CHAPTER II

RESEARCH METHODOLOGY

2.1. INTRODUCTION:

Research in common parlance refers to a search for knowledge. The Advanced Learner’s dictionary of current English lays down the meaning of research as a “careful investigation or inquiry especially through search for new facts in any branch of knowledge”. Research may be defined as the systematic and objective analysis and recording of controlled observation that may lead to development of generalization, principles or theories, resulting in prediction and possibly ultimate control of events (Whitney, 1950). Research can also be defined as a scientific undertaking which, by means of logical and systemised techniques, aims to:

1. Discover new facts verify and test old facts.
2. Analyze their sequences, inter-relationships, and causal expectation which can be derived within an appropriate theoretical frame of reference.
3. Develop new scientific tools, concepts and theories which would facilitate reliable and valid study.

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. It involves the various steps that are generally adopted by the researcher in studying one’s research problem along with logic behind them (Rascol, 1969). It is necessary for the researcher to design his methodology for his problem according to the design of the study.
2.2. RESEARCH DESIGN:

In the present study the investigator has undertaken cross-sectional design (one shot design. A cross sectional design slices a sample of the population \textit{(at one time)}. The focus in a cross-sectional survey is on description- describing the characteristics of a population or the differences among two or more population. Cross-sectional designs can also be used to assess inter-relationships among variables within a population. These type of designs can be especially be useful in epidemiology, the study of the incidence and prevalence of disease in a population. \textit{Incidence} refers to the number of new cases of a disorder reported during a specific time period. \textit{Prevalence} is the frequency of a disorder in a particular population. Lastly, cross-sectional designs are ideally suited to the descriptive and predictive functions.

2.3. STATEMENT OF THE PROBLEM:

Psychiatric Morbidity in People Living With HIV/AIDS (PLWHA)- A Study of HIV positive cases in Gujara::

2.4. RESEARCH QUESTION:

\begin{enumerate}
  \item Are HIV positive people prone to psychiatric morbidities?
  \item What are different psychiatric morbidities that HIV/AIDS positive people have?
\end{enumerate}

2.5.1. NULL HYPOTHESIS (Ho):

People living with HIV are prone to psychiatric morbidities.

2.5.2. ALTERNATE HYPOTHESIS (H1):

People living with HIV are not prone to psychiatric morbidities.
2.6. RATIONALE:

- The review of literature and relevant studies showed that there is a paucity of information and evidence of psychiatric morbidities amongst PLWHAs. Such studies were conducted in India also, but were confined only in Southern India, and were concentrated only on mental health per se. Hence keeping this fact as a pivot the researcher has decided to undertake one such study in Gujarat.

- With the help of this study mental health specialists can help in the prevention and treatment of several complications of HIV infection.

- They can identify and modify behavioural factors related to the acquisition of the infection or affecting the course of the disease.

- They can help describe the significance and inner consequences of HIV/AIDS diagnosis.

- They can determine the usefulness of interventions aimed to alleviate the psychiatric implications of these aspects.

- The study can help in integration of mental health into HIV/AIDS initiatives and programmes in the country.

- Primary health care providers including HIV counsellors’ can be trained to recognise and treat common mental disorders and refer patients to specialized services when needed.

- HIV can be integrated into mental health services.

- Such a study can help in relevant guidance, continued advocacy and monitoring of actual levels of coverage of interventions for mental health and HIV/AIDS in our country.
2.7. OBJECTIVES OF STUDY.

1. To study the presence of psychiatric morbidities like anxiety, depression and suicide ideation in PLWHA.
2. To study the Quality of Life of PLWHA.
3. To study the self esteem of PLWHA.
4. To explore the association between HIV positive status and psychiatric morbidity with reference to age, gender, occupation, habitat and religion.

2.8. VARIABLES:

Considering the present investigation, the following are the dependent and independent variables.

