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### **Out of Pocket Expenditure of Insured Inpatients in a Selected Teaching Hospital**

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#### **ABSTRACT**

Out-of-Pocket healthcare expenditure remains one of the most typical means of financing health expenditure around the world and more specifically in developing countries where access to financial protection provided by health insurance is minimal due to low income levels of citizens. The present study is aimed to identify and quantify the out of pocket (OOP) expenditure of insured inpatients in a hospital.

Samples of 128 inpatients of Orthopaedic department were randomly interviewed with the help of a structured questionnaire. More than half of the participants interviewed incurred above 60% of Out of pocket expenditures. The components of out of pocket expenses included pharmacy, investigations ,transportation, food, medical appliances and other miscellaneous expenses that were not covered by the insurance. The percentage cost of drugs borne by the patient out of their own pocket is more than 40% .Medicines were the major OOP expenditure.

Despite efforts to improve affordability of health care in hospitals, the financial burden of indirect costs is often overlooked. Hence insurance providers need to relook into the policies and bring about reforms to lower the out of pocket payment borne by the people.

**KEYWORDS:** Out of Pocket (OOP) Expenditure, Health insurance, Health financing.

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## **INTRODUCTION**

In spite of the economic growth in India, wealth has not been distributed equally between the rich and the poor.<sup>1</sup> Increased use of technology in diagnostics and treatment of diseases, together with the rising knowledge and expectations of the population regarding therapeutic measures, has led to an increase in the cost of treatment.

The rising cost of health and hospital care is due to application of newer technology in medical sciences and increased requirement to import technology, equipment and drugs.<sup>2</sup> Increased use of technology in diagnostics and treatment of diseases, together with the rising knowledge and expectations of the population regarding therapeutic measures, has led to an increase in the cost of treatment. Out of pocket expenditure is the most common form of health care financing in India.

Out-of-Pocket medical expenditure is a term that is generally understood to refer to health spending that is not covered by a healthcare plan such as; a private health insurance cover, or a public health scheme. In most developing countries, the cost of out-of-pocket medical expenditures is way too high and this tends to push majority of the population who cannot afford it towards poverty.<sup>2</sup>

Reliance on OOP expenditures for health services leads to a catastrophic burden for many households in Asia, including India. India's out of pocket expenditure for health (at 60% of total health expenditure) is one of the highest in the world.<sup>3</sup> Globally, 100 million individuals have been pushed into poverty because of OOP expenditures and millions more cannot utilize health services or suffer financial hardship because the provision of healthcare is conditional on direct payments by the patient at the point of service delivery.<sup>4</sup>

## **OBJECTIVE**

To study the out of pocket (OOP) expenses borne by inpatients covered under various health insurance and institutional health schemes, in Orthopaedic department.

## **MATERIALS AND METHODS**

128 insured inpatients of Orthopaedic department were randomly interviewed with the help of a structured questionnaire during their discharge of hospital visits between October and December, 2017.

The Component of the questionnaire included questions to assess the expenditures of the inpatients during their course of treatment. The expenses included pharmacy, diagnostic investigations, transportation, food in the hospital and medical appliances and other miscellaneous

expenses that were not covered by the insurance. The transportation and food expenses borne by the patient bystander was also included.

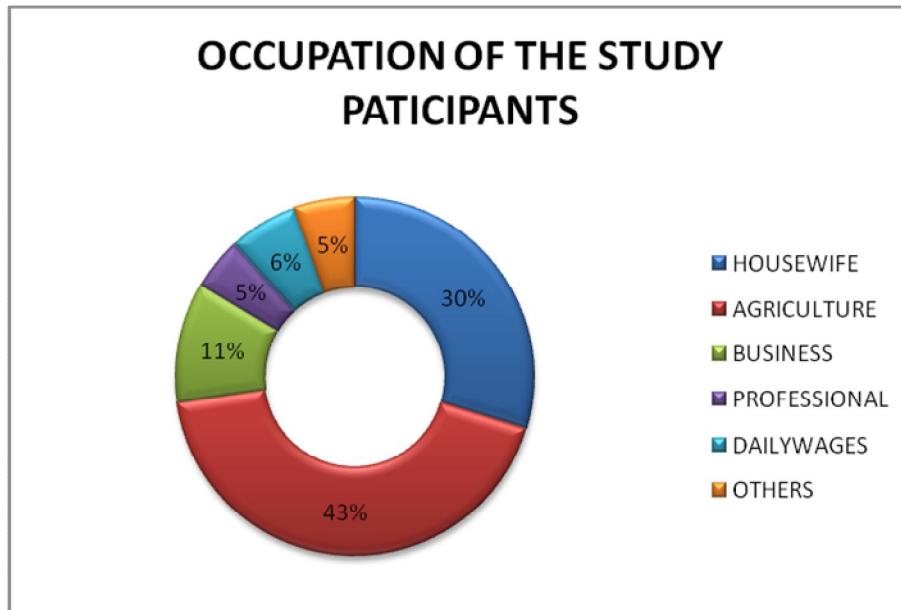
The data collected was tabulated and analysed using Microsoft excel 2007. Informed consent was taken from the respondents. The research proposal was cleared by the Institute Ethics Committee before undertaking the study.

