Editorial

CRITICAL CARE MEDICINE IN BANGLADESH: A NATIONAL HEALTH CARE CHALLENGE

The idea of modern Critical Care Medicine or Intensive Care Medicine stems back to the era when better understanding of human physiology and process of death occurred. Critical Care Medicine (CCM) is a branch of medicine concerned with provision of life support systems in patients who are critically ill and who usually needs intensive monitoring. This service is provided in the setting of what is known as Intensive Care Unit (ICU). Critical care involves highly complex decision making to assess, manipulate and support vital system functions with the objective of treating single or multiple vital organ system failure and/or to prevent further life threatening deterioration of the patient's condition.[1] Physicians trained and qualified as specialists in CCM are referred to as Intensivists.

In general it is the most expensive, technologically advanced and resource intensive area of medical care. In the year 2000 in USA, the estimated expenditure for critical care medicine was arround $ 55 billion accounting for 0.5% of GDP and 13% of national health care expenditure.[2] For Bangladesh we have no statistics to assess the share of critical care services in the overall health care cost of our country.

Introduction of mechanical ventilation to treat patient with respiratory failure was the first significant milestone in the evolution of modern ICU. In 1953, Bjorn Ibsen set up what became the world's first medical/surgical ICU in a converted student nurse classroom of the municipal hospital in Copenhagen. At that time the epidemic of polio was sweeping across Europe and people were dying from respiratory failure. The introduction of mechanical ventilation during that time reduced the mortality from 90% to 40%.[3]

The first ICU in Bangladesh was established in 1980 at National Institute of Cardiovascular Disease (NICVD). A study[4] conducted in 2007 by the Department of CCM, BIRDEM General Hospital found total number of ICU beds to be 424 in 40 ICUs of Bangladesh, of which 80% were located in the city of Dhaka. 68% of ICUs were run by anesthesiologists who lacked proper training & qualifications in CCM. Only 15% ICUs were run by primary care Intensivists in the set up of closed ICUs as opposed to open ICUs which were more common. Several earlier studies[5-6] showed that care provided by Intensivists in the set up of closed ICUs provided better outcomes and were more cost effective.

Since the study of 2007[4], the number of ICUs and number of ICU beds in Bangladesh have increased steadily. There are now approximately 700 ICU beds in the country. However with the exception of few state of art modern ICUs of the city of Dhaka, facilities in majority of ICUs are inadequate and quality of care is often painfully poor. There is lack of trained manpower in both sectors of physicians and nurses. Absence of western style emergency services capable of managing critically ill and injured, put the burden of care of these patients on the already overburdened ICUs.[7]

In North America, CCM and in Europe, Intensive Care Medicine have been recognized as independent speciality over last 3-4 decades. In Bangladesh although relatively new, CCM is now being increasingly recognised as an important medical speciality. The first postgraduate MD course in CCM was introduced in 2007 by the University of Dhaka. Departments of CCM, BIRDEM General Hospital and Dhaka Medical College Hospital offer the same course and both the institutions together admit only 14 postgraduate students per year. But Bangladesh should by now have at least 600 postgraduate qualified Intensivists or critical care medicine specialists and atleast 5000 allocated ICU beds,[7] for a total of 75000 general hospital beds.[8]

CCM in Bangladesh has been going through evolution and are now facing many challenges. High costs as well as poor quality of critical care are two major burning issues. The care in the government Medical College Hospitals is theoretically free but the quality of care is severely compromised because of lack of sufficient funding. The cost of ICU care at privately run ICUs is much higher compared to the cost in Government ICUs. However, the increase in cost is not necessarily translated into better quality of care. There is nothing like low cost critical care services for our average citizens. We need to have someone pay for the cost. It could be from the government subsidy, from generosity of philanthropic organizations or from private health insurance which are rarely available.

The other issue is the rapidly growing but poorly managed private ICUs rendering unethical standards of care. This has resulted in inappropriately high cost, increased mortality and poor outcomes of critically ill patients. Bangladesh Medical & Dental Council (BM&DC) in spite of its limitation of manpower should play a major role in enforcing operational registration for all these ICUs.

All these challenges require general awareness and proper utilization of our meager critical care resources. Such awareness campaign can be organized by the Ministry of Health, Government of Bangladesh as well as by the Bangladesh Society of Critical Care Medicine. Hopefully then we can provide better critical care services to our impoverished general mass.

Mohammad Omar Faruq
Professor of Critical Care Medicine
Ibrahim Medical College & BIRDEM General Hospital
& President, Bangladesh Society of Critical Care Medicine

References

1. Ewart GW, Marcus L, Gaba MM *et al*. The critical care medicine crises – a call for federal action. *Chest* 2004; **125**: 1518-21.
2. Halpern NA, Pastores SM, Guerenstein RJ. Critical Care Medicine in USA 1985-2000, an analysis of bed numbers, use and costs. *Critical Care Medicine* 2004; **32**(6): 1254-1259.
3. Bennett D, Bion J. ABC of Intensive Care. *BMJ* 1999; **318**: 1468-70.
4. Faruq MO, Ahsan ASMA, Fatema K, Ahmed F *et al*. An audit of Intensive Care Services in Bangladesh. *Ibrahim Medical College Journal* 2010; **4**(1): 13-16.
5. Multz AS, Chalfin DB, Samson IM *et al*. A "Closed" Medical Intensive Care Unit (MICU) improves resource utilization when compared with an "Open" MICU. *Am J Respir Critic Care Med* 1998; **157**: 1468-73.
6. Hanson CW 3rd, Deutschman CS, Anderson Hl 3rd *et al*. Effects of an organized critical care service on outcomes and resource utilization: a cohort study. *Critical Care Medicine* 1999; **27**(2): 270-4.
7. Faruq MO. Critical Care Medicine in Bangladesh: Evolution and Challenges. Keynote presentation at the regional conference of Bangladesh Society of Critical Care Medicine at Chittagong 2011.
8. Bangladesh Bureau of Statistics. Statistical pocket book of Bangladesh 2009; 2010: p 375.