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Hospital Management Systems: Analysis of Intensive Care Units in India

Manaswitha Ajila[1] Dr. Abha Purohith[2]

[1]Research Scholar, Jodhpur National University, Rajasthan

[2]PhD Scholar, Professor of Management (Management Department)

Abstract – In India, intensive care medicine is still a relatively new specialty and is rapidly expanding. Provision of intensive care in these two, very distinct settings always require different approaches, but the experiences of each country may contribute to improvements in ICUs everywhere. Patients under highly specialized intensive care are in need of high end infrastructure support and constant medical attention. Treatment at a hospital stacks up high medical costs and the nature of treatment isolates patients from their families for want of supportive high tech ICU care guided by the doctor. This paper focused about intensive care units in India.

Keyword: ICU, Hospital Management, Patient Care, Patient Safety.

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INTRODUCTION

ICUs tend to have a high ratio of nursing staff per patient. Staff plays a key role in clinical decision-making and takes part in daily clinical rounds. They closely liaise with patients' family members, updating them about clinical progress and other relevant details. Also, UK units employ nurse-driven protocols in ventilator management and weaning, feeding regimen, glycolic control, etc. India is experiencing an acute shortage of qualified nurses, which results in a lower nurse-to-patient ration in India than in the UK (Oberoi and Udgiri 2003). Many of the practices delegated to nurses in the UK are more often managed by a doctor in India. For example, Indian ICU doctors take primary responsibility for making clinical decisions and liaising with patients' families. Moreover, nurses (and patients' families, for that matter) are not as involved in end-of-life decisions as they are in the UK. In addition to taking the lead in decision-making, the attending physician in India also tends to take responsibility for routine practices, such as ventilator management. On the other hand, there is no practical difference between the two countries in the presence of in-house doctors/trainees, physiotherapists, ancillary technicians and biomedical and clerical staff.

REVIEW OF LITERATURE:

An ICU [INTENSIVE CARE UNIT] is defined as a specially staffed, specialty equipped, separate section of a hospital dedicated to the observation, care, and treatment of patients with life threatening illnesses, injuries, or complications from which recovery is possible. It provides special expertise and facilities for the support of vital function and utilizes the skill of medical nursing and other staff experienced in the management of these problems. The global history of INTENSIVE CARE UNIT care dates back is to the polio epidemic in 1950s, when the specialty of critical care was born. Simple ventilators or hand ventilation enabled the survival of some patients. The technique of controlled ventilation was then extended to patients with drug overdose, tetanus, and chest trauma, with resultant improvement in survival. The development of effective ventilator and improved circulatory support in post-operative patients radically extended the surgical possibilities. The INTENSIVE CARE UNITs then assumed the role in prevention of irreversible organ failure. The majority of hospitals [> 88%] in the United States have one or more INTENSIVE CARE UNITs, constituting 5% or less of the total hospital beds. INTENSIVE CARE UNITs in the United States consume 15% to 20% of the hospital budget, amounting to 1% of GNP [1]. India is a diverse country with different levels of health care: primary, secondary and tertiary. The first coronary care unit in India was started in 1968 at the King Edward VII Memorial Hospital, Mumbai. This unit was followed by one at Breach Candy hospital in Mumbai, and later in other large private hospitals of Mumbai and in other large cities of India [2].

Critical care units in the early 1970s, though centralized, were designed and equipped chiefly to offer intensive care to patients with acute myocardial infarction and other manifestations of ischaemic heart disease. There was a poor concept of overall critical

