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AN ENVIRONMENTAL ANALYSIS OF HOUSEHOLDS HEALTH ISSUES IN SIVAGANGAI CITY OF TAMILNADU

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Abstract

Home is to some extent responsible for the state of man's health and well being. It is difficult however, to demonstrate the specific cause and effect relationship because housing embraces so many facts of environment. Housing the closely related to economic growth and it is a part of the overall socio economic system and cannot be wealth with isolation. After food and clothing shelter is the basic need for a family because it reflects the living conditions of people. Poor housing facilities would create health problems. There are different kinds of houses with varying degrees of facilities. Some houses are bigger and more spacious and others are smaller. Some houses are simply constructed with mud walls and thatched roots where as others are constructed with brick walls and tiled roof. Few houses have several rooms and others with only one room where they cook, eat and sleep. They are houses constructed in spacious areas with a back yard and front yard and certain in a very congested area. Housing and sanitation plays a vital role in promoting health status of the respondents. Hence, the aspects such as type of diseases, health centre availability and determinants of annual household medical expenditure.

Keywords*: well being, socio economic system, health problems, housing facilities, living conditions, sewage system*

Significance of the study:

Sivagangai city lacks adequate drainage facilities combined with inadequacy of sewage system and improper solid waste management system result swilled up of untreated sewage, being led into the drainage channels and solid wastes being dumped along the drainage sections both on banks and the bodies. Besides, the drainage lines have been encroached in many places through construction of hutments and pucca residential buildings, thus restriction their width and impeding on their flow. The damage arising out of these situations are:

- Mixing of untreated sewage with drainage water with in the residential areas leading to foul smell, obnoxious pollution, pollution of water courses and stagnation.
- Physical contact with such water is quite common as many of such drainage channels are used for washing and bathing in absence of adequate water supply for such purpose. This leads to causation of disease through contamination.
- Stagnate water leads to breeding of mosquitoes and other vectors and thus spread vector borne diseases.
- Dumped solid wastes on the drainage beds get rotten and produce foul smell.
- Besides, rats and other borrowing animals feeding on such garbage dumps spread diseases in the surrounding areas. People come in contact with these rotten solid wastes and get infected.
- Encroachment on drainage lines choke drains, stagnating water and growth of water hyacinth and other water weeds on this water gives an unaesthetic appearance and cause of visual pollution.
- During rain, many of these drains overflow many of the areas as indicated get inundated due to the inadequacy of the drains resulting in spread of foul water in the residential areas resulting in unhealthy situation and diseases.
- Drainage congestion leading to water-logging damage the roads and other surface features leading to vehicular congestion, damage to vehicles and emission of smoky exhaust from idling vehicles which contribute to air pollution."

There are few studies pertaining to the emerging environmental health issues of Sivagangai city. Each of them has attempted to explain any one type of issues. Mean while, these works are done by the science researchers mainly on quantifying the magnitude of pollution problem rather than in a descriptive way. Considerable weight age should be given to the problems in the city.

Still now, studies which are descriptive in nature, to create awareness among the people regarding this environmental degradation and to promote the environment quality are totally absent. Therefore, the researcher has chosen the research problems of studying environmental issues of Sivagangai City.

Besides of all these reasons, since the environmental problem is highly relating to the welfare of the people and it does not affect only the people those who live in and near to the polluted region but also the whole nation and the world. As a social scientist, the researcher has given adequate attention to study this environmental problem since it is everybody's problem.

Statement of the problem

Today many world organizations have realized that the economic development cannot succeed, unless development planning includes careful attention on the natural

environment. Therefore, it is the reason for the allocation of the considerable amount from the budget for the environmental problem by the LDCs, while even the developed countries are unable to find the exact solution to this environmental problems.

The environmental issues can be categorized as natural environment, land use pattern, socio-economic background, population, employment, income, housing conditions, health status, transportation, energy consumption, air pollution, water pollution, noise pollution, solid and hazard waste, sanitary conditions and also the problems of flood in and around Sivagangai city.

Objectives:

a. To study the health status of the households in Sivagangai city.
b. To determine the annual medical expenditure.
c. To suggest policy implication.

Methodology

Sample design.

An attempt has been made to analyze various aspects of health status such as age group of respondents, educational status, occupational status, income distribution and the dependency ratio of the sample households. For this, 100 household respondents were selected randomly in Sivagangai City.

Period of study

The Period of Study was 2013 -2014

Tools of analysis

Statistical tools had been used to analyze the collected data and to interpret the findings of the study. The MLR has been used for the study.

