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HYPOTHESES

RESEARCH METHODOLOGY

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APPENDIX/ANNEXURE

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- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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WEBSITES

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

AGED RURAL PEOPLE'S HEALTH PROBLEMS: A CASE STUDY OF KANYAKUMARI DISTRICT

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ABSTRACT

Due to greater economic security and a big advancement in the medical field, demographic transition has taken place in the world. It leads to a decline in the death rate and an increase in the number of aged people. The general objective of this article is to understand the disease burden of the aged rural people of Kanyakumari district, where there is a large number of aged people. The study made use of both primary and secondary data. The primary data have been collected from 200 sampling units. The aged people are encountered with problems such as low earning, limited care and high healthcare expenditure. The present study supports the view of earlier studies that the type of diseases also changes as time passes and among the aged, women are more in number than that of men. As far as health expenditure is concerned, it is reported that as people get aged, much expense is required to get treatment for their diseases. Households which have elderly people are making catastrophic expenditure. It is inferred from the survey that the average monthly medical care expenditure is 1334.50 rupees (47.54% of total income). There is significant positive correlation between age of elderly and medical care expenditure, between education and medical care expenditure and between income and medical care expenditure. Aged people are much affected by the ever rising health care expenditure and many communicable and non-communicable diseases. Hence, they should be protected from all these problems by taking suitable measures.

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KEYWORDS
catastrophic expenditure, disease burden, demographic transition, geriatric persons, oldest old.

INTRODUCTION

In the past six decades, the world has experienced enormous gain in health. Under-five child mortality rate (U5MR) has declined much, around 28% in 1950 to 7.28 in 2008 (World Development Indicators (WDI) 2010). The most deadly and debilitating diseases including leprosy, measles, poliomyelitis and many childhood diseases have been contained or almost eliminated. At present smallpox, which affected more than 50 million a year, was almost eradicated. The World Health Assembly declared that smallpox was eradicated in 1980; 13 years after the intensified programme for the eradication of smallpox began (Medlin et al in Jamison et al 2006). The incidence of paralytic poliomyelitis in children fell by more than 99%, from about 1000 cases per day in 1988 to fewer than four cases per day in 2003. The poliomyelitis-endemic countries fell from 125 in 1988 to just six by 2003. The six countries are Afghanistan, Egypt, India, Niger, Nigeria and Pakistan. The number of guinea worm disease cases also fell by 99% from 1986 level. The geographical range of this disease has also decreased from 20 to just 12 countries (Miller et al in Jamison et al 2006).

India has also achieved a good deal in health during these decades. Smallpox and guinea worm diseases have been eradicated from the country. Polio is on the verge of being eradicated. There is no occurrence of polio in India between 13th January 2011 and 12th January 2012 (John 2012). In India leprosy, kala azar and filariasis are expected to be eradicated within a short period of time. Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR) have come down significantly. IMR has decreased from 83 per 1000 live births in 1990 to 52 in 2008 and U5MR has declined from 116 to 69 in the same period (WDI 2010). These rates have come down to 50 and 64 respectively in 2009 (Dhar 2011). The crude death rate is around 7%. It means that the human population becomes healthier.

As population becomes healthier and people live long, the average age increases. The life expectancy at birth (LEB), which is the proxy of improving health conditions, in the world has increased from 60 years in 1975 to 67 years for male and 71 years for female in 2008. (WDI 2010). The global population in 2005 shows that there were 600 million people in the age of 60 and above. Of these, 86 million persons were the oldest-old[1] and were expected to reach 394 million in 2050 (Kishore 2009). The Life Expectancy at Birth (LEB) has increased to 64 years in 2008 (GOI 2011) from 36.7 years in 1951 (Purohit 2010). Hence, in India, the proportion of old people (≥60) has increased from 4.9% in 1901 to 5.5% in 1951 and about 10% in 2011 and is expected to reach 17.5% in 2050 (Bhaskaraiah and Murugaiah (2011), Census 2011). In absolute term, it increased from 24 million in 1961 to 100 million in 2011 and is expected to reach 326 million in 2050 (Ennapadam and Krishnamoorthy 2010, Census 2011). It indicates that the proportion of elderly is increasing at a higher rate than that of the general population. In India, the growth rate of elderly people was 3% per annum against 2% per annum of the general population (Balasubramanian 2007).

