CHAPTER FOUR
METHODOLOGY

4.0.0. INTRODUCTION

“Research is creating new knowledge”
- Neil Armstrong

This chapter deals with the methodology adopted by the investigator for this study. It describes about the procedure of the study, the variables used in the study, tools used to carry out the study, population and sample of the study and the statistical procedure used for data collection and for the data analysis.

4.1.0. DESIGN OF THE STUDY

The research design refers to the overall strategy that was chosen in order to integrate the different components of the study in a coherent and logical way, thereby, ensuring to effectively address the research problem. It constitutes the blueprint for the collection, measurement, and analysis of the data. The function of a research design is to ensure that the evidence thus obtained enables to effectively address the research problem as unambiguously as possible. In social sciences research, obtaining evidence relevant to the research problem generally entails specifying the type of evidence needed to test a theory, to evaluate a program, or to accurately describe a phenomenon.

Given this, the length and complexity of research designs can vary considerably, but any sound design will do the following:
1. Identify the research problem clearly and justify its selection,

2. Review previously published literature associated with the problem area,

3. Clearly and explicitly specify hypotheses [i.e., research questions] central to the problem selected,

4. Effectively describe the data which will be necessary for an adequate test of the hypotheses and explain how such data will be obtained, and

5. Describe the methods of analysis which will be applied to the data in determining whether or not the hypotheses are true or false.

This study undertakes non experimental hypothesis testing. The present study was a **descriptive survey study**, which was intended to measure the different dimensions of victimization like biological, psychological, sociological and legal of permanent resident transgender persons (PRT) and migrant transgender persons (MT) in Thoothukudi district by administering the tools developed for the study. The investigator had adopted **purposive sampling technique** for the study. The diagrammatic representation of the research design is given in the table 4.1.

**Table 4.1**

**Design of the Study - A Diagrammatic Representation**

<table>
<thead>
<tr>
<th>Phase One</th>
<th>1. Selection of the variable involved in the study</th>
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<tbody>
<tr>
<td></td>
<td>2. Construction and validation of the tool</td>
</tr>
<tr>
<td>Phase Two</td>
<td>1. Selection of the sample</td>
</tr>
<tr>
<td></td>
<td>2. Collection of data</td>
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<td>Phase Three</td>
<td>1. Analysis of data using suitable statistics procedures</td>
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<tr>
<td></td>
<td>2. Interpretation of the results</td>
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</table>
4.2.0. VARIABLES OF THE STUDY

i) Independent variable

The independent variables of the study were different dimensions of victimization like biological, psychological, sociological and legal of permanent residence transgender persons and migrant transgender persons of Thoothukudi district of Tamil Nadu.

ii) Dependent Variable

The dependent variable of the study involves the effects of victimization of permanent residence transgender persons and migrant transgender persons of Thoothukudi District of Tamil Nadu.

Figure: 4.1 Diagrammatic Representations of Independent and Dependent Variable Of the Study
iii) Background Variables

The background variables used in the study are age, educational qualification, employment, income, marital status, religion, area of living.

Figure: 4.2 Diagrammatic Representation of the Background variables of the Study

Figure: 4.3 Diagrammatic Representation of the Background variables of the Study

The independent and Dependent variables involved in the study is given below
4.2.1. VICTIMIZATION

Unwarranted singling out of an individual or group for subjection to crime, exploitation, tort, unfair treatment, or other wrongs.

4.2.2. BIOLOGICAL DIMENSION

It involves transgender persons mental and medical health care (e.g., hormone therapies, sexual reassignment surgery, safe and trans-positive general medical services) through the entire lifespan, not just during the initial assessment process or during transition.

4.2.3. PSYCHOLOGICAL DIMENSION

Ascertain the needs and presenting concerns of transgender clients, including transgender identity development, gender confusion, gender transition, gender expression, sexuality, anxiety and depression related to transgender life experiences, family/partner relationships, substance abuse, transgender health issues, and presenting concerns unrelated to gender.

4.2.4. SOCIOLOGICAL DIMENSION

The contextual factors and social determinants of health (i.e. race, education, ethnicity, religion and spirituality, socioeconomic status, sexual orientation, role in the family, peer group, geographical region, etc.) on the course of development of transgender identities.

4.2.5. LEGAL DIMENSION

Legal procedures exist in the jurisdictions to allow the individuals to change their legal gender, or their name, to reflect their gender identity. Requirements for these procedures vary from an explicit formal diagnosis of transsexualism, to a diagnosis of gender identity disorder, to a letter from a physician attesting to the
individual's gender transition, or the fact that one has established a different gender role.

