Editorial

Auditing costs of intensive care in cancer patients in India: A new area explored

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On February 7th 2012 issue of 'The Hindu', Ramaya Kannan published an article titled 'Cancer care can burn a big hole in pocket.' The commission on Macroeconomic and Health Financing of Health in India in its report noted that nearly 70% of the country's health expenditure comes from households, while around 25% is supported by central, state, and local governments. Very few studies have been conducted on the 'cost of cancer treatment' in India, and even fewer studies done on 'cost of intensive care' in India. There are perhaps no studies on the 'cost of intensive care in cancer patients' in India.

One study conducted in AIIMS in 2006-07 (published in October 2011 issue of Economic and Political weekly (by Dr Bidhukalyan Mohanti *et al*.) was aimed at estimating costs of treatment borne by cancer patients at a tertiary care setting. It was to compare the costs borne by Indian cancer patients and families during the course of radiotherapy. The average economic burden to a patient in AIIMS was Rs. 14,031 (before starting radiotherapy) and with cost of radiotherapy at Rs. 8,184, the total cost of radiotherapy treatment was Rs. 22,215. If the average expenditure of Rs. 14,597 before coming to AIIMS is added, a patient for radiotherapy alone has to spend in AIIMS a sum of Rs. 36,812 for the entire course. Anyone who requires other forms of treatment like surgery and chemotherapy will have to pay much more. Modern technology has led to wonderful cures but also costs good money. In the case of a young boy who eventually was lost, a sum of Rs. 700,000 was spent in 1 and 1/2 months because of his need for intensive care and without this need, the cost would have been Rs. 100,000-150,000 for the same period. Though actual survey data in India is not available, it is common experience that several middle class families are ruined because of cancer treatment.

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When does a cancer patient need intensive care?

When a cancer patient undergoes an extensive radical dissection, and particularly if he has other co-morbid conditions, he needs to be in the ICU. If he develops a life-threatening complication during the course of the disease because of investigations, therapy, or because of the natural course of the disease, he needs to be in the ICU. Cancer patients may require to be repeatedly admitted to hospital and to ICU during the course of their illness.

Cost of treatment for cancer in the UK

In a descriptive statistical data (by Mauro Laudicella of Imperial college and Lucy Irvine of Mac Millan and NCIN), patients diagnosed with cancer in 2006 and followed up to 2010 had a mean number of hospital admissions of 4.91 times for skin cancer, 7.75 times for breast cancer, 9.58 times for bowel cancer, and 5.28 times for lung cancer along with a mean cost of hospital care of £10296, £14836, £22117 and £13390, respectively. The mean costs per day were (in £) 11.57, 29.83. 142.87, and 247.25, respectively, for these cancers.

While we do not have studies on costs of intensive care in *cancer* patients, we do have some studies on costs of intensive care in *general* patients.

Cost of intensive care in India

Raja Jayaram and N. Ramakrishnan[1] have described a frame work as to how the cost of intensive care in India could be calculated. They have quoted two related articles to explain the subject. In the United Kingdom (UK), a working group identified six cost blocks such as costs of staff, clinical support services, consumables, estates, non-clinical support services, and capital equipment. Subsequently, this 'block concept' was adopted for development of an international program for resource use in critical care (IPOC).[2] Parikh CR and Karnard DR[3] in their study on 'quality, cost, and outcome of intensive care in a public hospital in Bombay' had described 993 consecutive patients over a 16 months' period. They found a total cost of Rs 107,79,209 (Rs 2,61,64,917 in 2012-13), and cost per patient per day was Rs 1973 (Rs 4789 in 2012-13); cost per survivor was Rs 17,029 (Rs 41,335 in 2012-13), and cost per one TISS point was Rs 90.14 (Rs 218 in 2012-13), the cost *inflation index* being 100 in 1982-83, 351 in 1999-2000 and 851 in 2012-13.

Cost block 1 *(capital equipment)* includes equipment, machines, and disposable appliances used in the ICU; cost block 2 *(estates)* includes depreciation, maintenance, and utilities necessary to maintain ICU structure; cost block 3 *(non-clinical support services)* includes the services required to run the ICU (which are not related to therapeutic interventions) such as catering, laundry, uniform, housekeeping, security, administrative costs of the staff directly employed by the ICU, and miscellaneous expenses such as stationeries, telephones, and photocopies etc.; cost block 4 *(clinical support services)* includes facilities directly related to patient therapy but not supplied by ICU such as radiology, pathology, dietician, physiotherapy, cardiology, and nephrology services; cost block 5 *(consumables)* includes drugs (cancer drugs and supportive therapy are very expensive in India), blood and blood products, fluids and intravenous nutrition, enteral nutrition formulae and their delivery devices, blood gas machine consumables (both hard and soft), oxygen and its delivery systems to name some; and cost block 6 *(man power cost)* which is the net pay given to medical and nursing staff employed in ICU (in the west, it amounts to 50% of the total ICU cost).[4] Consumable cost is a major contributor to total ICU cost in India. In a study of drug utilization pattern in intensive care unit of a tertiary care hospital, Biswal *et al*.[5] found that although the mean number of drugs on the 1st day of admission is 5.3, it increased to 12.9 on the 1st day and 22.2 during the entire stay in the ICU. More than 50% was from antibiotics. Gamma globulins and anti-cancer drugs contribute even more to the ICU cost.

Calculations on the basis of cost block frame work are a good idea and on the basis of this, ICUs could be cost-audited and compared. In India, the variations in all the six blocks are too many, as the types of medical facilities are varied - such as government, semi-government and autonomous, corporate and private hospitals and nursing homes with their governance largely with the respective authorities with very little standardization imposed from the state. Intensive care in Government hospitals is running in a suboptimal state and in case of cancer, barring a handful of institutions, it is in poor shape. Cancer is treatable to a good quality of life, and sufficient resource needs to be available by the state for all the treatment including intensive care. Government has already given subsidies for the patients' travel and some of the treatment facilities, but a lot needs to be done in the field of intensive care provided to these patients.

References

1. Jayaram R, Ramakrishnan N. Cost of intensive care in India. Ind j Crit Care Med 2008;12:55-61.
2. Negrini D, Sheppard L, Mills GH, Jacobs P, Rapoport J, Bourne RS, *et al*. International Programme for resource use in Critical care (IPOC): A methodology and initial results of cost and provision in four European countries. Acta Anaesthesiol Scand 2006;50:72-9.
3. Parikh CR, Karnard DR. Quality, Cost and Outcome of intensive care in a public hospital in Bombay, India. Crit Care Med 1999;27:1754-9.
4. Edbrooke D, Hibbert C, Ridley S, Long T, Dickie H. Development of a method for comparative costing of individual intensive care units. Anaesthesia 1999;54:110-20.
5. Biswal S, Mishra P, Malhotra S, Puri GD, Padhi P. Drug utilization pattern in intensive care unit of a tertiary care hospital. J ClinPharmacol 2006:46:945-51.

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