CHAPTER-III

RESEARCH METHODOLOGY

*http://upload.wikimedia.org/Wikipedia/commons/9/97/Athma triggers 2.PNG
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CHAPTER-III

RESEARCH METHODOLOGY

Research has moved during present century from the periphery to the centre of our psychological, socio-cultural, economical as well as physical and mental health of human life. It simply seeks the answer of certain questions which have not been answered so far and the answers depend upon human efforts. The main function of research is to improve research procedures through the refinement and extension of knowledge.

Clifford Woody (1927) has defined that “Research is a carefully inquiry or examination in seeking facts or principles; a diligent investigation to ascertain something”. This definition makes clear the fact that research is not merely a search for truth, but a prolonged, intensive, purposeful search. It comprises defining and redefining problems, formulating hypothesis, collecting, analyzing, evaluating data, deriving conclusions, suggesting solutions and thus to test hypothesis. In the same context the present study also has been carried out with the use of scientific methodology.

3.1 INTRODUCTION

Number of psycho-social and psychosomatic issues are selected for research by genius experts from the various fields of human behavior. An ultimate goal of all such efforts is to seek to see what others have seen but to think what others have not thought of. An approach towards research in the present time is developed in the terms of multi-dimensional, multi or inter-disciplinary, multi-functional and multi-institutional efforts. Thus, scientific facts have been discovered during last many decades and significant knowledge has been
achieved to make the human life meaningful and cheerful in the modern age. Asthma is also one of psychosomatic problems studied by medical experts, psychologists and the other systems of therapy. Remarkable development has taken place in the same direction.

The present study deals with the same problem of Asthma in context to its psychological consequences in human life. A scientific effort is made in the study to find out psychological consequences resulted from such psychosomatic disease Asthma. Mainly the problems are observed in three areas viz. Adjustment, Depression and Well-Beingness associated to Asthma. It is observed and proved that the disturbances taking place in respiratory system and resulting into Asthma create number of psychological behavioral problems like maladjustment, mood variation and the mental state of Well-Beingness.

As Stephen (2002) indicates that Asthma constitutes an additional significant independent stressor or risk factor among individuals who already are at a high risk for multiplying Adjustment problems. Daniel (2010) suggests that Depression can seriously impair a person’s ability to function in everyday situations. But the prospects for recovery are good for individuals with Depression who receive appropriate professional care. Diener (2000) illustrates that people experience an abundance of subjective well being when they feel many pleasant and few unpleasant emotions, when they are engaged in interesting activities, when they experience many pleasures and few pains, when they are satisfied with their lives i.e. a person with high subjective well being has a pervasive sense that life is good.

All such expert’s views clearly indicate that Asthma is that psychosomatic disease which necessarily produces dissonance in personality of human beings. In the same context, the present problem is selected and that can be stated as under.
3.2 STATEMENT OF RESEARCH PROBLEM

The present study is:

“A Comparative study of Asthamic and Non-Asthamic Individuals in context to their
Adjustment, Depression and Well-Beingness”

3.3 OPERATIONAL DEFINITIONS OF KEY TERMS

3.3.1. Independent Variables

The key terms are as under:

- **Asthamic Individuals** (AI)
  Those individuals who are diagnosed with Asthma and taking medicines for the same
  prescribed by recognized doctor during last 5 years.

- **Non-Asthamic Individuals** (NAI)
  Those individuals who have not shown any symptom of Asthma during last 5 years.

- **Gender**
  For the present study, two gender categories were taken into consideration: male and
  female subjects.
➢ **Size of Family**

For the present study, subjects were classified into three groups based on their number of family members:

i. Small Family [2 – 4 members]

ii. Medium Family [5 – 7 members]

iii. Large Family [8 and more members]

### 3.3.2. Dependent Variables

- **Adjustment**

The concept of Adjustment can be operationally defined as under as it is taken in the present study.

According to Hugh M. Bell, Adjustment is an important psychological variable which can be defined as, “An index of integration between need & satisfaction, promotes or demotes self-system, achievement motivation, scholastic achievement, social acceptance, sex, age, economic as well as social status, social maturity and moral system”. From psychological point of view, “Adjustment is the process by means of which the individual attempts to maintain a level of psychological equilibrium”. Adjustment refers to the behavior directed towards tension reduction. The personality of an individual consists of his persistent tendencies to make certain kind of adjustment of an individual to his environment.
Sharma and Joshi (2010) define that “Adjustment is the process by which a living organism maintains a balance between its need and the circumstances that influence the satisfaction of these needs”. The adjustment process involves four parts: (1) a need or motive in the form of a strong persistent stimulus, (2) the thwarting or non-fulfillment of this need, (3) varied activity, or exploratory behavior accompanied by problem solving, and (4) some response that removes or at least reduces the initiating stimulus and completes the adjustment.