Analysis of Health Issues of Sample Households in Sivagangai City

An attempt has been made to analyze various health issues of sample households in sivaganagi city

Communicable Diseases

Communicable disease as flue fever, dengue fever, viral fever, dysentery, small pox, chicken pox, Pneumonia and cough affected the health. In the sample the diseases affect area people. Out of 100 sample 58 persons are affected by the diseases, rest of the 42 persons are not affected. The type of diseases is presented in table 1.

Table 1: Type of Diseases

Particulars	No.of.Persons
Pneumonia	14
Asthma	7
Dysentery	4
T.B.	1
Malaria	5
Diphtheria	7
Whooping Cough	8
Typhoid	3
Small Pox	3
Chicken Pox	2
Chronic cough	3
Jaundice	1

Source: Survey Data.

From the Table 1 it is inferred that of 58 persons 14 persons are affected by Pneumonia and 7 persons are affected by Asthma and 4 persons are affected by Dysentery and 1 person is affected by T.B. and 5 persons are affected by Malaria and 7 persons are affected by Diptheria and 8 persons are affected by the whooping cough and 3 persons are affected by Typhoid and another 3 persons are affected by the small pox and 2 persons are affected by the Chicken pox and 3 persons affected by Chronic cough and only one person in affected by the Jaundice. Among Pneumonia are affected 14 persons out of 58 persons. Pneumonia is dominating diseases of the sample area.

Health Care Facilities Available at Health Centers

The health status refers to a state in which human being function effectively and in harmony with the environment. The people approached health centers for treatment is presented in the following Table 2.

Table 2: Approach Health Centre for Treatment

Particulars	No.of.Persons
Government Hospital	93
Private Hospitals	7
Total	100

Source: Survey Data.

Table 2 shows that about of 100 persons, 93 persons are taking treatment from Government Hospital and 7 persons are taking treatment from the private clinic respectively. It indicates most of the people in the sample area mainly depends free treatment.

Table 3 explains tendency of the people and details of their Health centers

Table 3: Know About Health Center

Particulars	No.of. Respondents
Satisified health service	100
Not knowing any government Programme	100
Reasons is using Govt. Hospital nearby	90
Free and Cheap	10

Source: Survey Data.

From the table 3 we can find that all the people are satisfied the Health Service and all are not knowing any Government Programme implements in the area and all people are using the Government Hospital Treatment (or) Medicine because it is free and cheap. The three streets taken for sample are formed a triangular and only 10 to 15 minutes walk from their home to bus stand. All the five private doctors are located in and around Bus stand and people are going to these doctors for their treatment by walk only. So only a matter of availability of the doctors and the cost of their treatment count. On the other hand the Government Hospital 2 to 3 km from the residence and they have to spend 5 Rupees for the Town Bus. The problems here are the availability of the doctors and the failure of the treatment expected by the patients.

The medical expenditure as a percentage in income is presented in table 4

Table 4: Medical Expenditure as Percentage in Income

Percentage	Frequency
4-10	2
10-15	34
15-20	24
20-25	20
25-30	11
30-35	7
35-40	1
40-45	1
45-50	1
Total	100

Source: Survey Data.

Table 4 shows out of 100 persons 2 persons are spending their money for medical the range of 5-10 percentage and 34 persons are spending their money for medical the range of 10-15 percentage and 24 persons are spending their money for medical the range of 15-20 percentage and 20 persons are spending their money for medical the range of 20-25 percentage and 11 persons are spending their money for medical the range of 25-30

percentage and 7 persons are spending their money for medical the range of 30-35 percentage and 1person is spending their money for medical the range of 35-40 percentage and another 1 person is spending their money for medical the range of 40-45 percentage respectively. It indicates that 34 persons are spending their money for medical the range of 10-15 percent age. Out of 100 persons 34 persons are spending low level of income for medical among their monthly income.

Hospital Expenditure as a Percentage of Total Expenditure

Out of 100 respondents 74 persons are not spending hospital expenditure among their total expenditure. Only 26 persons are spending hospitalized expenditure among the total expenditure. The hospital expenditure as a percentage of total expenditure presented in table5

Table 5: Hospital Expenditure as a Percentage of Total Expenditure

Percentage	Frequency
10-20	2
20-30	3
30-40	2
40-50	6
50-60	1
60-70	9
70-80	1
80-90	2
Total	26

Source: Survey Data.

