CHAPTER – IV

METHODOLOGY AND DESCRIPTION OF THE STUDY AREA

Research methodology is a systematic and theoretical analysis applied in the study to solve a research problem according to Kothari, 2004 and it involves describing, analyzing and predicting processes to solve a problem. Research methodology enables the researcher to carry on the research in the appropriate scientific approach and in the right direction. It helps in identifying the appropriate research tools and techniques for investigating the research problem. Thus this chapter deals with the research problem and research questions related to the study area and discusses the identified appropriate research design and sampling procedures with objectives and hypotheses related to this study. This chapter also deals with the details of the study area, the statistical and econometric tools applied in the study and finally the scope and limitations of the study.

4.1 RESEARCH PROBLEM

The review of literature chapter depicts a clear status of the health and health care systems. It is well understood that good health and quality health care are necessary for every individual in the society. These are the most pressing needs to create wealth and a pre-requisite for economic growth and development. Analyzing the actual working and delivery of the health care systems shows us the status of the existing health care systems, the extensive essential needs of the society, the actual health outcomes realized and understand the essential health outcomes that seems fair in the society. Ensuring healthy lives and promoting well-being at all ages is one among the Sustainable Development Goals (SDGs) propagated by the WHO. The Millennium Development Goals (MDGs) enunciates the improved health outcomes such as reducing child mortality, improving maternal mortality rates and to combat HIV/AIDS, malaria and other diseases. It is also quoted by WHO that “the MDGs are inter-dependent; all the MDGs influence health and health influences all the MDGs”.

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This better explains how health influences the overall sustainable development of the economy.

Having understood the importance of health and upon analyzing the health care system around the world, it is evident that the health care systems are not efficient. It lags either in the allocative efficiency or in the way they are distributed/delivered and the lags are wider in the developing and under-developed countries. Efficiency and equity principles could not be restored to the increasing population. However population alone does not remain the single factor responsible for the lags. The health care system is highly partial in delivering health care services. Moreover the public contribution towards health care is not sufficient in many cases. This creates sequence of effects that affects both the health care delivery system and its utility among people. Various studies have highlighted the areas that are to be seriously addressed in health care. The areas include health infrastructure, human resource in health sector, cost of treatment, drugs pricing, financing health care and health education.

In most of the developed countries, the contribution of the government to the health sector is quite high. As mentioned in the previous chapters, the countries under the Organisation for Economic Development (OECD) spend about 5 per cent to 8 per cent and the US government spends about 9 per cent of it GDP on health care. This is considered as the much required action expected from the government because, with increased public expenditure, the health infrastructure facilities and the human resource in health sector can be well equipped. Another practice in the developed countries is that almost all the individuals are properly backed by the prepayment mechanism that reduces the out-of-pocket expenditure, thus reducing the financing burden that rises out of the health expenditure.

The primary health sector is considered to be the backbone of health systems for any country. In the developed countries, primary health care is the first step of consulting or accessing health care but in India, primary care is not the necessary first access point for the rich and for most of the urban groups; they are able to consult specialty hospitals at first hand itself. The rest of the society is largely dependent on the primary health facilities. The primary health facilities covers the medical needs in the rural area. At the same time, major medical needs of the rural and poor people are
neglected. This shows that the households with the ability to pay can access any health service of their choice. Therefore the availability and accessibility of the health facilities are at stake. There are two prime reasons behind this scenario – first the government could not provide the essential health facilities due to its low spending nature; second, the private health providers are not interested in rendering the health facilities in the rural areas because of their prime profit motive. This gives rise to the problem of high medical cost. It is important to note that the cost of treatment offered by the private providers is higher but the burden of the cost is borne by the middle and the lower income groups both in the urban and rural areas. As the review of literature shows, it is seen that in many cases the rural households gets at least the primary health facilities and the urban households fail to get any basic facilities in the incidence of illness. In a study by Kamath and Anjali (2000), it is observed that the lower income groups spend more on current ailments than the high income groups and the expenditure on chronic illness increases with the income.