“Adjustment refers both to an achievement or outcome as well as a process” (Cherisse, 2009). According to Dictionary of Education (Good, 1959) defines Adjustment as the “Process of finding and adopting modes of behavior suitable to the environment or to the changes in the environment”. Adjustment means the behavioral process by which humans and other animals maintain equilibrium among their various needs or between their needs and the obstacles of their environments.

By using Bell Adjustment Inventory, 4 areas of Adjustment have been studied.

- **Depression**

  The concept of Depression can be operationally defined as under as it is taken in the present study.

  As per Aaron T. Beck, “Depression is the result of faulty or maladaptive cognitive processes”. Beck’s Cognitive Triad (1976) represents three types of negative thoughts present in Depression. The triad involves negative thoughts about:

  - The Self (i.e., the self is worthless)
• The World / Environment (i.e., the world is unfair)

• The Future (i.e., the future is hopeless)

Lynne (2010) defines that, “Depression is often a signal that certain mental, emotional and physical aspects of a person’s life are out of balance.” Depression is defined as a mood or emotional state that is marked by feelings of low self-worth or guilt and a reduced ability to enjoy life. Bilsker (2005) stated that “Depression is an extreme low mood that lasts a long time and makes a person feel sad, irritable or empty”.

The relationship between Depression and Asthma may involve more than one causal pathway and includes the possibility that Depression can lead to a sense of hopelessness that erodes adherence and other health-promoting behavior, or that Depression impacts Asthma directly by altering the immune system.

Depressed individuals tend to feel helpless and hopeless and to blame themselves for having these feelings. Some may have thoughts of death or suicide. People who are depressed may become overwhelmed and exhausted and stop participating in certain everyday activities altogether. They may withdraw from family and friends. (American Psychological Association, 2004).

By using Beck Depression Inventory, the concept of Depression has been studied.
• **Well-Beingness**

The concept of Well-Being can be operationally defined as under as it is taken in the present study.

The psychological Well-Being is a subjective concept which commonly describes the mental state of the individual. The Well-Being indicates the happiness, satisfaction, sense of achievement, utility, belongingness & the absence of dissatisfaction, worry and distress in the individual.

According to Devendra Sisodia and Pooja Chaudhary – The Indian perspective identifies four aspects viz. the five elements, the person or jeeva, the life or ayu, and the health or arogya. Well-being as per Indian perspective relates to well-being on physical, psychological and spiritual planes. The Indian approach to well-being refers to Maitri, Karuna and Upeksha meaning relatedness, compassion, pleasant disposition and avoidance of conflict. In other words well-being refers to uniting self with self by negating the ego. This in turn indicates that well-being is a combination of survival, well-being freedom and identity.

Diener (2000) describes subjective well being as, “People’s evaluation of their lives – evaluations that are both affective and cognitive”. Well-being is a dynamic concept that includes subjective, social and psychological dimensions as well as health-related behaviors. Moreover well-being has been defined from two perspectives i.e. the clinical perspective describes well-being as – “The absence of negative conditions” and the psychological perspective describes well-being as – “The prevalence of positive attributes.”
The general evaluation of one’s quality of life is defined as Well-being. The concept has been conceptualized as the three components:

- A cognitive appraisal that one’s life was good (life satisfaction)
- Experiencing positive levels of pleasant emotions
- Experiencing relatively low levels of negative moods

By using Psychological Well-Being Scale, 5 areas of Well-Being have been studied.

3.4 OBJECTIVES OF THE PRESENT STUDY

In the present research, an attempt has been made to study the Adjustment, Depression and Well-Beingness of asthmatic and non-asthmatic individuals with following objectives:

1. To make a comparative study of the differences in adjustment pattern, Depression level and well-beingness criterion of the subjects belonging to two groups of asthmatic individual (AI) and non-asthmatic individual (NAI).

2. To study the effect of gender on asthmatic individual (AI) and non-asthmatic individual (NAI) in relation to their adjustment, Depression and well-beingness.

3. To study the influence of size of family on asthmatic individual (AI) and non-asthmatic individual (NAI) in relation to their adjustment, Depression and well-beingness.

4. To study the interaction effect on adjustment, Depression and well-beingness of asthmatic individual (AI) and non-asthmatic individual (NAI) in relation to their gender and size of family.
5. A polite effort is also made in the present study to contribute something in the studies of Clinical Psychology by observing relationship between psychosomatic problems and psychological issues.

6. The present investigation is also aimed to augment the understanding of the behavioral patterns resulted from mood swings and the emotional conditions of asthmatic and non-asthmatic individuals in terms of adjustment, Depression and well-beingness.

3.5 FORMULATION OF NULL HYPOTHESIS

The following hypothesis are formulated and evaluated in the present study:

**Ho 1.** There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their home adjustment.

**Ho 2.** There is no significant difference between the mean scores of male and female respondents in context to their home adjustment.

**Ho 3.** There is no significant difference among the mean scores of small, medium and large family in context to their home adjustment.

**Ho 4.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of home adjustment.

**Ho 5.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of home adjustment.
Ho 6. There is no significant interaction effect between gender and size of family in context to their mean scores of home adjustment.