The Table 5 shows out of 26 persons 2 persons are spending their money for hospital expenditure from the expenditure the range of 10-20 percentage and 3 persons are spending their money for hospital expenditure from the total expenditure the range of 20-30 percentage and 2 persons are spending their money for hospital expenditure from the total expenditure the range of 30-40 and 6 persons are spending their money for hospital expenditure from the total expenditure the range of 40-45 and 1 person is spending his money for the hospital expenditure from the total expenditure the range of 50-60 and 9 persons are spending their money for hospital expenditure from the total expenditure the range of 60-70 and 1 person is spending his money for hospital expenditure from the total expenditure the range of 70-80 percentage and 2 persons are spending their money for hospital expenditure from the total expenditure the range of 80-90 percentage respectively.

It indicates that out of 26 persons only 9 persons spending their money for hospital expenditure from the total expenditure large amount of their income respectively.

Determinants of Annual Household Medical Expenditure

In order to identify the determinants of annual households medical expenditure, the following from of multiple long linear regression model was fitted.

$$\text{Log } Y = \beta + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 D_1 + \beta_4 D_2 + \beta_5 D_3 + U \ldots\ldots\ldots\ldots (1)$$

Where,

Y = Annual household medical expenditure (in Rs.)

X_1 = Annual disposable income (in Rs.)

X_2 = Family Size (in numbers)

U = Disturbance term

D_1, D_2, D_3 are dummy variable represent age of the head of households.

If D_1 = 1 up to the age 30 years

= 0 otherwise.

D_2 = 1 age from 30-40 years

= 0 otherwise.

D_3 = 1 age of 40 and above

= 0 otherwise

$\beta_o, \beta_1, \beta_2 \ldots\ldots \beta_5$ are the parameters to be estimated.

The model (4.1) was estimated by the method of least squares and the results are given in Table 6

Table 6: Estimated regression results of annual household medical Expenditure.

Variables	Parameters Estimates	t-value
Intercept β_1	0.5072	
Annual disposable income β_2	0.2071*	3.7471
Family size	0.0912*	2.3471
Age of head of households up to 30 years β_3	0.0172	0.0078
Age of head of households 30-40 years β_4	0.1074	0.0672
Age of head of households 40 years and above β_5	0.1781*	4.1747
R^2	0.81	
F-value	36.7241	
Numberof observations	100	

* Indicates the co-efficients are statistically significant at 5 per cent level.

Table 6 the R^2 value indicates that all the explanatory variables included in the model were jointly responsible for 81 per cent variations in the annual household medical expenditure. The variables annual disposable income, family size and age of the head of the households 40 years and above were statistically significant at 5 per cent level and they

were positively related to the annual household medical expenditure. Among the significant variables, age of head of households 40 years and above had a greater influence on annual household medical expenditure. It is followed by the variables annual disposable income and family size of the selected respondents. It implies that one per cent increases in those variables may lead to increases of 0.6853 ($\beta_0 + \beta_5$), 0.2071 (β_1) and 0.0912 (β_2) per cent respectively in annual household medical expenditure. The F-value had indicated that the model fitted was found to be statistically significant at one per cent level. Thus it may be concluded from the above analysis that age of head of households 40 years and above had a greater effect on increases in annual medical expenditure in the study area.

Findings

- Regarding the type of diseases affected most of the people are suffered from Pneumonia 14 persons, Diphtheria 7 persons, whooping cough 8 persons, the rest are affected by Asthma, Dysentery, T.B, Malaria, Typhoid Small Pox, Chicken Pox, Chronic Cough, Jaundice Respectively.
- Out of 100 respondents 93 persons are taking treatment from the government hospital and 7 persons taking treatment from the private hospital respectively. All people are satisfied the Health service and all are not knowing any government programme implemented that area. People go to government hospital treatment of medicine because it is free and cheap.
- 34 persons spend 10-15 percentage of their income of medical. Out of 100 persons only 34 persons are spending low for medical out of their monthly income. Out of 26 persons only 9 persons are spending more on hospital expenditure from their total expenditure.

Suggestions

- Health is the responsibility of an individual a family with government playing only a supportive role. The initiatives and effort health has to come from the community so that it adopts healthy living as a way of life, thereby preventing illness and in case of illness availing of appropriate health care and the earliest moment. Information, Education and Communication, therefore assume significance. Health attitude and health practices have gone a long way in the promotion of health of communities in developed countries and this should be an essential element of any future health programme on our agent.
- Government has to aware the useage of Indian medicine like siddha to solve the problem of viral fever and dengue fever in the study area.
- Government health infrastructure caters to a limited health care delivery, the remaining part being covered by private practitioners and voluntary non-government organizations. In coming years their role will widen further.

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