CHAPTER-III  

METHODOLOGY AND PROCEDURE

For any research study, a comprehensive outline of the research methodology is vital for a distinct and effective understanding of the way in which the problem is investigated. The information hence gained helped on developing the course of direction of the present investigation. This chapter is concerned with methodology and procedural aspect of present study.

This is an attempt in the field of psychology, which correlate psychological and somatic (i.e.; physical) perspectives in psychological sequelae of H.I.V./A.I.D.S. disease.

This chapter presented as follows:-

The Problem of Present Study:

‘Psychological sequelae of H.I.V./A.I.D.S.: Psychological and somatic perspectives’.

Aim of the Study:

‘The aim of the study is to find out the psychological correlates and somatic (i.e.; physical) status that characterizes the H.I.V. positive individuals/A.I.D.S. patients seeking medical aid.’

Objective’s of the Study:

This study intends to investigate the psychological and somatic (i.e.; physical) symptoms that are commonly prevalent among those who live with H.I.V./A.I.D.S. disease. The specific objectives may therefore be spelled out as follows:

(i) To study the psychological factors [ i.e.; ‘anxiety’; ‘stress’; ‘depression’; ‘regression’; ‘fatigue’; ‘guilt’; ‘extra-version’;
‘arousal’ level] of recently diagnosed group (R.D.G.) of H.I.V./A.I.D.S. patients and previously diagnosed group (P.D.G.) of H.I.V./A.I.D.S. patients.

(ii) To study the somatic or physical symptoms (i.e. weight loss, diarrhoea, fever, asthenia, cough, PGL, STD/STI/UTI, Constipation, headache, prolonged weakness, T.B., Candidiasis, Cryptosporidiasis, Herpes Zoster, Toxoplasmosis, bacterial infections, cryptococcal meningitis, Kaposi Sarcoma, P.C.P.) among recently diagnosed group (R.D.G.) of H.I.V./A.I.D.S. patients and previously diagnosed group (P.D.G.) of H.I.V./A.I.D.S. patients.

**Hypotheses:**
The following hypotheses have been formed on the basis of objectives:

**(SET-A)**

‘**Psychological symptoms** among the previously diagnosed group (P.D.G.) of H.I.V./A.I.D.S. patients will be significantly different; as compared to the recently diagnosed group (R.D.G.) of H.I.V./A.I.D.S. patients.’

To be more explicit they are:

1. **'Anxiety Level'** of P.D.G. of H.I.V./A.I.D.S. patients will be significantly higher than R.D.G. of H.I.V./A.I.D.S. patients.
2. **'Stress Level'** of P.D.G. of H.I.V./A.I.D.S. patients will be significantly higher than R.D.G. of H.I.V./A.I.D.S. patients.
3. **'Depression Level'** of P.D.G. of H.I.V./A.I.D.S. patients will be significantly higher than R.D.G. of H.I.V./A.I.D.S. patients.
4. **'Regression Level'** of P.D.G. of H.I.V./A.I.D.S. patients will be significantly higher than R.D.G. of H.I.V./A.I.D.S. patients.
5. **'Fatigue Level'** of P.D.G. of H.I.V./A.I.D.S. patients will be significantly higher than R.D.G. of H.I.V./A.I.D.S. patients.
'Guilt Level' of P.D.G. of H.I.V./A.I.D.S. patients will be significantly higher than R.D.G. of H.I.V./A.I.D.S. patients.

'Extra-version Level' of P.D.G. of H.I.V./A.I.D.S. patients will be significantly lower than R.D.G. of H.I.V./A.I.D.S. patients.

'Arousal Level' of P.D.G. of H.I.V./A.I.D.S. patients will be significantly lower than R.D.G. of H.I.V./A.I.D.S. patients.

(SET-B)

'Somatic or Physical symptoms' among the previously diagnosed group (P.D.G.) of H.I.V./A.I.D.S. patients will score significantly higher; as compared to the recently diagnosed group (R.D.G.) of H.I.V./A.I.D.S. patients'.

