



Science

PATTERN OF HEALTH CARE EXPENDITURE OF PRIVATE AND PUBLIC: A CASE STUDY OF HOSPITAL PATIENTS IN KANNUR DISTRICT, KERALA, INDIA

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Abstract

In Kerala, the disturbing trend is that the public health care system is getting alienated from the people since 1980's. About 30% of the lower income families seeks medical service from the government hospitals. This is because of the fall in the quality of the services of the government hospitals. In the present situation, the rate of utilization of the private sector can be increased drastically pointing to the poor performance of the public health care system. The government hospital has some problems like poor physical or infrastructure facilities, ineffective leadership and unsatisfactory supply of drugs and medical supplies faculty of staffing procedure. These above stated problems do not exist in private hospitals. Therefore, the present study carried out to assess the healthcare expenditure of government and private hospitals patients in Kannur district. The study was conducted during 2015-16. The sample size of the survey contains a total of 120 respondents from Kannur district. The study analyses the interrelationship between health care expenditure and major socioeconomic factors such as monthly income, age, gender, marital status and occupation. The health care expenditure divided into two-direct and indirect health care cost. The direct health care cost includes- user fee charge, medical charge, diagnostic charge and surgical cost. The indirect health care cost comprises of transportation charge, food and beverages charge and accommodation charges. The study found that the direct cost of health care is high in both private and public sector hospitals. Finally, the study suggests that an initiative along the role of government is requested to secure the health demands of poor as health care costs are growing over time.

Keywords: Healthcare Expenditure; Private-Public Hospitals; Socio-Economic Condition; Hospital's Performance.

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1. Introduction

India is the second largest populated country in the world. Health is an important determinant of wellbeing and health care is regarded as a public right, and an important responsibility of governments is to provide the care to all people irrespective of race, religion, caste or creed, rural or urban, rich or poor, and so on.

The effort to improve the health status of the population is a major thrust and it is under the social development program being undertaken in India. Public health programmes play a very significant role in the physical and mental wellbeing of every nation. The improvement of the health status of people is connected to number of factors such as household income, public expenditure on healthcare delivery system, availability of private healthcare facilities and general environmental conditions affecting incidence of diseases. The health status of the population of a nation was assumed to affect utility of the people directly by the value that individual place on good health and indirectly through increasing healthy time and labour income of the person. The rising of income levels, the households are able to spend on better healthcare, education and nutrition leading to an improvement in health status. The improved health status of the people helps the process of economic development in a positive way. The planning of health in India started as early as in 1943, when the Bhore committee was appointed to go into health and medical needs of India. In the time of independence in 1947, the health infrastructure was mainly urban and clinic based, and it providing curative services only.

The final of the third five year plan, India laid the foundation of basic health care services and the subsequent five plans focused on the need to integrate family planning with maternal and child health and nutrition services. The sixth five year plan adopted the goal of "health for all". In 1983 the first National Health Policy (NHP) was announced. In the period of seventh five year plan the major thrust was laid on the consolidation of health infrastructure already developed. The eight five year plan objective is that the health facilities must reach the curative population by the end of the plan period and also the ninth five year plan observed that inappropriate location, poor access, poor maintenance, gaps in critical manpower, mismatch between personnel and equipment, lack of essential drugs, diagnostics, poor referred linkages were some of the factors responsible for sub-optimal functioning of primary health care institutions. Most recently, the ministry of health government of India prepared the National Health Policy 2002, (NHP).

The main objective of NHP 2002 is to achieve an acceptable standard of good health among the general population of the country. The NHP is being worked upon further in 2015 and a draft for public consultation has been release. The primary aim of the NHP 2015 is to inform, clarify, strengthen and prioritize the role of the government in shaping health systems in all its dimensions investment in health organization and financing of health care services, prevention of diseases and promotion of good health through cross sectorial action access to technologies, developing human resources, encouraging medical pluralism, building the knowledge base required for better health, financial protection strategies and regulation and legislation for health, (Draft of NHP, 2015).

In India, there is a significantly large public health care sector; the larger provide health sector mostly for curative care completely weakness the former presence. The National Sample Survey Organization (NSSO) data clearly shows a major decline in utilization of the public health care facilities for inpatient care and a corresponding increase in utilization of the same from public

health providers in both rural and urban areas of the country. Despite the higher cost in the private sector, this shift shows that the people are losing trust in the public health care system. The reason for low utilization of public health care sector appear critical shortage of health personnel, inadequate incentives, poor working conditions, lack of transparency in posting doctors in rural areas, poor outreach, time of services, insensitivity to local needs, inadequate salary, and poor monitoring of services or facilities. The availability of the infrastructure and manpower in terms of quantity is almost a pre-condition for achieving better healthcare services. The basis of the Alma Ata declaration was an acceptance that the most effective way to develop a cost effective and equitable system of healthcare was to focus on the delivery of basic health services.

The health infrastructure in India has a long way to go towards achieving 100% quality technology and superior health care delivery systems. The private sector provides 80% of the health care services and only 20% are provided by the government, (www.buyusa.gov/india). The private health sector predominates in the provisioning of curative services. India's private health sector accounts for about 80% outpatient treatments for both rich and poor, more than 55% of all in-patient admissions or hospitalization i.e. curative services, 40% of prenatal care, 55% of institutional deliveries and as low as 10% of immunizations delivered. It provides 40% of hospitalizations for the poor and 60% for the privileged, (MukhopadhyayDebes, 2006). The provision of health care services will improve the physical and mental developments of the human being.

In India, the general government (central and state) expenditure on health was only 1.36% of the GDP in 2012-13 estimates. The public health expenditure represented 1.28% of GDP as of 2013. Its highest value over the past 18 years was 1.28% of GDP in 2013, while its lowest value was 1.00% of GDP in 2005. However, the private health expenditure was 2.69% of GDP as of 2013. Its highest value over the past 18 years was 3.56% of GDP in 2004, while its lowest value was 2.65% of GDP in 2012.

The present study tries to measure the pattern of health care expenditure of private and public in Kerala especially in the Hospital Patients in Kannur District. This district is situated in the northerly part of the Kerala state spread between the Lakshadweep Sea and Western Ghats. The district came into existence as an administrative unit on 1st January 1957, when the erstwhile Malabar district and Kasargod Taluk of Madras province were reconstituted into three revenue districts Viz., Kannur, Kozhikode and Palakkad. The district can be classified into three distinctive regions geologically as coastal, midland and forest hilly regions. The total population of the district as per the 2011 census is 2,525,637, which 46.9% are male and 53.1% are female. The sex ratio is 100 males 113 females. The density of population is 852 persons per square kilometer of land area. The literacy rate in the district is 85.4%. There are 147 private hospitals against 9 government hospitals and 31 private dispensaries against 7 government dispensaries. There are 82 PHC's and 10 CHC's in the district.

