CHAPTER - 6 RESEARCH METHODOLOGY

This chapter includes the methodology of research which is used to conduct study on Legal Awareness Study on Legal Rights of HIV/AIDS Victims in North Gujarat. This chapter includes the research design, statement of problem, need of the study, hypothesis to be tested and various components of methodology which helps in conducting a survey by collecting primary data with the help of a structured questionnaire. The tools and techniques used to test the hypothesis are explained in the chapter which helped in carrying out data analysis and infer interpretations to support the theoretical base of the research.

6.1 Need & Significance of Research

The researcher conducted the research work in the field to ascertain the Legal **Awareness Study on Legal Rights of HIV/AIDS Victims in North Gujarat**.
Researcher interacted with various Counsellors of Integrated Counseling and Testing Centers (ICTCs) and Anti-Retroviral Therapy (ART) Centers, Doctors, NonGovernmental Organization (NGO) workers, nurses, patients and relatives of the patients on issues of discrimination, awareness, risk behavior and risk perception. This brought up certain pertinent questions in the mind of the researcher. The need of research was to gain knowledge as awareness is an important indicator that affected the discriminatory behavior of the society towards Human Immuno Deficiency Virus/ Acquire Immuno Deficiency Syndrome (HIV/AIDS) infected persons.

For future intervention or otherwise programmatic response to the epidemic would entail measurement of the knowledge of HIV/AIDS in society. National surveys have brought out this aspect and have presented data on knowledge level among the general population regarding this pertinent issue. It reports that nationwide only 17 percent of women and 33 percent of men have comprehensive knowledge of HIV/AIDS. Misconceptions about the disease are common and so the research is undertaken to explore this area. It is important to study the about HIV/AIDS as it will equip people to fight against stigma and discrimination associated with this epidemic and encourage safe

and secured societal practices. Lack of proper understanding of HIV/AIDS can sometimes lead to discriminatory behavior towards the patients which is a violation of the human rights of an HIV infected person.