This demographic transition[2] is the consequence of the decline in the death rate and almost constant or slowly declining birth rate (IEG World Bank 2009). Rising average level of income and education along with improvements in health technology and expanded public health interventions are the main reasons for this gain in health (Rout and Prasant 2007). High income promotes better health through improved nutrition, improved access to public goods such as safe drinking water and sanitation and increased ability to purchase more and higher quality medical care. Pharmaceutical invention of vaccines and antibiotics reduced the incidence of many diseases and deaths drastically (Jack and Maureen in Spence and Maureen 2009). Economic growth that has enhanced the affordability of health goods and services reduced the transmission of diseases. Better nutrition along with advances in hygiene and education has also played a role in reducing mortality and in improving health of individuals.

As individuals live longer, there is high incidence of diseases that affect only the older people and rise in healthcare expenditure. The rising healthcare expenditure has its impact on the aged as well as on the economy. Aging leads to high dependency and a slowdown in economic growth. Hence, aging is considered as a major achievement of the 20th century and a major challenge of 21st century (Aiyar 2006).

REVIEW OF LITERATURE

The unavoidable factor for a high demand for medical care is the age of individuals. 'Senility is the harbour of diseases' is an adage. The Bible says, "The days of our lives are 70 years, and if by reason of strength they are eighty years, yet their boast is only labour and sorrow …" (Psalms 90: 10). Whether one is rich or poor, male or female, educated or uneducated, married or unmarried, physical worker or mental worker, forward or backward, he/she requires much medical care services when aged.

World Health Organisation (2000) in Jamison et al (2006) says the disease burden of the elderly people is more than the non-elderly people. Mortality resulting from lower respiratory diseases is approximately 10-fold higher among the people between 60 and 69 years of age than among the people between 15 and 59. Speizer et al in Jamison (2006) points out that the incidence of Chronic Obstructive Pulmonary Diseases (COPD) increases dramatically with age while it was very low before the age of 45.

Jamison et al (2006) assert that the Disability Adjusted Life Years (DALYs) for females per 1000 population for the age group between 5-14 years were only 73.7, while it was 441.6 for the people of the age group 60-69 years, 641 for 70-79 years and 800 for 80+ years at the global level in 2001. For males, the respective figures are 70.9, 540.4, 721 and 856.7 in the same year.

Henderson (2008) finds out that as people get aged, much expense is required to treat their diseases. The healthcare expenditure increases enormously due to more number of healthcare related visits and long stays in hospitals and escalated drugs cost. In most of the households, elderly members are making catastrophic[1] expenditures. It is reported that over one-half of the life-time medical expenditure is made after the age of 65. The per capita expense on healthcare of elderly people was four times higher than that of the average expense on non-elderly people and seven times more than on each young person. The aged people constitute only less than 12% of total population, but they consume over one third of all medical resources

Human Development Report 2009 concludes that the high incidence of diseases increases not only the demand for medical care but also the dependency ratio. It is expected that there will be 71 non-working aged people for every 100 working-age people in 2050.

Sharma in Kishore (2009) reveals that the pattern of diseases also changes due to the epidemiological transition, the non-acceptance of traditional norms and values and the change in the lifestyle. In 1980, the top diseases that disturbed the elderly people are vision impairment 88%, locomotive disabilities 40%, neurological diseases 18.7%, cardiovascular 17.4%, respiratory diseases 16.1% and skin diseases 13.3%. However, at present, the diseases occupying the top ten places are, hypertension (39.53%), vision impairment (35.3%), arthritis (33.67%), COPD (19.92%), coronary heart disease (18.85%), hypertrophy of prostrate (16.23%), diabetes mellitus (15.23%) dyspepsia (11.03%), irritable bowel syndrome (9.21%) and depression (8.5%).

Many studies prove that among the aged, women are more in number than that of men. Majority of the women who live beyond 75 years of age have no husband. Two thirds of the men in the 65 to 74 age group live with their wives, against only one half of the women of this age group live with their husbands (Henderson 2005).

Rajan (2004) laments that of the daughters and daughters-in-law, many are employed and the age-old joint family system is almost completely disappeared. A large number of parents are not taken proper care by their children. They are exposed to lack of emotional, physical and financial support. They face physical problems in maintaining their health, economic problems to face medical expenses due to inadequacy of income, and social problems such as loneliness and feeling of helplessness.

