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KEY WORDS: Out of pocket expenditure, Financial risk protection, CMHT, PMJAY

A cross-sectional study on the extent of out-of-pocket expenditure and financial risk protection for hospitalized patients in a Tertiary Care Hospital in North-east India

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ABSTRACT

Introduction: Out of pocket expenditure (OOPE) is the direct payment made by individuals to health care providers at the time of service use which excludes any pre-payment or health services. OOPE has pushed sixty three million people below poverty line as on 2011 census India. Not many studies has been done to assess OOPE among hospitalized patients in North East India and this study plans to assess the extent and burden of out-of-pocket expenditure among the family members of hospitalized patients and to find the number of beneficiaries availing benefit of financial risk protection for hospitalization.

Materials and methods: A cross sectional study was done among patients hospitalized in a Government tertiary care Hospital in North East India was during the month of October to November 2019. A semi-structured questionnaire consisting of socio-demographic characteristics, questions on health expenses, health insurance and assurance schemes, etc were used. Data was analysed using percentages, median, inter-quartile range, etc. Ethical clearance was obtained from institutional ethics committee.

Results: Median expenditure on health was INR 12770 (IQR= 6785-30510) for rural and INR 11060 (IQR= 6335-25460) for urban per patient during last one year. Some of the patients (4, 1.2%) had to sell land but majority (209, 60.6%) had borrowed money to pay for treatment. One patient had joined health insurance scheme but did not know about its provisions. Majority (286, 83%) were aware of the available health assurance schemes CMHT (Chief Minister gi hakselgi tenbang) and PMJAY (Pradhan Mantri Jan Arogya Yojana) but only less than a fourth (77, 22.3%) has joined the schemes.

Conclusion: Expenditure on health increased in all patients during the last one year. Although 2/5thof the respondents are BPL (Below poverty line) or AAY (Antyodaya Anna Yojana) card holders only around a fifth had joined the health assurance schemes. Sensitisation programmes of the available schemes as well as mobilisation by grass root level workers particularly among the lower socio-economic sections needs to be taken up.

INTRODUCTION

In 2005, World Health Assembly adopted a resolution that health systems should offer financial protection from catastrophic expenditure or impoverishment arising from OOPE. Globally, 150 million people suffer catastrophic health expenditure yearly and a 100 million are impoverished due to out of pocket payments.[1] In India, out of total health expenditure, 60.6% payments are made by out-of-pocket expenditures and sixty-three million people have been forced below poverty line since the last census due to out-of-pocket expenditure.[2] According to the Union budget of 2019 as presented by Finance Minister, Rs.64,559 Crore was allocated to Health sector (Health & Family welfare) which constitute to 0.32 % of the country's GDP and 2.32% of the total budget.[3]

OOPE is the direct payment made by individuals to health care providers at time of service use (WHO) and excludes any pre-payment or health services, e.g. in the form of taxes or specific insurance premiums or contributions and where possible, net of any reimbursement to the individual who made the payment.[4] Financial Risk Protection is the access to all needed quality health services without financial hardship and protection against financial uncertainty associated with need to use health services and pay for them.[4] According to NFHS-4 (2015-16) the out-of-pocket expenditure per hospitalized case in public hospitals in the Indian scenario in rural cases is Rs.5369 and in urban cases is Rs.7189. The out-of-pocket expenditure per hospitalized case in public hospitals in the Manipur scenario in rural cases is Rs.4743 and in urban cases is Rs.6665.[5]

The eight target of the third goal of sustainable development goal which is concerned with health requires to achieve universal health coverage by 2030, prevent financial hardship and to assure equitable healthcare outcomes and ensure no one faces tough decision of choosing between health care and other necessities and recognizes insurance, value of health services which should be available, good quality, affordable.[6] Government funded health insurance and assurance schemes have been introduced in India to protect the mass general population from catastrophic health expenditure.[7] Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) was launched by Government of India in 2018. It provides free treatment to citizens of India belonging to widow, disabled, AAY card holder for treatment of illness for hospitalization at public hospitals and empanelled hospitals and provides health cover upto Rs. 500000 per family per year.[8]