Two main objectives of this study: (1) It is carried to investigate the socio-economic characteristics of the sample respondents in a comparative framework, and (2) it is carried to estimate the health expenditure of the sample respondents. The methodology is presented as follows. The database for this study consists of primary and secondary data. A well-structured schedule was prepared to collect primary data from the study area. Personal interview method is adopted to collect the

necessary primary data. The sample population for the field survey comprises a total of 120 respondents from Kannur district. The respondents were selected randomly from Kannur municipality. The data collected through schedule method were entered in to the computer using SPSS package and simple 2x2 tables were prepared. Tabular analysis is carried out. The tools, such as average and per cent age are used in the tabular analysis. The general information and performance of the hospital has been analysed with the help of primary data collected from the respondents through structured schedule. Likewise, the socio-economic and personal condition of the respondents has also been analysed on the basis of primary data. The tools like simple average, per cent age and Chi-square test, Spearman's rank correlation has also been applied.

It important to mention that health spending is largely unpredictable and any significant fraction of household spending on direct payments made for purchasing health care services and drugs commonly called out of pocket payments can cause a disruptive impact on household expenditure and ultimately an impoverishing effect on its existing standard. The expenditure of health is an important factor, which influence the demand for health services. Therefore, the analysis of pattern of expenditure on health care is significant as it defines the affordability of modern health care to various income groups. Following sections examine and discuss results of this study.

2. Results and Discussions

2.1. Health Charges

Healthcare expenditure cuts poor respondents in two ways. Not only do they have to spend a large amount of money and resources on medical care, but they are also unable to earn during the period of illness. For that, the patients support both direct and indirect charges during the treatment. Those will occur according to the disease status and illness, and when the person comes to the consultation or when he is hospitalized.

2.1.1. *Direct Cost of Healthcare*

Direct costs covered various charges directly related to the healthcare. They included user fee charges, diagnostic charge, medicine charge and surgical charge. The results of this study for the direct cost are presented as follows.

- **User Fee Charges**

Patients pay user fee for the use of healthcare facilities. In health economics, user fee refers to a system of charges for basic health care services. However, in government hospital there is no user fee as the healthcare services are provided free of charge to the patients. While the private healthcare services, charge user fee for looking after the patients, **Table 1**. The user fee generally varies according to the disease status, illness, injury and treatment; these are referred as the costs of health services.

Table 1: User fee charges

| Amount (Rs) | Government hospital | Private hospital | Total |
|------------------|---------------------|------------------|-------|
| Below 100 | - | 15 | 15 |
| 101-200 | - | 39 | 39 |
| Above 200 | - | 1 | 1 |
| Total | - | 55 | 55 |

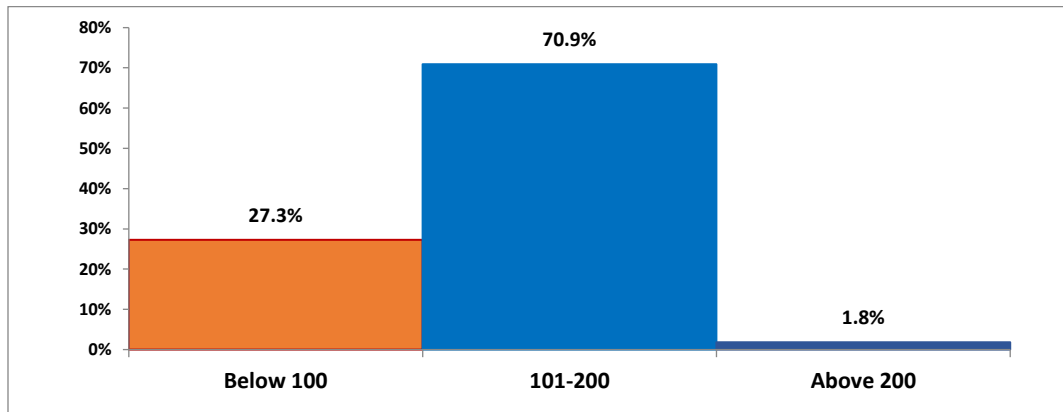


Figure 1: Total of user fee charges, %

Out of 120 samples, only 55 respondents prefer private hospital where they have to yield out of user fee for their treatment and remaining respondents utilizes government hospital for the treatment. The results show that 70.9% of the private hospital respondents had spent between Rs101-200 for the treatment as a user charge, while 27.3% pays below Rs100 as treatment fee. Treatment at the government hospital is either free or highly subsidized, yet a limited portion of the patients prefers to seek treatment from such facilities, only 1.8% of the private hospital respondents had spent more than Rs 200, **Figure 1**.

- **Diagnostic Charges**

A diagnostic test is a kind of medical test preferred to aid in the diagnosis or detection or diseases. It is a procedure performed to confirm or determine the presence of diseases in an individual suspected of having the diseases, usually following the report of symptoms, or based on the results of other medical tests or recovery from disease finally to confirm that a person is free from disease. Diagnostic charges often vary with the medical test taken from the person concerned and his/her disease status because there are many medical tests like blood test, urine test, X-Ray, measuring diabetics and blood pressure. Based on the illness the doctors administer some kind of tests on a person and report of the test which helps the doctor to diagnose the illness.

The results show that the diagnostic charges between Rs 201 and more than Rs 600 of the private hospital are more important than that the government hospital, Figure 2. On the other hand, more than 29% of the government hospital spends below than Rs 200 as diagnostic charges, although the private hospital spends only 14.5%. No charges are focused in government hospital (27.7%) than that in private hospital (14.5%). Figure 2: Diagnostic charges paid by the respondents, %

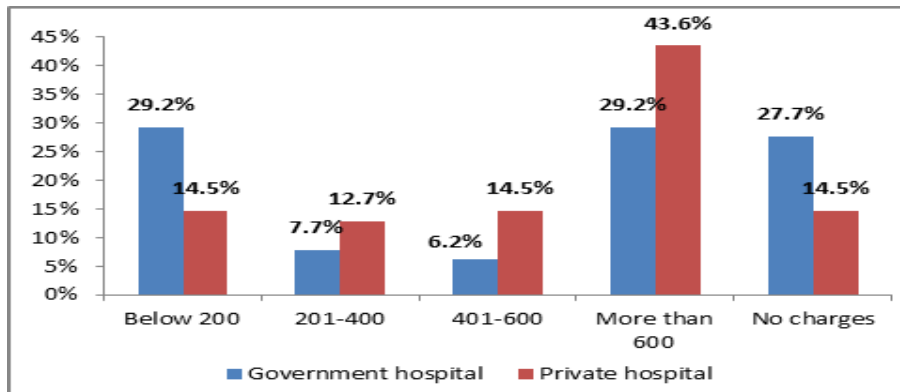


Figure 2: Diagnostic charges paid by the respondents, %

Table 2 shows that 35.8% of the government hospital and private hospital spend more than Rs600 as diagnostic charges, followed by 22.5% paid below Rs 200, 10% paid between Rs 201 and Rs 600, and 21.7% had no expenses for diagnostic services.

