CHAPTER - III

METHODOLOGY

This chapter deals with the methodology adopted by the researcher for the present study. It also provides information regarding the importance of the study, statement of the problem, objectives of the present study, Hypotheses to be tested, selection of samples, statistical tools and techniques used for analysis, limitations and chapterisation of the study.

3.1. Importance of the study

The demographic changes that have taken place over the last few years, increased life expectancy and a reduced birth rate have led to a very significant increase in the ratio and impact of the elderly in our society. This increase has been accompanied by a greater diversity within the community of senior citizens, in terms of their age, health and social conditions, and by a new discourse; that of the active elderly person. While becoming old is a natural phenomenon, the problems associated with it are also inevitable.
The problems afflicting the elderly are multi-dimensional problems and invariably involve many aspects of National life. No single sector of national life is willing to accept the problem of old age as its own. Each sector is only willing to pass the buck to another. For instance, the health sector believes that problems of the aged are essentially social in character; hence their care is the responsibility of the social sector and so on. Hence there is a need to study about the aged people and it is very significant too.

3.2. Statement of the Problem

Health is a major concern of old age. Maintaining health is very important for elderly, who must continue to work for a living even when they become aged. Good health is central to their ability to work, to obtain food and money for themselves and families. However, many poor elderly people have little or no access to health services. The elderly people are provided little medical care through the network of primary health centres (PHCs) and sub centres in rural area. However, aged individuals from upper middle and upper income group generally obtain needed health services from private clinics and nursing homes. Poor older people often cannot afford to pay fee and buy drugs
and depend on the government managed primary health centres and unskilled, untrained private medical practitioners for their health care needs.

The issue of health care – seeking (or medical-care) behaviour is crucible to all society. Attribution of ill health to ageing, low economic status and negative attitude of health workers towards the care of the elderly are some of the factors associated with delay in seeking health care.

Too heavy emphasis on the problems of the aged may only contribute to stereotypes old age as a period of unmitigated misfortune and unhappiness. Such stereotypes may generate negative attitudes toward ageing, and the aged, resulting in denial of ageing and withdrawal from the aged. It is true that older people encounter many problems – ill health, poverty, depression, feelings of uselessness – however; society itself often causes or exacerbates these problems.

The problems of the old get worsened when a large number of people migrate from villages to larger towns and cities. It is usually the younger people who move away from their native villages in search of jobs and the elderly are left behind to cope
as best as they can with poverty and failing health, with nobody to care for them.

Insecurity, loneliness and lack of companionship – some of life’s hard-to-swallow problems become a daily reality for these elderly persons whose children either settle abroad, or in some other state, for better career opportunities. The concept of retirement resorts or complexes is gradually emerging as the most viable option among the senior members of society who are financially independent.

Studies have also revealed that in rural India, a majority of the elderly stay either with their spouse only, with spouse and others, mostly counting the children or without spouse but with children. Thus, living arrangement of the aged suggest significant co-residence with children, apart from spouse. Further, co-residence with children is also found to increase along with the age of elderly, among females, for the lesser educated, and to a certain extent among the poorer economic status quintiles.

India is witnessing a rising incidence of non-communicable diseases and old age diseases. Non-communicable diseases create a serious health and financial
burden for local and national governments. NCDs can be defined as diseases that are not infectious. Non-communicable diseases (NCDs) are the leading cause of adult mortality and morbidity worldwide. NCDs are rapidly increasing globally and reached epidemic proportions in many countries, largely due to industrialization, socio-economic development, rapid urbanization, demographic and lifestyle changes.

The cost implications of non-communicable diseases to society are multifold: direct costs to people with illness, their families and to the health care sectors and indirect costs to society and the government, due to reduced productivity; and intangible costs, that is adverse affects on quality of life.

The trend in public health financing over the last two decades clearly shows inadequate investments and declining expenditures across states and this has led to the collapse of the public health system. Low-income elderly people are particularly vulnerable because they are more likely to be experiencing health problems that require medical services than those who are economically better off, but are less able to afford needed care because of their lower incomes. Even routine care, such as physician visits or prescription drugs, can require older
and poorer beneficiaries to make hard choices between basic necessities and needed health care services. To provide assistance with cost sharing and additional protection, most elderly people have private insurance or Medicaid coverage to supplement their Medicare coverage.

The pattern of insurance coverage varies significantly by income. Private insurance to complement medicare is most the common among the elderly non-poor population and less extensive as a form of financing for those with lower incomes. Problems in obtaining care, such as delay in seeking care due to cost, provide direct evidence of the impact of financial barriers to care. Problems in obtaining care may compromise health status and result in prolonged suffering and increased morbidity. If care is eventually obtained and problem has become more severe, it may be more difficult and costly to treat because of the delay.

3.3 Objectives

1. To find out the socio– economic conditions of the old age people affected by non-communicable disease.

2. To assess the morbidity pattern of old age people in the study area.
3. To study the treatment cost incurred by the old age people affected by the non-communicable disease.