In Manipur, the state government launched Chief Minister-gi Hakshelgi Tengbang (CMHT), a health assurance scheme in January 2018. It provides free treatment to citizens of Manipur belonging to widow, disabled, AAY card holder in secondary and tertiary hospitalized patients in community health centres, district hospitals and empanelled hospitals and provides health cover upto Rs.2,00,000 per family per year.[9]

No studies on out of pocket expenditure on healthcare and, on beneficiaries of CMHT and AB-PMJAY have been conducted in Manipur. This study is being done to assess extent and burden of out-of-pocket expenditure on healthcare and to find the number of beneficiaries availing benefit of financial risk protection for hospitalization.

MATERIALSANDMETHOD

Ahospitalbasedcross-sectionalstudywasdoneinthemonthsof October and November 2019 among patients admitted in departments of Medicine, Surgery, Obstetrics and Gynaecology,Paediatrics,Orthopaedics,ENT,Ophthalmology, Chest Medicine, Dermatology and Psychiatry of Jawaharlal Nehru Institute of Medical Sciences (JNIMS) a major public sector tertiary health care centre in Manipur located in North-easternpartofIndia.Thehospitalcaterstopatientscomingfrom all districts in the state irrespective of their income status. Patientswhowereadmittedforatleast24hoursandgivingverbal informedconsent/assentwereincludedinthestudy.Thosewho refused to participate were excluded. Universal sampling method was used and a sample size of 350±10 was estimated basedonhospitalpastrecords.

A pre-designed, pre-tested, interviewer administered questionnaire was used, which consisted of the socio-demographic profile of respondent, expenses incurred on health during last one year, awareness and participation in varioushealthinsuranceandassuranceschemes.

Data was collected from all eligible patients and checked for consistency and completeness. Data was entered and analysed in IBM SPSS version 22. Descriptive statistics like median, percentages,inter-quartilerange(IQR),etcwereused.

Ethical clearance was obtained from the Institutional Ethics committee vide letter No.Ac/04/IEC/JNIMS/2018, dated the 1st November 2019. Verbal informed consent was taken from all the respondents and assent was taken from patients younger than 18 years of age and consent was taken from their immediate care-givers. For the respondents who could not respond because of young age or seriously ill, the interview was taken from the patient's caregiver. Confidentiality was maintained by not taking any identifiers and the data was not linked to the respondents in any way. All the collected information was kept underlockandkey.

RESULTS

A total of 345 completed responses were collected during the study and there were no refusals to participate. Majority of the respondents belong to age group 41-60 year (110,31.8%) with males constituting 54.2% (187). The patients came from all the districtsofManipur.Majorityoftherespondents(234,83%)were literate and of the literates, 71(25.1%) were primary level, 67(23.7%) were 10th pass, 59 (20.9%) were 12th pass, 52 (18.4%) weregraduateand3(1.0%)werepostgraduate.Morethanhalfof therespondentswerefromruralareas(196,56.8%)andafew(41, 11.9%) were coming from Hilly and tribal areas. Almost a third (97,30.3%)oftherespondentswereself-employedwhileonly44, 13.8% were having government jobs. The others were unemployed, students or homemakers.

Most of the families (207, 60.0%) do not have any savings and majority of the families (207, 60%) expressed that that the income they earn is not enough for the expenditure in the family. For most families (142, 41.2%) the expenditure on food was the highest, for one fourth of the families (93, 27%) the maximum expenditure was on education while around 78(22.6%) of the families expressed that the maximum expenditure was on medicine or on health care. There was increase in expenditure on health among all the patients while expenditure on food reduced in 58(16.8%) of the patients because of the illness. Five (1.4%) of spouses started working and two (0.6%) children started working because of illness in family.

