were ranging from intermediate to post-graduate. In cocaine abusers group 10 (11.1%) subjects were from intermediate level, 65 (72.2%) from graduation and 15 (16.67%) from post-graduation level. The group of alcoholics included subjects from intermediate level 18 (20%), graduates were 45 (50%) and post-graduates were 27 (30%).

Present study comprises subjects from all the socio-economic status but in cocaine abusers the researcher found all the subjects belongs to high SES only. The group of alcoholics include all the three SES subjects e.g. high SES 24 (26.67%), middle SES 36 (40%) and low SES 30 (33.3%).

All the cocaine abusers 90 (100%) were from urban area while the alcoholic group was comprises of urban 56 (62.2%) and rural 34 (37.79%).

6.5.1 Effect of cocaine abuse on cognitive impairment (memory, personality and concept formation)

In the present study cocaine produce a significant effect on memory. When cocaine abusers were compared with normal group, the normal
group scored significantly higher than one year cocaine abusers, three year cocaine abusers and five year cocaine abusers. The high score indicate better functioning of normal subjects on all the subtests of memory in the comparison of three groups.

On personality test significant difference were observed between control and addicts on different dimensions of personality. On psychoticism/socialization dimension five years cocaine abusers scored high among all groups. Most of the cocaine abusers belong (one year cocaine abusers and three years cocaine abusers) to extraversion dimension. No difference was found between one year cocaine abusers and normal subjects on neuroticism/stability dimension. Their low score indicate towards stable personality. No significant difference was found between one year cocaine abusers and normal group on number of trials and error committed on concept formation test. Three years cocaine abusers and five year cocaine abusers differed significantly with normal subject on number of trials, time taken and error committed. All the five year cocaine abusers failed to categorize the block within given trials; they took maximum time and committed maximum errors among all groups.

The results of present researches prove the hypotheses that there is a significant effect of cocaine abuse on cognitive impairment (memory, personality and concept formation) and this was also supported by many studies.

6.5.2 Effect of alcohol on cognitive impairment (memory, personality and concept formation)

A significant difference was found between normal group, one year, three years and five years alcohol abusers on all subtest of
memory. Five years alcoholics scored lower than normal. Normal group also scored significantly higher than one and three years alcoholics. The result shows that the use of alcohol impair the cognitive ability i.e. memory of alcohol abusers in comparison to normal.

The personality of alcoholics was also affected by the use of alcohol. On psychoticism/ socialization dimension alcoholics scored higher than normal group which shows their psychotic characteristics in their personality. Five years alcoholics scored higher on this dimension than the three years and one year alcoholics respectively. On extraversion/ introversion dimension one year alcoholics exhibit the extraversion tendency. On the third dimension all the three groups scored high which showed their neurotic characteristics.

Significant differences were also observed between one year, three years and five years alcoholabusers and controls on concept formation test. For the number of trials the significance difference was found only on 0.05 levels between one year alcohol abusers and normal group. When the researcher compared one year, three years and five years alcohol abusers group with normal group she found that only first two groups were able to arrange the blocks within given trials. The five years alcohol abusers group were fail to complete the task. They were also costly in terms of time taking and error committed. The five years alcohol abusers group took more time and committed more errors which explain their cognitive impairment.

Alcohol abuse produces significant effect on cognitive impairment (memory, personality and concept formation) was our second hypothesis which was proved.
6.5.3 Effect of duration of abuse (cocaine) on cognitive impairment

In the present study it was found that there is a significant difference on all the memory subtest of cocaine abusers with regard to duration of abuse. The memory impairment progresses as the duration of taking cocaine extended. Five years cocaine abusers had the most severe deficit than three and one year cocaine abusers. Three years cocaine abusers had less severe deficit than five years group but more than one year cocaine abusers group. One year cocaine abusers had some neurotic response on the personality test. The result of present study concluded that abnormal traits in personality increases with the duration of abuse. One and three year cocaine group exhibited extraversion traits in their personality. It was found that five years cocaine abusers had psychotic personality traits. There is a significant difference between three groups of cocaine abusers. As the duration extend the impairment becomes more severe. Five years cocaine abusers took more number of trials, more time and committed more errors than other two groups.

The third hypothesis of the study that duration of abuse (cocaine) affect cognitive impairment also found true.

6.5.4 Effect of duration of abuse (alcohol) on cognitive impairment

Alcohol can produce detectable impairment in memory after only a few drinks and, as the amount of alcohol increase, the degree of impairment also increases. This statement is well supported by present study. It was found that five year alcoholics performed poorer than other two groups. Three years alcoholics had better cognitive
functioning than five year alcoholics but poorer than one year alcoholics.

The findings of present study indicated that a significance difference was found among the three groups for personality test. The five years alcoholic possess the psychotic personality and on the second dimension(introversion) the five years and three years alcoholabusers scored lower while the one year alcoholic group scored higher than rest two groups. So it can be concluded that one year alcoholic group had extraversion personality traits. On neurotic/ stability dimension all the groups scored at high level which indicates that they had neurotic characteristics.

On concept formation test it was found that duration of abuse produce negative effect. If we consider number of trials it was found that one year alcoholic group took minimum number of trials while five year alcoholic group took maximum number of trials. The three years alcoholics took more number of trials than one year alcoholic but less than five year alcoholic group. In the observation of reaction time it was found that five year alcoholics scored high, three and one year alcoholics scored at lower level. One year alcoholics were also economic in error committed. Fiveyears alcoholics were costly regarding to this term.