Table 2: Diagnostic charges

| Amount (Rs) | Government hospital | Private hospital | Total | |
|----------------------|---------------------|------------------|------------------|---------------|
| | | | Effective (Eff.) | % |
| Below 200 | 19 | 8 | 27 | 22,5% |
| 201-400 | 5 | 7 | 12 | 10,0% |
| 401-600 | 4 | 8 | 12 | 10,0% |
| More than 600 | 19 | 24 | 43 | 35,8% |
| No charges | 18 | 8 | 26 | 21,7% |
| Total | 65 | 55 | 120 | 100,0% |

Source: Field data

- **Medicine Charges**

Medicine is the art and science of healing the illness or injuries. It covers a range of health care practices evolved to maintain and regenerate health by the prevention and treatment of sickness. Indigenous medicine for hospitalized patients and preventive medicine refers to measures taken to prevent sickness or injury rather than healing them. The individual has to pay based on their illness. The price of medication is too high these days and the patients have to yield a heavy sum of money towards this. The medical charges paid by the respondents for the treatment in the study area are given in **Table 3**.

Table 3: Medicine charges

| Amount (Rs) | Government hospital | | Private hospital | |
|-------------------|---------------------|--------------|------------------|--------------|
| | Eff. | % | Eff. | % |
| Below 500 | 21 | 32.3 | 9 | 16.4 |
| 501-1000 | 8 | 12.3 | 12 | 21.8 |
| Above 1000 | 36 | 55.4 | 34 | 61.8 |
| Total | 65 | 100.0 | 55 | 100.0 |

Source: Field data

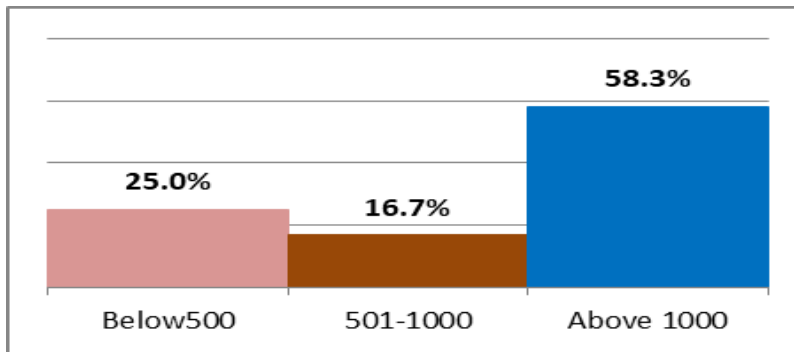


Figure 3: Total of Medicine charges, %

Figure 3 shows that approximately 58.3% of both users pay above Rs1000, 25% pay below Rs 500, and remaining 16.7% pay between Rs 501-1000 for buying medication. The largest and most frequent cost incurred in treatment was for medicines. Those people going to government hospital may receive some free medicines, but generally they will be given prescriptions to buy medicines at the pharmacy nearby.

- **Surgical Charges**

Surgical treatment is one of the highest which pinches every one. The pain is not only experienced in physical state, but in financial terms also. When a surgery is done for a patient, it thwarts the whole set up of the family. **Table 4** presents the surgical treatment charges among the surveyed population.

Table 4: Surgical charges

| Amount (Rs) | Government hospital | | Private hospital | | Total | |
|--------------------|---------------------|--------------|------------------|--------------|------------|--------------|
| | Eff. | % | Eff. | % | Eff. | % |
| Below 5000 | 9 | 13.8 | 0 | 0.0 | 9 | 7.5 |
| 5001-10000 | 1 | 1.5 | 0 | 0.0 | 1 | 0.8 |
| 10001-15000 | 0 | 0.0 | 6 | 10.9 | 6 | 5.0 |
| Above 15000 | 0 | 0.0 | 26 | 47.3 | 26 | 21.7 |
| No charges | 55 | 84.6 | 23 | 41.8 | 78 | 65.0 |
| Total | 65 | 100.0 | 55 | 100.0 | 120 | 100.0 |

Source: Field data

The above table displays that 21.7% of the respondents who are seeking private health care services have spent Rs15000 and above as their surgical/operation charges, and 10.9% spend between Rs10001-15000. In the case of government hospital, 13.8% spend below Rs5000 which represent 7.5% of total of the respondents. Also, 65% respondents opined that they had paid no charges in this regard where 84.6% are those of the government hospital.

2.1.2. Indirect Cost of Healthcare

The patients support also the charges indirectly linked to the health care which included, namely transportation charges, food and beverage charges and accommodation charges. The results of the study in accounting of indirect cost of respondents are presented as follows.

• **Transportation Charges**

Transportation charges are indirect cost met by the sample respondents during the treatment. The payment for transportation (from residence to hospital) is shown **Table 5**.

Table 5: Transportation charges

| Amount (Rs) | Government hospital | | Private hospital | |
|------------------|---------------------|--------------|------------------|--------------|
| | Eff. | % | Eff. | % |
| Below 100 | 20 | 30.8 | 12 | 21.8 |
| 101-200 | 11 | 16.9 | 17 | 30.9 |
| 201-300 | 17 | 26.2 | 2 | 3.6 |
| Above 300 | 17 | 26.2 | 24 | 43.6 |
| Total | 65 | 100.0 | 55 | 100.0 |

Source: Field data

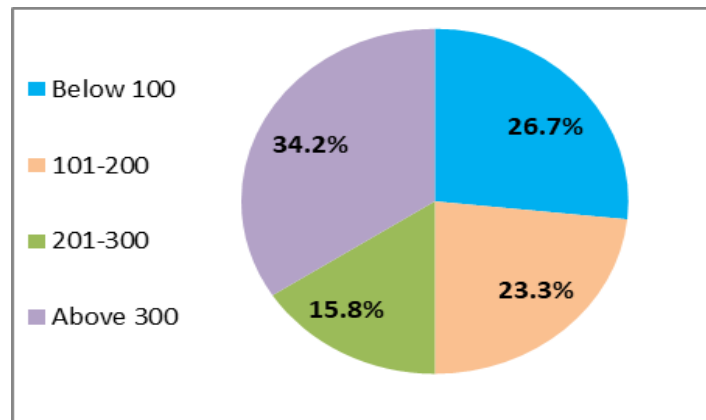


Figure 4: Total of Transportation charges, %

On the whole, the majority of the respondents (34.2%) spend above Rs 300 as transportation charges, 26.7% spend below Rs100, and 23.3% spend between Rs101-200; whereas 15.8% of the respondents spend between Rs 201-300, **Figure 4**.

• **Food and Beverages Charges**

Food and beverages charges are also other indirect cost met by the sample respondents during the treatment. This will occur when the person is hospitalized/ even when they come to the consultation. The expenses incurred for food and beverages are shown **Table 6**.