4.2.5. TRANSGENDER PERSONS

An umbrella term that can be used to describe people whose gender expression is nonconforming and/or whose gender identity is different from their birth assigned gender. Transgender people might identify as male-to-female or female-to-male. The term transgender person also includes individuals who do not conform to the binary gender system. In other words, they may consider themselves both male and female or neither male nor female.

4.2.6. PERMANENT RESIDENT TRANSGENDER PERSONS

Transgender persons living permanently in Thoothukudi District.

4.2.7. MIGRANT TRANSGENDER PERSONS

Transgender persons those who occasionally visit Thoothukudi District.

4.2.8. THOOTHUKUDI DISTRICT

It is one among the thirty two districts in Tamil Nadu.

4.3.0. TOOL USED IN THE STUDY

Transgender Victimization Questionnaire was constructed by the investigator and the guide and used to study the different dimensions of victimization like biological, psychological, sociological and legal of permanent residence transgender persons and migrant transgender persons of Thoothukudi District.

4.3.1. RATIONALE FOR CONSTRUCTING THE TOOLS

After the selection of the dimensions related to the variables of the study the investigator was looking out for tools to assess the different dimensions of victimization like biological, psychological, sociological and legal which helps to
evaluate the effects of victimization of permanent resident transgender persons and migrant transgender persons. For this purpose the investigator went through related literature, thesis, journals, dissertations and handbooks of psychological and social instruments. The investigator was unable to locate any tool to fulfill the objectives of the present study, so the investigator decided to construct the tool. The tool thus prepared by the investigator was Transgender Victimization Questionnaire.

4.3.2. CONSTRUCTION OF THE TOOLS

The preparation of the tools titled “Transgender Victimization Questionnaire” to measure the different dimensions like biological, psychological, sociological and legal which find the effects of victimization of the permanent resident transgender persons and migrant transgender persons was undertaken using the following phases:

1. Writing of items.
2. Preparation of initial draft.
3. Evaluation of initial draft.
4. Preparation of second draft.
5. Pilot Study & Validation of the tool.
6. Preparation of final draft.

Phase I: Writing of items

The investigator had selected different methods for the construction of the tools. An initial part of hundred questions were prepared for different dimensions of victimization like biological, psychological, sociological and legal. The tools were developed in both English and Tamil version.

Phase II: Preparation of Initial Draft

The investigator selected items under each dimensions of victimization. Under each dimensions, out of the hundred items prepared certain items were selected on the
basis of clarity and specificity of the items. The selected items were arranged under each dimension. The dimensions selected for each variable is as follows;

**Dimensions for Transgender Victimization**

Dimensions of victimization include biological, psychological, sociological and legal of permanent residence transgender persons and migrant transgender persons of Thoothukudi District.

**Phase III: Evaluation of the Initial Draft**

The initial draft of the tool was submitted to the guide for evaluation. The guide scrutinized all the items constructed by the investigator and suggested the following modification in order to make it suit the purpose suitable for this study.

1. To distribute equal number of questions to each component.
2. To split long statements into short specific statements.
3. To include more number of questions related to learning disability.

**Phase IV: Preparation of the Second Draft**

The investigator implemented the suggestions given by the guide in the second draft. Equal numbers of questions were distributed to each component, long statements were split into short specific statements, and more number of questions related to Transgender Victimization was added.

**Phase V: Validation of the tool**

The draft was submitted to three experts in the field of Criminology for validation, their suggestions, corrections and approval of the experts were included in the final form of Transgender Victimization Questionnaire.

A copy of Transgender Victimization Questionnaire was submitted to three experts in the field of Criminology to check for content and concurrent validity. They
were requested to go through the statements and to give their valuable suggestions 
and corrections regarding the following aspects.

1. The specificity and clarity of the statements.
2. The appropriateness of the statements with respect to each component.
3. Any aspect or statements to be added or deleted.

Accordingly the following suggestions were given:

1. To construct a few items in order to make it more specific.
2. To use simple language.
3. To add few more questions in the Transgender Victimization questionnaire.

**Phase VI: Pilot study & Validation of the Tool**

For the purpose of establishing reliability of the prepared tools a pilot study 
was conducted on a sample of 30 Transgender persons from Thoothukudi District.

The investigator used Test-Retest method for finding reliability of the tool. A 
sample of 30 Transgender persons was chosen from Thoothukudi District. After 
collecting the data the responses were scored. After two weeks the same tools were 
given to the same set of Transgender persons and their responses were scored. Then 
Pearson product moment correlations were found for the two set of scores. The 
computed reliability scores are given in the table below.