4. To examine the insurance taken by the old age people against non-communicable diseases.

5. To know the reason for the cause of disease of the old age people affected by non-communicable disease.

3.4 Hypotheses of the Study

1. There is no relationship between the socio-demographic factors and the non-communicable diseases among old age people.

2. There is no significant difference among the different surgery types with respect to overall medical expenditures, duration of hospitalisation for surgery, mean follow up expenditure, hospital type and occupation type of the old age people.

3. The total of all medical expenditure of the old age people was determined by the various factors such as total resource, insurance amount used, total expenditure of diseases admission, total monthly medical expenditure, surgery expenditure and so on.
4. Mean total of medical expenditure do not differ significantly between gender, disease affected, family system and surgery expenditure among the old age people.

3.5 Methods of data collection

Both primary and secondary data were collected from appropriate resources. The data collected from these sources were analysed and described by using suitable statistical techniques to the objectives and hypothesis framed for the study.

3.5.1 Collection of Primary data

To get the through knowledge of the study area and a clear understanding of the nature of the data required for the present study, pilot study was conducted by the researcher. A well structured interview schedule has been prepared for collecting the primary data on the bases of the pilot study conducted by the researcher. The researcher has followed to collect primary data from the selected samples.

3.5.2 Collection of Secondary data

The secondary data were obtained from various published and unpublished records of the office of Assistant Director of
Medical Services. The data were collected from Holy Cross College Library, District library, Nagercoil municipality, District Statistical Office at Nagercoil and Centre for Development Studies, Thiruvananthapuram and also from various journals, articles, books and reports. Web sources were also used for the collection of secondary data.

3.6 Selection of samples

The study area Kanyakumari district is considered as a universe and the nine blocks are Agasteeswaram, Rajakkamangalam, Thovalai, Kurunthancode, Thuckalay, Kiliyoor, Munchirai, Melpuram, Thiruvattar are taken as 9 stratum. The researcher selected 50 samples from each stratum on the basis of stratified disproportionate random sampling method. Thus a total of 450 respondents were selected from the nine blocks of the Kanyakumari district.

3.7 Statistical tools and techniques used

Statistical methods are a mechanical process especially designed to facilitate the quantitative data collected from the study. In the present study, the various statistical tools such as paired ‘t’ test, descriptive measures mean and standard
deviation and ANOVA test were used to analyse and to interpret the result.

3.7.1 Correlation analysis

The correlation analysis was used to analyse the inter relationship between different variables and different determinants used for the study. The Correlation Co-efficient (r) was computed by using the formula

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

and the significance of Co-efficient of Correlation obtained was tested by ‘t’ test

\[
    t = \frac{r \sqrt{n-2}}{\sqrt{1-r^2}}
\]

3.7.2 Analysis of Variance (ANOVA)

Analysis of variance was used to analyse the variability of over all medical with respect to different surgery types of the old age people.

\[
    F = \frac{\text{Variance Between Group}}{\text{Variance with in the groups}}
\]
3.7.3 Multiple Regression Model

A multiple regression model was used to analyse the relationship existing between the dependent variable \( Y \) (total of all medical expenditure and total resources, age, system of medicine, total debt, insurance amount used, monthly income etc., as independent model. The standard form of the model is

\[
Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots
\]

Where

\( Y \) - dependent variable

\( X_1, X_2, \ldots \) independent variables

3.7.4 ‘t’ test

The ‘t statistic’ is defined as,

\[
T = \frac{\bar{X} - \mu}{S} \times \sqrt{n}
\]

Where

\[
S = \sqrt{\frac{\sum (X - \bar{X})^2}{n-1}}
\]
3.8 Limitation of the study

1. Due to lack of time and finance the investigator has personally contacted only 450 old age people.

2. Large majority of the old age people have shown that they do not have any savings or much of landed property or assets. It is not possible for the scholar to recheck this information also.

3. The very nature of the topic itself is such that the scholar has to relay on primary data only and not on secondary data.

4. Since sample respondent didn’t maintain proper income and expenditure, saving records the researcher has collected data from their memory. So there may be data bias in primary data.

Chapterisation of the Study

The Dissertation is presented in seven chapters.

The first chapter Introduction deals with health of the old age people, the growth of elderly population and non-communicable disease in World level, India, Tamilnadu and the problem of old age people.
The second chapter presents review of literature with regards to elderly with non-communicable diseases, non-communicable diseases and old age people, and money spend for curing non-communicable diseases.

The third chapter briefly examines the methodology of the dissertation. This chapter includes importance of the study, statement of the problem, objectives of the present study, selection of sample, selection of the study area, hypothesis data source and statistical tools used for analysis, and limitations and chapterization of the study.

The Fourth chapter is about the profile of the study area.

The Fifth chapter is analysis of socio-economic conditions of old age people.

The Sixth chapter is analysis of non-communicable diseases and the money spent for it by the old age people.

The Seventh chapter deals with a summary of findings, conclusions and suggestions of the study.

The last chapter is followed by the Bibliography and Interview Schedule.