To be more explicit they are:

1. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Weight loss' than R.D.G. of H.I.V./A.I.D.S. patients.
2. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Diarrhoea' than R.D.G. of H.I.V./A.I.D.S. patients.
3. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Fever' than R.D.G. of H.I.V./A.I.D.S. patients.
4. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Asthenia' than R.D.G. of H.I.V./A.I.D.S. patients.
5. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Cough' than R.D.G. of H.I.V./A.I.D.S. patients.
8. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Constipation' than R.D.G. of H.I.V./A.I.D.S. patients.
9. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Headache' than R.D.G. of H.I.V./A.I.D.S. patients.
10. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Prolonged weakness' than R.D.G. of H.I.V./A.I.D.S. patients.
11. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'T.B.' than R.D.G. of H.I.V./A.I.D.S. patients.
12. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Candidiasis' than R.D.G. of H.I.V./A.I.D.S. patients.
13. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Cryptosporidiasis' than R.D.G. of H.I.V./A.I.D.S. patients.
14. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Herpes Zoster' than R.D.G. of H.I.V./A.I.D.S. patients.
15. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Toxoplasmosis' than R.D.G. of H.I.V./A.I.D.S. patients.
16. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Bacterial infections' than R.D.G. of H.I.V./A.I.D.S. patients.
17. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Cryptococcal meningitis' than R.D.G. of H.I.V./A.I.D.S. patients.
18. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'Kaposi Sarcoma' than R.D.G. of H.I.V./A.I.D.S. patients.
19. P.D.G. of H.I.V./A.I.D.S. patients will suffer significantly more with 'P.C.P.' than R.D.G. of H.I.V./A.I.D.S. patients.

**Research Design:**
The present study is based on 'ExPostFacto'.

An 'Ex Post Facto research is that empirical investigation in which the investigator draws the inference regarding the relationship between variables on the basis of such independent variables whose manifestations have already occurred. In this type of research the investigator has no
direct control over the independent variables because they occur much prior to producing their effects.

In this study I have studied the dependent variables like H.I.V./A.I.D.S. symptoms regarding psychological perspectives and H.I.V./A.I.D.S. symptoms regarding somatic (i.e., physical) perspectives; & have attempted to see; if the changes in these are on account of the time intervention.

**Variables:**

A variable, as the name implies, is something which varies. This is the simplest and the broadest way of defining a variable. However, a behavioural scientist attempts to define a variable more precisely and specifically. From his point of view, variables may be defined as those attributes of objects, events, things and beings, which can be measured. In other words, variables, are the characteristics or conditions that are manipulated, controlled or observed by the experimenter.

The Dependent variable (D.V.) is defined as one about which the experimenter makes a prediction.

The Independent variable (I.V.) is defined as one which is manipulated, measured and selected by the experimenter for the purpose of producing observable changes in the behavioural measure (or D.V.). In other words the independent variable is the variables on the basis of which the prediction about the DV is made.

In the present study independent variable is 'Duration (i.e., time period) of H.I.V./A.I.D.S. diseases'.
The dependent variables are:

(I) H.I.V./A.I.D.S. symptoms regarding 'psychological perspectives' like anxiety, stress, depression, regression, fatigue, guilt, extraversion and arousal of the adults.


**Table-(V): VARIABLES**

<table>
<thead>
<tr>
<th>Independent variable (I.V.)</th>
<th>Dependent Variables (D.V.’s)</th>
</tr>
</thead>
</table>
| Duration (i.e., Time Period) of H.I.V./A.I.D.S. patients | I. H.I.V./A.I.D.S. symptoms regarding 'Psychological perspectives, like anxiety, Stress, depression, regression, fatigue, guilt, extraversion and arousal.  
Sample & Sampling Procedure:

For making generalization regarding population or universe, it is very difficult, rather impossible, to include all the members of the universe in the study. Of course, if we can include all member we can get perfect and accurate result but this will involve a great deal of time, money and energy. Hence a study of present nature can not be longitudinal in nature but of a fixed duration, fixed subjects etc., which would be a representation of the problem to be studied from different angles to deal effectively to come out with some of useful findings to facilitate and help the groups on different platforms.

Hence a population is the aggregate of all the cases that confirm to some designated set of specification when we select some of the elements with the interaction of finding out something, about the population, from which they are taken, we refer to that group of element as a sample. "In fact sample should be a true representative of that population and, the process by which we take the sample, is known as sampling procedure. Sampling is that part of statistical practice concerned with the selection of individual observations intended to yield some knowledge about a population of concern, especially for the purposes of statistical inference."

In the present study, 'Stratified random sampling' method have been taken as sampling procedure.

Since the size of group i.e., patients (male / female) suffering from H.I.V./A.I.D.S. was so small ; the researcher has used disproportionate ‘stratified random sampling’ method in the present study.