6.1.1 Research process flowchart

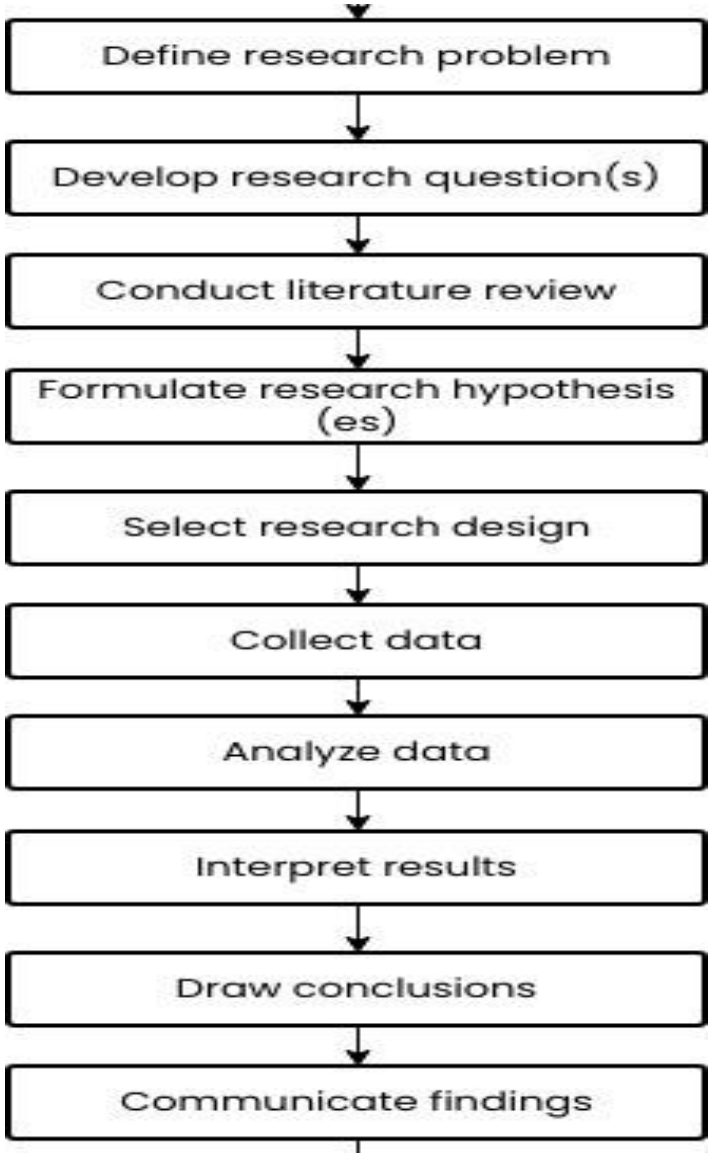

Fig 6.1: Flowchart of the Research Process

The research process flowchart outlines the steps involved in conducting the research study. The first step was to define the research problem and developing the research questions. An extensive literature review was conducted to identify the gaps in

knowledge and provide a foundation for the research study. In the next step research hypotheses were formulated to predict the relationship between the independent and dependent variables in the study.

A quantitative and descriptive research design was formulated to conduct a valuable research and provide a clear answer to the research questions. The primary data was collected and analyzed using appropriate statistical methods, to find interpretation and find the results, and draw conclusions.

6.1.2 Scope of the Study

The broad objective of the study is **in the context of Legal Rights awareness of the HIV/AIDS patients in North Gujarat**. The study aims to bring out descriptive information regarding the discrimination with HIV/AIDS infected person. The study focused on the NGO workers who work with such individuals and try to uplift their position in the society.

6.1.3 Location of the Study

Four districts **(Aravalli, Mehsana, Patan, Palanpur)** of the Gujarat state were selected for the study

6.2 Objectives of the Study

1. To critically asses the Legal Rights and state-mediated HIV/AIDS awareness programs in Gujarat.
2. To examine the role of law in protecting against discriminatory behavior with HIV positive individuals.
3. To understand the perspectives of the society regarding the HIV/AIDS.
4. To examinewhat kind of discriminatory behavior is done by people with positive persons.

6.3 Hypothesis

H_{O1}: There is no significant relationship between gender of HIV patients **and their** awareness towards legal rights

H_{A1}: **There is a significant relationship between gender of** HIV patients **and their** awareness towards legal rights

H_{O2}: The **role of law** to protect the **legal rights of patients** with HIV is **not significant**

H_{A2}: The **role of law** to protect the **legal rights of patients** with HIV **is significant**

6.4 Research Design

A research design is a framework or blueprint for conducting the research. It details the procedure necessary for obtaining the information needed to structure or solve the research problem.

The researcher has implied descriptive research design to analyses the qualitative and quantitative data with appropriate statistical techniques.

The research design used by the researcher is in accordance with the quantitative study requirements. As such, it covers the type of data collected, the methodology of data collection and the various statistical tools and techniques used for analysis of data and hypotheses - testing.

Being a survey, it is based on primary data collected by the researcher through well designed, structured and comprehensive questionnaire developed in view of the theoretical literature and existing research findings, personal interview and discussions. The questionnaire was administered on the patients to know what kind of behavior is exhibited by others at family and workplace with them and another questionnaire was administered on NGO workers who work in the field to safeguard the lives of positive patients and help them to cope up with the negative behavior and role of the society

The tool for primary data collection is structured with various statements showing relationship with the research objective. The questionnaires were distributed for data collection to the sampled respondents to study the Legal Awareness Study on Legal Rights of HIV/AIDS Victims in North Gujarat.

The data selected through the survey was coded and tabulated in accordance with the research objectives in the form of bivariate and multivariate representation of tables. The data was analyzed by the researcher by applying statistical tools and techniques to test the hypothesis and draw inferences by using exploratory factor analysis, ANOVA and Chi square.