care or intensive respiratory care. Ventilator support was primitive and was generally offered as a terminal therapeutic approach. Many of the INTENSIVE CARE UNITs were deficient in good monitoring facilities and were initially offered in a few designated room[s] within a general ward of the hospital. The number of critical care units caring for life-threatening illnesses other than coronary heart disease slowly increased. In mid-1980s there was a significant improvement in the standard of care, partintensive care unitlarly evident in the larger teaching and private hospitals in the cities of India. As a related professional development, in 1993 the Indian Society of Critical Care Medicine [ISCCM] was formed, which currently has around two thousand members [3]. The concept of respiratory care, including mechanical ventilation was still underdeveloped. Initially, a volume-cycled Beaver's ventilator and later a Bird's ventilator were used. Critical care beds in the large public teaching hospitals generally constitute 5-8% of the total bed strength. At advanced centers in large cities, the INTENSIVE CARE UNIT bed strength varies between less than 5% of the total hospital beds in majority of hospitals; to near 10% in selected few hospitals. Large public hospitals [e.g., the All India Institute of Medical Sciences, Delhi, and some corporate/chain hospitals in the metropolitan cities/state-provincial capitals of the country] have separate medical, surgical, pediatric, cardiac, cardiothoracic, neurology, pediatric and neonatal INTENSIVE CARE UNITs. Most hospitals have all/broad purpose INTENSIVE CARE UNITs or, at most, medical, surgical, and coronary care units. The number of INTENSIVE CARE UNIT beds available is disproportionately low, both in private as well as public hospitals. Obtaining a bed in INTENSIVE CARE UNIT is quite often diffintensive care unitlt for critically ill patients.

Owing to shortage of INTENSIVE CARE UNIT beds, only the most critical of the deserving patients are provided INTENSIVE CARE UNIT care, that could contribute to high mortality inside the INTENSIVE CARE UNIT as well as outside the INTENSIVE CARE UNIT [in the wards]. There appears a strong need to increase the INTENSIVE CARE UNIT beds to at least 10% of total beds in all hospitals; and even up to 15-20% in some leading public as well as private tertiary care centers. Shortage of INTENSIVE CARE UNIT beds has slowed the pace of cadaver organ transplant program adversely. In India, cadaveric renal transplantation accounts for less than 1% of total renal transplantations [4].

Shortage of INTENSIVE CARE UNIT beds limits the protocols to be followed for brain dead patients for organ harvesting. Success of cadaver organ transplant program may become possible by creating new and exclusive INTENSIVE CARE UNITs for brain dead patients identified for organ harvesting, under the concerned departments, e.g. nephrology. The care in Indian INTENSIVE CARE UNITs has evolved from cardiac to multi-system diseases. Initial INTENSIVE CARE UNITs were Cardiac Care Units, where deaths due to ventrintensive care unitlar fibrillation could be prevented by DC shock, and temporary transvenous pacing could be done for heart blocks. In later years, the scope of INTENSIVE CARE UNITs includes thrombolysis in acute myocardial infarction [AMI], primary and rescue angioplasty, primary coronary artery bypass surgery, congenital heart surgeries in high risk underweight babies. Swan Ganz catheterization has ensured better measurements of pulmonary capillary wedge pressure and appropriate differentiations into causes of dyspnoea predominantly cardiac or respiratory and advanced precise interventions and mechanical ventilation [6-7].

Critical Care in India: analysis on evaluation and its challenges:

Critical care practices in India have evolved significantly over the past two decades. Critical care medicine is a brand of medicine concerned with the provision of life support for critically ill patients. Critical care initially began as a service in major hospitals, but with the formation of the Indian Society of Critical CareMedicine, the development of this specialty has been very rapid.

Brief History:

Indian Society of Critical Care Medicine (ISCCM), an association of intensivists with over 4,000 members and 16 city branches has played a great role in the growth of critical care in India. The coronary care units were developed in the early to mid-1970s.Around the same time Dr Farokh E Udwadia, developed the first respiratory care unit in two hospitals of Mumbai- a community hospital and a private one. The most major achievement of these units was not only to bring down the mortality of tetanus, but also to open the eyes of society to the need for critical care services. However, organised critical care medicine in India as a speciality has developed very slowly and only recently.

Levels of Care:

There are three types of hospitals in India that are delivering patient care in India. Community hospitals are mostly run by the government and essentially result in no cost to the patients. Critical care is a branch that involves a lot of technology and therefore is dependent on finances. Hence, there have been limitations to the growth of this branch in community hospitals. There are currently about 200 medical colleges with hospitals attached to them in India. Additionally, there are more than 1,000 district hospitals. It is estimated that only a small proportion (<10 per cent) of all these hospitals, however, will boast properly equipped or staffed Intensive Care Units (ICUs). These hospitals thus contribute only a small proportion of the available ICU facilities.