NEED OF THE STUDY

Kanyakumari is one of the districts in Tamil Nadu having a high literacy rate. The people are well educated and health conscious. The proportion of the elderly is much higher than the national average and the state average. As per 2001 Census, the percentage of people above 60 years old was 9.96 (1.67 lakhs out of 16.76 lakhs) against the state average of 9.08 and the national average of 7.4. The percentage of 80 and above 80 to the total in the district was 1.19 (0.2 lakh out of 16.76 lakhs) against 0.71% in the state and this oldest-old group constitutes 11.98% (0.2 lakh out of 1.67 lakhs) in the district against 7.78% in the state and 14.33 at the global level among the elderly people. It means that the district has a higher proportion of elderly people than that of the state and the nation as a whole. Hence, it is the duty of researcher to bring to the notice of authorities the health problems of the aged rural people

STATEMENT OF THE PROBLEM

The existence of a significant proportion of aged people, who have a repository of knowledge and experience, is a sign of credit to any economy. However, the expenditure on them for the healthcare services they require is a serious concern not only to them but also to those who care them and to the whole economy. The reality is that if the present population gets aged, the need for medical care will increase and the total output will come down. Hence, the present study "Aged Rural People's Health Care Problems: A Case Study of Kanyakumari District" is carried out to understand the disease burden of aged rural people.

OBJECTIVES

The following are the objectives of the present study.

1. To understand the disease burden of the aged.
2. To calculate the share of healthcare expenditure to the monthly income of the surveyed respondents.
3. To estimate the economic impact of the healthcare expenses on the families having aged people.
4. To compare certain variables such as aged female percentage and the relationship between income, education and age and healthcare expenditure with already established facts.

HYPOTHESES

The following hypotheses have been formulated and tested.

- The relationship between age and healthcare expenditure is negative.
- There is no significant correlation between education and healthcare expenditure.
- The positive correlation existing between income and healthcare expenditure is insignificant.

METHODOLOGY

The study made use of both primary data and secondary data. The primary data have been collected from 200 sampling units. At the first stage, two taluks out of four taluks were selected at random. Then, from each selected taluk, one village panchayat was selected. After that, sampling units were selected at random after conducting a pilot study. The required data have been collected with the help of a scientifically prepared interview schedule. The information available in the filled in interview schedules was presented in a master table and then in small tables that are suitable for analytical purposes. Very few statistical tools such as average, correlation coefficient and multiple regression analysis and 'f'-test have also been applied to make the study analytical and scientific.

RESULTS AND DISCUSSION

AGE–WISE DISTRIBUTION OF THE RESPONDENTS

Of the two hundred surveyed geriatric persons, the age-wise distribution shows, only a few persons are nearing ninety. The average age of the respondents is 68 years. The age composition of the sample respondents is presented in table 1.

TABLE – 1: AGE–WISE DISTRIBUTION OF THE RESPONDENTS

Sl. No	Age group	No. of Respondents
1	60 – 64	62 (31)
2	65 – 69	58 (29)
3	70 – 74	38 (19)
4	75 – 79	24 (12)
5	80 – 84	12 (6)
6	85 – 89	6 (3)
	Total	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

SEX-WISE DISTRIBUTION OF THE RESPONDENTS

Many studies concluded that the aged women are more in number than men. This is true in this survey also. The sex-wise distribution of the respondents is given in table 2.

TABLE – 2: SEX-WISE DISTRIBUTION OF THE RESPONDENTS

Sl. No	Sex	No. of respondents
1	Male	94 (47)
2	Female	106 (53)
	Total	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

NATURE OF FAMILY OF THE RESPONDENTS

Nature of family is another social institution. The family system consists of joint family, extended family and nuclear family. There is no joint family among the surveyed households. The survey information is tabulated in the following table.

TABLE – 3: NATURE OF FAMILY OF THE RESPONDENTS

Sl. No	Nature of family	No. of Respondents
1	Extended family*	144 (72)
2	Nuclear family	56 (28)
	Total	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

*Nuclear family plus some other family members who don't constitute a family unit.

EDUCATIONAL STATUS OF THE RESPONDENTS

Education is the most powerful factor that transforms human population into human capital. Better the education, the greater the availability of social and economic opportunities will be. The educational status of the sample respondents is illustrated in the table given below.