With such increased cost and lesser health facilities, the question arises how the government can ensure adequate health infrastructure facilities. The most required action from the government is to increase its spending on health care. Universal health coverage is the main target to be achieved by all the world countries. According to WHO, universal health coverage is not only about providing equal and quality health services but also ensuring that the cost of using health services do not put people in the place of financial burden but to protect the people against financial risk. In order to reduce the financial burden that arises out of health expenditures, different countries have adopted different health systems and are also backed by the prepayment/insurance mechanism which tends to reduce the financial burden. Such a mechanism is also plausible and the developed countries has also reaped the benefits. However, the developing and the under-developed countries lacks both in providing basic health services and also in providing financial risk. Furthermore, the private insurance can cover only few groups of people in the society skimming the lower sects of the population, only an extensive government hand can cover larger population ensuring equity and Pareto optimality principles. Thus government’s role and contribution is the driving key behind ensuring universal health coverage.
4.2 RESEARCH ISSUES

Health Care, Health Care Expenditure and Medicaid are the three crucial aspects that need attention by the government. As explained in chapter 1, there are various factors that affect these three aspects which distorts the households in achieving maximum utility in health care. The factors include inadequate health infrastructure, high cost of treatment, financing health care and level of protection from health care payments. These factors are expected to be addressed by the government systematically. With respect to Tamil Nadu, despite achieving goals in crucial health indicators, the performance of the above mentioned factors appear to be below the required standards. The state has widespread government hospitals but how efficiently they work remains uncertain. Reports claim that the physical and human health infrastructure remains inadequate; more disturbingly, there are also health centres that still work without any qualified human infrastructure. On the other side, there are top famous private hospitals operating in the state that acts as a hub for medical tourism and operates limited to those who can pay more; this mismatch in the health services increases the cost of medical treatment making it beyond the reach for the deprived and a burden for the remaining population.

Nevertheless, there are plenty of choices of pre-payment mechanisms that can protect the people from the catastrophic health care payments. This is provided by the state and central governments through various schemes and forms. The sole aim of the government is to cover its population under the roof of health insurance in some way. Here, the private health insurance players also give hand to the government in achieving this universal goal. Similar to the instance of delivering health infrastructure, delivering health insurance also back falls, lacking in the way it is organized and rendered. Health coverage is inadequately delivered by the government and expensive in the case of private players. This conflict discourages people from taking health insurance along with other socio-economic factors. Hence, these issues should be addressed by effective mechanisms for the welfare of the people and to achieve the ambitious goal of universal health coverage.

Therefore this study aims to discuss and address these problems by drawing out the following research questions
4.3 RESEARCH QUESTIONS

With these insights, the researcher has drawn the following research questions:

- Is health care expenditure a major part of the household consumption expenditure?
- Does households with major spending on health care expenditure are pushed to the verge of poverty?
- If the out-of-pocket spending on health care is catastrophic, what are the ways in which the households meet this expenditure?
- What are the factors that are responsible for catastrophic out-of-pocket health care payments?
- What are the measures the households adopt to overcome the catastrophic health care expenditure?
- How aware are the people about the health insurance schemes?

These fundamental questions are studied and understood by way of analyzing Kanchipuram District.

4.4 NEED FOR THE STUDY

Envisaging ‘Right to Health’ is the central idea of every target envisioned by the UNDP under the Millennium Development Goals. Three goals under the MDGs were formulated to ensure the right to health to every individual throughout all the member countries. Also achieving sustainable growth in health is one important aspect of the Sustainable Development Goals. The Indian government has taken many steps to achieve the targets set by these organizations. It has launched multiple programs and developmental policies such as the National Population Policy 2000, National Health Policy 2002, National AIDS Prevention and Control Policy 2004 and the five year plan objective which focuses to achieve the targets. However, the country witnessed only few improvements in the beginning, the progress in the parameters were below the reasonable level after a span of time. Apart from these goals, there were also a number of other policies and targets framed by the Indian government and by the state governments to bring about improvements in the health sector and to achieve better
health outcomes in the society. One ambitious goal that the country thrives for is the ‘universal coverage of health care’. The initiatives taken by the government to achieve universal coverage is extensive and it is considered as the way forward in the health sector. However the country stays far behind in delivering essential health care services to its people. Therefore how far these programs, policies and initiatives have been achieved and have actually increased the welfare of the society is a question for concern.