Ho 7. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of home adjustment.

Ho 8. There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their health adjustment.

Ho 9. There is no significant difference between the mean scores of male and female respondents in context to their health adjustment.

Ho 10. There is no significant difference among the mean scores of small, medium and large family in context to their health adjustment.

Ho 11. There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of health adjustment.

Ho 12. There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of health adjustment.

Ho 13. There is no significant interaction effect between gender and size of family in context to their mean scores of health adjustment.
Ho 14. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of health adjustment.

Ho 15. There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their social adjustment.

Ho 16. There is no significant difference between the mean scores of male and female respondents in context to their social adjustment.

Ho 17. There is no significant difference among the mean scores of small, medium and large family in context to their social adjustment.

Ho 18. There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of social adjustment.

Ho 19. There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of social adjustment.

Ho 20. There is no significant interaction effect between gender and size of family in context to their mean scores of social adjustment.

Ho 21. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of social adjustment.
Ho 22. There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their emotional adjustment.

Ho 23. There is no significant difference between the mean scores of male and female respondents in context to their emotional adjustment.

Ho 24. There is no significant difference among the mean scores of small, medium and large family in context to their emotional adjustment.

Ho 25. There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of emotional adjustment.

Ho 26. There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of emotional adjustment.

Ho 27. There is no significant interaction effect between gender and size of family in context to their mean scores of emotional adjustment.

Ho 28. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of emotional adjustment.

Ho 29. There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their overall adjustment.
**Ho 30.** There is no significant difference between the mean scores of male and female respondents in context to their overall adjustment.

**Ho 31.** There is no significant difference among the mean scores of small, medium and large family in context to their overall adjustment.

**Ho 32.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of overall adjustment.

**Ho 33.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of overall adjustment.

**Ho 34.** There is no significant interaction effect between gender and size of family in context to their mean scores of overall adjustment.

**Ho 35.** There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of overall adjustment.

**Ho 36.** There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their Depression level.

**Ho 37.** There is no significant difference between the mean scores of male and female respondents in context to their Depression level.
**Ho 38.** There is no significant difference among the mean scores of small, medium and large family in context to their Depression level.

**Ho 39.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of Depression level.

**Ho 40.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of Depression level.

**Ho 41.** There is no significant interaction effect between gender and size of family in context to their mean scores of Depression level.

**Ho 42.** There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of Depression level.

**Ho 43.** There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their satisfaction level.

**Ho 44.** There is no significant difference between the mean scores of male and female respondents in context to their satisfaction level.

**Ho 45.** There is no significant difference among the mean scores of small, medium and large family in context to their satisfaction level.
**Ho 46.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of satisfaction level.

**Ho 47.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of satisfaction level.

**Ho 48.** There is no significant interaction effect between gender and size of family in context to their mean scores of satisfaction level.

**Ho 49.** There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of satisfaction level.

**Ho 50.** There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their efficiency level.

**Ho 51.** There is no significant difference between the mean scores of male and female respondents in context to their efficiency level.

**Ho 52.** There is no significant difference among the mean scores of small, medium and large family in context to their efficiency level.

**Ho 53.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of efficiency level.
Ho 54. There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of efficiency level.

Ho 55. There is no significant interaction effect between gender and size of family in context to their mean scores of efficiency level.

Ho 56. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of efficiency level.

Ho 57. There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their sociability level.

Ho 58. There is no significant difference between the mean scores of male and female respondents in context to their sociability level.

Ho 59. There is no significant difference among the mean scores of small, medium and large family in context to their sociability level.

Ho 60. There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of sociability level.

Ho 61. There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of sociability level.
**Ho 62.** There is no significant interaction effect between gender and size of family in context to their mean scores of sociability level.

**Ho 63.** There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of sociability level.

**Ho 64.** There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their mental health level.

**Ho 65.** There is no significant difference between the mean scores of male and female respondents in context to their mental health level.

**Ho 66.** There is no significant difference among the mean scores of small, medium and large family in context to their mental health level.

**Ho 67.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of mental health level.

**Ho 68.** There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of mental health level.

**Ho 69.** There is no significant interaction effect between gender and size of family in context to their mean scores of mental health level.
Ho 70. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of mental health level.

Ho 71. There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their interpersonal relationship.

Ho 72. There is no significant difference between the mean scores of male and female respondents in context to their interpersonal relationship.

Ho 73. There is no significant difference among the mean scores of small, medium and large family in context to their interpersonal relationship.

Ho 74. There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of interpersonal relationship.

Ho 75. There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of interpersonal relationship.

Ho 76. There is no significant interaction effect between gender and size of family in context to their mean scores of interpersonal relationship.

Ho 77. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of interpersonal relationship.
Ho 78. There is no significant difference between the mean scores of asthmatic and non-asthmatic individuals in context to their overall well-beingness.

Ho 79. There is no significant difference between the mean scores of male and female respondents in context to their overall well-beingness.

Ho 80. There is no significant difference among the mean scores of small, medium and large family in context to their overall well-beingness.