2.8.1. Dependent Variables:

The dependent (DV) is defined as one about which the investigator makes a prediction. Hence in this study the dependent variable will be the presence of anxiety, depression, suicide ideation, quality of life and self esteem among PLWHAs.

2.8.2. Independent Variables:

The independent variable is defined as one which is manipulated, measured and selected by the experimenter for the purpose of producing observable changes in the behavioural measure or dependent variable (DV). Underwood calls dependent variables as the stimulus variables and independent variables as the response variables. In this study the independent variables will be HIV positive status, age, sex, marital status, caste, rule of residence and educational qualifications.
2.9. OPERATIONAL DEFINITIONS:

2.9.1. Psychiatric morbidity:

Psychiatric morbidity is that state of mind which manifests certain disturbances and has the potential of developing into a psychiatric disorder if unattended. It can be treated with behaviour therapy, counselling and drugs if required.

2.9.2. HIV/AIDS:

AIDS was first reported in the US in 1981 and has since then become a major worldwide epidemic. AIDS is caused by the human immunodeficiency virus (HIV) by killing or damaging cells of the body’s immune system HIV progressively destroys the body’s ability to fight infections. The term AIDS applies to the most advanced stages of HIV infection. HIV is spread most commonly by having sex with an infected partner. HIV is also spread through contact with infected blood which frequently occurs among drug users who share needles or syringes contaminated with blood from someone infected with the virus. Pregnant Women with HIV can transmit the virus to the offspring. Many people do not develop any symptoms when they first become infected with HIV. Some people however have a flu-like illness within a month or two after exposure to the virus. More persistent or severe symptoms may not surface for a decade or more after HIV first enters the body in adults, or within two years in children born with HIV infection. This period of “asymptomatic” (without symptoms) infection is highly individual. During the asymptotic period, however the virus is actively multiplying, infecting and killing cells of the immune system and people are highly infectious. As early HIV infection often causes no symptoms a doctor or other health care worker usually can diagnose it by testing a blood for the presence of antibodies.
2.9.3. Anxiety:

Anxiety is an unpleasant state marked by worry, apprehension and tension. Anxiety is one of the most common reactions of many individuals upon receiving a diagnosis that they are infected with HIV. It affects the well-being of HIV positive individuals when they pre-occupy their minds with the possibility of future helplessness or dependency.

2.9.4. Depression:

Depression is a serious condition that affects thoughts, feelings and the ability to function in daily life. It is twice as common in PLWHA as in the general population. Depression is characterised by the presence of most of all of the following symptoms: low mood, apathy, fatigue, thoughts of suicide, loss of pleasure in activities, low self worth etc.

2.9.5. Suicide:

Suicide is a complex bio psychosocial outcome of depression, hopelessness, isolation and lack of support. HIV infection with all its negative connotations and discrimination can be a harbinger of future suicidal ideation or complete suicide. Several factors have been associated with suicidal ideation among persons infected with HIV. Some of the psychiatric variables predicting suicidal ideation include concurrent substance abuse, past history of depression and presence of hopelessness. Stigma has been considered as an important variable in predicting suicide and has important implications for India.

2.9.6. Dementia:

HIV associated dementia (HAD) represents the more advanced neurocognitive disorder associated with HIV infection. The signs include marked impairment in ability to attend, concentrate and process information quickly and
flexibly. Psychomotor slowing can be accompanied by in-co-ordination. Affective changes also may be present and range from depression to marked liability of affect and inappropriateness. Irritability and violent outbursts can occur. Some patients with dementia become severely withdrawn, apathetic and uncommunicative. Occasionally psychosis and delirium complicate late HIV associated dementia.

2.9.7. Stigma and Discrimination:

Stigma and discrimination are not only obstacles to HIV prevention, care and treatment for PLWHA but are the epidemics worst consequences. HIV related stigma consists of negative attitudes towards those infected with HIV and those affected by AIDS by association, such as orphans or the children and families of PLWHA.