Private tertiary care hospitals like Indraprastha Apollo Hospitals, Max Hospitals and Fortis hospitals and many others are managed by societies, trusts or

companies. Patients are levied a charge for these services. There are also a small percentage of beds that are provided for free. As per the current estimation, 85 per cent of patients are self-paying. ICUs in private tertiary care hospitals are usually very well equipped and thus form the most major contributor to the critical care facilities in the country, albeit at a higher cost to the patient which can vary from 20,000 to 50,000 per day which is really not possible for most of Indians. Most of the equipment used are imported and very expensive. There is great need to manufacture these equipment in the country to make them cheaper. The drugs and antibiotics used are very costly. Many of the patients sell their assets to pay the hefty bills.

Nursing Homes: Worth a Mention

An interesting segment of healthcare facilities in India consists of small hospitals or nursing homes. Modestly equipped and managed mostly by medical professionals themselves, these are realities representing the vast middle and lower classes, and they contribute about 40 per cent of available beds for the country. The patients also usually pay for the services here. The need and the viability of facilities for critical care are being acknowledged by this segment, and currently the facilities are on the upswing.

Indian ICUs: Unique Challenges

The patterns of medical problems seen in Indian ICUs are dissimilar to those seen elsewhere. These also change with the categories of the hospital. A number of tropical infections such as malaria, leptospirosis, tuberculosis, salmonellosis, etc. form a significant proportion of the patients. Poly-trauma also a rank high in the occupancy charts. Even today, the mortality from severe sepsis in our country is very high.

Manpower development of the specialists has been a major issue. Most of the current directors in the past have been trained abroad.

- **Trained the Trainers**

The certificate course in critical care, the first organised training activity in critical care medicine, was started few years ago by the ISCCM and has been evolving well. A number of hospitals have developed training modules, and more students are coming out of this training programme regularly. The ISCCM has also been very active in interacting with various medical councils in India. With this, the first steps for training in critical care on a national level curriculum are now being taken. The training of nurses, technicians, and therapists has begun in some isolated foci but has not evolved into a meaningful training activity. Nurses form the real providers of critical care. The outcome of critically ill patient is dependent on team work involving administrator, doctor, nurses and technicians.

- **Critical Juncture**

Critical care in India is at the crossroads of development. The beginning looks good but a long part still has to be travelled. Highly dedicated efforts can only lead to humane, scientific meaningful service for the multitude of their critically ill patients. Future challenges include the development of guidelines, the consolidation of training activities and research on the outcome of critical tropical problems which are peculiar to our country.

CONCLUSION:

Healthcare delivery in the India is administered through the National Health Service (NHS), a public-funded healthcare system, the distribution of intensive care services throughout the country is relatively homogenous. In India, there is wide disparity in the distribution of healthcare services (Purohit 2004). Marked contrast exists between state-run hospitals, offering near-free services with limited resources and infrastructure, and the private sector, offering 'state of the art' care to the patient segment with purchasing capacity. As intensive care is expensive care, the majority of Indian ICUs are concentrated in urban settings and pooled in the private sector.

REFERENCES:

1. Groeger JS, Strosberg MA, Guntupalli KG, et al. Descriptive analysis of critical care units in the United State. Crit Care Med 1992;20:846-62.

2. Udwadia FE, Guntupalli KK, Vidyasagar D. Critical care in India. Critical Care Clinics 1997;13:317-30.

3. Prayag S. INTENSIVE CARE UNITs worldwide : Critical care in India. Critical Care 2002;6:479-80.

4. Feroz A. Cadaveric renal transplantation: our experience at the Institute of Kidney Diseases and Research Centre, Institute of Transplantation Sciences, Ahmedabad. Transplant Proc 2007;39:721-2 [From NIH/NLM MEDLINE].

5. Vidyasagar D, Singh M, Bhakoo ON, et al. Evolution of Neonatal and Pediatric Critical Care in India. Critical Care Clinics 1997;13:331-47.

6. http://japi.org/april2008/E-221.pdf

7. ME Yeolekar, S Mehta, INTENSIVE CARE UNIT Care in India - Status and Challenges, API, VOL. 56, APRIL 2008

8. http://archivehealthcare.financialexpress.com/201002/criticare02.shtml