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OUT OF POCKET EXPENDITURE OF INPATIENTS ADMITTED IN PICU OF DIFFERENT HOSPITALS OF WEST BENGAL

Paediatrics

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ABSTRACT

Objective: To calculate the average gross expenditure per patient per day admitted in pediatric intensive care unit (PICU) of different set ups.
Methods: Gross expenditure includes bed charge, service charge, investigations, ordinary and special procedure , doctor's charge, medicines and articles used. It varies from patient to patient, but we calculate the total duration of stay of different patient in different months of the year to avoid variability and then average gross expenditure per patient per day is calculated. In government set up utilized article's and medicine's values are calculated as per central medical store (CMS) West Bengal, approved value from hospital store. Also the salaries of different staffs posted at PICU is calculated. For private set ups all expenditure are calculated from the discharge desk.
Conclusion: To have idea for the service provider as well as beneficiaries about the gross average per day cost in pediatric intensive care unit. At the same time it will help to build an insurance model for covering pediatric intensive care expenditure. It also helps policy makers to maintain the balance between private and public set up for providing health care and its integration.

KEYWORDS

cost, gross expenditure, average, pediatric intensive care unit

INTRODUCTION:

Intensive care is very much essential in modern days medical practice. It is rendered both by government and non-government organization, both in metropolitan and non metropolitan cities. The cost depends upon types of patients admitted and their complications. In government set up neither the beneficiaries nor the caregivers have clear idea about the cost which is shouldered by government even at CMS approved rate. At the same time we should have idea about average gross expenditure per patient per day in PICU of private set up. India is developing country, most of the people belongs to low to middle income group. Before admission patient parties usually have no clear idea about how much expenditure might be. In the midway of treatment they feel overburdened. At the same time while they admit their patient in government setup they are very much reluctant to understand how much price is expended on behalf of government. Another point is that caregiver are not aware of article's price they are using. Controversy arises whether private setup is very much superior in all aspects than government setup. Very important issue is that intensive care to be provided by both government and private set up hand on hand so that large need of the country like India whose population is more than 130 crore can be fulfilled.

In the above issue Sanjay Basu et al in their study "Comparative performance of private and public healthcare systems in low- and middle-income countries ; a systematic review" do not support the claim that private sector is usually more efficient, compatible or medically effective than public sector, however the public sector appears frequently to lack timeliness and hospitality to patients. [1]

Besendes et al in the study " Quality of private and public ambulatory health care in low and middle income country" said that globally and nationally it is argued that to achieve universal and equitable access to health care. The public sector must be made to work as majority provider.[2]

Neelam Sekhri et al in their study "Public private integrated partnerships demonstrate the potential to improve health care access quality and efficacy"said that more such partnerships should be launched and rigorously evaluated. [3]

Suhasini B. Arya et al in their study " A comparative study of public and private health services in Mumbai region availability and utilization pattern" concluded that public health care system in urban areas is inadequate to meet the rising requirements of the city population. The government spending on health care sectors continues to be low at below 1% of GDP since independence. It is important to question is it only the low investment in health that is the main reason for the present status of health system or it is also to do with the framework , design and approach with which policies have been planned.[4]

Though one study is on PICU similar type, study was conducted by Geeta Karambelkr et al is neonatal intensive care where in the study " Cost analysis of healthcare is a private sector neonatal intensive care unit in India" demonstrate the actual cost of care per patient per day in a level 3 private sector NICU in India. They have also concluded that there is an urgent need for similar studies which will include all the input costs to determine the amount of money spent on the newborn care by the state so that appropriate equitable terms may be sent for public private linkage for the short...[5]

MATERIAL AND METHODS:

Our study period is from April 2019 to March 2020, one year is taken to avoid variation of patient burden in different season of the year. Before proceeding this study, we have taken permission from institutional ethics committee to conduct the study. As the government set up we select North Bengal Medical College PICU as non metro setup and Dr B C Roy Post Graduate Institute Of Pediatric Sciences PICU as metro set up. At the same time one of the known nursing home's PICU at Siliguri, WB as non metro setup and one of the well known nursing home's PICU set up at Kolkata, WB as metro setup. Name of the nursing home not mentioned to avoid disclosure.

INCLUSION CRITERIA OF PATIENTS:-

1) All patients admitted in PICU
2) Age of the patient is 1 month to 12 years

EXCLUSION CRITERIA OF PATIENTS:-
1) Patient died shortly after initial management in PICU

Selection criteria of institutes:-
1) PICU of the institute is running properly and data are maintained.
2) Location of the institute, government and non government PICU should be from metro city, Kolkata.
3) For non metropolitan, one from medical college and non government nearby well equipped running PICU.

Types of critical patients varies from institute to institute and in busy metropolitan city to non metropolitan city. Cost of treatment varies accordingly. Data collection is straight forward in government institute. In case of private institute same thing is done indirectly as there is apprehension of disclosure. Still we have tried as much as possible. For cost calculation of treatment in private institutes we calculated the gross value which includes bed charge, Doctor's charges, medicine charges, investigations charges, non-medicinal substances utilized during patient care and GST.

First we calculated total number of patients per individual month of the year admitted in particular institutes to avoid seasonal variation from that per day per PICU bed is calculated.