2.9.8. Social Support:

Thoits (1995) defines social support as “instrumental, emotional or informational assistance from significant others” and goes on to find social support “one of the major coping resources for people experiencing stressful life events or chronic strains like HIV” “Significant others” is generally understood to mean partners, friends and family, but could also refer to traditional caregivers in a hospital environment. Friedland, Renwick and McColl (1996) go on to elaborate that different types of social support may be valued at different stages of an illness.

2.9.9. Self-Esteem:

Basically the definition of Self-Esteem means that you should be confident in whatever you are doing, you should feel good both in mind and body giving due importance to yourself, having that positive attitude in you and most of all to be worthy of the love and happiness you always deserve. If one recognises himself as someone that is successful and you also feel that you deserve to be happy and successful then there is a healthy self-esteem in you.
In science of the mind and psychology, the definition of self-esteem has many technical variations. In laymen terms, self esteem is how a person measures his overall worth and this can be attributed to the sum-total of his own gifts and abilities versus his perceived feelings. Self Esteem is considered as a basic human need, a crucial element in human psychology and the make-up of the human personality. Everyone needs self-esteem and no-one can live without it. It is often argued that self-esteem is something that is automatic within us, in the sense of the consciousness and the subconscious at work. When we talk about self-esteem, we understand the processes that lead up to its build up happen in the subconscious, which opens up much more theories of the process of cortical and neural evolution and how it ties in with emotional maturity and processes in the brain that gravitates around personality, character, rationale and confidence.

2.9.10. Quality of Life:

The concept of Quality of Life (QOL) has attracted the attention of numerous researchers. The World Health Organization (WHO) has defined Quality of Life as ‘individual’s perception of their position in life in the context of the culture and value systems in which they live in relation to their goals, expectations, standards and concerns’. In a clinical setting, according to Franchi and Wenzel, the definition of Quality of Life is limited to those aspects of life directly affected by the health state and is often referred to as Health Related Quality Of Life (HRQOL)
2.10. DESCRIPTION OF TOOLS:

2.10.1. Interview schedule:

Profile of the respondents was obtained through an interview schedule. This was developed by the researcher with the help of the other experts. This interview schedule enabled the investigator to seek information pertaining to demographic variables like age, sex, occupation, habitat (residence), marital status, income and type of family. The interview schedule, obtained information pertaining to their medical symptoms history in order to know if they had any symptoms suggestive of their HIV positive history either in the past or at present. A section of questions which would enable the investigator to understand the respondent’s vulnerability to acquire AIDS was also developed. Questions in this section focused on areas such as spouse’s HIV positive or negative status, blood transfusion, use of condom, premarital or extra marital sex etc. Through these questions the investigator sought information as to the mode of the respondent’s HIV acquisition.

The concept of social support includes different aspects of social relationships like the network structure or social interactions, emotional, psychological, tangible or informational support and the perceived quality or adequacy of support. Researchers have agreed to the fact that access to social support and perception of feeling supported are important buffers to the negative psychological consequences of stressful experiences. When it comes to life threatening diseases, it is highly likely that social support need and types of support may vary over the course of the disease. Social Support and HIV has been studied in relation to its impact on physical health but in particular psychological functioning.

The section on social support included questions which enabled the investigator to know the degree of social support experienced by the HIV positive person. Stigma and discrimination are deeply woven in the cultural fabric of our
country, questions to know as to at what level of society like the household, workplace, at hospital or at any other place the patient faced a problem. Loss or gain of social support can also be known if the patient has disclosed his HIV positive status or not.

As family is the basic social unit where an individual thrives for love, care and support, the investigator has probed questions which would enable her to know the level of love and trust with the spouse as well as the other family members. Reaction of the spouse and family was also taken into account.