Table 6: Food and beverages charges

| Amount (Rs) | Government hospital | | Private hospital | |
|-------------------|---------------------|------------|------------------|------------|
| | Eff. | % | Eff. | % |
| Below 500 | 31 | 47.7 | 15 | 27.3 |
| 501-1000 | 23 | 35.4 | 20 | 36.4 |
| Above 1000 | 1 | 1.5 | 15 | 27.3 |
| No charges | 10 | 15.4 | 5 | 9.1 |
| Total | 65 | 100 | 55 | 100 |

Source: Field data

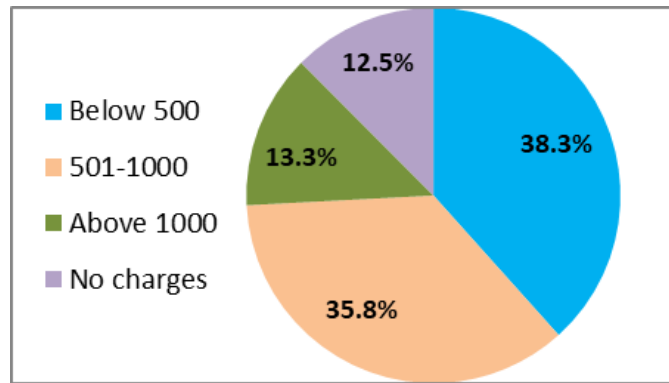


Figure 5: Total of Food and beverages charges, %

On the whole, nearly 38% of government and private hospital users spend below 500 for food and beverages, while 35.8% spend between Rs501-1000 and 13.33% spends above Rs1000 for food and beverages per visit, **Figure 5**.

- **Accommodation Charges**

Accommodation charges are also an important indirect cost met by the respondents, because when the respondents are hospitalized there is a need for one person to accompany them, for which they have to pay charges day or need to pay room rent at the hospital. **Table 7** shows accommodation charges incurred by the respondents.

Table 7: Accommodation charges

| Amount (Rs) | Government hospital | | Private hospital | |
|-------------------|---------------------|------------|------------------|------------|
| | Eff. | % | Eff. | % |
| Below 500 | 23 | 35.4 | 1 | 1.8 |
| 501-1000 | 0 | 0.0 | 10 | 18.2 |
| Above 1000 | 0 | 0.0 | 21 | 38.2 |
| No charges | 42 | 64.6 | 23 | 41.8 |
| Total | 65 | 100 | 55 | 100 |

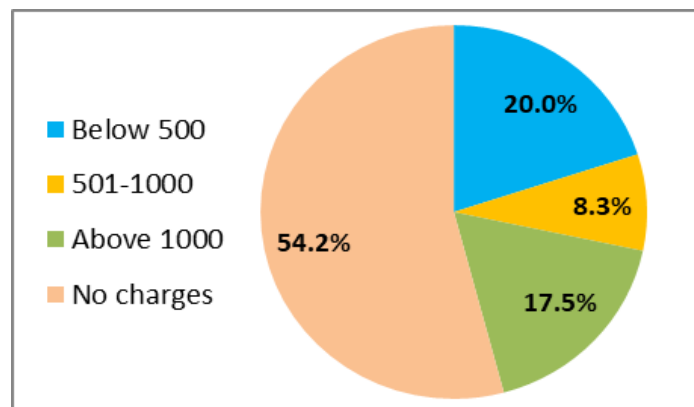


Figure 6: Total of Accommodation charges, %

The accommodation charges in government hospital are less than that of private hospital. 64.6% respondents in government hospital have no accommodation charges, and 35.4% had

accommodation charges below Rs 500. However in private hospital respondents, 38.2% spend above Rs 1000 as accommodation charges and 18.2% spend between Rs 501 and Rs 1000 that is 25.8% of the total respondents. The variations in accommodation charge may be due to the variations in facilities and quality of health care services both inside and outside the premises of the hospitals.

2.1.3. Expenditure Mode: Direct and Indirect Costs

The average expenditure spends on direct costs and indirect costs for the treatment are presented in the **Table 8**. Direct cost included *four* types of charges: user fee, diagnostic, medicine and surgical. Indirect cost included *three* types of charges: transportation, food and beverages, and accommodation.

Table 8: Average expenditure on direct and indirect cost, in Rs

| Charges | Government hospital | Private hospital |
|----------------------------|---------------------|------------------|
| Direct costs | | |
| User fee | 0 | 140 |
| Diagnostic | 121.65 | 172.42 |
| Medicine | 487.97 | 521.83 |
| Surgical | 261.54 | 2163.64 |
| Total (1) | 871.16 | 2997.89 |
| Indirect costs | | |
| Transportation | 101.59 | 124.97 |
| Food and beverages | 127.21 | 215.30 |
| Accommodation | 35.38 | 309.09 |
| Total (2) | 264.18 | 649.36 |
| Total(3) = (1)+ (2) | 1135.34 | 3647.25 |

Source: Field data (per patient)

The total cost of health care consists of direct and indirect cost. Among government hospital users the total health care cost was Rs1135.34 which direct cost was Rs 871.16 and indirect cost was Rs 264.18. Similarly for users of private hospital it was Rs 2997.89 and Rs 649.36 respectively. The cost incurred by the private hospital user was higher. It is concluded that treatment in private hospital was more expensive as compared to that of government hospitals.

2.3. Total Health Expenditure

The utilization of health services and the preference of people to use certain facilities are not only determined by the easy accessibility and good quality of services, but also by the economic level of the respondents and costs of treatment which appear to be an equally important factor. Total expenditure on health includes doctor fee, medicine charge, diagnostic care, surgical care, transportation, and food and accommodation charges. The expenditure incurred by the sample respondents is calculated and presented the below **Table 9**.

Table 9: Total health expenditure

| Amount (Rs) | Government hospital | | Private hospital | | Total | |
|--------------------|---------------------|------------|------------------|------------|------------|------------|
| | Eff. | % | Eff. | % | Eff. | % |
| Below 4000 | 40 | 61.5 | 11 | 20.0 | 51 | 42.5 |
| 4000-7000 | 17 | 26.2 | 22 | 40.0 | 39 | 32.5 |
| 7000-10000 | 5 | 7.7 | 2 | 3.6 | 7 | 5.8 |
| Above 10000 | 3 | 4.6 | 20 | 36.4 | 23 | 19.2 |
| Total | 65 | 100 | 55 | 100 | 120 | 100 |

Source: Field data

This table reveals that in government hospital 61.5% respondents had expenditure below Rs 4000, about 26% respondents had expenditure between Rs 4000 and Rs 7000 and only 12.3% had expenditure more than Rs 7000. In the case of private hospital, 40% respondents had expenditure between Rs 4000-7000, 36.4% respondents had expenditure above Rs10000, and 20% respondents had expenditure below Rs 4000; while only 3.6% respondents had expenditure between Rs 7000 and Rs10000.

According to these results, two main remarks can be discovered:(1) the expenditure on health in private hospital is high compared to a government hospital which majority of the respondents had expenditure more than Rs 10000 in the private hospital, and (2) more than 42% respondents had expenditure below Rs 4000 in both private and government hospital.

2.4. Characteristics Socio-economics

The demand of health depends on various factors such as income, age, gender, marital status, level of education, spatial distribution and occupation. For that, the results of the present study are presented as follows.