Ho 81. There is no significant interaction effect between asthmatic & non-asthmatic individuals and gender in context to their mean scores of overall well-beingness.

Ho 82. There is no significant interaction effect between asthmatic & non-asthmatic individuals and size of family in context to their mean scores of overall well-beingness.

Ho 83. There is no significant interaction effect between gender and size of family in context to their mean scores of overall well-beingness.

Ho 84. There is no significant interaction effect among asthmatic & non-asthmatic individuals, gender and size of family in context to their mean scores of overall well-beingness.

3.6 VARIABLES

Asthmatic and non-asthmatic individuals (AI, NAI), two levels of gender (male, female) and three levels of size of family (small, medium and large family) were taken as independent variables. Adjustment, Depression and Well-Being were taken as dependent variables.
The variables of present study are listed below:

**Table 3.1**

<table>
<thead>
<tr>
<th>Name of the Variables</th>
<th>Nature of Variables</th>
<th>Number of Levels</th>
<th>Name of the Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Groups</td>
<td>Independent</td>
<td>2</td>
<td>Asthmatic Individuals (AI)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Non-Asthamic Individuals (NAI)</td>
</tr>
<tr>
<td>Gender</td>
<td>Independent</td>
<td>2</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
</tr>
<tr>
<td>Size of Family</td>
<td>Independent</td>
<td>3</td>
<td>Small Family [2 – 4 members]</td>
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<td></td>
<td></td>
<td></td>
<td>Medium Family [5 – 7 members]</td>
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<td></td>
<td></td>
<td></td>
<td>Large Family [8 and more members]</td>
</tr>
<tr>
<td>Areas of Adjustment</td>
<td>Dependent</td>
<td>5</td>
<td>Score on various areas of Adjustment:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Home Adjustment</td>
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<td>2. Health Adjustment</td>
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<td>3. Social Adjustment</td>
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<td>4. Emotional Adjustment</td>
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<td></td>
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<td></td>
<td>5. Overall Adjustment</td>
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<tr>
<td>Depression</td>
<td>Dependent</td>
<td>1</td>
<td>Overall Depression</td>
</tr>
<tr>
<td>Areas of Well-Beingness</td>
<td>Dependent</td>
<td>6</td>
<td>Score on various areas of Well-Beingness:</td>
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<td>1. Satisfaction</td>
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<td>2. Efficiency</td>
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<td>3. Sociability</td>
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<td>4. Mental Health</td>
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<td></td>
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<td>5. Interpersonal Relations</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6. Overall Well-Beingness</td>
</tr>
</tbody>
</table>
3.6.1. Control Variables

To find out clear and valid impact of independent variables on dependent variables the researcher controlled various things as under:

- 300 sample of non-asthmatic group were selected as a control group to find out the exact impact of Asthma, gender and size of family upon Adjustment, Depression and Well-Beingness of the asthmatic individual. However, the researcher has made following attempts to control the various variables to obtain scientific results in the present study.

- Willingness to participate in the study.

- The study was restricted to asthmatic individuals and non-asthmatic individuals of Ahmedabad city.

- Physically and mentally challenged individuals were not included in the sample.

- For effective research, care was taken that test situation were made free from noise, distraction and other disturbing factors.

- The subjects were given instruction in a clear and simple language to avoid any misunderstanding in the use of test properly.

- The subjects having age below 20 years have not been included and those selected for the present study are in the age range of above 20 to 85 years.

- Only those subjects were chosen who have been diagnosed with Asthma by a prescribed physician.

- The researcher has collected the data which he/she needs by restricting the trivial irrelevant information.
3.7 RESEARCH DESIGN

The formidable problem that follows the task of defining the research problem is the preparation of the design of the research project, popularly known as the “research design”. Decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design. “A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.” In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. As such the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data.

Looking at the nature of the research questions posed in terms of hypothesis and more than two independent variables, the researcher has gone for 2x2x3 factorial design. The interaction effect can be known from factorial design. (Figure - 3.1)

3.8 SAMPLE

The fundamental requirement of any research is that sample should be chosen in such a manner that the results of the study could be generalized and the sample selected from the population should be representative of it.

A sample is a finite part of a statistical population whose properties are studied to gain information about the whole (Webster, 1985). In most of the research work and surveys, the
usual approach happens to be to make generalizations or to draw inferences based on samples about the parameters of population from which the samples are taken. The researcher quite often selects only a few items from the universe for his study purposes. All this is done on the assumption that the sample data will enable him to estimate the population parameters. The items so selected constitute what is technically called a ‘sample’.

Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population.

In order to ensure the representativeness of the sample in preliminary stage, the researcher obtained primary data of the respondents. The sample was drawn from the Ahmedabad city of Gujarat State, India. For selecting the sample purposive sampling technique was used. Purposefully few units were identified where subjects could be found like in various hospitals and institute/organization etc. The researcher selected 300 asthmatic individuals from the various places of Ahmedabad. Equal number of 300 non-asthmatic individuals, were also selected for comparison as a control group.