Many programmes and policies have been implemented at a national level which has helped creating awareness with regards to spread of HIV, myths about HIV, prevention of HIV, symptomatology and modes of transmission of HIV and cure of HIV. Questions pertaining to the same have also been included in order to know the respondent’s level of knowledge in these areas.

2.10.2. World Health Organization Quality of Life Instrument (WHOQOL):

The World Health Organization Quality Of Life Instrument (WHOQOL) HIV instrument has been developed from an extensive test of 115 questions plus the WHOQOL -100 in 10 centers around the world. These questions represent the finalised version of the WHOQOL -HIV to be used for field trials. The WHOQOL – 100 is a generic English version. The questions in this instrument respond to the definition of Quality of Life as individual’s perception of their position in life in which they live and in relation to their goals and expectations, standards and concerns.

**Administration:** The questionnaire asks as to how an individual feels about his/her Quality of Life, health and other areas of his or her life. The respondent is supposed to circle the number that best fits how much he/she is worried about his/her health over the past two weeks.
**Standardized Tools:**

All tools used in the study are developed by western researchers hence keeping in mind the Indian psyche the investigator conducted a pilot study using all the tools to see as to whether they fetch satisfactory and desired results. As the tools concentrated more on mental and physical health and did not touch upon any personal or religious issues the responses sought were satisfactory.

**2.10.3. Beck’s Depression Inventory:**

This inventory was developed by Aaron T. Beck which is used to measure the presence of depression.

**Description:** The Beck Depression Inventory (BDI) is a 21 item test presented in multiple choice formats which proposes to measure presence and degree of depression in adolescents and adults. Each of the 21 items of the BDI attempt to assess a specific symptom or attitude which appear to be specific to depressed patients, and which are consistent with descriptions of depression contained in the psychiatric literature. The BDI was designed to assess depression independent of any particular theoretical bias.

**Scoring:** Each of the inventory items corresponds to a specific category of depressive symptom and/or attitude. Each category purports to describe a specific behavioural manifestation of depression and consists of a graded series of four self-evaluative statements. The statements are rank ordered and weighted to reflect the range of severity of the symptom from neutral to maximum severity. Numerical values of zero, one, two or three are assigned to each statement to indicate severity.
Interpretation:

Scores when fall between:

8 - 12 Borderline depression

13 - 15 mild depression

16 - 19 mild to moderate depression

20 - 29 moderate depression

Above 30 - severe depression

Above 40 - medicine needed

Below 8 - no depression

Reliability: Test-retest reliability has been studied in the case of 38 patients who were given the BDI on two occasions. It was discovered that the changes in BDI scores tended to parallel changes in the clinical reading of the depth of depression, indicating a consistent relationship between BDI scores and the patient’s clinical state. The reliability figures here were above .90. Internal consistency studies demonstrated a correlation co-efficient of .86 for the test items, and the Spearman-Brown correlation for the reliability of the BDI yielded a co-efficient of .93.

Validity: In assessing the validity of the BDI, the face validity of the BDI must be addressed. Content validity would seem to be quite high since the BDI appears to evaluate a wide variety of symptoms and attitudes associated with depression. One study addressing concurrent validity demonstrated a correlation of .77 between the inventory and psychiatric rating using university students as subjects. Beck reports similar studies in which coefficients of .65 and .67 were obtained in comparing results of the BDI with psychiatric ratings of patients.
2.10.4. Positive and Negative Suicide Ideation Inventory (PANSI)

It was developed by Osman, Gutierrez, Kopper, Barrios, & Chiros, 1998, to assess the frequency of negative risk and protective factors that are related to suicidal behaviour.

**Description:** The Positive and Negative Suicide Ideation (PANSI) Inventory, is a 14 item self report instrument, for addressing the frequency of negative risk and protective factors associated with suicide-related behaviours. The development of this instrument was based on contemporary theoretical rationale that both negative risk and protective factors are important in the analysis of suicide related behaviours. Negative risk factors in suicidal behaviour may include symptoms such as depression, hopelessness and negative thoughts or perception about stress-related events. These factors may increase the risk factors. Protective factors modulate or serve as a buffer against taking one’s own life. Examples of protective factors may include the use of adequate problem-solving strategies as well as having adequate family connectedness and positive friendship relationships.