- **Monthly Income**

The pattern of expenditure on health by the various income groups is analysed. **Table 10** reveals that in the event of government hospital out of 65 sample respondents, 66.2% of the people spend below Rs 4000 and 21.5% spend between Rs 4001 and Rs 7000; although 7.7% of the people spend between Rs 7001 and Rs10000, and 4.6% spend above Rs10000. Other remarks are (i) 13.8% of the people had income below Rs 4000 and spend amount less than Rs 4000, (ii) No one had income below Rs 4000 and can spend Rs 7001-10000 and above Rs10000, (iii) 16.9% respondents had income Rs 4001-7000 and spend below Rs 4000, (iv) 9.2% respondents had income Rs 4001-7000 and spend Rs 4001-7000, and (v) 4.6% spend 7001-10000. In the case of no income, 12.3% people were spending more below Rs 4000 and 6.2% were spending Rs 4001-7000.

Table 10: Health expenditure and monthly income

| Monthly income | Health expenditure | | | | | | | | | |
|-------------------|----------------------------|------|-----------|-----|------------|-----|-------------|-----|-------|------|
| | Below 4000 | | 4001-7000 | | 7001-10000 | | Above 10000 | | Total | |
| | Eff. | % | Eff. | % | Eff. | % | Eff. | % | Eff. | % |
| | Government hospital | | | | | | | | | |
| Below 4000 | 9 | 13.8 | 1 | 1.5 | 0 | 0.0 | 0 | 0.0 | 10 | 15.4 |

| | | | | | | | | | | |
|--------------------|-------------------------|-------------|-----------|-------------|----------|------------|-----------|-------------|-----------|------------|
| 4001-7000 | 11 | 16.9 | 6 | 9.2 | 3 | 4.6 | 1 | 1.5 | 21 | 32.3 |
| 7001-10000 | 9 | 13.8 | 0 | 0.0 | 1 | 1.5 | 0 | 0.0 | 10 | 15.4 |
| Above 10000 | 6 | 9.2 | 3 | 4.6 | 0 | 0.0 | 1 | 1.5 | 10 | 15.4 |
| No income | 8 | 12.3 | 4 | 6.2 | 1 | 1.5 | 1 | 1.5 | 14 | 21.5 |
| Total (1) | 43 | 66.2 | 14 | 21.5 | 5 | 7.7 | 3 | 4.6 | 65 | 100 |
| | Private hospital | | | | | | | | | |
| Below 4000 | 2 | 3.6 | 5 | 9.1 | 0 | 0.0 | 3 | 5.5 | 10 | 18.2 |
| 4001-7000 | 2 | 3.6 | 1 | 1.8 | 1 | 1.8 | 5 | 9.1 | 9 | 16.4 |
| 7001-10000 | 7 | 12.7 | 1 | 1.8 | 0 | 0.0 | 6 | 10.9 | 14 | 25.5 |
| Above 10000 | 3 | 5.5 | 3 | 5.5 | 0 | 0.0 | 5 | 9.1 | 11 | 20.0 |
| No income | 9 | 16.4 | 1 | 1.8 | 0 | 0.0 | 1 | 1.8 | 11 | 20.0 |
| Total (2) | 23 | 41.8 | 11 | 20.0 | 1 | 1.8 | 20 | 36.4 | 55 | 100 |

Source: Field data

In the case of private hospital out of 55 sample respondents, the above table reveals the following remarks: (i) 3.6% respondents had income below Rs4000 and 5.5% had income above Rs 10000 and spend also more than Rs 10000, (ii) 1.8% of the respondents had an income Rs 4001-7000 and spends Rs 4001-7000, (iii) 12.7% had income below Rs 4001-7000 and spend also below Rs 4000, and (iv) 16.4% had income above Rs 10000 and spend below Rs 4000. So, there is a positive relationship between income and health expenditure: when income increases the expenditure also increases, **Figure 7**.

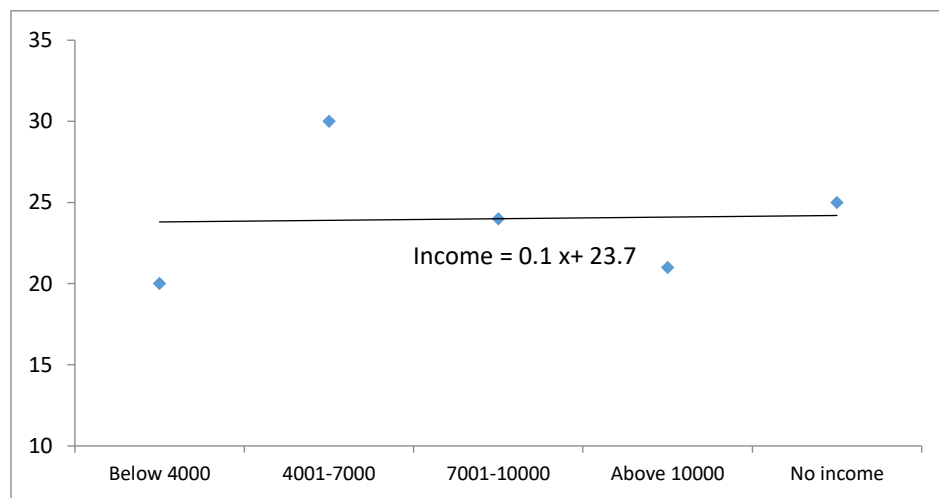


Figure 7: Relationship between income and health expenditure

- **Age Group**

In the case of 65 sample respondents in the government hospital, according to **Table 11**, (i) 40% of the respondents belong to the age group below 50 spend amount less than Rs4000, (ii) No one can spend Rs 10000 in the age group above 50, (iii) 7.7% respondents spend between Rs 4001-7000 they belongs to the age group 31-50, (iv) 3.2% respondents spend between Rs 7001-1000 and they belonged to the age group 31-50, and (v) In the age belongs below 30 they spend no amount between Rs 7001-10000.