## **RESULTS**

Out of 128 participants interviewed, 69 were males and 59 females, ranging in the age group of 40 to 60 years followed by 20 to 40 yrs . The average length of the stay of the study population who were covered under health insurance schemes and institutional health schemes were 11.91 days and 9.74 days respectively.(Table 1).

**Table 1: Demographics of the study population**

CHARACTERISTICS		Inpatients with Health insurance	Inpatients with Institutional health schemes	TOTAL
No of cases		12	116	128
Gender	<b>Male</b>	9	60	69
	<b>Female</b>	3	56	59
Age	<b>Below 20yrs</b>	1	4	5
	<b>20-40yrs</b>	3	31	34
	<b>41-60yrs</b>	7	44	51
	<b>Above 60yrs</b>	1	37	38
ALS	-	11.97 Days	9.74 days	-



**Figure 1:** Occupation of the study population

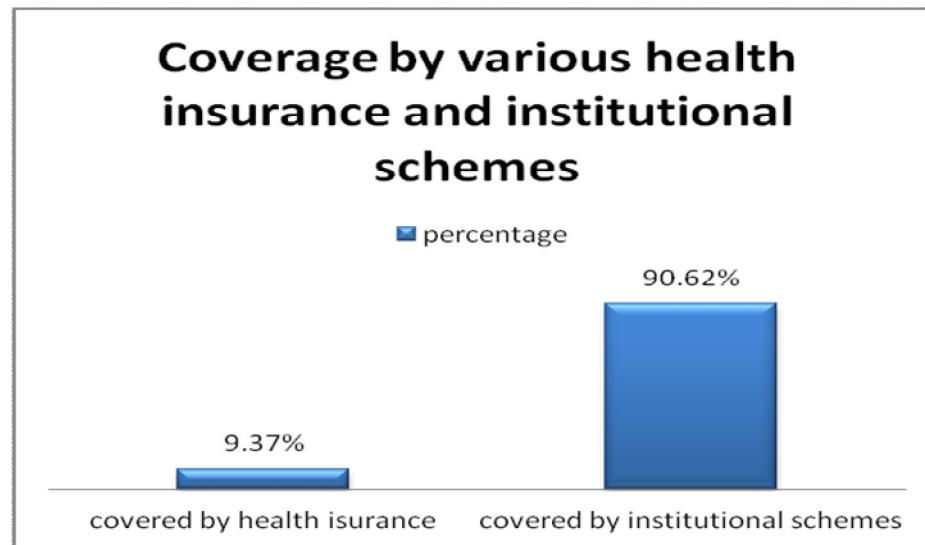
**Figure 1:** Represents the distribution by occupation of the study participants, Farmers comprised the largest group with 42.96% followed by Housewives with 29.68%. White-collar workers or those working in office contributed only 4.68%.

**Table 2.** Income level of the study population

Income range (n=128)	Frequency	Percentage(%)
Below 2500	01	0.75
2500-5000	03	2.26
5000-10,000	87	65.41
10,000-15,000	39	29.32
15,000-20,000	02	1.50
Above 20,000	01	0.75

Income (INR)

Table 2 summarises the monthly income range of the participants in the study. Majority of the study population had monthly income level ranged from INR 5000-10,000(65.41%).



**Figure 2:** Total coverage of insurance

**Figure2:** Represents the total coverage of health insurance by the study population. It is seen that only 9.37 % of the study population were covered under health insurance and 90.62 % of the study population were covered under institutionalized health schemes. All the patients in the study were usually covered under the following health insurance schemes, Rashtriya Swasthya Bima Yojana(RSBY), Vajpayee Arogyashree, and Yeshasvini Cooperative Farmers Health Care Scheme. The patients covered under the institutionalized health schemes usually covered by Yen Arogya , Yen Sahayog, and Yen Geriatrics.

**Table 3:** Total OOP expenditure incurred by the inpatients covered under health Insurance and institutional health schemes.