In the present study, the researcher has selected subjects into the study those who belonged to high risk population and sought S.T.D. and H.I.V. services from a H.I.V./A.I.D.S. V.C.T. Centre in Kanpur area.
### Table –(VI): 'SAMPLE'

<table>
<thead>
<tr>
<th>Category of H.I.V./A.I.D.S. Patients</th>
<th>Duration of H.I.V. Diagnosis</th>
<th>No. of Subjects (i.e., respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recently Diagnosed Group (R.D.G.)</td>
<td>1-6 Weeks</td>
<td>50</td>
</tr>
<tr>
<td>Previously Diagnosed Group (P.D.G.)</td>
<td>6 Month's and Above</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total No. of Subject’s (i.e., Sample Size)</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

The sample comprised 100 males and females, belonged to two different groups viz. ; (I) 50 respondents for Recently Diagnosed Group (1-6 weeks), (II) 50 respondents for Previously Diagnosed Group (6 months and above).

All the respondents had been voluntarily diagnosed and confirmed by two ELISA tests for H.I.V. antibody; and as a mandatory procedures of the clinic they had been provided with pre-test and post-test counseling sessions with informed consent and were living with H.I.V. antibody positive diagnosis for minimum period of one weeks. However, it should be noted that people with H.I.V./A.I.D.S. may be diagnosed as having the virus for weeks, months or years following seroconversion and therefore the data do not indicate the duration of infection. The duration of infection was unknown.

The researcher included every third case from the V.C.T.C. P.Id. register; till the quota was fullfilled. The total duration of each interview schedule has taken approximately 1 hour and 45 minutes. For convenience sake each subject was interviewed in two different sessions with
approximately 45-55 minutes each and with the gap period of 2-4 days in between.

Even though, initially the researcher had planned for large sample-size, but after conducting a pilot study a realistic sample size was determined keeping in mind in most of the investigations in clinical setting are carried out on small number of subjects and the results were generalized to the class of all such subjects.

Here comparatively a small sample size was drawn due to certain obvious reasons; i.e.; a large majority of the H.I.V. infected asymptomatic cases in India still not reported in V.C.T. Center's, So the cases in these center's are not in galore; & inclusion criteria included:

(I) Legal age of consent (18 years),
(III) Testing twice for H.I.V. antibody positive and with a confirmed diagnosis.
(IV) Subjects who were living with H.I.V. infection for the minimum period of one week to maximum period of living with A.I.D.S..
(V) Subjects who were not suffering from any acute functional or organic psychosis.
(VI) The subjects who were willing to participate in the study; with full informed consent.
(VII) The nature of the participation was made completely voluntary, the subjects had the option to withdraw their participation at any point of the interview schedule.
Description of Data Collecting Tools:
In the present study the following tools were administered individually on
the subjects.

1. 'The Eight State Questionnaire (8 S.Q.)': 8 S.Q. (form A-1990)
   prepared by Sri Malay Kapoor and Dr. Mahesh Bhargawa.
2. 'Self made schedule' for collecting data of somatic (i.e. physical)
perspectives: (please see appendix B & C).

1. “The Eight State Questionnaire (8 S.Q.)”: The Indian adaptation of 8
S.Q. form-A (1990) prepared by Sri Malay Kapoor and Dr. Mahesh
Bhargawa was used. It is specifically designed for measuring eight
important emotional states and moods. The theoretical importance of
measuring emotional states lies in the fact that any prediction of how a
person will act or how he will perform depends as much on his present
state as on his usual trait. The 8 S. Q. includes 96 items to measure
eight levels (or scales) of psychological status i.e.; anxiety, stress,
depression, regression, fatigue; guilt, extraversion, arousal.

Scoring Instructions:
Each question on the 8 S.Q. has four option and is scored either
0, 1, 2 or 3. The score of each item contributes to only one factor total.
Since there are 12 items per state on each form, the highest possible raw
score per form is 36. Answer sheets can be either hand scored with a
stencil key.

Hand scoring is accomplished easily and rapidly with a key. The
answers appear as pencil marks in the boxes. On the given answer sheet,
Simply fit the key over the answer sheet and count the marks visible
through the holes for each factor, allowing either a 3, 2, or 1 as indicated by
the number printed above the hole. Add these scores and enter the total in
the space indicated at the bottom of the sheets.
Psychometric Properties: Reliability and Validity

Reliability

Reliability of this test has been brought out in three ways:

(i) Coefficient of reliability for the 8 S.Q. Scale.

