Chapter-3

Materials and Methods

3.1. Research Design

The study was hospital based cross sectional study. In this study quantitative model was followed for the study. Based on purposive sampling method a group of 30 acute cannabis Male/Female subjects and 30 chronic cannabis Male/Female subjects selected between the age ranges of 18 to 40 years. The all have been identified/selected Private/Government De-addiction Canter.

SAMPLE

Inclusion Criteria:

- Subject diagnosed according to ICD – 10.
- Male/Female Patient.
- Right -Handed.
- Subject age range 18 to 40 years.
- Educated up to 12 th education
- Subject supportive for assessment.

Exclusion Criteria:

- Poor eye sight or hearing impairment.
- Patients who are not able to supportive
**Sampling technique**

Based on purposive sampling method a group of 30 acute cannabis Male/Female subjects and 30 chronic cannabis Male/Female subjects selected between the age ranges of 18 to 40 years. The all have been identified/selected Private/Government De-addiction Canter. The diagnosis was according to
ICD10. Semi structure Performa was used for recording details about the patient such as age, education, marital status, onset of illness etc. all the participants were between the age 18 to 40 age criteria, and education level upto 12th.all participants actively participated in the research study and completed the assessment actively.

**Hypothesis:** There is significant difference in acute and chronic effects of cannabis on human cognition.

There is no significant difference in acute and chronic effects of cannabis on human cognition.

**Assessment tools**

- Socio – demographic and clinical data sheet
- Handedness preference schedule (Manual et al 1992)

**Detail description of measurement:**

**Socio – demographic and clinical data sheet:** - A self-formulated clinical data sheet will be used to get primary data information as well secondary. It includes subject’s age, education, and marital status vacation/job for information about the subjects.

**Handedness preference schedule:**-To decide the handedness preference of the patient Hindi version of handedness preference schedule was used. It has items mainly based as culturally acquainted hand activities. The test consists of 15 items consisting 5 point scale. Subjects are suppose to give as responses as mentioned - Answer are asked to specify their hand preferences.

- One is never
Two is rarely
Three is occasionally
Four is Frequently
Five is always

**PGI –BBD (Brain battery dysfunction):**

PGI-BBD Battery of Brain Dysfunction developed by Pershad and Verma (1990). Included the tests such as PGI Memory Scale (PGIMS), Performance Tests of Intelligence Scale, Nahor-Benson Test, and Bender Visual-Motor Gestalt test. It is based on the conceptualization of memory as the ability to retain and reproduce impressions once learned intentionally. It includes both the verbal and non-verbal measures to index memories on the basis of experimental evidence; and remote, recent and immediate memories on the basis of clinical evidences. It includes ten subtests standardized on adult subjects in the age range of 20-45 years. Its test-retest reliability over the period of one week ranges from .69 to .85 for ten subtests and .90 for the total test (test-retest and split-half). For the validity, correlations with Boston Memory Scale and Wechsler Memory Scale were found to be .71 and .85 respectively. Age wise elderly subjects obtained significantly lower scores than the younger subjects. Cases suffering from organic brain pathology and functional psychoses score significantly less than normals and neurotics. It has high correlation with education and low with IQ. It has satisfactory cross-validity and provides quartile norms and a profile. Scores of subjects suffering from organic pathology, functional psychoses and neuroses fall in the lowest 2nd and middle quartiles respectively. Separate norms are
available for three, Verbal adult Intelligence Scale, Nahor-Benson Test, and
Bender Visual-Motor Gestalt Test to collaborate both the multifactorial assessment and unitary approaches of neuron-psychological assessment. Separate norms are available for three educational levels i.e. 0 to 5th, 6th to 9th, and above 10th years of schooling (Pershad & Wig, 1988). The test has been widely used in the assessment of cognitive functions in drug abusers, yog practitioners, depressives, psychotics, neurotics, and suffering from brain dysfunctions. It is equally valid for both sexes’ literate and illiterate subjects. Thus, it is adaptable to both research and clinical settings. The test material contains items for 10 subtests i.e. Remote Memory, Recent Memory, Mental Balance, Attention-Concentration, Delayed Recall, Dissimilar Pairs, Visual Retention and Recognition. The ten subtests are as under Remote Memory-

There are six items in this subtest and each correct answer is to be scored one. Thus maximum score would be six. Out of the items at 3a, 3b, and 3c, only one item is to be enquired. Reliability of the answer is checked from the attendant. Any discrepancy in the answer may be settled or marked wrong.