For government institutes the total expenditure is calculated which includes cost of medicinal and nonmedicinal articles utilized for patient care are as per central medical store (CMS), WB approved values, salaries of human resources which includes Doctor, nursing staff, technicians and others engaged in PICU care, then per day per PICU bed is calculated. Bed charge, investigation charges,procedure charges and GST is not taken into account in government institutes as multiple departments are involved in different investigation methods. Bed occupancy rate is kept in mind during the expenditure calculation. For private institutes data are taken where co-operation available otherwise treatment cost is taken from billing section. Treatment cost varies from type of critical illness and treatment received.

Another point of worth mentioning is that whether patient was ventilated or not where cost varies and duration of PICU is also taken into account.

RESULTS:-
From admission and discharge book it is observed that number of patients admitted in PICU of North Bengal Medical College (8 bed PICU) varies from 31 to 43 with stays varies 1 day to 20 days. Outcome may be discharged or transferred to ward or death or LAMA. Bed occupancy is 90 %. For calculation of expenditures:- 1. average per patient per day drug expenditure is 459 rupees. 2. Non medicinal articles expenditure is 457 rupees per day. 3. Expenditures of human resources includes Doctors, Sisters, technicians,GDAs,sweepers is about 4733 rupees per day. Bed charge, investigation charges,procedure charges and GST is not taken into account in government institutes. About average 17 patients ventilated per month with the varying staying period. About 10 central line procedure required per month. Gross expenditure per patient per day is 5649 rupees.

This expenditure is little higher in Dr B C Roy PGIPS PICU , Kolkata, where bed occupancy is about 95% . Here medicinal expenditure is 509.25 rupees per patient per day and non medicinal articles expenditure is 462.96 rupees per day. All human resources expenditure is 5100 rupees per patient per day. Gross expenditure per patient per day is 6072 rupees. (Figure 1)

When we come to calculate expenditure of private PICU then bed charge per patient per day is 5500 rupees in Non metropolitan and 8000 rupees in metropolitan city. Other expenditure is about 20500 rupees in non ventilated and 35000 rupees in ventilated patient, while in metropolitan city it is 45000 rupees for non ventilated and 65000 rupees for ventilated patient per day. Gross expenditure per patient per day for non ventilated patient is 26000 rupees and 53000 rupees in non metropolitan and metropolitan city respectively. For ventilated patients gross expenditure per patient per day is 40500 rupees and 73000 rupees in non metropolitan and metropolitan city respectively. (Figure 2)

DISCUSSION:
Almost 60% of India's estimated 1.2 billion people pay for medical treatment out of their own pockets and these account for an average increase in poverty by as much as 3.6% and 2.9% for rural and urban India, respectively.[6] keeping this study in mind we conducted our study. Our result shows gross expenditure per patient per day admitted in different PICU setup in West Bengal both private and government in metro and non metropolitan city. In government set up we were not able to calculate the bed charges, investigation charges, procedure charges and GST. In private setup individual breakup of expenditure is not done as our purpose was to give gross expenditure. This study is not a comparison of expenditure between private versus government setup. It also only gives gross average per patient per day expenditure ,as in government institutes break up of expenditure is not possible.

Our study reveals that though the expenditure in government setup is approximate value but the amount is very important for common peoples of India. At the same time beneficiaries should know about how much government is spending for them. This will also give idea about the PICU extension in government setup based on health budget. Also staffs working in PICU including Doctors will get an idea about the expenditure and it will help to avoid mishandling of facilities and objects available and help to enhance the rational use of it. Also gross expenditure per patient per day in government as well as private PICU will guide to make insurance policies in future. Same type of study also done by Venkatnarayan et al for calculating the cost of NICU patients by micro costing model. [7] Our study will guide health policy maker to make a balance between private and public set up for providing healthcare and its integration as seen by several studies from several countries.[8,9,10]

Inference :- Intensive care is need of the day at present. At the same time cost effectiveness in the field of healthcare is also important. Our endeavor to explore the expenditure in PICU in different setup in West Bengal is one of the humble attempt in this regard and guide for further work up in this field for future researches.

Limitation :-
1. Details elaboration of non medical expenditures is not possible.
2. Number of institutes taken for study is small.

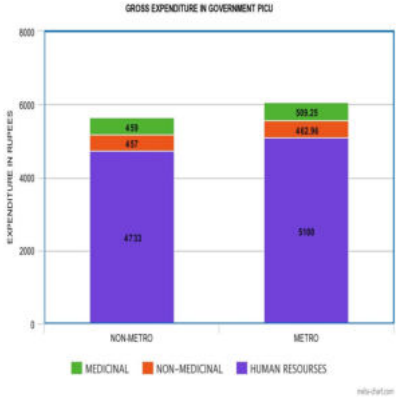

Figure 1 . Gross expenditure in government setup PICU

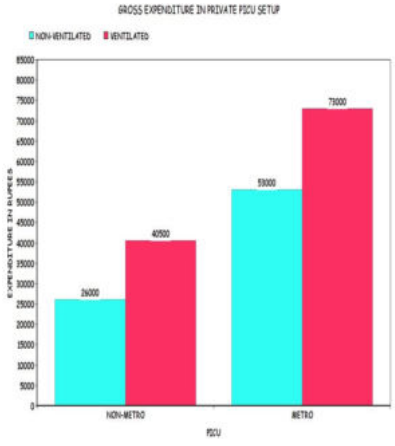

Figure 2 . Gross expenditure in private setup PICU.

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