Table 1: Socio-demographic characteristics of the respondents (N=345)

Characteristics	Number (n)	Percentage (%)
Number of family members		
≤5	188	54.5
6 and above	157	45.5
Number of earning members		
1	144	42
2 and above	199	58
Total family income		
≤10000	111	32.2
10001-15000	65	18
15001-30000	101	29
30001 and above	68	19.7
Educational status* (N=282)		
Illiterate	48	17
Literate	234	83
Religion		
Hindu	240	69.6
Christian	64	18.6
Islam	41	11.9
Category of reservation		
OBC	179	51.9
Unreserved	89	25.8
ST	62	18.0
SC	15	4.3
Type of house		
Kutcha	141	40.9
Pucca	56	16.2
Semi-pucca	148	42.9
Own or rented house		
Own	326	94.5
Rented	19	5.5
Economic benchmark		
BPL (Below poverty line)	127	36.8
AAY (Antyodya Anna Yojana)	22	6.4
APL (Above Poverty Line)	196	56.8

*Children till 7 years of age were not considered for literacy status

Table No.2: Sources of money to pay for medical treatment (N=345)

Sources of money	Number	Percentage
Cash at hand	297	86.1
Savings	143	41.4
Borrowing from neighbour	117	33.9
Borrowing from money lenders	92	26.7
Selling of jewelleries	18	5.2
Selling of assets	4	1.2
Selling of livestock	3	0.9
Selling of land	4	1.2
Bank loan	2	0.5

Majority of the admission (71.3%) were for non-communicable diseases while 22% of the respondents were admitted due to communicable diseases, and 1.4% was admitted for delivery. The median days of admission was 3 days ranging from 01- 90.

Table No. 3: Hospitalization and financial effect to the family (N=345)

Characteristics	Response	
	Yes n (%)	No n (%)
Consulted private practitioners before admission	208 (60.3)	137 (39.7)
Previously hospitalized during the last one year	85 (24.6)	260 (75.4)
Postponed medical treatment due to financial problems	88 (25.4)	257 (74.6)
Spent money on special diet related to the disease	32 (9.3)	313 (90.7)
Children education affected	43 (12.5)	302 (87.5)
Got financial help from others	187 (54.2)	158 (45.8)
Health expenditure is a real burden to the family	283 (82)	62 (18.0)

Table No 4: Expenditure for the illness during last one year

Spent on	Median (Rs)	Inter quartile range (IQR)
OPD consultation fee(n=345)	10	
In patient admission fee (n=345)	50	
Drugs/ medicine (n=330)	5000	3000-15,000
Transport (n=345)	1000	300-2000
Investigations/ diagnostics test(n=286)	4000	2000-7000
Food and boarding expenses (n=212)	800	300-2000
Operations/ procedures (n=30)	5000	925-22500
Consultation charges (Private)(n=49)	600	400-2000
Medical appliances (n=14)	500	287-2050

The median expenditure of health in rural areas was Rs 12770 (IQR = 6785-30510) and urban areas was Rs 11060 (IQR= 6335-25460). Median average total monthly expenditure on health is Rs 11560 (IQR: 6615-26655).

Majority of the patients (241, 69.9%) bought medicines from private pharmacies, while 69 (20%) bought from JNIMS pharmacy and 24 (7%) bought medicines from CMHT pharmacy.

Only one patient knew about health insurance and had joined it but the person did not know about the provisions and benefits of health insurance scheme.

Of the total respondents 83.2% of the respondents knew about the health assurance schemes like CMHT/ PMJAY. Of them, 77 (22.3%) had joined the scheme and 41 (11.9%) were in the process of joining. Generally there were good opinions about CMHT/PMJAY schemes like: it was beneficial for general population; good initiative by government and it has helped the poor. However some respondents (12.7%) expressed that the amount is less and the process of getting benefit is inconvenient. Also they voiced dissatisfaction with the weekly allocation of money under the schemes. More over people only see the total money that is Rs 2 lakhs or 5 lakhs and feel that they haven't got all the benefits as promised. However the government while announcing as a whole that this much money will be sanctioned in the advertisement or announcement do not make it clear to the people that they will not be receiving cash as such but will cover the cost of the hospitalisation. And different procedures are allocated different amount of money as deemed okay by the government which may not cover the actual expenditure and the beneficiaries expressed dissatisfaction over that. Only 14(4.0%) patients have got benefit from the health assurance schemes during last one year in the form of medicine which they get from the pharmacies designated for CMHT or AYUSHMAN BHARAT beneficiaries.