TABLE – 4: EDUCATIONAL STATUS OF THE RESPONDENTS

Sl. No	Educational Status	No. of Respondents
1	Illiterate	76 (38)
2	Primary	94 (47)
3	Secondary	20 (10)
4	Higher Secondary	6 (3)
5	Degree	4 (2)
	Total	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

PLACE OF RESIDENCE OF THE RESPONDENTS

In general, aged parents like to stay with their children. If it is not possible, they stay in separate houses. The place of residence of the respondents is presented in the table given below.

TABLE – 5: PEOPLE WITH WHOM THE RESPONDENTS STAY

Sl. No	People with whom they stay	No. of Respondents
1	Son	98 (49)
2	Daughter	46 (23)
3	Relative	6 (3)
4	Separate	50 (25)
	Total	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

PRE & POST OCCUPATIONAL PATTERN OF THE RESPONDENTS

Occupational pattern refers to the type of work performed by the respondents. The occupational pattern of the respondents, before and after 60 years of age, is given in the following table.

TABLE – 6: OCCUPATIONAL PATTERN OF THE RESPONDENTS

Sl. No	Occupation	No. of Respondents	
		Before 60 years of age	After 60 years of age
1	Private	34	12 (S 8) (Se 4)
2	Government	8	0
3	Agriculture	26	4 (S 2) (D2)
4	Business	14	4 (S 2) (Se 2)
5	Self-employed	40	34 (S 20) (D 8) (Se 6)
6	Coolie	78	134 (S 62)(D 28) (R 6) (Se 38)
6	No occupation	Nil	12 (S 4) (D 8)
	Total	**200**	**200**

Source: Primary data, Figures in parentheses their respective percentages to total.

Number within bracket gives the staying places of aged people.

S = son, D = daughter, Se = separate and R = relatives.

The above table shows that except six persons all are economically active even after their 60 years. It is contrary to the generally accepted fact that after sixty years most of them are not economically active; but supports the view expressed by Rajan (2004). He reports that 63% of aged men and 58% of aged women are involved in economic activities.

MONTHLY INCOME OF THE RESPONDENTS

If the aged people have some sources of income, they can meet their day to day expenditure without much difficulty. Their income can be utilized for health caring and other purposes. The income, including pension, details of the respondents are given in table 7. The average monthly income of the respondents is Rs.2807.

TABLE – 7: MONTHLY INCOME OF THE RESPONDENTS

Sl. No	Monthly income (in `)	Staying places of respondents with/in				Total
		Sons	Daughters	Relatives	Separate houses	
1	1000-2000	44	14	4	20	82 (41)
2	2001-3000	26	10	2	20	58 (29)
3	3001-4000	2	12	Nil	Nil	14 (7)
4	4001-5000	8	Nil	Nil	2	10 (5)
5	5001-6000	6	Nil	Nil	6	12 (6)
6	6001-7000	4	Nil	Nil	Nil	4 (2)
7	7001-8000	Nil	Nil	Nil	2	2 (1)
8	8001-9000	Nil	Nil	Nil	Nil	0
9	9001-10000	4	Nil	Nil	Nil	4 (2)
10	10001-11000	Nil	Nil	Nil	Nil	0
11	11001-12000	Nil	2	Nil	Nil	2 (1)
10	No income	4	8	Nil	Nil	12 (6)
	Total	**98**	**46**	**6**	**50**	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

Even among the aged respondents, there is significant positive correlation between education and income and significant negative correlation between age and income. These are in support of already discussed established facts. The correlation coefficient values calculated are given in the following table.

TABLE – 8: CORRELATION BETWEEN EDUCATION & AGE AND INCOME

Sl. No.	Factors	Income
1	Education	0.31**
2	Age	-0.26**

** Significant at 1% level of probability

HEALTH CONDITIONS OF THE RESPONDENTS

Illness increases as age passes. So, aged people suffer from many diseases. The health conditions of the respondents are presented in the table 9. Here, health indicates a condition in which individuals are free from major diseases and healthy enough to do manual works. The term average health indicates that individuals are not free from common diseases but free from very serious diseases. But the third group suffers from many diseases. All these are based on the views expressed by the respondents.

TABLE – 9: HEALTH CONDITIONS OF THE RESPONDENTS

Sl. No	Health Condition	No. of Respondents
1	Good	56 (28)
2	Average	138 (69)
3	Bad	6 (3)
	Total	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

DISEASES OF THE RESPONDENTS

The common diseases are classified into two: major and minor diseases. The minor diseases are cough or cold, fever, hearing impairment, joint pains and vomiting and major diseases refer to heart attack, diabetes, asthma, sugar, high blood pressure, nervous disorder and tuberculosis. The surveyed aged people are suffered from many diseases. Some diseases like cough and fever are common but temporary. Diseases like asthma are common but their intensity is positively related to age. However, diseases like hypertension, heart attack and diabetes are permanent and mostly age related. The diseases that affect the aged people are presented in the table given below.