Coverage	Range*	Median cost*	Total cost
Health insurance	9685-45,944	15,167	14,63,061
Institutional-health schemes	660-56,520	10,315	2,36,939

\*Median cost in Indian Rupees (INR), \*Range (INR)

**Table 4: Percentage of out of pocket expenditures**

	Below 30%	30-60%	Above 60%	Total no of patients
Health insurance	2	3	7	12
Institutional health schemes	3	8	105	116

More than half of the participants interviewed incurred above 60% of Out of pocket expenditures from their total health expenditure. Out of the total health expenditure the out of pocket expenditures of patients covered under Health insurance and institutional health schemes were 61.36% and 79.54% respectively.

**Table 5: OOP expenditure of inpatients (in INR)**

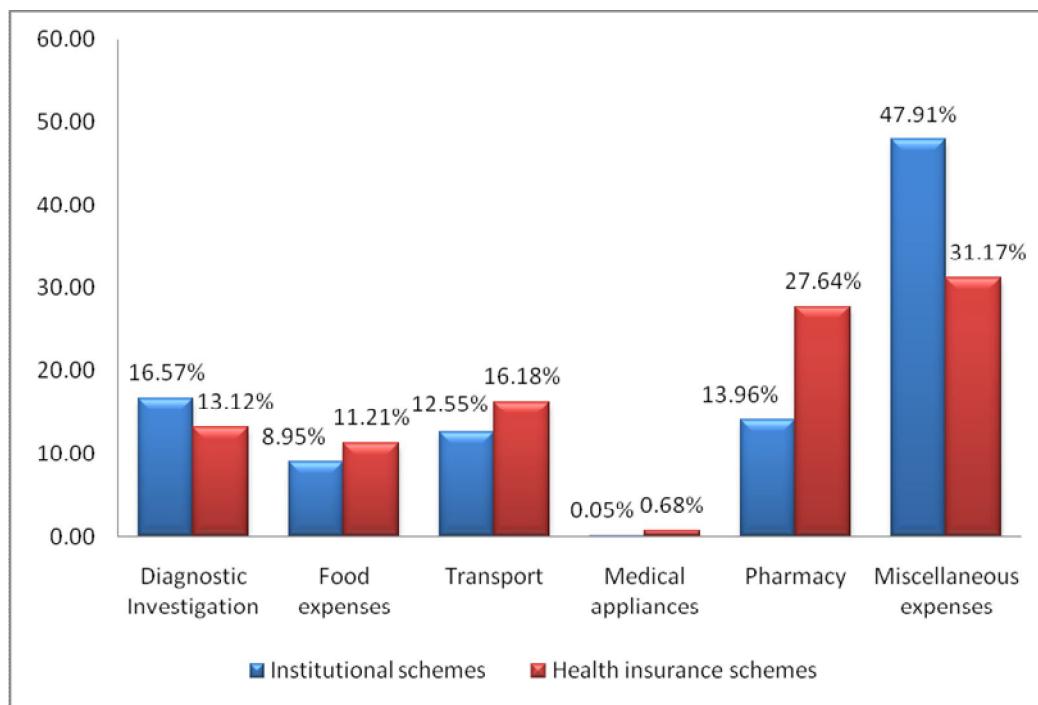
Expenditure Variables	Health Insurance* (Range)	Health Insurance* (median cost)	Institutional health scheme* (Range)	Institutional health scheme* (median cost)
Pharmacy/medications	150-8000	3000	200-9800	2450
Diagnostic Investigations	220-5600	4200	220-6800	3770
Transport expenses	200-8000	1200	60-17000	700
Food expenses	200-4500	2100	400-2800	1600
Medical appliances	100-200	100	200-1500	1000
Miscellaneous expenses**	100-34,084	4627	20-51,000	1257

\* Median cost in Indian Rupees (INR)

\*\* Miscellaneous expenses which includes oxygen charges, nursing charges, physiotherapy charges, consultation charges.

Table 5 summarises the total out of pocket expenses of the inpatients. Majority of the expenses were incurred on medications and investigations. The median cost on medications and investigations were INR 3000 and INR 4,200 respectively. Miscellaneous expenses which were not covered by the health insurance amounted to INR 4,627, [range from INR 100 to INR 34,084].

In institutional health schemes, the median cost on medications, investigations, were INR 2,450 and INR 3770 respectively and the median cost of miscellaneous expenses which was not covered by the institutional schemes amounted INR 1257, [ranged from INR 20 to INR 51,000]. Out of the total out of pocket costs, the median cost of indirect expenditures for transportation was INR 1,200 [ranged from INR 200 to INR 8000], for medical appliances INR 100 and INR 2100 for Food expenses.