The PANSI has a unique advantage as a screening instrument; it can be used to assess both positive and negative risk factors that are related to suicidal behaviour. The PANSI appears to be a promising general measure of risk and protective factors related to adolescent suicide. Primarily the psychometric properties of this scale are comparable to other widely used self-report measures of related constructs.

**Scoring:** Each item in the inventory is related on a 5 point Likert type scale format ranging from 1 (none of the time) to 5 (most of the time).

**Reliability:** The test-retest reliability analysis of PANSI scale scores were conducted in a sub sample of 54 adolescents with duration of stay for 2 or more weeks. The test-retest reliability estimates for the PANSI-Negative and PANSI-Positive were .79 and
.69 respectively. As a state measure of suicide related behaviour, these estimates are considered satisfactory.

**Validity:** The present study evaluated the factor structure, reliability, and validity of the Positive and Negative Suicide Ideation inventory in a sample of high-school youths. The PANSI is designed as a measure of risk and protective factors related to suicidal behaviour. Participants (114 boys and 103 girls) completed the PANSI and other self-report instruments. Results of the confirmatory factor analyses supported adequate fit of the 2-factor oblique model to the sample data. Both factor scales attained adequate levels of reliability. Boys and girls did not differ in their responses to the PANSI scales. The PANSI scale scores were associated with scores from related measures. Logistic-regression analyses were used to evaluate the contributions of the PANSI scale scores to differentiate between the study groups. Receiver Operating Characteristic (ROC) analyses, using data from the psychiatric suicide risk and high-school control youths, were used to identify cut-off scores of 1.63 and 3.33 for the PANSI-negative and PANSI-positive scales, respectively.

**2.10.5. Clinical Anxiety Scale (CAS):**

This scale was developed by Snaith et.al. It is a recently developed test derived from the Hamilton Anxiety Scale. (HAS) Its originators set out to undertake an item analysis of the HAS, to determine which items had the most weighting, and to devise a new instrument for the assessment of anxiety in the diagnostic category of anxiety neurosis and other clinical conditions. Unlike HAS which covers the whole range of symptoms of anxiety neurosis, the CAS is largely confined to psychic anxiety and tension in the somatic musculature. The emphasis is on how the patient feels at the time of rating.
**Description:** The scale comprises of six items viz: psychic tension, ability to relax, startle response, worrying, apprehension and restlessness.

**Reliability and Validity:**

The development and validation of a new rapid assessment instrument, the Clinical Anxiety Scale (CAS), is described. The CAS has good reliability and validity and is compatible in format with a number of other rapid assessment instruments designed for human service professionals who wish to evaluate the effects of their interventions with clients experiencing dysfunctional anxiety.

**Scoring:**

0-4 Normal/Recovered

5-10 Mild Anxiety

11-16 Moderate Anxiety

17-24 Severe Anxiety.

**2.10.6. Culture Free Self Esteem Inventory:**

Self Esteem as measured by the Culture Free SEI for children and adults, refers to the perception of the individual possesses of his own worth. An individual’s perception of self develops gradually and becomes more differentiated as he measures and interacts with significant others. Perception of self-worth once established tends to be fairly stable and resistant to change.

The Culture Free Self Esteem Inventories (SEI) for children and adults are self-report scales. The scales measure an individual’s perception of self. This inventory
was developed by James Batte and is used to identify individuals who may be in need for psychiatric intervention.

**Description:** The culture free self Esteem Inventory for adults contains 40 items and the following sub-scales.

1. General Self Esteem items.
2. Social self Esteem items.
3. Personal Self Esteem items.
4. Lie items (items that indicate defensiveness).