Recent Memory- It consists of five items. Answer can be verified from the attendant. backward by 3”s subtraction. The score is 3 if all correct within 30 seconds, scored 2 if all correct beyond 30 seconds, scored 1 irrespective of time required with one error/omission and scored 0 if more than one error/omission. Thus maximum score would be nine. Attention Concentration- It consists of digits which are to be read by the tester and immediately subject need to repeat it either in same order or reverse order as he/she is instructed. Digits need to be read out at one digit per second. The number of digits is counted separately for both digit backward and digit forward. For DF number of digits in longest series and for DB digits in
longest series of any of the two sets correctly reproduced in reverse order, is scored. The maximum score for DF and DB would be 8+8=16. Delayed Recall- There is lists of five names each of common objects. The name of the common objects is read from the list 1 and then asked the subject to recall the name of common objects after expiry of one minute post presentation period. In the same manner the second list is also administered. Each ticked word is counted in two lists and one point for each score. The maximum score would be 5+5=10. Immediate Recall- There are three sentence of increasing length, first sentence has three clauses, second has four clauses and third has 5 clauses. Immediately after presentation, subject is said to recall. Each correctly recalled clause is scored one and the maximum score would be 3+4+5=12. Verbal Retention for Similar Pairs- In this sub test there are five noun-noun pairs. Second noun is to be asked after reading first noun to the subject. One mark for each correction of the associated word of the pair is to be given. The total maximum score on this subtest is 5. Verbal Retention for Dissimilar Pairs- In this subtest there are five noun-objective pairs are given and three trials are given. In each trial stimulus is presented in random order as written against each pair. One mark for each correct reproduction and the maximum score on this sub test is 5+5+5=15 Visual Retention- In this subtest there are five cards and each cards is presented for 15 seconds. After 30 second subject is asked to draw the same design from his/her memory. Each figures correctly reproduced from card 1 to 3 are scored 2 each and card 4 is scored 3 and card 5 is scored 4. Recognition- In this subtest there are two cards of similar size. One for having pictures of 10 common objects and second having pictures of 20 common objects for recognition. Each object
correctly identified and named is given a score of one. An object correctly identified but either not named or wrongly named or showing inability to name is to be given a score of ½. To minimize the effect of guessing numbers of wrongly identified objects are to be counted and deducted from the number of correctly identified objects. Range of score in this subtest will be 0 to 10. 

Nahor-Benson Test

Nahor-Benson (1970) developed a quick and simple screening test for organic brain pathology. It consists of 8 cards, of which 5 cards contain a design each and three cards contain the instruction to be followed. Five designs are based on developmental pattern. One learns to draw simple drawing early in life and then drawing with depth perception. Cards IV and V represent coping designs with depth perception. It is assumed that whenever organic brain dysfunction occurs, it will show regression in ability and behavior following Ribots law i.e. the things learned later in life will start diminishing earlier. In general, drawing tests measure functioning of the right hemisphere that is too related with parieto-occipital lobe. Parietal lobe function includes spatial relationship and occipital includes visual perceptual acuity. Therefore disturbed performance on designs I-V will represent the extent of lesion in the right parieto occipital region. The performance on last three cards (VI to VII) will represent the function of left hemisphere and transference from left to right hemisphere. Thus, the test provides simultaneous assessment of both the hemispheric functioning. Prashad and Verma (1978) have studied the screening capacity and clinical utility of the test and found that cases who were diagnosed having brain dysfunction reproduced and made the drawing more incorrect as compared to those having no brain dysfunction. About 90% of the patients having no brain
dysfunction made errors on two or less drawings whereas 75% of patients with brain dysfunction made more than 2 errors. Age of the patients was not found to be associated with the number of errors but education had negative correlation. Correlations of errors with PQ and VQ were found to be .27 and .45 respectively. Administering requires proper rapport and then subjects are to reproduce the drawings on a full scale white paper sheet. Scoring is made in terms of correct or incorrect. The test drawings are also scored for overall configuration. The test has been found to be useful for clinical diagnosis and research on clinical groups. Dysfunction rating (ranging from 0 to 3) has been associated with number of errors.

3.5. Procedure

The study was hospital based cross sectional study. In this study quantitative model was followed for the study. Based on purposive sampling method a group of 30 acute cannabis Male/Female subjects and 30 chronic cannabis Male/Female subjects selected between the age ranges of 18 to 40 years. The all have been identified/selected Private/Government De-addiction Canter. The diagnosis was according to ICD10. Semi structure Performa was used for recording details about the patient such as age, education, marital status, onset of illness etc. all the participants were between the age 18 to 40 age criteria, and education level upto 12th.all participants actively participated in the research study and completed the assessment actively. IRB (Institutional review of board) approved for research study approval informed consent ethics.