**Figure 3: Comparison of OOP expenditure of patients covered under health insurance and Institutional health schemes**

The distribution of out of pocket health expenditure of inpatients covered under health insurance and institutionalized health schemes (Figure 3). The total OOP expenditure of investigations for health insurance was 13% and 16.57% for institutionalized health insurance. The OOP expenditure for medications/pharmacy expenses for health insurance and institutionalized health schemes were 28 % and 13.96% respectively. The miscellaneous expenses not covered by the

health insurance were 31% and other miscellaneous expenses not covered by institutional health schemes were 47.91%.

**Table 6:** Awareness among the identified patients regarding the benefits and coverage of health insurance and institutional health schemes.

Coverage(n=128)	Health insurance	Institutional-health schemes
Aware	21.74%	18.18%
Not aware	78.26%	81.82%

A highlighting result on the awareness among the study population was found. It was found that 78.26% of the patients covered under the health insurance were not aware about the benefits, coverage and premiums under the schemes for which they were insured. (Table 6)

Among the insured 20% did not pay their annual premium and could not avail the benefits under the scheme, hence paid 100% of their expenses out of pocket. Approximately 81.82% of the patients covered under the institutional health schemes were not aware about the benefits, coverage and premiums under the schemes.

## **DISCUSSION**

It is quite evident from the results that the study has brought about the fact that people though insured are vulnerable to out of pocket expenditures. It is seen that majority of the respondents (43%) are from low income groups. A similar observation was reported in studying the economic burden of hospitalization due to injuries: North India, which showed that 59 % of the respondents were from low income groups.<sup>6</sup>

It is evident in the results that 90% of the respondents were covered by institutional health schemes which shows that there are efforts made by the hospital to ensure that the people in the surrounding areas are insured by the schemes offered by them, which improves the health seeking behaviour of the people.

The study also highlights that though insured majority of the respondents incurred more than 60% OOP expenses during the course of treatment, with the median expenditure ranging from INR 10,000 to INR 15,000.

Similar study conducted by Nandi S, Schneider H,Dixit p et al<sup>7</sup> showed that OOP expenditure of those who were insured in private sector , the median expenditure was INR 10,000 and that in public sector was INR 1,200, which was eight times more than in public sector.

## **Determinants of OOPE**

Our study identified the determinants of Out of pocket expenditure as cost of medicines, diagnostic investigation charges, transport, food expenses, medical appliances and miscellaneous expenses. In the present study it was found that the cost of diagnostic investigation and drugs were the highest cost drivers of OOP expenditure. Our findings are consistent with 3 other studies which identified the cost of drugs as the major cost driver of OOP expenditure<sup>2,4,5</sup>.

A study in Tanzania found users of government health facilities incurred substantial out of pocket expenses of which included 57% on drugs.<sup>2</sup> Another study in Bangladesh identified the determinants of OOP expenditures and found that the cost of medicines was the highest cost driver (61% of total OOP healthcare expenditure)<sup>4</sup>.

Analysis of out of-pocket costs associated with hospitalised injuries in Vietnam reported that, their average total medical care costs paid out-of-pocket by patients during hospitalisation were over US\$ 270. Their major cost drivers were cost of drugs, diagnostic tests/ examinations.<sup>5</sup>

Our study also highlights that transportation and food expenses were also a major component of out of pocket expenditure. OOP expenditure among the households of a rural area in Puducherry has also reported that in the hospitalization episodes one of the major factor of expenditure was in the form of transportation (48.9%) and food expenses (35.4%).<sup>1</sup>

Even though some patients were insured, still they incurred a substantial amount of out of pocket expenses. The awareness among the insured about the benefits of the insurance /health schemes seem to be a significant factor associated with high OOP expenditures. Above 80% of the respondents were not aware of the benefits and coverage of the schemes.

## **CONCLUSION**

The demand for healthcare will only increase in years to come, especially in India where the disease burden in the past 10-15 years has shifted from communicable to non communicable diseases.

Health insurance has emerged, as a financing tool in meeting the health care needs of the people. However, financing has not reached vast sections of people in India. Though some of the people are insured, they are not aware about the benefits of the insurance schemes and bare high out of pocket costs to meet the hospital expenses.

It is necessary to educate the beneficiaries about the coverage and benefits of insurance schemes available to them and thus reduce majority of their Out of pocket expenditure. Hence insurance providers need to relook into the policies and bring about reforms to lower the out of pocket payment borne by the people.

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