(ii) Coefficient of stability for the 8 S.Q. Scale.

(iii) Coefficient of equivalence for the 8 S.Q. Scale.

The Coefficient of reliability, coefficient of stability and coefficient of equivalence of this test (i.e., 8 S.Q. test) shows in this table:

<table>
<thead>
<tr>
<th>States</th>
<th>Coefficient of reliability for the 8 S.Q. scales: (Form-A)</th>
<th>Coefficient of stability for the 8 - S.Q. : (Form-A)</th>
<th>Coefficient of equivalence for the 8 S.Q. Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate Retest (N=45 male and female undergraduates)</td>
<td>Retest after one week (N=129 male and female undergraduates)</td>
<td>(N=129 male and female undergraduates)</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.91</td>
<td>0.31</td>
<td>0.83</td>
</tr>
<tr>
<td>Stress</td>
<td>0.95</td>
<td>0.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Depression</td>
<td>0.96</td>
<td>0.48</td>
<td>0.82</td>
</tr>
<tr>
<td>Regression</td>
<td>0.94</td>
<td>0.44</td>
<td>0.82</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0.92</td>
<td>0.26</td>
<td>0.89</td>
</tr>
<tr>
<td>Guilt</td>
<td>0.96</td>
<td>0.36</td>
<td>0.86</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.96</td>
<td>0.42</td>
<td>0.87</td>
</tr>
<tr>
<td>Arousal</td>
<td>0.92</td>
<td>0.31</td>
<td>0.88</td>
</tr>
</tbody>
</table>
Validity

Validity in the case of a state scale has its most precise meaning as concept validity. This means the correction of the scale score with the pure factor constituting the concept (e.g., anxiety, arousal, etc.) the scale was intended to measure.

The concept validities, which come from the basic factor analytic research and constitute the real proof that the scales are measuring underlying factorial dimensions, are shown in this table:

Concept Validities of the 8 S.Q. Scales (Form-A) (N=235 Air Force Enlisted Men)

<table>
<thead>
<tr>
<th>STATES</th>
<th>CONCEPT VALIDITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>0.62</td>
</tr>
<tr>
<td>Stress</td>
<td>0.86</td>
</tr>
<tr>
<td>Depression</td>
<td>0.58</td>
</tr>
<tr>
<td>Regression</td>
<td>0.55</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0.90</td>
</tr>
<tr>
<td>Guilt</td>
<td>0.48</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.92</td>
</tr>
<tr>
<td>Arousal</td>
<td>0.84</td>
</tr>
</tbody>
</table>

2. Preparation of the 'Somatic (i.e., Physical) perspectives Data collection Schedule:

The construction of the 'Somatic (i.e., Physical) perspectives data collection schedule' and its translation into Hindi was carried out with utmost care. Initially a draft of the schedule was prepared which contained broad questions. In order to determine the nature of precise questions and also to make it culturally more relevant and meaningful, five copies of the draft schedule were circulated among the researcher's colleagues. After receiving their comments, items were included, the sequencing and the manner in which they were phrased. There were also elaborately discussed
with the medical officer Incharge of V.C.T.C. and the female counsellor of the V.C.T. Center, a few academicians and researchers those who were working extensively in the field of H.I.V./A.I.D.S.. Once a modest draft schedule was ready, it was translated into "Hindi" with the help of competent people and later the same draft was given to five judges from the field. Thereafter, the modified schedule was repeatedly discussed with the persons living with H.I.V. in individual and a few group discussion sessions, in order to obtain feedback on the language, phrasing of questions, alternative cultural terms, and the like.

Importantly, the earlier/past experience in the same setting of the researcher yielded substantial information on common difficulties faced by individuals with H.I.V./A.I.D.S., risk behavior and some other supplementary data on the problem at hand.

The final draft of the ‘somatic (i.e., physical)’ perspectives data collection schedule includes the following areas:

1. Brief case history of the patients (i.e., respondents) suffering from H.I.V./A.I.D.S.
2. Demographic and Socio-Economic characteristics of the respondents (i.e., patients suffering from H.I.V./A.I.D.S.).
3. Medical history (Diseases & Symptoms history) of the patients (i.e., respondents) suffering from H.I.V./A.I.D.S.