Table 11: Health expenditure and age

| Monthly income | Health expenditure | | | | | | | | | |
|------------------|----------------------------|-------------|-----------|-------------|------------|------------|-------------|-------------|-----------|--------------|
| | Below 4000 | | 4001-7000 | | 7001-10000 | | Above 10000 | | Total | |
| | Eff. | % | Eff. | % | Eff. | % | Eff. | % | Eff. | % |
| | Government hospital | | | | | | | | | |
| Below 30 | 13 | 20.0 | 5 | 7.7 | 0 | 0.0 | 1 | 1.5 | 19 | 29.2 |
| 31-50 | 13 | 20.0 | 5 | 7.7 | 2 | 3.1 | 2 | 3.1 | 22 | 33.8 |
| Above 50 | 17 | 26.2 | 4 | 6.2 | 3 | 4.6 | 0 | 0.0 | 24 | 36.9 |
| Total (1) | 43 | 66.2 | 14 | 21.5 | 5 | 7.7 | 3 | 4.6 | 65 | 100 |
| | Private hospital | | | | | | | | | |
| Below 30 | 10 | 18.2 | 3 | 5.5 | 0 | 0.0 | 4 | 7.3 | 17 | 30.9 |
| 31-50 | 7 | 12.7 | 2 | 3.6 | 0 | 0.0 | 13 | 23.6 | 22 | 40.0 |
| Above 50 | 6 | 10.9 | 6 | 10.9 | 1 | 1.8 | 3 | 5.5 | 16 | 29.1 |
| Total (2) | 23 | 41.8 | 11 | 20.0 | 1 | 1.8 | 20 | 36.4 | 55 | 100.0 |

Source: Field data

Table 11 reveals also that in the case of private hospital out of 55 sample respondents, (i) 18.2% respondents belong to the age group below 30 and they spend under Rs 4000, (ii) 10.9% belongs to the age group 31-50 and spend between Rs 4001-7000, (iii) 1.8% of the respondents belong to the age above 50 and spends between Rs 7001-1000, and (iv) 23.6% belongs to the age between 31-50 and spend also more than Rs 10000.

• **Gender**

In the case of 65 sample respondents in the government hospital, (i)44.6% were male respondents and they spend under Rs 4000, (ii) 13.8% were females and they spend between Rs 4000-7000, (iii) 6.2% females spend between Rs 7001-10000, and (iv) 1.5% males spend more than Rs10000. In the case of private hospital, Table 12 reveals also that (i) 23.6% was males and they spend below Rs 4000, (ii) 10.9% females spend between Rs 4001-7000, (iii) No male respondents spend between the amounts Rs 7001-10000, and (iv) 21.3% female respondents spend more than Rs 10000.

Table 12: Health expenditure and gender

| Gender | Health expenditure | | | | | | | | | |
|------------------|----------------------------|-------------|-----------|-------------|------------|------------|-------------|-------------|-----------|--------------|
| | Below 4000 | | 4001-7000 | | 7001-10000 | | Above 10000 | | Total | |
| | Eff. | % | Eff. | % | Eff. | % | Eff. | % | Eff. | % |
| | Government hospital | | | | | | | | | |
| Male | 29 | 44.6 | 5 | 7.7 | 1 | 1.5 | 1 | 1.5 | 36 | 55.4 |
| Female | 14 | 21.5 | 9 | 13.8 | 4 | 6.2 | 2 | 3.1 | 29 | 44.6 |
| Total (1) | 43 | 66.1 | 14 | 21.5 | 5 | 7.7 | 3 | 4.6 | 65 | 100.0 |
| | Private hospital | | | | | | | | | |
| Male | 13 | 23.6 | 5 | 9.1 | 0 | 0.0 | 8 | 14.5 | 26 | 47.3 |
| Female | 10 | 18.2 | 6 | 10.9 | 1 | 1.8 | 12 | 21.8 | 29 | 52.7 |
| Total (2) | 23 | 41.8 | 11 | 20.0 | 1 | 1.8 | 20 | 36.4 | 55 | 100.0 |

Source: Field data

The results of the relationships between expenditure health and gender show that the female prefers the private hospital (52.7%), **Figure 8**.

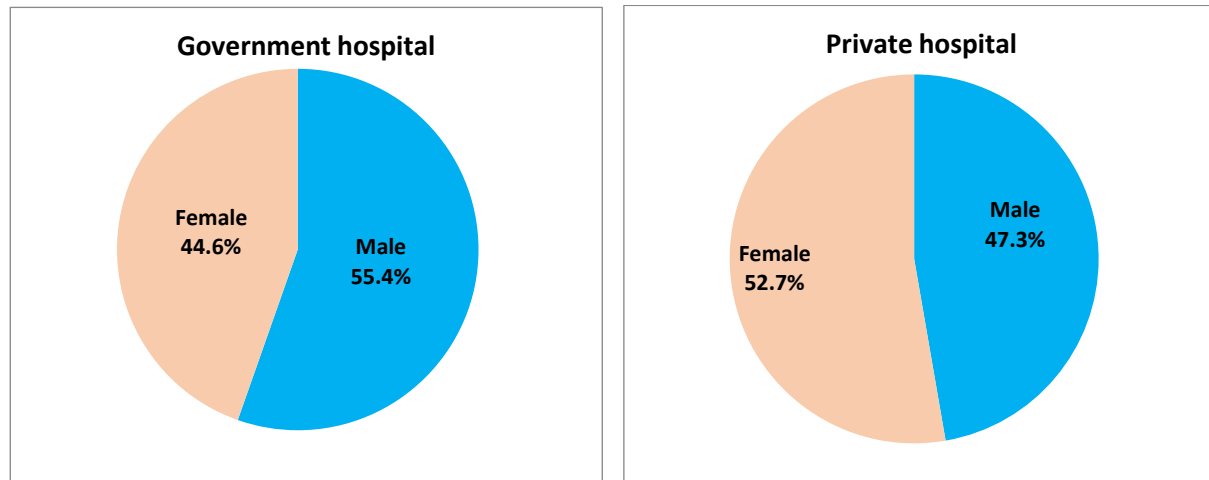


Figure 8: Expenditure health and gender

• **Marital Status**

In the case of a government hospital out of 65 sample respondents, **Table 13** shows that (i) 49.2% are married and they spend under Rs 4000, (ii) 9.2% are single or unmarried and they spend between Rs 4001-7000, (iii) 6.2% were married respondents and they spend between Rs 7001-10000, and (iv) 1.5% single or unmarried respondents spend more than Rs 10000.

Table 13: Health expenditure and marital status

| Marital status | Health expenditure | | | | | | | | | |
|--------------------------|----------------------------|-------------|-----------|-------------|------------|------------|-------------|-------------|-----------|--------------|
| | Below 4000 | | 4001-7000 | | 7001-10000 | | Above 10000 | | Total | |
| | Eff. | % | Eff. | % | Eff. | % | Eff. | % | Eff. | % |
| | Government hospital | | | | | | | | | |
| Single/ unmarried | 11 | 16.9 | 6 | 9.2 | 1 | 1.5 | 1 | 1.5 | 19 | 29.2 |
| Married | 32 | 49.2 | 8 | 12.3 | 4 | 6.2 | 2 | 3.1 | 46 | 70.8 |
| Total (1) | 43 | 66.2 | 14 | 21.5 | 5 | 7.7 | 3 | 4.6 | 65 | 100.0 |
| | Private hospital | | | | | | | | | |
| Single/ unmarried | 6 | 10.9 | 2 | 3.6 | 0 | 0.0 | 3 | 5.5 | 11 | 20.0 |
| Married | 17 | 30.9 | 9 | 16.4 | 1 | 1.8 | 17 | 30.9 | 44 | 80.0 |
| Total (2) | 23 | 41.8 | 11 | 20.0 | 1 | 1.8 | 20 | 36.4 | 55 | 100.0 |

Source: Field data

In the case of private hospital out of 55 sample respondents, the same table shows that (i) 30.9% are married and they spend under Rs 4000, (ii) 3.6% were single or unmarried respondents and they spend between Rs 4001-7000, (iii) 1.8% are married respondents and spend between Rs 7001-10000, and (iv) 30.9% are married respondents and spend more than Rs 10000. We remark that majority of respondents in both cases are married, i.e. 70.8% for government hospital and 80.0% for private hospital.