DISCUSSION

In our study, almost all of the families have some form of OOPE on health with the median total expenditure being Rs 11560. Whereas in the study conducted by Bajpai et al[10] reported a higher median expenditure a with little difference in the expenditure on illness by different socio-economic classes in rural and urban area. This total OOP expenditure is higher compared to the OOP expenditure per hospitalized case in public hospital in Manipur which is estimated as Rs. 4743 for rural and 6665 for urban according to NFHS -4.[7] However, the actual total expenditure is expected to be high as the data was not collected at the time of discharge.

In the study conducted by Nandi S et al[11] the source of fund for out of-pocket expenditure for treatment was saving 82% with 13% borrowing and 3% from friends and relative. While in this study 41.4% used savings and 55.6% had to borrow money.The average expenditure on study medicine constituting 53.5%, diagnostic test/ investigation 20.8% and transport 5.5% respectively similar findings were reported by Swagatika PS et al.[12] Madan Mohan Upadhyay et al[14] in a cross-sectional study on JP Hospital Bhopal found that 12 % of respondents had taken a loan for medical treatment in past. The expenditure was calculated for all expenses incurred during last one year for the same illness during in-patient care. Other study[10] compared expenditure between out-patient and in-patient care.

It was seen that median expenditure on medicine, investigations, transportation, operations/ procedures and medical appliances where higher in our study as compared to studies. [12-13] The reasons could be as most of the drugs are bought from private pharmacy for majority of the respondents (69.9%) and due to the long waiting times for diagnostic investigations at the hospital most of the respondents prefer to get diagnostics investigations from private centres as well as more reliance on reports from private diagnostics centres by the patients. The tendency to over- investigate patients and practise defensive medicine by the medical practitioners cannot be ruled out too.

All the participants opined that expenditure on health increased and 82% of them considered the expenditure as a burden to the family. For almost a third (32.2%) of the participants had family monthly income less than Rs.10,000 and expressed that the income was not enough. Some had to sell land, livestock, assets, jewelleries and

even borrowed money from money lenders, neighbour to cover the expenses. Around 21 families had to spend all their savings on health care expense. Besides these, five spouses and two children started working because of financial burden. Similar mode of payment for OOP expenditure was also seen in a study by Bajpai et al.[9]

In a study by Nandi et al[11], 38.8% of the total surveyed were covered by government insurance scheme, 0.5% was covered with private insurance and while in our study only 1 person had joined the health insurance scheme but didn't avail the benefits as he had no knowledge on the provisions and benefits of the scheme. Further, in their study 16.1% of the public sector users without insurance got cashless services[11]. While in our study, there were some respondents (16.80%) who have no knowledge about the CMHT /PMJAY health assurance schemes and only 22.3% had joined these assurance schemes. The figure is in contrast to the participants who belonged to BPL (36.8%) and AAY (6.4%). This may be due to the lack of awareness generation activities as well as not knowing the proper channel for enrolment under such schemes. This acts as a challenge to the various financial risks protection measures employed by the government. Hence, more awareness generation programs among the socially backward sections need to be strengthened as well as involvement of grass-root level workers for mobilising the beneficiaries for such schemes. While the rich and influential can afford the high expenses involved in health-care, the poor have to wait till they have money or not have the treatment at all. Regarding the money spent for health care, it may be true that as of now all the expenses cannot be covered by the government. However financial protection for them must give them some protection as to access the health system when they fall sick. Some health care facilities are available only in the private sector and for these facilities the government must provide ways in which the poor can access these services.

Our study showed that 12.5% had an effect on education of children due to out of pocket expenditure which is similar to a study by Bajpai et al[9] in which the expenditure on children education decreased along with a decrease in the expenditure for food. Other studies have reported the effect on the employment status of person after the episode of illness which couldn't be addressed in our study.