The biggest concern in the country in terms of health is that equal access to health facilities is not being ensured and the role and share of government in the health sector seems to be minimal as compared to the private sector. In such a scenario, the poor and the rural households are the most affected. The financial contribution of the government is very low in the country which is the prime reason for the drawback in the health sector. This creates a vicious circle in such a way, as the contribution by the government is less and not sufficient, the health care delivery including the health infrastructure and the human resource in the health sector is reduced which creates an opportunity for the private players to lead the market. When the private sector tops the health system, the cost of treatment rises accompanied by unequal distribution of services. This creates serious ill-effects for the people. One serious effect is that the society is trapped in catastrophic health payments leading to poverty. Particularly in India, the rise of communicable disease pose a threat to health on the demand side by creating additional treatment needs and on the supply side, the public sector is not able to deliver the required health facilities and the treatment costs are high in the private facilities due to the availability of costly new technologies, operation cost, medicines, expensive infrastructure facilities have resulted in widening the gap in accessibility and affordability to the lower income groups.93

As seen in the review of literature, many studies have reviewed the health care payment made by the households and how it has affected their food and non-food consumption. OOP health expenditure is the main component of the private health expenditure in most of the world countries followed by private insurance and other external sources. But the gap between the OOP expenditure and the other factors is

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extremely wide in India. Studies have highlighted that the OOP expenditure takes the major share of the household’s income and pushes the household to vulnerability. Those who cannot meet the medical expenses either do not take up treatment at all or they finance through other informal sources. This is the important factor to be discussed; households are forced to borrow money from money lenders or any other informal sources or they sell their assets. The serious effects of the OOP expenditure has been much realized over the recent years. Various efforts have been made to reduce the OOP expenditure of the households. In India, the health infrastructure facilities is being expanded in the pockets by the government to improve accessibility; also the health insurance facilities are being provided by the government to give the society a financial protection against the catastrophic health expenditures. The central and state governments tries to cover people under insurance by providing different types of health insurance services for different sets of population according to their needs. Examples of this is the various community health insurance schemes by the central and the state governments, employee’s insurance schemes, state insurance schemes etc. However even after so much efforts, neither universal health access nor universal health coverage could be achieved.

To make the study more appropriate the researcher has set the following objectives for the present study.

4.5 SCOPE OF THE STUDY

Health care expenditure is becoming a prominent expenditure of the household and absorbs a major share of the household income. There are prepayment mechanisms offered by various sources which are intended to reduce the burden of the health care expenditure. However, the households that benefits out of these are not up to the expected levels. Therefore, with the help of the present study one can observe keenly the components of the health care expenditure, the burden this expenditure adds to the households and how the households face health expenditure in and off the absence of any disease. Most importantly, the health insurance awareness of the households have been examined in the present study, which helps in understanding the attitude, perception and satisfaction of the households towards health insurance.
4.6 OBJECTIVES OF THE PRESENT STUDY

The research questions stated above can be approached through the following objectives:

- To study the demand and supply gap of health care support in Kanchipuram district of Tamil Nadu.

- To analyse the health care expenditure pattern of the households in Kanchipuram district; the factors that increases the out-of-pocket expenditures and analyse how households meet the health care payments.

- To examine the health insurance awareness of the households and analyse the factors that determines the rationale of choosing health insurance.

- To assess the households’ attitude, perspective and satisfaction towards health insurance schemes.

4.7 HYPOTHESES

The following are the main hypotheses that were put into test for the present study:

- There is no significant relationship between health care expenditure pattern and income, educational status, occupation, type of ailment of the respondents in the study area.

- There is no significant relationship between choice of health care service and the income, gender, education and family size of the respondents in the study area.

- There is no significant difference in choosing different health care schemes.

4.8 SELECTION OF STUDY AREA

The uniqueness of Kanchipuram district in terms of its demographic characteristics, proportionate rural-urban mix and in particular the health care system structure in the district corresponding and competent with the state makes the area ideal for the present study. This is well explained below.
Demographic profile of Kanchipuram district

Kanchipuram district ranked 2nd in terms of population size of Tamil Nadu with population density of 892 people per sq.km. According to 2011 census, the District had population of 39.90 lakh, which is about 5.53 per cent of the total state population. The district’s distribution of population in the rural and urban areas are 14.53 lakh and 25.37 lakh respectively. Kanchipuram district shared urban population of 63.5 per cent in the district total population. The district has a unique mix of population with a minimal gender gap with 20.10 lakh male population and 19.80 lakh female population. The district’s population growth rate was 19.15% in 2001 and 38.95% in 2011 with population of 2877468 and 3998252 in the respective time periods. The birth rate was 15 per 1000 population and the death rate was 5 per 1000 population and the infant mortality rate was 8.8 per 1000 population. The district has recorded the highest literacy rate of 84.5 per cent as compared with the state literacy rate of 80.1 per cent. The urban literacy rate was recorded as 90.25 per cent and the rural literacy rate was 73.60 per cent.