6.5 Type of Research

6.5.1 Descriptive Research

Descriptive research is a research method used to try and determine the characteristics of a population or particular phenomenon. This type of design aims to describe or document the characteristics, behaviors, attitudes, opinions, or perceptions of a group or population being studied.

Descriptive research design does not attempt to establish cause-and-effect relationships between variables or make predictions about future outcomes. Instead, it focuses on providing a detailed and accurate representation of the data collected, which can be useful for generating hypotheses, exploring trends, and identifying patterns in the data. Survey research is ideal if you're using descriptive research as your primary research.

6.5.2 Sampling Plan

The sampling plan constitutes of the method of selecting sample units for the study in the sample from the target population. This study includes the non- probability sampling plan to select sample units from the population. The sampling technique used to select the sample is multistage random sampling where the first stage of sample processing is carried by selection of districts in north Gujarat and then at second stage selection of NGO from these districts.

The next stage of sampling was carried to select the sample to act as respondents for the further research and the respondents were segregated on the basis of different districts. The later stage of sampling includes survey of the selected sample through

survey questionnaire. The tool of data collection is used to collect primary data from the selected respondents and secondary data is collected through published works.

6.5.3 Population

The population of the research study includes patients from four selected districts and all the employees who are working in the NGO also located in the four selected districts of north Gujarat.

6.5.4 Sample Size

The sample size constitutes of 400 Patients from the 4 districts and 200 employees who are working in the NGO located in the four selected districts of north Gujarat. From each district 100 and 50 sample units are selected respectively for the study.

6.5.5 Period of Study

The study covers a period of 3 years.

6.6 Research Methodology

The method of research is quantitative and the data is collected through survey questionnaire. The response rate of questionnaire filling is 80%, 20% of the respondents did not complete the questionnaire.

6.6.1 Tool of Data Collection

A primary questionnaire was designed to collect the responses from NGO workers and HIV positive patients who were selected randomly to test the survey tool

Once the response from 50 respondents were received, the questionnaire was improved by the researcher to remove the unnecessary questions and those who were difficult to be answered by the respondents. Cleaning and purifying, is the most common way of guaranteeing that your information is right, steady, and usable for the research purpose. Rectification, addition, deletion etc. was done on a case by case basis to keep the mistake from reoccurring.

Reverse scaling was done during the pilot study, to check the biasness of respondents. The researcher asked a few open-ended questions to know the view of respondents on the mentioned parameters and after corrections the tool of data collection was finalized to collect data from the large sample.

6.6.2 Validity and Reliability Test

Reliability is the consistency of the measurement; the results will not change every time when testing in the same way with the same subject. “A measure is considered reliable if a person's score on the same test given twice is similar.” Reliability cannot be measured only can be estimated.

Validity suggests that if the measure measures what it supposed to analyze. In short, validity is about the accuracy of the measurement. It is vital for a test to be valid in order for the results to be accurately applied and interpreted. Validity is not determined by a single statistic, but by a body of research that demonstrates the relationship between the test and the behaviour it is intended to measure.

The value of Cronbach's alpha test for the final questionnaire with a sample of 400 respondents is .852 which is excellent, according to different theory of reliability value above 0.6 is appropriate, low value below the 0.5 implies that reliability may not be appropriate.

Thus, the final questionnaire was used for gathering primary information that has been enclosed as Appendix I.

6.6.3 Statistical Tool Applied

Statistical tools like,ANOVA test, Correlation and Chi-square test are used for the analysis of the data Table, Graphs and Diagrams are also used to present the processed data.

Chi- square Test

The hypothesis was tested by applying a non- parametric test **Chi-square (x^2test).** The quantity $\mathbf{x^2}$describes the magnitude of discrepancy between theory and observation.