The final sample consisted of 600 adults i.e. 300 asthmatic individuals (AI) and 300 non-asthmatic individuals (NAI). Figure no. 3.1 indicates the number of samples in each group which have been classified as per the independent variables viz. gender, size of family and main two groups as asthmatic individuals and non-asthmatic individuals. The details of sample selected are described as follows in figure 3.1:
### 3.9 METHOD OF SAMPLING

Sample is a subset of a population selected for measurement, observation or questioning, to provide statistical information about the population.

Sampling has been defined as, “The selection of some part of an aggregate or totality on the basis of which a judgment or inference about the aggregate or totality is made”. In other words, it is the process of obtaining information about an entire population by
examining only a part of it. 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.

In the present study the method of sample selection was Purposive for 300 asthamic individuals and a control group of 300 non-asthamic individuals was selected. The researcher went to different areas of Ahmedabad city for data collection.

In order to collect the samples various hospitals and clinics were visited from the city of Ahmedabad viz. Shalby Hospital, S.G. Highway, Krishna Shalby Hospital, Ghuma, Bopal, Civil Hospital, Sola and “Pathik Clinic”, Paldi.

At the outset, the Medical Director/ Superintendent/ CEO of the above mentioned hospitals were contacted and the reference letter was presented which was issued from the research guide. After a regular follow-up and personal interview official permission was granted from them. In addition to that, a temporary I-card was allotted to the researcher by the hospital for regular day-to-day official entry into the premises of the hospital venues. The data were collected from the sample either at the hospital premises as per the convenience of them.

As per the clarification given in the statement of the problem the sample selected were those who were diagnosed as suffering from Asthma at least since last 5 years. The judgmental or purposive sampling approach chosen by the researcher for identifying the asthmatic samples is based on whom researcher thinks would be appropriate for the study. This approach has been adopted primarily in this context because only limited number of people have the expertise in the area being researched. Therefore, an attempt has been made
to generate a purposive sample which is a subset of a large population of asthmatic patients and is constructed to serve a very specific need or rationale.

Those who are not suffering from Asthma were selected as control group. Number of 300 samples were taken from various areas of Ahmedabad city, keeping in view the uniformity in all the sub-groups in terms of gender and size of family i.e. equal number of male (150) & female (150) and small family (100), medium family (100) & large family (100) respectively.

3.10 TOOLS USED FOR DATA COLLECTION

Selection of suitable instruments or tools is also of vital importance in every research study. According to Best (1992), “Like the tools in the Carpenter's box, each research tool is appropriate in a given situation to accomplish particular purpose”. As it provides 1) a set of theoretical constructs and their consecutive dimensions that represent key normalization processes for which questions can be developed 2) particular ways of thinking about normalization (i.e. focusing on the ‘work’; focusing on collective and collaborative activity) that suggests ways of framing survey questions.

For the purpose of the present study, it was decided to make use of certain important tools and techniques. In choosing the technique to be utilized for the purpose of collecting primary data, the researcher had to take into account considerations such as: who are to be the respondents, the value of investigation, objective and scope of the inquiry, also the available time and other sources. Considering the above mentioned aspects, appropriate tools were selected to elicit the required data effectively. After few efforts the researcher has selected three relevant tests to collect data on the issues of the present study.
The construction of schedules and questionnaire were based on scales relevant to the objectives and variables in the study. Socio-demographic data sheet is prepared by the researcher for collecting primary data from the samples. Thus, socio-demographic data sheet and three standardized tests have been used in the present study to collect the relevant data for which the details are mentioned below:

I. **Socio-Demographic Data Sheet**

The said socio-demographic data sheet covers the following aspects for primary information of the samples:

- Name: ........................................................................................................

- Age:

- Gender (Male/ Female):

- Educational Qualification (Illiterate and Primary Education/ Secondary and Higher Secondary Education/ Higher Education):

- Caste (Open/ Backward Class):

- Marital Status (Married/ Unmarried):

- Occupation (Service/ Business/ House-Wife):

- Type of Family (Nuclear/ Joint):

- Size of Family (Small Family [2-4 members]/ Medium Family [5-7 members]/ Large Family [8 and more members]):

- Onset of Disease (21-45 years/ 46-59 years/ 60 years and above):
• Duration of Illness (Duration of 5 years/ More than 5 years):

• Frequency of Attacks (2-7 times per week/ 7 and more times per week):

• Treatment Pattern (Medicine/ Yoga and Medicine):

The said data sheet collects one’s primary and disease related information. The respondent has to put tick mark by putting ( √ ) sign on any one of the option given against each column. Before, employing the actual Adjustment, Depression and Well-Being tests, the above mentioned socio-demographic data sheet was given to each sample to collect the basic information.