Kanchipuram district is known for its social and economic importance. The district comprises of 11 important industries including Hyundai Motors India Ltd, Ford India Ltd Pepsi India Ltd and 8 industrial parks including SIPCOT, Mahendra, and Madras Export Processing Zone. The district also has many agriculture and allied industries. 5.3 per cent of the working population in the district are cultivators, 16.28 per cent are agricultural laborers, 3.27 per cent are workers in household industry and 75.11 per cent of the workers are employed in other works.

The demographic significance, presence of top infrastructure facilities which gives rise to the better performance of the socio-economic and crucial health indicators competent with the state’s performance makes Kanchipuram district suitable for the study.

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4.9 DESCRIPTION OF THE STUDY AREA

The present study analyses the health expenditure pattern and health insurance awareness of the households. Therefore, Kanchipuram District in Tamil Nadu was chosen as the study area. The description of the study area is as follows:

Kanchipuram district is situated on the northern East Coast of Tamil Nadu. It is adjacent to Bay of Bengal and Chennai city; it is bounded in the west by Vellore and Thiruvannamalai district, in the north by Thiruvallur district and Chennai district, in the south by Villuppuram district in the east by Bay of Bengal. It lies between 11° 00’ to 12° 00’ North latitudes and 77° 28’ to 78° 50’ East longitudes. Kanchipuram district is shown in the following Map 4.1.

Map 4.1 – Location of Kanchipuram District

Source: Google Images
The district has a total geographical area of 4,393.37 Sq.Kms and coastline of 87.2 Kms. Kanchipuram, the temple town is the district headquarters. The district has been divided into 4 revenue divisions, for administrative purpose, comprising of 13 taluks with 1137 revenue villages. For development reasons, it is divided into 13 development blocks with 633 Village Panchayats\(^98\).

The areas under the four revenue divisions\(^99\) are explained as follows:

- **Chengalpattu Revenue Division** includes Chengalpattu taluk, Thiruporur taluk and Tirukalukundram taluk.
- **Kanchipuram Revenue Division** includes Sriperumbudur taluk, Walajabad taluk, and Kanchipuram taluk.
- **Madurantakam Revenue Division** includes Uthiramerur taluk, Madurantakam taluk and Cheyyur taluk.
- **Taluks as part of Chennai city region** includes Alandur, Sholinganallur, Pallavaram and Tambaram.

This classification can be well understood with the help of the following maps. *Map 4.2* shows the four revenue divisions of the Kanchipuram District and *Map 4.3* shows the taluks that comes under each the revenue divisions.

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Map 4.2 Revenue Divisions of Kanchipuram District

Source: Kanchipuram District Official Website.

Map 4.3 Kancheepuram District Block Map

Source: Kanchipuram District Official Website.
4.9 RESEARCH DESIGN AND SAMPLING PROCEDURE

It is important for the researcher to have a clear research design. This will provide the way in which the research has to be organized and the manner in which the study can be presented. The researcher must have a clear understanding of the objectives of the study and convert the objectives into a series of questions to be collected as information from the respondents. Creating a research design also helps in handling the right sources of data as required for studying the objectives and the tools to synthesize the information and provide the desired results.

4.10.1 Pilot Survey

A ‘pilot survey’ is a preliminary survey which is undertaken prior to the main survey. This is an important procedure as it enables the researcher to test the feasibility of the study. Prior to data collection, a pilot study was conducted in few selected areas of Kanchipuram district. A total of 50 samples were collected through the household survey. Information from the respondents were collected through a well-structured questionnaire. Apart from the questionnaire, discussions were also made with the households so as to understand and capture their real mindset with regard to health care spending and health insurance. The findings of the pilot study were useful in the further development of the final questionnaire so as to obtain the required information.

4.10.2 Primary Data

The primary data was collected with the help of structured interview schedules. A questionnaire was prepared which consists of well-structured questions asked to all interviewees in the standardized format. The questions comprises both the quantitative and qualitative aspects. The questions attempt to capture four broad aspects – (i) Demographic, (ii) Household health expenditure, (iii) Health insurance awareness and (iv) Perception, Attitude and Satisfaction towards health insurance.