The formula

$$\mathbf{X2} = \frac{\sum(\mathbf{F_o} - \mathbf{F_e})^2}{\boldsymbol{F}\mathbf{e}}$$

Fo= Observed frequency

Fe = expected frequency

Steps for Calculation of (x^2) Chi-Square

i) Compute the expected frequencies (Fe)

ii) (Fo-Fe) is computed. iii) $(Fo-Fe)^2$

is calculated.

iv) The squared differences between frequencies $(Fo-Fe)^2$ are divided by expected frequency (Fe) that is $(Fo-Fe)^2$ / Fe is calculated.

v) These quotients are added together to obtain the total of computed of x^2 values that is □ $(Fo-Fe)^2$ /Fe is obtained. vi) The degrees of freedom (d.f.) are calculated from the frequency table called contingency table by using the formula.

d.f. = (c-1) (r-1) c = number of cell frequencies in columns r = number of cell frequencies in rows vii) The computed value is then compared to the tabular value of x^2 viii) If the computed value is lesser than tabular value the null hypothesis is accepted.

Conditions for using x^2 test

- The experimental data or sample observations must be independent of each other.
- The data collected must be drawn at random from the universe or population.

- The data must be presented in original units.

Correlation

The statistical tool with the help of which relationship between two or more than two variables is studied is correlation.

The Karl Pearson's method, popularly known as Pearsonian coefficient of correlation, is most widely used. The coefficient of correlation is denoted by r. this symbol is used for describing the degree and direction of relationship between two variables.

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)]^2\,[N\sum y^2 - (\sum y)^2}}$$

Where,

N = Number of pairs of scores

$\sum xy$ = sum of the products of paired scores

$\sum x$ = Sum of x scores

$\sum y$ = sum of y scores

ANOVA

Analysis of variance, also called ANOVA, is a collection of methods for comparing multiple means across different groups. The "analysis of variance" procedure or "F" test is used for the significance of the difference among more than two sample means.

Assumptions in Analysis of Variance

The analysis of variance technique is based on the following assumptions:

1. Each sample is drawn randomly from a normal population and the sample statistics tend to reflect the characteristics of the population

2. The population from which the samples are drawn have identical means and variances

Computation of Analysis of Variance

The null hypothesis while applying analysis of variance technique is that the means of different samples do not differ significantly. It can be calculated in two ways-

One -way classification, and Two -way classification

Anova is a statistical test which analyzes variance. It is helpful in making comparison of two or more means which enables a researcher to draw various results and predictions about two or more sets of data. Anova test includes one-way anova, two-way anova or multiple anova depending upon the type and arrangement of the data.

One-way anova has the following test statistics:

$$F = \frac{\text{MST}}{\text{MSE}}$$

Where,

F = Anova Coefficient

MST = Mean sum of squares due to treatment (**Formula is given below)**

MSE = Mean sum of squares due to error. (**Formula is given below)**

$$\text{MST} = \frac{\text{MSE}}{\text{p} - 1}$$

$$\boldsymbol{SST = \sum n(X - \bar{X})^2}$$

Where,

SST = Sum of squares due to treatment p =

Total number of populations n = Total

number of samples in a population.

And Formula for MSE is:

$$MSE = \frac{SSE}{N - p}$$

$$S = \sum (n-1)S^2$$

Where,

SSE = Sum of squares due to error

S = Standard deviation of the samples

N = Total number of observations.

ANOVA is used to test the significance of group differences between two or more groups when the IV has two or more categories and it only determines that there is a difference between groups, but doesn't tell which is different.

6.7 Limitations of the Research

- The study is limited to selected districts of north Gujarat region and with some HIV patients and employees of NGO in selected region only.
- The study is limited to only one aspect, i.e., legal awareness of HIV patients
- The sample size remains limited
- Some of the conclusions are based on the estimates, assumptions, observations and informal interviews
- Primary data collection was difficult and so the responses may be biased.