The distribution of the sample as per the various aspects presented in the socio-demographic data sheet are mentioned in the following table:
<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Characteristics</th>
<th>Groups</th>
<th>Group wise no. of sample</th>
<th>Total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Asthmatic Individuals</td>
<td>Non-Asthemic Individuals</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Age</td>
<td>21 - 35</td>
<td>38</td>
<td>222</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36 - 55</td>
<td>88</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>56 - 85</td>
<td>174</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Gender</td>
<td>Male</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>3</td>
<td>Educational Qualification</td>
<td>Illiterate and Primary Education</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secondary and Higher Secondary Education</td>
<td>39</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Higher Education</td>
<td>230</td>
<td>243</td>
</tr>
<tr>
<td>4</td>
<td>Caste</td>
<td>Open</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Backward Class</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Marital Status</td>
<td>Married</td>
<td>266</td>
<td>252</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unmarried</td>
<td>34</td>
<td>48</td>
</tr>
<tr>
<td>6</td>
<td>Occupation</td>
<td>Service</td>
<td>88</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Business</td>
<td>174</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Housewife</td>
<td>38</td>
<td>53</td>
</tr>
<tr>
<td>7</td>
<td>Type of Family</td>
<td>Nuclear</td>
<td>134</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joint</td>
<td>166</td>
<td>171</td>
</tr>
<tr>
<td>8</td>
<td>Size of Family</td>
<td>Small Family (2-4 members)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium Family (5-7 members)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large Family (8 and more members)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>Onset of Disease</td>
<td>21-45 years</td>
<td>78</td>
<td>N.A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>46-59 years</td>
<td>103</td>
<td>N.A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60 years and above</td>
<td>119</td>
<td>N.A.</td>
</tr>
<tr>
<td>10</td>
<td>Duration of Illness</td>
<td>Duration of 5 years</td>
<td>214</td>
<td>N.A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Duration of more than 5 years</td>
<td>86</td>
<td>N.A.</td>
</tr>
<tr>
<td>11</td>
<td>Frequency of Attacks</td>
<td>2-7 times per week</td>
<td>184</td>
<td>N.A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 and more times per week</td>
<td>116</td>
<td>N.A.</td>
</tr>
<tr>
<td>12</td>
<td>Treatment Pattern</td>
<td>Medicine</td>
<td>197</td>
<td>N.A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yoga and Medicine</td>
<td>103</td>
<td>N.A.</td>
</tr>
</tbody>
</table>
II. Three Tests selected for Data Collection

Basically the researcher has selected three tests viz. Adjustment test, Depression test and Well-Beingness test for data collection of the present study. The details of each test is as under:


➢ Categories and values of response:

- Yes –
  - ✓ 1 for “yes” in positive item
  - ✓ 0 for “yes” in negative item
- No –
  - ✓ 1 for “no” in negative item
  - ✓ 0 for “no” in positive item
- ? –
  - ✓ 0 for both positive and negative item

However, the details of the whole inventory is presented in the following table:
<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Name of Area</th>
<th>No. of Items</th>
<th>Maximum Score</th>
<th>Minimum Score</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Home Adjustment</td>
<td>31 Items</td>
<td>31</td>
<td>0</td>
<td>0.851</td>
</tr>
<tr>
<td></td>
<td>(Satisfaction or dissatisfaction with home life)</td>
<td></td>
<td>(Unsatisfactory home adjustment)</td>
<td>(Satisfactory home adjustment)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Health Adjustment</td>
<td>29 Items</td>
<td>29</td>
<td>0</td>
<td>0.862</td>
</tr>
<tr>
<td></td>
<td>(Illness and poor health condition)</td>
<td></td>
<td>(Unsatisfactory health adjustment)</td>
<td>(Satisfactory health adjustment)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Social Adjustment</td>
<td>32 Items</td>
<td>32</td>
<td>0</td>
<td>0.805</td>
</tr>
<tr>
<td></td>
<td>(Shyness, submissiveness &amp; introversion)</td>
<td></td>
<td>(Unsatisfactory social adjustment)</td>
<td>(Satisfactory social adjustment)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Emotional Adjustment</td>
<td>32 Items</td>
<td>32</td>
<td>0</td>
<td>0.834</td>
</tr>
<tr>
<td></td>
<td>(Depression, nervousness, phobia &amp; pathological anxiety)</td>
<td></td>
<td>(Unsatisfactory emotional adjustment)</td>
<td>(Satisfactory emotional adjustment)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Overall Adjustment</td>
<td>124 Items</td>
<td>124</td>
<td>0</td>
<td>0.876</td>
</tr>
<tr>
<td></td>
<td>(All aspects of the above mentioned areas)</td>
<td></td>
<td>(Unsatisfactory overall adjustment)</td>
<td>(Satisfactory overall adjustment)</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.3
Description of Bell Adjustment Inventory
• **Validity:** Validity was also determined by applying concurrent and construct validity of the test by employing the following method:

  • By using contrast groups of normal and neurotics, the findings suggest that neurotic group were found to be poorly adjusted in respect of home, health, social, emotional and overall adjustment.

  • The validity of Adjustment Inventory was ascertained by administering it together with Hindi adaptation of Eysenck’s MPI to examine the relationship between adjustment; particularly social & emotional and neuroticism & extraversion. The findings suggest that neurotics had greater maladjustment and extroverts had better social & overall adjustment.