TABLE - 10: DISEASES OF THE RESPONDENTS

Sl. No	Diseases	Affected No. of Respondents
1	Hypertension	66 (33)
2	Arthritis	52 (26)
3	Vision impairments	34 (17)
4	Diabetes	32 (16)
5	COPD	30 (15)
6	Hearing impairments	8 (4)
7	Nervous disorder	6 (3)
8	Asthma	5 (2.5)
9	TB	4 (2)
10	Cough	78 (39)
11	Fever	32 (16)
12	Dysentery	11 (5.5)

Source: Primary data, Figures in parentheses their respective percentages to total.

SYSTEM OF TREATMENT UNDERTAKEN BY THE RESPONDENTS

There are different systems of medical treatment available in Kanyakumari district. However, most of the informants prefer Allopathic system of treatment to Siddha, Ayurveda and Homeopathy. The system of medicine taken by the aged people in the surveyed area is illustrated in table 11.

TABLE – 11: SYSTEMS OF TREATMENT UNDERTAKEN BY THE RESPONDENTS

Sl. No	Treatment	No. of Respondents
1	Allopathic	102 (51)
2	Homeopathy	60 (30)
3	Ayurveda	26 (13)
4	Siddha	12 (6)
	Total	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

CARETAKERS OF THE RESPONDENTS

Human beings aspire for love and affection. This tendency is more when one gets aged. So a study is complete only if a note is made on the people who take care of them. Classification of the respondents on the basis of caretakers is illustrated in the table 12.

TABLE – 12: CARETAKERS OF THE SAMPLE RESPONDENTS

Sl. No	Caretakers	No. of Respondents
1	Spouse	62 (H14,W 48)
2	Son	92 (F 38, M 54)
3	Daughter	34 (F 6, M 28)
4	Daughter-in-law	4 (MIL 4)
5	Self care	8 (SC 8)
	Total	**200**

Source: Primary data, Number in bracket shows the persons who are cared

H = husband, W = wife, F = fathers, M = mothers, FIL = father-in-law, MIL = mother-in- law, SC = self care.

Table 12 shows that of the 62 persons who are taken care of by their spouses, 48 are wives and husbands are only 14. Out of the 92 persons taken care of by their sons, mothers are 54 and fathers are only 38. It also supports the already established facts regarding the sex composition of aged people.

FEELINGS OF THE RESPONDENTS REGARDING THEIR CARE

Care givers may be very sincere or may not be sincere. Because of their age, old age people may not be in a position to recognise the service rendered by the caretakers. However, in this survey only limited number of respondents are dissatisfied. The opinion of the respondents about the care that was extended by the care givers is presented below.

TABLE – 13: OPINION OF THE RESPONDENTS REGARDING THE CARE PROVIDED

Sl. No	Care Service	No. of Respondents		Total
		Male	Female	
1	Satisfied	78	90	168 (87.5)
2	Dissatisfied	11	13	24 (12.5)
	Total	**89**	**103**	**192 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

The above table finds that out of the 192 respondents, who depend on others for care only 24 are dissatisfied. A special interview was also conducted to understand why 24 respondents are dissatisfied. Interview information reveals the following. Thirteen respondents reported that the food items given to them are inadequate or not good. It is very important to note that all the four respondents who are taken care of by their daughters-in-law are dissatisfied.

MONTHLY MEDICAL CARE EXPENDITURE OF THE RESPONDENTS

The study shows that during old-age, the medical care expenditure is heavy. It includes, doctor's fees, medicines and other expenses. The average monthly medical care expenditure of the respondents is portrayed in table 14.

TABLE – 14: MONTHLY MEDICAL CARE EXPENDITURE OF THE RESPONDENTS

Sl. No	Amount (in rupees)	Age			Total
		61-70	71-80	81-90	
1	401 – 500	14	Nil	Nil	14 (7)
2	501 – 1000	50	16	Nil	66 (33)
3	1001 – 1500	42	8	6	56 (28)
4	1501 – 2000	16	10	2	28 (14)
5	2001 – 2500	14	14	Nil	28 (14)
6	2501 – 3000	4	4	Nil	8 (4)
	Total	**140**	**52**	**8**	**200 (100)**

Source: Primary data, Figures in parentheses their respective percentages to total.