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The survey schedule consists of two main parts. The first part comprises of question on household information, health expenditure and unexpected health expenditure of the family, awareness of health insurance and chronic disease expenditure of the household. The second part consists of statements that would elicit the respondent’s perception, attitude and satisfaction towards health insurance. These statements are classified on a 5-point Likert scale where: 1 = Strongly Agree, 2 = Agree, 3 = Neither Agree nor Disagree, 4 = Disagree and 5 = Strongly Disagree.

4.10.3 Sample Specifications

The present study focuses on the household health care expenditure and the health insurance awareness of the households in Kanchipuram District of Tamil Nadu. The study includes few selected areas under the Kanchipuram District as the Universal/Population of the study. The areas were selected by classifying the district into three categories such as Rural, Urban and Semi-Urban areas. Four areas under each category was considered as samples for the study.

The selection of the sample is made in such a way to ensure a reasonable proportionate of population is covered which was classified based on the location criteria. The study adopts a cross-sectional household survey where a stratified random sampling procedure was used to conduct the survey. A random survey was conducted by visiting every alternate house in the particular region on a given day.

The total population of Kanchipuram district is 3998252. Taking approximately 250 household respondents from each of the chosen areas gives the required sample size of the present study. The researcher has collected a total of 850 samples from the field.

The details of the sample profile are illustrated in the following table:
Table 4.1: Sample Profile

<table>
<thead>
<tr>
<th>Region</th>
<th>Samples</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Alandur</td>
<td>280</td>
</tr>
<tr>
<td></td>
<td>Jalladiampet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kottivakkam</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pallavaram</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tambaram</td>
<td></td>
</tr>
<tr>
<td>Semi-urban</td>
<td>Chemmancherry</td>
<td>290</td>
</tr>
<tr>
<td></td>
<td>Guduvancheri</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Madambakkam</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perungudi</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>Oggiamduraipakkam</td>
<td>280</td>
</tr>
<tr>
<td></td>
<td>Sriperumbudur</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urapakkam</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uthiramerur</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>850</td>
</tr>
</tbody>
</table>

4.10.4 Sources of Data

The analysis of the present study is mainly based on primary data that has been collected from the household survey through a structured interview schedule. The secondary data has been collected from various government and non-governmental resources, previous research works done in this subject, books, magazines, newspaper articles and journals has also been referred.

4.10.5 Period of Study

The household survey took place over a span of six months between September 2016 and February 2017 in the chosen locations of Kanchipuram District. Apart from the survey organized with the help of questionnaire, there were also discussions made with the families who voluntarily discussed about their health expenditure scenario and health insurance.
4.11 Statistical and Econometric Tools Used

The present study uses appropriate statistical and econometric tools in order to analyse the data so as to obtain the required results that would explain the objectives of the study. For analysing the data, Statistical Package for Social Sciences (SPSS) 20 and Microsoft Excel 2007 were used. The statistical and econometric tools applied in the study are explained as follows:

*Descriptive Analyses and Frequency Distribution* were used to summarize the sample data set into meaningful information that was used to assist in further interpretation.

*Crosstabulation* was also used to illustrate the relationship and make comparisons among two or more variables. Few examples include- comparing the distribution of health care expenditure of the households across household income groups, occupational status and the choice of hospital by the households across income groups, family size, location etc.

*Chi-Square Test*: is also used to test strengths of association between two categorical variables, based on which the hypotheses of the study that was framed was tested. Their association is showed with the help of the Pearson Chi-Square ($\chi^2$) test statistic and the corresponding significance value.

*Multiple Regression Model*:

The multiple regression model is applied to predict the value of a variable which is the dependent variable ‘Y’ based on more than one independent variables or explanatory variables (X’s). The multiple regression model estimates the value of the coefficients of the independent variables in association with the dependent variable. The multiple regression model in the present study includes dummy independent variables that influences the dependent variables.

*Binomial Logit Model*:

The logistic model on makes prediction with the exception that it predicts the probability of ‘Y’ occurring given the known values of predictors or explanatory
variables (X’s). The binomial logistic regression estimates the probability of the presence of the characteristic given the values of the explanatory variables.