**Table 4.1**

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Tool</th>
<th>Reliability Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transgender Victimization Questionnaire</td>
<td>0.753</td>
</tr>
</tbody>
</table>
Validity

Validity is generally defined as its capacity to measure what it purports to measure. The inventory studied by three experts and the contents was found to be relevant with regard to the items. Moreover the items after being studied by experts were modified. Hence the questionnaire was considered to be valid to assess the different dimensions of Transgender Victimization.

Phase VII: Preparation of the Final Draft

The suggestions, corrections and opinion of the experts and the guide were implemented in the final draft of the tool. The items were made specific and clear. The numbers of items selected for the final draft of tool are given in table 4.2.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Tools</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>General profile of Transgender persons</td>
<td>8</td>
</tr>
<tr>
<td>2.</td>
<td>Biological Dimension</td>
<td>16</td>
</tr>
<tr>
<td>3.</td>
<td>Psychological Dimension</td>
<td>22</td>
</tr>
<tr>
<td>4.</td>
<td>Sociological Dimension</td>
<td>14</td>
</tr>
<tr>
<td>5.</td>
<td>Legal Dimension</td>
<td>19</td>
</tr>
</tbody>
</table>

In addition to the above tool a general (Personal) profile is also developed by the researcher to collect the personal data of the samples chosen. General profile is developed for the transgender and this profile is created with questions which is relevant to know the background of these individuals. This profile consists of eight items. The sample tool were given in appendix-I.
4.3.3. PREPARATION OF THE RESPONSE SHEET

The investigator prepared a model of the response sheet. The respondent was asked to indicate to what extent each statement is suitable for the items given in tools. The alternatives used for Transgender Victimization Questionnaire is given below in table 4.3. The scoring key is given in appendix-II.

Table 4.3
Alternatives Used for the Tools

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Dimensions of Transgender Victimization</th>
<th>Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Biological</td>
<td>Strongly Agree, Agree, Disagree, Strongly Disagree</td>
</tr>
<tr>
<td>2.</td>
<td>Psychological</td>
<td>Strongly Agree, Agree, Disagree, Strongly Disagree</td>
</tr>
<tr>
<td>3.</td>
<td>Sociological</td>
<td>Strongly Agree, Agree, Disagree, Strongly Disagree</td>
</tr>
<tr>
<td>4.</td>
<td>Legal</td>
<td>Strongly Agree, Agree, Disagree, Strongly Disagree</td>
</tr>
</tbody>
</table>
4.4.0. POPULATION AND SAMPLE

A population in research is a group of items, which possess certain common characteristics of interest to the researcher. This is the target population. The researches would like to generalize the result of a study to this population. However, the target population is ideal and is seldom available for the study. The population that is accessible to the researcher is the population to which the researcher is entitled to generalize the findings. A group or sample which represents the population is drawn from it. Sampling is concerned with the selection of a subset of individuals from within a statistical population to estimate characteristics of the whole population. The three main advantages of sampling are that the cost is lower, data collection is faster, and since the data set is smaller it is possible to ensure homogeneity and to improve the accuracy and quality of the data. The researcher attempts to generalize and apply information obtained by conducting a study on the sample of the accessible population.

4.4.1. POPULATION OF THE STUDY

In the present study, the population consisted of all the Transgender persons who are victimized in any one of the dimension selected by the investigator who is a permanent resident or a migrant transgender persons belong to any age group. This was the population, to which the researcher wanted to generalize the result of the present study.

4.4.2. SAMPLING

Sampling is a process of selecting a part of the total population. Sampling is the process of selecting units (e.g., people, organizations) from a population of interest so that by studying the sample we may fairly generalize our results back to the
population from which they were chosen. The investigator employed Purposive sampling technique to identify the permanent and migrant transgender persons of Thoothukudi District.

4.4.2.0. Purposive Disproportionate Sampling

Purposive sampling represents a group of different non-probability sampling techniques. Also known as judgmental, selective or subjective sampling, purposive sampling relies on the judgment of the researcher when it comes to selecting the units (e.g., people, cases/organizations, events, pieces of data) that are to be studied. Usually, the sample being investigated is quite small, especially when compared with probability sampling techniques.

Unlike the various sampling techniques that can be used under probability sampling, the goal of purposive sampling is not to randomly select units from a population to create a sample with the intention of making generalizations (i.e., statistical inferences) from that sample to the population of interest. This is the general intent of research that is guided by a quantitative research design.