Table 14 shows that the average monthly medical care expenditure is Rs.1334.50 (47.54% of the average monthly income). Certainly, this expenditure is catastrophic in nature as it exceeds 40% of the total income and 54.45% of the non-subsistence income. If this amount is subtracted from the average income, the money meant for consumption of other commodities is only Rs.1472.5 (2807 – 1334.5 = 1472.5). To the aged people, who have no income or income less than the healthcare expenditure, have no alternative other than selling their little property they own. The income data show that there are 53 persons out of 200 surveyed with income less than Rs.1334.50 and 12 persons without any income.

A personal interview was conducted to know the feelings of the eight retired respondents who served in government departments. All they reported that after receiving the salary, the first thing they did was purchasing of food articles and other things for the entire month, but after 60 or 65 years of age, the first thing they do is buying of medicines for the whole month.

CORRELATION AND REGRESSION ANALYSIS

The correlation analysis explains the relationship existing between age and healthcare expenditure, education and healthcare expenditure and income and healthcare expenditure. The details are portrayed in the table given below.

TABLE – 15: CORRELATION COEFFICIENT VALUES

Sl. No.	Factors	Healthcare Expenditure
1	Age	0.16
2	Education	0.32**
3	Income	0.33**

** Significant at 1% level of probability

From the above table it is obvious that there is significant positive correlation between education and health expenditure and income and healthcare expenditure. It means that the last two hypotheses are rejected. There is positive correlation between age and healthcare expenditure. However, the value is significant neither at 5% level nor at 1% level. The regression equation given below shows the influence of three factors, age, education and income on health expenditure.

$H = -849.42 + 0.22^* X_1 + 0.32^* X_2 + 0.24^* X_3$, $R^2 = 0.21$

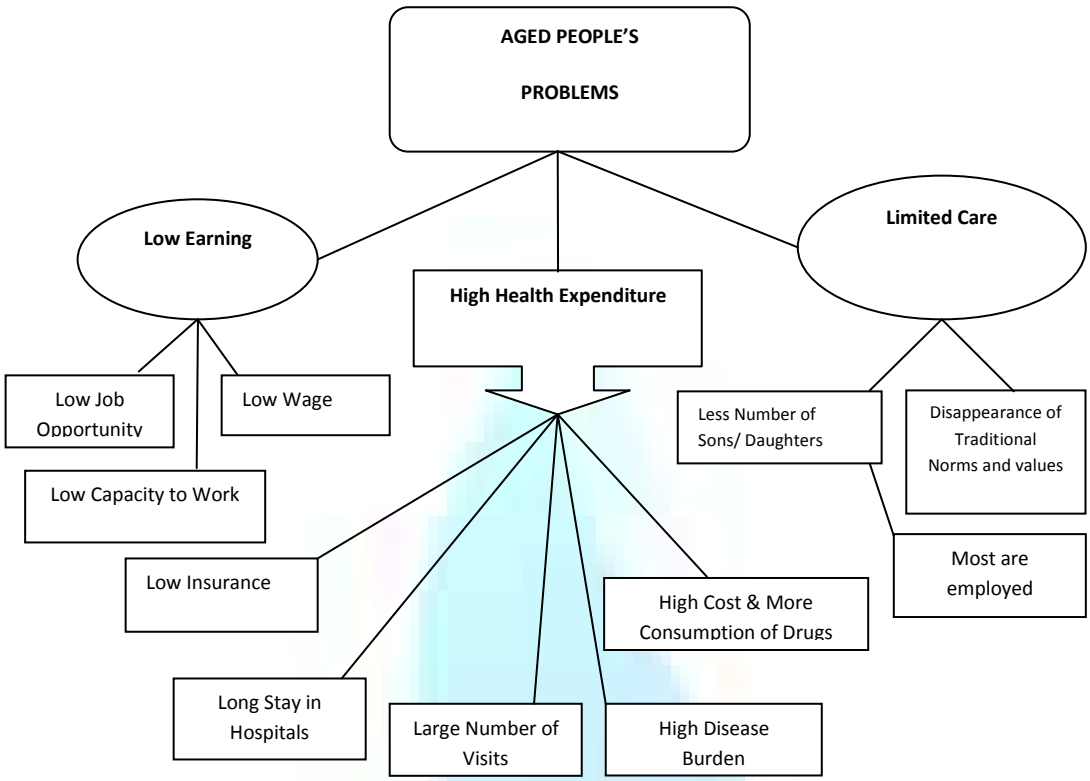
H = Healthcare expenditure, X_1 = Education, X_2 = Income, X_3 = Age

The calculated beta values are significant at 5% level.