The final form of the schedule is already being used in many V.C.T. Centre’s by counselors concerned; and they have also reported satisfaction with the schedule. As already mentioned all the items of the schedule have been included by consulting the doctors / medical person’s concerned in the field.

This somatic (i.e., physical) perspectives data collection schedule' English version & Hindi version are attached with appendix section [APPENDIX-B & C].
Procedure

Data Collection: For any research work in social science, collection of data is most important step and it includes proper selection and identification of sample, establishment of rapport as well as administration of tests and schedules.

The first step was the identification of the sample. The inclusion criteria was strictly followed for the selection of total sample. During the data collection period (May 2005 to October 2007), the researcher reported regularly in the V.C.T. Center of the U.H.M. District hospital Kanpur. The subjects were selected from the pool of patients after they had received H.I.V. counselling and Testing services at the V.C.T. Center. The patients (respondents) were picked up sequentially from the daily P.Id. (patient identification) register until the sampling quota had reached. A total of 100 interviews were completed. On an average, interviewing each case took approximately 1 hour and 45 minutes. This includes the time that had to be spent on briefing the respondent on the purpose of the study, counselling, interview, informed consent, 8 S.Q. administration and rapport building.

Depending on the nature of the case, approximately 20-40 minutes per case had been devoted solely to provide counselling to the subjects who wanted to discuss their problems. Before departure of each subject a follow up visit was fixed after 2-4 days. For return visit for the second session of the interview, several patients (respondent) did not report for the interview, such cases of default were as many as 19.

For this study the researcher had a special informed consent from, and participants were asked if they were willing to participate voluntarily. After establishing a good rapport with each case, the ‘8 S.Q. test’ and ‘physical perspective data collection schedule’ were individually administered on each case by the researcher.
Instructions written on the measures, were clearly narrated to the patients and each was explained how to register their responses on response sheet. Multiple issues had emerged during data collection; respondents (patients) discussed their experiences after receipt of positive test results, reactions by family members and friends, psychological states experienced, and other such issues.

The period of data collection was indeed a period of challenge for the researcher. The subjects had innumerable queries, doubts, fear, stigma and discrimination faced, about their H.I.V. serostatus. Most commonly asked questions were-

(I) Is there any cure/medicine/therapy for A.I.D.S.?  
(II) If my family members find that I have A.I.D.S.?  
(III) How do I disclose my H.I.V. serostatus to my partners/parents/friends etc?  
(IV) How are they going to react?  
(V) How long am I going to survive? etc.

The nature of the interview, 8 S.Q. testing process was found to be remarkably educative and cathartic.

After the end of administration of both the ‘8 S.Q. test’ and ‘physical perspective data collection schedule’; all of the respondents (patients) were thanked for their cooperation.

**Data Processing & Statistical Treatment of Data:**

Once the targeted number of individual interviews were conducted, the interview schedules were checked, edited and each schedule was given an identification number. Subsequently the job of coding; i.e., transferring the codes on to the code sheet was undertaken. The entire data were written into a master charts for R.D.G. and P.D.G. of H.I.V. positive/A.I.D.S. patients (respondents) separately. Then entire data were fed into computer in Microsoft office 2007 Excel format to make
computerized master-charts for R.D.G. and P.D.G. of H.I.V./A.I.D.S. patients separately. And after this procedure with the help of ‘SPSS/PC+’ and ‘INSTAT GRAPHPAD’ P.C. software programmes, descriptive statistics such as frequency and percentage, mean, standard deviation, standard error of mean and inferential statistics such as value of 't' and the value of 'p' were calculated; for the analysis of psychological perspectives. As the aim of investigation was to study the impact of duration in Psycho-Somatic changes in Recently and Previously Diagnosed Group of H.I.V./A.I.D.S. patients; ‘t’ test was used to find out the difference in two groups. Both groups included male and female patients. Hence ‘t’ test has not been used to see the effect on gender difference. Moreover sex difference has been controlled. Keeping in view the second objective of the study; 2x2 fold contingency tables for 'Chi-square' were obtained and then inferential value of 'p' were calculated; for the analysis of somatic (i.e., physical) perspectives.

The paired 't'-test was computed to study significant differences between the two groups, viz.; R.D.G.’s and P.D.G.’s. The 't'-test were executed to examine whether significant differences would emerge between the two groups on any of the variables.

In addition, for the account of clarity, abbreviated tables or summary tables have been presented which would provide effortless reading across the tables and examining comparable categories.