The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable you to answer your research questions. The sample being studied is not representative of the population, but for researchers pursuing qualitative or mixed methods research designs, this is not considered to be a weakness. Rather, it is a choice, the purpose of which varies depending on the type of purposive sampling technique that is used. For example, in homogeneous sampling, units are selected based on their having similar characteristics because such characteristics are of particular interested to the researcher. By contrast, critical case sampling is frequently used in exploratory,
qualitative research in order to assess whether the phenomenon of interest even exists (amongst other reasons).

During the course of a qualitative or mixed methods research design, more than one type of purposive sampling technique may be used. For example, critical case sampling may be used to investigate whether a phenomenon is worth investigating further, before adopting a maximum variation sampling technique is used to develop a wider picture of the phenomenon.

iii) Disproportionate sampling

Disproportionate sampling is a sampling procedure in which the number of elements sampled from each stratum is not proportional to their representation in the total population. Population elements are not given an equal chance to be included in the sample. The same sampling fraction is not applied to each stratum.

The investigator employed Purposive Sampling Technique in which the district selected was Thoothukudi where in the migrant transgender persons who had migrated from other places of Tamil Nadu and the resident transgender persons who is the native of the district were sampled. Out of the sampling hundred samples were from migrant transgender persons and other hundred were of permanent resident transgender persons. The diagrammatic representation of the Purposive Disproportionate Sampling of the study is given in the figure below
4.4.3. SAMPLE OF THE STUDY

The sample of the study consisted of two hundred transgender persons, out of which hundred belongs to permanent transgender persons and hundred from migrant transgender persons of Thoothukudi District.

4.5.0. PROCEDURE FOR DATA COLLECTION

For the purpose of collecting data the investigator personally visited different Sangams of Transgender persons from in and around of Thoothukudi and the majority of the datas was collected from the Thoothukudi nazareth diocese social welfare department for transgender persons, in which the investigator himself is the director. Since he is from the same background and had experienced different problems faced by the transgender persons. During each meeting organized by the social welfare department he was faced by many issues dealt by transgender persons in their day to day activities. The investigator was personally approached the permanent resident and migrant transgender persons and explained the purpose of collecting the data, and he detailed each questions from the four dimensions in detail. The response sheets from
the transgender persons were collected and it took around six months to get the data. The investigator also interviewed them to confirm the accuracy.

4.6.0. STATISTICAL TECHNIQUES USED

To study the different victimization of transgender persons in Thoothukudi District, the following statistical techniques were used.

1. Descriptive Statistics

A set of brief descriptive coefficients that summarizes a given data set, which can either be a representation of the entire population or a sample. The measures used to describe the data set are measures of central tendency and measures of variability or dispersion. Data analysis draws its main conclusions using inferential statistics and descriptive statistics. For example in a paper reporting on a study involving human subjects, there typically appears a table giving the overall sample size, sample sizes in important subgroups (e.g., for each treatment or exposure group), and demographic or clinical characteristics such as the average age, the proportion of subjects of each sex, and the proportion of subjects with related to comorbidities. Descriptive statistics namely, mean median, standard deviation and bar diagram were computed for the variables in the study.

2. Reliability analysis in statistics

Reliability is the consistency of a set of measurements or of a measuring instrument, often used to describe a test. Reliability is inversely related to random error. Test-retest reliability is the variation in measurements taken by a single person or instrument on the same item and under the same conditions. This includes intra-rater reliability. Reliability may be estimated through a variety of methods that fall into two types: single administration and multiple-administration. Multiple-administration methods require that two assessments are administered. In the
test-retest method, reliability is estimated as the Pearson product-moment correlation coefficient between two administrations of the same measure.

3. ‘t’ – test

The t-test assesses whether the means of two groups are statistically different from each other. This analysis is appropriate to compare the means of two groups.

4. ANOVA (Analysis of Variance)

Analysis of variance is an extremely useful technique, for testing difference between the means of multiple independent samples. The basic principle for ANOVA is to test the differences among the means of the samples by examining the amount of variation between the samples relative to the amount of variation between the samples.

4. PEARSON PRODUCT –MOMENT CORRELATION

Pearson ‘r’ is used to estimating the extent of relation existing among the different variables taken in pairs for all the different groups.

5. Chi Square test

Chi-square is a statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis. Chi-square is the sum of the squared difference between observed ($o$) and the expected ($e$) data (or the deviation, $d$), divided by the expected data in all possible categories.

The analysis and interpretation of the tabulated data as objective wise has been presented in chapter five.