The instrument without the lie scale consists of 32 items intended to measure an individual’s general, personal and social self-perception. The items are divided into two groups those indicate high Self Esteem. And those which indicate low Self Esteem. The individual checks each item either “yes” or “no”.

**Scoring and Interpretation:** Scores for the Culture Free Self Esteem Inventory for children and adults are derived by totaling the number of items checked which indicate high Self-Esteem, excluding the lie scale items. A separate score maybe computed by totalling the number of items checked correctly in the lie score is 10. The total possible score for Form AD is 32 and the highest lie score is 8.

<table>
<thead>
<tr>
<th>Score</th>
<th>Classification</th>
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<tbody>
<tr>
<td>30+</td>
<td>Very High</td>
</tr>
<tr>
<td>27 - 29</td>
<td>High</td>
</tr>
<tr>
<td>20 - 26</td>
<td>Intermediate</td>
</tr>
<tr>
<td>15 - 19</td>
<td>Low</td>
</tr>
<tr>
<td>14 -</td>
<td>Very Low</td>
</tr>
</tbody>
</table>
Test-Retest Reliability:

One hundred twenty seven students enrolled in an introductory educational psychology course participated in the initial Test-Retest reliability of Culture Free SEI for adults. Means, standard deviations and correlations for the total sample, males and females indicated that Test-re:est correlation for all subjects’ were 81 males and females 0.79 and 0.82.

2.11. DATA COLLECTION PROCEDURE:

Universe: Gujarat.

Sampling frame: In order to collect the data a list of total cases of HIV positive cases in 2009-2010 was obtained from Gujarat AIDS Control Society (GSACS) which gave the number of HIV positive cases in all four major urban cities of Gujarat viz: Ahmedabad, Baroda, Rajkot and Surat. The investigator then drew the percentage of cases to be drawn from each city.

2.11.1. Sampling Procedure:

The following data was available from GSACS.

<table>
<thead>
<tr>
<th></th>
<th>General</th>
<th>PPCT</th>
<th>Total</th>
<th>Proportion</th>
<th>Sample</th>
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</thead>
<tbody>
<tr>
<td>Rajkot</td>
<td>1337</td>
<td>56</td>
<td>1393</td>
<td>17%</td>
<td>50</td>
</tr>
<tr>
<td>Ahmedabad</td>
<td>2448</td>
<td>186</td>
<td>2674</td>
<td>32%</td>
<td>94</td>
</tr>
<tr>
<td>Baroda</td>
<td>1349</td>
<td>62</td>
<td>1411</td>
<td>17%</td>
<td>50</td>
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<tr>
<td>Surat</td>
<td>2723</td>
<td>174</td>
<td>2897</td>
<td>34%</td>
<td>99</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>8375</td>
<td></td>
<td>293</td>
</tr>
</tbody>
</table>
With probability proportion to the size of the number of HIV positive cases available from four major urban cities of Gujarat.

Rajkot - 1393 divided by 8375 = 17%

Ahmedabad - 2674 divided by 8375 = 32%

Baroda - 1411 divided by 8375 = 17%

Surat - 2897 divided by 8375 = 34%

From the total Sample of 293 we require 17% from:

Rajkot  293 x 17 divided by 100 = 50 cases

Ahmedabad  293 x 32 divided by 100 = 94 cases

Baroda  293 x 17 divided by 100 = 50 cases

Surat  293 x 34 divided by 100 = 99 cases.

2.11.2. Steps of Data Collection:

Inclusion criteria for selection

Males and Females above 18 years of age. HIV sero positive individual

Consent Form

A consent form was developed for the present study. This is a written consent form which elicited information that the respondents have agreed to be part of the study. Prior to the admission of all parameters, the willingness of the subjects was ascertained and they were made to sign a consent form. The purpose of the study was explained, confidentiality was assured and the consenting process was properly followed.
As HIV/AIDS is still a sensitive topic in the Indian context conducting an in-depth research in the said topic requires a great deal of challenges. For a smooth flow in all the technical aspects permission was taken from the relevant authorities for the same. The researcher personally met the authorities at Gujarat State AIDS Control Society (GSACS) and explained the purpose and nature of a research proposal to them and sought their consent and permission.