  • Test was also validated against Crowne Marlow SD scale (Hindi version Prasad and Sinha, 1980). The findings show that higher approval seekers exhibited better mode of adjustment in different areas as well as overall adjustment, except health adjustment.

  • On the whole, the high validity of the modified Hindi version of Bell Adjustment Inventory (Jehan, K., 1984) was ensured by adapting various validation procedures.
3.10.2. Beck Depression Inventory – II (BDI-II), 1996, Indian adaptation of Aaron T. Beck, based on DSM-IV (1994), a culture-free test

- Total items: 21
- Maximum score: 63 – severe Depression
- Minimum score: 0 – absence of Depression
- No. and name of sub-scales: 8 for affective and 13 for somatic
- Measurement of content: cognitive, affective and somatic symptoms of Depression.
- Categories and values of response:
  - Not at all – 0
  - Sometimes – 1
  - Many times – 2
  - Extreme – 3

- Reliability:
  - Internal consistency is $\alpha = 0.91$
  - Odd - Even Reliability is $\alpha = 0.92$ as per Spearman – Brown Formula.
  - Test-retest correlation is $r = 0.93$

- Validity:
  - Internal consistency is $\alpha \geq 0.84$
  - Convergent validity is $r = 0.71$ with Hamilton Psychiatric Rating Scale for Depression (HRSD).
• Construct validity is $r = 0.93$; when compared to the BDI.
• Content validity is determined by exercising the following investigation:

  ✓ In study 1, expert raters ($N=7$) and adolescent psychiatric inpatients ($N=13$) evaluated the BDI-II items.

  ✓ In study 2, confirmatory factor analyses of several first-order solutions failed to provide adequate fit estimates to data for 205 boys, 203 girls and the combined sample. Exploratory factor analyses identified new item-factor solutions.

  ✓ In study 3 ($N=161$ boys and $N=158$ girls from study 2), preliminary evidence for estimates of concurrent, convergent and discriminant validity were established for BDI-II.

  ✓ Associations with construct-related scales (Depression, dysfunctional cognitive constructs) were high, while those with non-symptomatic personality assessment (NEO - FFI) were lower.
3.10.3. Psychological Well Being Scale (PWBS), 2012, Indian adaptation of Devendra Singh Sisodia & Pooja Choudhary

- Total items: 50
- Maximum score: 250 which indicates more Well-Being
- Minimum score: 1 which indicates less Well-Being
- Type of scale: Likert type
- Categories and values of response:
  - Strongly agree – 5
  - Agree – 4
  - Undecided – 3
  - Disagree – 2
  - Strongly Disagree – 1

- Reliability:
  - Test-retest reliability for the scale is 0.87.
  - Internal consistency is 0.90.

- Validity:
  - Content validity is 0.94

The details of the scale is presented in the following table:
Table 3.4
Areas of Psychological Well-Being Scale

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Area</th>
<th>No. of Items</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Satisfaction</td>
<td>10 Items</td>
<td>The act of satisfying, or the state of being satisfied; gratification of desire; contentment in possession and enjoyment; repose of mind resulting from compliance with its desires or demands.</td>
</tr>
<tr>
<td>2</td>
<td>Efficiency</td>
<td>10 Items</td>
<td>The comparison of what is actually produced or performed with what can be achieved with the same consumption of resources (money, time, labour, etc). The quality of being efficient or producing an effect or effects; efficient power; effectual agency.</td>
</tr>
<tr>
<td>3</td>
<td>Sociability</td>
<td>10 Items</td>
<td>The relative tendency or disposition to be sociable or associate with one’s fellows. The quality or state of being sociable; also: the act or an instance of being sociable.</td>
</tr>
<tr>
<td>4</td>
<td>Mental Health</td>
<td>10 Items</td>
<td>Mental Health is a term used to describe either a level of cognitive or emotional well-being or an absence of a mental disorder. A person’s overall psychological and emotional condition. Good mental health is a state of well-being in which a person is able to cope with everyday events, think clearly, be responsible, meet challenges, and have good relationship with others.</td>
</tr>
<tr>
<td>5</td>
<td>Interpersonal Relations</td>
<td>10 Items</td>
<td>A good interpersonal relationship is an association between two or more people that may range from fleeting to enduring. This association may be based on limerence, love and liking, regular business interactions, or some other type of social commitment.</td>
</tr>
<tr>
<td>6</td>
<td>Overall Well-Being</td>
<td>50 Items</td>
<td>Overall well-being in terms of covering all aspects of the above mentioned areas.</td>
</tr>
</tbody>
</table>

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A. **Scoring and Tabulation**

Scoring have been done by using the appropriate scoring key given in test manual of the three tests viz. Adjustment, Depression and Well-Beingness respectively. After scoring, the collected data were properly tabulated. As the sample was homogenous, all the scores were analyzed as there was no need to transfer them into standard score. The scoring of the three tests is enumerated below:

1) **Bell Adjustment Inventory**

This inventory consists of 124 items. Method of scoring is very easy. Three point scale viz. Yes, No, ?, is used in the inventory. Therefore, a respondent has to select any one of the category by putting circle on any one of them. All these three categories of response have been given different values. They are one for “yes” in positive item and zero for “yes” in negative item, one for “no” in negative item and zero for “no” in positive item, as well as zero value is given to the option “?” question mark in both positive and negative item. The inventory is scored by counting the number of responses marked in each area of adjustment. The sum of scores in different areas measures the total adjustment. High score indicates poor adjustment while low score indicates better adjustment. Although no time limit is imposed, generally the respondent takes about 40 minutes time to complete it.

2) **Beck Depression Inventory – II (BDI-II)**

The Beck Depression Inventory – II (BDI-II) is scored by summing the highest rating for each of the 21 statements and a 4-pt scale indicates degree of severity; ranging from 0 (not at all) to 3 (extreme form of each symptom) to calculate
a total score. Against each item four categories of responses are given and the respondent has to select any one of them by putting circle on it. All of these categories suggest various levels of Depression. Higher total scores indicate more severe depressive symptoms. For diagnostic purposes, item 16 (sleep pattern changes) and item 18 (appetite changes) contain 7-point ratings. Following are the cut-off score guidelines for evaluating the severity of Depression in patients. There are four categories of scoring various levels of Depression i.e. 0-13 Minimal, 14-19 Mild, 20-28 Moderate and 29-63 Severe Depression. Generally, no limit is requisite but the respondent takes about 5-10 minutes to complete it.

3) **Psychological Well Being Scale (PWBS)**

The scale consists of fifty statements. All statements are of positive manner. The responses are assigned as follows; 5 value to strongly agree, 4 value to agree, 3 value to undecided, 2 value to disagree and 1 value to strongly disagree. The sum of marks is obtained for the entire scale. The total score obtained by the sample suggests its overall concept of well-beingness. The higher the score more is the Well-Being. Though, it is a time free test generally the respondent takes about 20 minutes to complete it.

**3.11 METHOD OF DATA COLLECTION**

The researcher collected data from the sample of Ahmedabad city of Gujarat State, India. For this, two groups of subjects, that is, asthmatic and non-asthmatic individuals each having 300 samples, were selected in the manner stated under ‘sampling’. Semi - Structured
The interview method was employed to collect data from the sample with the help of three questionnaires selected for the present study.

The whole interview method was divided into two parts. In the first part, the primary information of the samples was collected on the socio-demographic data sheet.

Thereafter, in the second part, the researcher administered three tests solely on the samples viz. Adjustment, Depression and Well-Beingness of the selected two group’s i.e. asthmatic and non-asthmatic individuals. These three tests on the samples acted as a communication pathway of interaction in the process of data collection.

The data were collected from the samples after understanding their mood set-up, readiness and convenience for their responses. Before conducting the interview, the researcher had tried his best to establish rapport with the samples and it was explained to them that the information as well as data collected will be kept confidential and will be used only for the academic purposes in the present study. All samples were requested to co-operate with the researcher and they were made psychologically ready to provide their responses.

Each item of the questionnaires was presented before each sample, one by one and enough explanation was given to the sample to collect an appropriate data. Thus, the whole procedure of data collection was completed with the help of questionnaires and semi-structured interview method could be more useful in getting proper responses.

The data were collected individually from the samples and even the tests were employed one after another. Moreover, instructions were given as per test manual and queries
of respondents had been solved. Enough time was given to the subjects to complete the schedule as they were time free tests. The subjects were also given adequate time to ask questions while filling the questionnaire. This method proved to be very effective and thus the target of collecting data from 600 samples was achieved.

### 3.12 METHOD OF STATISTICAL ANALYSIS

The data collected from the sample chosen were analyzed to test the hypothesis formulated. SPSS package was used for the data analysis. Moreover, 0.05 level were used for significance difference. The scoring for the three psychological tests is done sub-area wise as well as whole. As the number of sample in each sub-group is kept uniform; the calculated score is directly used for comparison in statistical analysis. The following statistical techniques were employed for the analysis of the data:

1. **Analysis of Variance** was carried out to compare the means of more than two groups of samples, whether the difference is significant or not. Figure - 3.1 clarifies the sample distribution as per the factorial design to suit 2x2x3 Annova for asthmatic and non-asthmatic individuals, gender and size of family.

2. **LSD Table** was drawn where the results in the calculation of Analysis of Variance (ANOVA) were found significant.

3. **Mean and Mean Difference** were calculated for further statistical analysis and for measuring difference between the means of large samples that are used to compare two groups of subjects on different variables.
4. **Graphical Representation** has been made in the form of Bar Chart with respect to the mean score difference and various areas of Adjustment, Depression and Well-Beingness.

Using the above mentioned methodology for the study of the present problem, the results are derived and they are discussed in the following chapter - 4.