• **Education Level**

In the case of 65 sample respondents in the government hospital, **Table 14** reveals that *(i)*13.8% respondents have attained primary level education and they spend below Rs 4000, *(ii)*6.2% attained high school education and they spend between Rs 4001-7000, *(iii)*only 1.5% attained higher secondary education and they spend between Rs 7001-10000, and *(iv)* 15.5% spend below Rs 4000 and they have got higher education.

Table 14: Health expenditure and education

| Education | Health expenditure | | | | | | | | | |
|-------------------------|----------------------------|------|-----------|------|------------|-----|-------------|------|-------|-------|
| | Below 4000 | | 4001-7000 | | 7001-10000 | | Above 10000 | | Total | |
| | Eff. | % | Eff. | % | Eff. | % | Eff. | % | Eff. | % |
| | Government hospital | | | | | | | | | |
| Illiterate | 6 | 9.2 | 0 | 0.0 | 1 | 1.5 | 0 | 0.0 | 7 | 10.8 |
| Primary | 9 | 13.8 | 3 | 4.6 | 2 | 3.1 | 1 | 1.5 | 15 | 23.1 |
| High school | 10 | 15.4 | 6 | 9.2 | 1 | 1.5 | 2 | 3.1 | 19 | 29.2 |
| Higher secondary | 5 | 7.7 | 1 | 1.5 | 1 | 1.5 | 0 | 0.0 | 7 | 10.8 |
| Higher education | 10 | 15.4 | 4 | 6.2 | 0 | 0.0 | 0 | 0.0 | 14 | 21.5 |
| Others | 3 | 4.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 4.6 |
| Total (1) | 43 | 66.2 | 14 | 21.5 | 5 | 7.7 | 3 | 4.6 | 65 | 100.0 |
| | Private hospital | | | | | | | | | |
| Illiterate | 1 | 1.8 | 0 | 0.0 | 0 | 0.0 | 2 | 3.6 | 3 | 5.5 |
| Primary | 3 | 5.5 | 5 | 9.1 | 0 | 0.0 | 3 | 5.5 | 11 | 20.0 |
| High school | 5 | 9.1 | 0 | 0.0 | 1 | 1.8 | 3 | 5.5 | 9 | 16.4 |
| Higher secondary | 7 | 12.7 | 3 | 5.5 | 0 | 0.0 | 4 | 7.3 | 14 | 25.5 |
| Higher education | 7 | 12.7 | 2 | 3.6 | 0 | 0.0 | 8 | 14.5 | 17 | 30.9 |
| Others | 0 | 0.0 | 1 | 1.8 | 0 | 0.0 | 0 | 0.0 | 1 | 1.8 |
| Total (2) | 23 | 41.8 | 11 | 20.0 | 1 | 1.8 | 20 | 36.4 | 55 | 100.0 |

Source: Field data

In the case of private hospital out of 55 sample respondents, the above table indicates also that *(i)* 3.6% respondents were illiterate and they spend more than Rs 10000, *(ii)* 9.1% attained primary education and they spend between Rs 4001-7000, *(iii)* 12.7% spend under Rs 4000 they have got a high school education, and *(iv)* 14.5% spend more than Rs 10000 and they attained higher education.

On the whole, private hospital has got 25.5% respondents were higher secondary and 30.9% respondents were higher education than that in the case of government hospital, **Figure 9**.

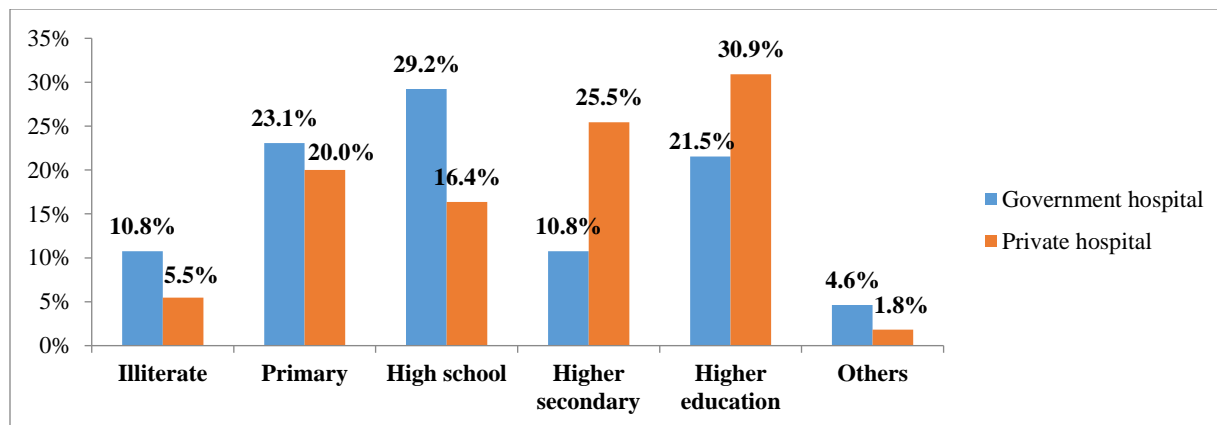


Figure 9: Total health expenditure and education

• **Spatial distribution**

In government hospital out of 65 sample respondents, **Table 15** reveals that (i) 43.1% residing in urban area and spend under Rs 4000, (ii) 9.2% were residing in the rural area and spend between Rs 4001-7000, (iii) 4.6% residing in urban area and spend between Rs 7001 and Rs10000, and (iv) 3.1% residing in the rural area and spend more than Rs 10000. Moreover, in the case of private hospital out of 55 sample respondents, (i) 29.1% residing in urban area and spend under Rs 4000, (ii) 12.7% residing in rural and spend between Rs 4001 and Rs 7000, (iii) 1.8% residing in the rural area and spend Rs 7001-10000, and (iv) 18.2% respondents in the rural and urban areas spend more than Rs 10000.

Table 15: Expenditure and spatial distribution

| Spatial distribution | Health expenditure | | | | | | | | | |
|----------------------|----------------------------|-------------|-----------|-------------|------------|------------|-------------|-------------|-----------|--------------|
| | Below 4000 | | 4001-7000 | | 7001-10000 | | Above 10000 | | Total | |
| | Eff. | % | Eff. | % | Eff. | % | Eff. | % | Eff. | % |
| | Government hospital | | | | | | | | | |
| Urban | 28 | 43.1 | 8 | 12.3 | 3 | 4.6 | 1 | 1.5 | 40 | 61.5 |
| Rural | 15 | 23.1 | 6 | 9.2 | 2 | 3.1 | 2 | 3.1 | 25 | 38.5 |
| Total (1) | 43 | 66.2 | 14 | 21.5 | 5 | 7.7 | 3 | 4.6 | 65 | 100.0 |
| | Private hospital | | | | | | | | | |
| Urban | 16 | 29.1 | 4 | 7.3 | 0 | 0.0 | 10 | 18.2 | 30 | 54.5 |
| Rural | 7 | 12.7 | 7 | 12.7 | 1 | 1.8 | 10 | 18.2 | 25 | 45.5 |
| Total (2) | 23 | 41.8 | 11 | 20.0 | 1 | 1.8 | 20 | 36.4 | 55 | 100.0 |

Source: Field data

On the whole, respondents residing in urban area are more in number than that residing in rural area in both government and private hospitals, **Figure 10**. The finding shows the penetration of private hospitals in the urban areas, whereas, both services are scarce in rural areas.