**Ethical Issues and approval**

An ethical committee was formed at the university level comprising experts from the medical field, social science research, members of HIV positive network, professors and members of NGOs. Ethical issues were deliberated by them. Their views were incorporated in the questionnaires and the selection of tools. After seeking their approval, the researches proceeded further.

The researcher sought permissions from the superintendent of the civil hospital from where data was collected.

Once the tools were finalised a pre study on a small sample was conducted using the tools selected to figure if they were suited to meet the researcher’s requirement. Once the researcher began approaching the patients at the Antiretroviral therapy (ART) Centre of Civil Hospital, Baroda it was observed that the members of the HIV positive network also attended the ART Centre on a regular basis. Hence rapport was established with them too and data was collected form the positive network also.

The procedure for information consent was followed properly and then the data was collected afterwards.
2.12. DATA ANALYSIS:

1. **Frequency Percentage Tables:** This was to find out the responses in each variable that have been considered for the study.

2. **Chi Square:** Chi square was applied to develop an association between socio-demographic variables (age, education, religion, occupation, sex, habitat etc) and dependent variables like: depression, anxiety, self-esteem, quality of life and suicidal ideation.

3. **Correlation:** We have developed a correlation to observe the relationship between measuring (dependent) variables.

2.13. CHAPTERIZATION:

The present research is divided in five chapters

Chapter 1 is the introduction. It deals with the introduction about all the topics to be covered in the study. It gives the reader an idea as to what is AIDS, its impact on various aspects of life and the different psychiatric complexities associated with it, the scenario of HIV pandemic across the globe and especially in India. Lastly it deals with the Social Work significance of the work undertaken.

Chapter 2 is about the methodology used in the research. Initially the definition of research is taken care then the rationale, variables and objectives of the study are described. Various variables under consideration are defined in this section. The universe, sampling frame and the description of the various tools have been mentioned in the methodology section.

Chapter 3 deals with the review of the past studies by the researcher. It throws light on the past studies and researches undertaken in the same field. This enables and supports the existing body of knowledge of the present research.
Chapter 4 deals with the analysis and interpretation of the research. This chapter in particular helps in meeting the set objectives of the research.

Chapter 5 is the summary of major findings and conclusion.

Chapter 6 is the discussion and recommendations for the future course of action. It also paves way for future research in similar field and puts forth various broad areas where research can be undertaken.

2.14. LIMITATIONS OF THE STUDY:

The present study has certain limitations which can be avoided by future researchers. The present study was undertaken in Gujarat taking four major cities as the sampling frame. These four cities are those cites of Gujarat which are economically and educationally sound and thus people of these cities have an adequate awareness, hence the responses elicited by them were governed by these factors. Due to this reason the responses cannot be generalized to other underdeveloped cities of Gujarat. Had the sample been a combination of a few cities where education and economic level were relatively low there could have been a wider scope of comparison as well as generalization.

Secondly, the study had both males and females as included as subjects. But in course of data collection it was observed by the researcher that if the subjects were either only males or only females there could exist a greater degree of freedom in responding to questions which were of an intimate nature.

The inclusion criteria with respect to age seemed to be very vast ranging from youth to old. Had the age bracket been compressed a little categorization could have been easier. This is because each age group has different needs and perceptions and the results obtained from such studies can be utilized for policy formulation and implementation.
The tools used were standardized and mostly quantitative. With the researchers experience such a study could yield better results if more qualitative tools such as focused group discussions could have been used as the respondents have many issues and experiences to share.

The avoidance of these limitations can yield better results for conducting future researches of this sort.