The calculated 'f' value (ANOVA), 8.63 shows that there is significant variance among the three influencing factors.

The flow chart given below shows the various problems of the aged people.

FLOW CHART 1



FINDINGS

It is very obvious from the above analysis that the aged people are suffering from many diseases. As age increases, both the disease burden and the economic burden increase. Allopathic treatment is preferred for its fastness in cure by 102 respondents though prices of many drugs and hospital charges are very high. Like other commodities, the healthcare is also a normal commodity; i.e., its consumption decreases as the price of it increases. Because of very high drug prices and very high cost of medical services, the demand for medical care will decrease. If the demand decreases, then the people will become sick. Most of the medical expenses are out-of-pocket spending and so it leads to impoverishment of individuals who have undergone medical treatment.

The pattern of diseases also changes due to changes in the life style and the social values and norms followed. The aged are affected not only by low earnings but also by limited care as there are less number of care givers. However, 144 aged people are staying either with their sons or with their daughters and six are in relative's houses as there are no issues and 87.5% respondents are satisfied with the way in which they were treated by their care providers.

The aged informants worked not only before their 60 years of age but also after that. The important point to be considered is that before the age of 60 years there were only 78 coolies, but after 60 years of age, there are 134 coolies as the pension amount is insufficient or no pension from the previous occupation.

Among the aged, the expenditure on healthcare increases as age increases. It is clear from the positive correlation between age and medical care expenditure. High educational qualification favours high medical expenditure. The calculated r value is significant at 1% level of probability. In the same way, there is significant positive correlation between income and healthcare expenditure.

The average monthly income of the respondents is Rs.2807/-.The average expense on medical care is Rs.1335/-. So the amount of money available for the day-to-day consumption per month is only Rs.1472/-.

SUGGESTIONS

The ever rising healthcare expense of the aged people is a stumbling block for their peaceful survival. Unless they are protected from this heavy burden, the sufferings of these poor human beings cannot be wiped out. The main feasible solution is to make medical care accessible to all through healthcare insurance coverage. The universal health insurance coverage will increase the demand for medical care by making it indirectly cheap.

High out-of-pocket spending is the main reason for the impoverishment of individuals. The reason for high out-of-pocket spending is low public spending on health sector. Therefore, the public spending on health sector should be raised to at least 5% of the GDP from the present share of less than 1% and all medicines including the lifesaving should be made available in public sector hospitals at free of cost to all poor people, particularly the aged people.

State-sponsored care for elderly is available in countries like Canada and UK. In the same pattern, it is advisable to have such programmes in India also and establish specialized clinics for geriatric care. Mobile medical care, particularly to the aged, can also be implemented as getting treatment in hospitals requires personal visits. Personal visit is expensive and almost impossible for the oldest and the oldest-old.

CONCLUSIONS

Aged rural people are suffering from many diseases while their income is limited. Their age makes them unmovable and their poor economic condition makes them hesitate to take treatment. Hence, it is the duty of the welfare state to take necessary steps for ensuring quality healthcare to all at free of cost or at a reasonable rate.

LIMITATIONS

The present study is also not free from limitations. The scope of the study area is only two taluks of a district. Even in the two taluks, only two rural panchayats are selected for the study. As the area covered is very limited it may not help much to draw inference for the whole universe. The primary data collected are also subject to all limitations of primary data.

SCOPE FOR FURTHER RESEARCH

Similar studies can be conducted in other areas and for other vulnerable groups. Study can also be conducted on the aged people's preference for health care systems and healthcare providers. Studies on the coverage of aged by insurance can also be carried out to know how the economic burden can be reduced.

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ENDNOTES

[1] 60 – 65 young-old, 66 – 75 old-old, 76 – 80 oldest and above 80 oldest-old.
[2] A situation where population becomes healthier and people live long: an increase in the share of older people.
[3] When the health expenditure exceeds 40% of the non-subsistence income of a household, then the expenditure is called catastrophic (WDI 2010).

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