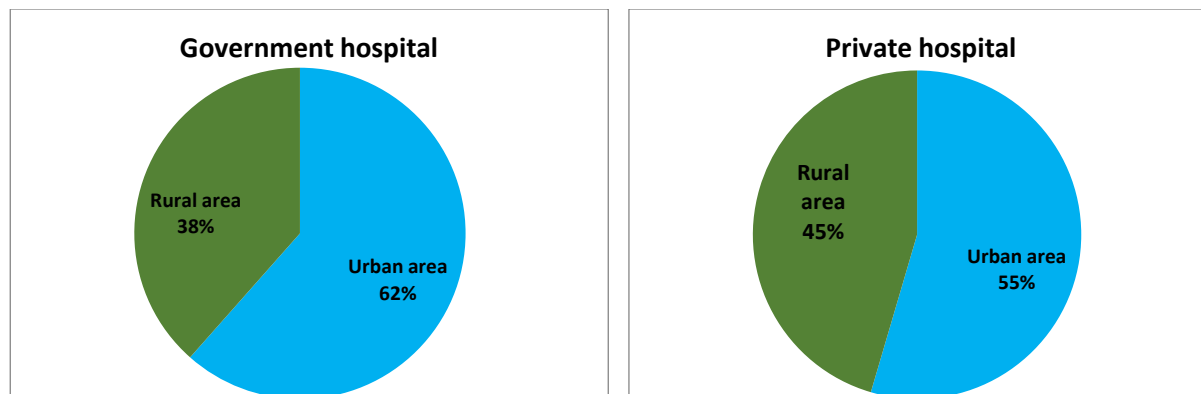


Figure 10: Total expenditure and spatial distribution

• **Occupation**

Table 17 reveals that among the respondents seeking health care in government hospitals, (i) 7.7% engaged in government or public sector jobs and they spend below Rs 4000, (ii) 1.5% respondents take the private sector job and they spend between Rs 4001-7000, (iii) approximately 3% engaged in business and they spend more than Rs 10000, (iv) 10.8% agricultural labour spend below Rs 4000, (v) 15.4% undertakes occupation as coolie and they spend under Rs 4000, (vi) 6.2% respondents are unemployed and they spend between Rs 7001 and Rs 10000.

Table 16: Expenditure and occupation

| Occupation | Health expenditure | | | | | | | | | |
|---------------------------|----------------------------|-------------|-----------|-------------|------------|------------|-------------|-------------|-----------|--------------|
| | Below 4000 | | 4001-7000 | | 7001-10000 | | Above 10000 | | Total | |
| | Eff. | % | Eff. | % | Eff. | % | Eff. | % | Eff. | % |
| | Government hospital | | | | | | | | | |
| Government/ public | 5 | 7.7 | 1 | 1.5 | 0 | 0.0 | 0 | 0.0 | 6 | 9.2 |
| Private sector | 8 | 12.3 | 1 | 1.5 | 1 | 1.5 | 0 | 0.0 | 10 | 15.4 |
| Business | 5 | 7.7 | 1 | 1.5 | 0 | 0.0 | 2 | 3.1 | 8 | 12.3 |
| Agriculture labour | 7 | 10.8 | 2 | 3.1 | 1 | 1.5 | 0 | 0.0 | 10 | 15.4 |
| Coolie | 10 | 15.4 | 5 | 7.7 | 2 | 3.1 | 0 | 0.0 | 17 | 26.2 |
| Unemployed | 8 | 12.3 | 4 | 6.2 | 1 | 1.5 | 1 | 1.5 | 14 | 21.5 |
| Total (1) | 43 | 66.2 | 14 | 21.5 | 5 | 7.7 | 3 | 4.6 | 65 | 100.0 |
| | Private hospital | | | | | | | | | |
| Government/ public | 2 | 3.6 | 0 | 0.0 | 0 | 0.0 | 4 | 7.3 | 6 | 10.9 |
| Private sector | 6 | 10.9 | 1 | 1.8 | 0 | 0.0 | 4 | 7.3 | 11 | 20.0 |
| Business | 2 | 3.6 | 4 | 7.3 | 0 | 0.0 | 4 | 7.3 | 10 | 18.2 |
| Agriculture labour | 0 | 0.0 | 1 | 1.8 | 1 | 1.8 | 2 | 3.6 | 4 | 7.3 |
| Coolie | 4 | 7.3 | 4 | 7.3 | 0 | 0.0 | 5 | 9.1 | 13 | 23.6 |
| Unemployed | 9 | 16.4 | 1 | 1.8 | 0 | 0.0 | 1 | 1.8 | 11 | 20.0 |
| Total (2) | 23 | 41.8 | 11 | 20.0 | 1 | 1.8 | 20 | 36.4 | 55 | 100.0 |

Source: Field data

In the case of private hospital the above table shows that (i) 7.3% respondents take public jobs and they spend more than Rs 10000, (ii) 10.9% take a job in private sector and they spend under Rs 4000, (iii) 3.6% are agriculture labour and they spend more than Rs 10000, (iv) 9.1% under take

job as coolie and they spend more than Rs 10000, and (v) 16.4% respondents are unemployed and they spend below Rs 4000. It is quite interesting that business men are spending more for treatment in government hospitals whereas, coolie workers are incurred more money for treatment in private hospitals.

3. Concluding Remarks

The study revealed that the private hospital has provided good facilities compared to government hospital, but the private hospital is more expensive as compared to the government hospital. Other main results of this study are represented as follows:

- There is a positive association between costs of treatment and type of health care facility preferred. The cost of treatment in private hospital is more expensive as compared to the government hospital. The healthcare expenditure is indirectly related to the income of the respondents.
- The major reason for selection of healthcare services by respondents utilizing government hospital were specifically free service and less expensive than those utilizing private hospital respondents.
- The main intention in selection of hospital is especially nearing to the residence and the reputation of the hospital;
- Age, education and income have a negative impact on the healthcare expenditure of users of the government and private hospital. The service provided by the government hospital is not satisfied by the respondents. The private hospital provides good service delivery, but the cost is not affordable to all sections of the society.

This study suggests that there should be available, equity and quality of health care services, which will ensure basic care to the poor and the marginalized for protecting them against ill health and exploitation.

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