High out-of-pocket expenses on illness of a patient can not only impoverish the family but can also have an impact on the educational status of the state. The present study is probably first study on hospitalized patients on out of pocket expenditure in Manipur. The limitations of the study are that outpatients and patients attending private hospitals could not be assessed and we were not able to conduct study at the time of discharge of the patient. Some difficulty in recall may be there as the questionnaire consisted of expenditure on the illness for the last one year but as hospitalization is not a frequent episode, it may not affect the study results. Further studies are recommended in the private hospitals giving tertiary care as the money they charge are unregulated by the government and how much the financial protection given by the various government schemes are implemented in these hospitals.

CONCLUSION

All the patients experienced out of pocket expenditure because of the illness and expenditure on health increased for all. Maximum out of pocket expenditure was on drugs or medicine and diagnostic test. Only one patient joined health insurance scheme and about one fifth had joined health assurance. Five spouses and two children started working because of financial burden due to the illness. There is a need for improved sensitisation programme of the available schemes as well as mobilisation by grass root level workers particularly among the lower socio-economic sections for greater enrolment under the health assurance schemes.

REFERENCES:

1. World Health Organization. The world health report: health systems financing: the path to universal coverage Geneva 2010. Available at https://www.who.int>whr>2010. Accessed on 18-11-19.
2. National Health Accounts Technical Secretariat National Health Systems Resource Centre Ministry of Health & Family Welfare, Government of India 2015-16. Available at https://mohfw.gov.in/sites/default/files/NHA_Estimates_Report_2015-16.pdf accessed on 11/11/2019.
3. News18.com. Budget 2019:Health Sector to get Rs.62,398 Crore, Rs.6,400 Crore allocated for Ayushman Bharat. News18 [newspaper on the internet]. 2019 July 6 [cited 2020, feb 4]; Business: [about 3 screens]: Available from:https://www.news18.com/business/.
4. World Health Organization (WHO). Out-of-pocket payments, user fees and catastrophic expenditure WHO; 2019. Available at https://www.who.int/health_financing/topics/financial-protection/out-of-pocket-payments/en/ Accessed on 27/10/2019.
5. Sustainable development goals, 3 good health and well-being target 8 2015. Available at https://www.un.org/sustainabledevelopment/health/ Accessed on 20/11/19.
6. Saksena P, Hsu J, Evans D.B. Financial Risk Protection and Universal Health Coverage: Evidence and Measurement Challenges. PLoS Med.2014 Sep;11(9): e1001701.
7. Ministry of Health and Family Welfare. National Family Health Survey-4 (NFHS-4) report. Mumbai: International Institute of Population Sciences (India); 2015-16.
8. About Pradhan Mantri Jan Arogya Yojana (PM-JAY):National Health Authority.[cited 2020 Feb 10] Available from: https://pmjay.gov.in/about-pmjay
9. Chief Minister-gihakshelgitengbang. Launched by honourable Chief Minister of Manipur on 21st January 2018. [cited 2020 Feb 10] Available from: http://cmhtmanipur.gov.in/cmht/index.html
10. Vikas B, Namrata S, Hardik S, Sanjana K, Beth V, Anoop S. Economic and social impact of out-of-pocket expenditure on households of patients attending public hospitals. 2017;30(1):15-20.
11. Nandi S, Schneider H, Dixit P. Hospital utilization and out of pocket expenditure in public and private sectors under the universal government health insurance scheme in Chhattisgarh State, India: Lessons for universal health coverage. PLoS ONE 2017;12(11):1-18.
12. Swagatika PS, Sudipta S, Kirti SS, Sarit KR. Outofpocket expenditure and drug adherence of patients with diabetes in Odisha. J Family Med Prim Care 2018;7:1229-35.
13. Bedane SN. Out of Pocket Expenditures among Hypertensive Patients and their Households who Visit Public Hospitals in Addis Ababa, Ethiopia, 2016. Health Econ Outcome Res Open Access 2018;4(1):1-7.
14. Madan MU, Agrawal KK. Study of JP Hospital Bhopal –An analysis of out of pocket expenses. 2018
15. Sharma D, Prinja S, Aggarwal AK, Bahugana P, Sharma A, Rana SK. Out-of-pocket expenditure for hospitalization in Haryana State of India: Extent, determinants & financial risk protection. Indian J Med Res [serial online] 2017 [cited 2019 Nov 12];146:759-67.