A Binomial Logit Analysis was employed to determine the factors measuring the probability of individuals taking health insurance. In order to predict whether the respondent would fall in the category of ‘taking health insurance’, a binary logistic model is used because the dependent variable takes a dichotomous form (Yes/No):

\[ Y_i = 1 \] (the household has taken health insurance)
\[ Y_i = 0 \] (the household has not taken health insurance)

And the probability is captured in the following equation:

\[ P(Y) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni})}} \]

Where \( P(Y) \) is the probability of Y occurring that is whether the household has taken health insurance, ‘e’ is the base of natural logarithms and the other coefficients (\( \beta_0, \beta_1, \beta_2, \ldots, \beta_n \)) form a linear combination of the predictor variables (\( X_{1i}, X_{2i}, \ldots, X_{ni} \)).

**Multinomial Logit Model:**

The multinomial logit model or sometimes called polychotomous logistic regression is an extension of the binary logit model with the outcome variable having more than two categories. In the present study, the multinomial logit model or MNL is used to assess the type of health insurance the households are willing to take as found in the primary survey. The status of insurance of the households that have been identified are categorized into three broad groups namely, 1) Not insured, 2) Insured under government health insurance scheme and through employer and 3) Voluntary health insured.

The variables that were analysed include household size, household income, number of earning members in the family, medical expenses of the household, educational status and occupational status of the household head or the main earning member, status of chronic disease of members in the family.
As noted by Aruwajoye and Ajibefun (2013), parameter estimates of MNL provide only the direction of the effect of the independent variables; estimates do not represent the actual magnitude of change or probability.

**Factor Analysis:**

Factor Analysis is a multivariate technique used for identifying whether the correlations between a set of observed variables stem from their relationship to one or more latent variables (a variable that cannot be directly measured) in the data, each of which takes the form of a linear model (Field, 2009). In the present study, the people’s attitude, perspective and satisfaction towards health insurance is assessed. Since attributes like ‘attitude’, ‘perception’ or ‘satisfaction’ cannot be measured directly, Factor Analysis was used. It narrows down the possible factors from a longer list that could be influencing the people’s attitude towards health insurance.

Respondents were provided with a list of statements under attributes such as attitude, perception and satisfaction respectively for which they had to indicate their level of “Agreement” on a scale of 1 to 5; where 1=Strongly Agree; 2=Agree; 3=Neither Agree nor Disagree; 4=Disagree and 5=Strongly Disagree. The following are the stages involved for the factor analysis (Nargundkar, 2010):

i) Checking for sample adequacy:

This is done through the Kaiser-Meyer-Olkin (KMO) statistic shows the sample adequacy and the KMO statistic varies between 0 and 1; wherein a value of 0 indicates the sum of partial correlations is large compared to the sum of correlations thereby rendering the factor analysis as inappropriate. A value closer to 1 indicates relatively compact pattern of correlations and resulting in more distinct and reliable factors.

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ii) Factor extraction:

This process is done through the *Principal Components Analysis* method. The objective of this stage is to identify the number of factors to be extracted from the data. This is done by the computation of the Eigen value where a higher value indicates a higher amount of variance explained by the factor.

iii) Rotation:

Here the principal components are rotated through a factor matrix, to which the researcher can interpret the factors extracted in the previous stage. The factor matrix provides the factor loadings between 0 and 1 for each of the extracted factors; where values closer to 1 indicate high loadings and those closer to 0 indicate low loadings and the varimax method of rotation is used in the study.

### 4.12 LIMITATIONS OF THE STUDY

The present study is subjected to the following limitations:

- Even though the present study is based primarily on the households in Kanchipuram district, the sample size is only 850 households whereas the universal population of the district is nearly four million. Therefore the findings are assumed to reflect the characteristics of the actual population.

- The nature of the study is of the cross sectional type, therefore the analysis is restricted to the current time period.

- Responses were based on the individual’s capability to understand the questions at that point of time making them subjective; therefore generalizations cannot be made for other groups of people at other points of time.

- The availability of the secondary data was limited which is another hindrance the researcher faced in the present study. With better secondary data, the research can be studied under various dimensions.

- Finally, time was a factor that limited the study to focus primarily on the household expenditure pattern at that particular time period and their health
insurance awareness and opinion at that point of time. The researcher acknowledges that there are other socio-economic aspects and other dimensions and approaches to the present study, however they are not within the scope of this present study.