Third hypothesis of this study, duration of abuse (alcohol) affect cognitive impairment was also proved.

6.5.5 Difference between cocaine abusers and alcohol abusers on cognitive impairment (memory, personality and concept formation)

On memory functioning comparison between one year cocaine abusers and one year alcoholic abusers indicate that cocaine
abusers are better performer than one year alcoholics. A significant difference was observed between both groups. One year cocaine abusers scored higher than one year alcoholics on remote memory, recent memory, mental balance, attention and concentration, delayed recall, immediate recall, retention of dissimilar pairs, visual retention and recognition at 0.01 levels of significance. On retention of similar pairs subtest no significant difference was found. Three years cocaine abusers also scored higher than the alcoholic group on all the subtest of memory at 0.01 levels of significance except recent memory and retention of similar pairs. On recent memory subtest the difference was significant at 0.05 levels whereas no significant difference was found on retention of similar pairs subtest of memory. Five year cocaine abusers had slight significant difference on visual retention subtest (0.05 levels) in comparison to five year alcoholic group. Cocaine abusers also performed better than five year alcoholic abusers as well as on all the subtest of memory.

On personality test a significant difference was found on all the three dimension (psychoticism socialization/extroversion/introversion & neuroticism) between one year cocaine abusers and one year alcoholic abusers. Cocaine abusers were more social, extroversion and stable than one year alcohol abusers group. If we consider the three year alcohol abusers we found that there was a significant difference on only first two dimension of personality. Three year cocaine abusers were found to be more socialized and extrovert than three year alcohol abusers. On third dimension no significant difference was found between two groups. Higher score of both groups indicate their neurotic tendency. The group of five years cocaine abusers scored lower on psychoticism/socialization dimension of personality which
indicates that they are a little bit socialized. A significant difference was found between five years cocaine abusers and five alcohol abusers on this dimension of personality. No significance difference was found on extroversion/introversion, neuroticism/stability dimension of personality between three years cocaine abusers and three years alcoholic. Both groups exhibit introversion and neurotic tendency. Same results were carried by five years cocaine and five years alcohol abusers on these dimensions of personality. They were also possessing characteristics of introverts and neurotics.

On concept formation test a significant difference was found between one year cocaine abusers and one year alcohol abusers. One year alcohol abusers took more number of trials than one year cocaine abusers, but both groups took the equal time to complete the task. No significant difference was found for time taken between one year cocaine abusers and one year alcohol abusers. If we consider the errors committed by both groups we found that one year cocaine abusers committed less error than other group. The three years cocaine abusers group took less number of trials and time and committed less error in comparison to three year alcoholic group. No significant difference was found between five years cocaine and five years alcohol abusers, it means both groups took equal number of trials and they were fail to perform the concept formation in given number of trials. A significant difference was found between both groups on time taken and committed errors. The five years cocaine abusers performed better than five year alcohol abusers as they took less time and committed less error.

In the light of present research it is clear that cocaine abusers are performing better than alcohol abusers on memory, personality
and concept formation. Although there are some point where we did not observed the significant difference but on maximum subtests of memory, dimension of personality and concept formation test cocaine abusers performed better in comparison to alcohol abusers which proves our fourth hypothesis that there is a significance difference between cocaine abusers and alcohol abusers on cognitive impairment (memory, personality and concept formation).

6.5.6 Effect of psychological counselling in the management of cocaine and alcohol

To observe the effect of counselling in the management of addicts counselling sessions were planned on all the groups. If we consider the cocaine abusers we found that there was a significant difference between per and post-test of one year cocaine abusers at 0.01 level of significance. A significant difference was also found between the pre-and post-test score of three years cocaine abusers but it was significant at 0.05 levels. No difference was found in pre-post test scores of five years cocaine abusers group which indicate that they need more counselling sessions. Same results were found with the alcoholic groups. There was no desired effect of counselling on three years and five years alcohol abusers but there was a significant difference at 0.05 levels between pre-post test scores of one year alcoholics.

Findings of present study indicates that majority of addictive groups were unable to leave drug abuse.

6.6 LIMITATIONS

This study has been conducted to study the cognitive impairment in stimulants (cocaine) and depressant (alcohol) abusers and the
management of addicts by counselling. Few limitations of present study are:

1. The numbers of subjects in different group were too small.
2. The present study was carried out only on cocaine abusers of stimulant group and alcohol abusers of depressant group.
3. This study covers only the age range of twenty one to fifty years but is found that adolescents and the person above the age of fifty are also indulged in addiction.
4. All the relatives of the drug abusers group could not be evaluated properly to obtain the necessary information about the addicts.
5. There were very few numbers of counselling session for the management of addicts.

6.7 FUTURE RESEARCH
1. It would be necessary to include large sample for further work in this area.
2. Other substance related to stimulants and depressant can be included for further study.
3. The future study should cover this left over segments i.e. adolescents and persons above the age of fifty.
4. Longitudinal studies are necessary to provide useful information about the effect of different variables with abusers.
5. Number of counselling sessions should be increases for the management of addicts effectively.
6.8 CONCLUSIONS

On the basis of this study, we may draw from the following conclusion-

1. Cognitive impairment is found among the cocaine and alcohol abusers.

2. This cognitive impairment is directly proportion to the period of addiction.

3. Cognitive impairment is more acute among alcoholic than that of the cocaine abusers.

4. Different dimension e.g. psychoticism, neuroticism etc. in the personality of alcoholic is more severe than that of cocaine abusers.

5. To get rid of addiction addicts need longer period and numerous sessions of counselling.