

Commentary

ICUs worldwide: An overview of critical care medicine in South Africa

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Abstract

South Africa has undergone rapid changes in the political and social arenas since 1994. With new policy-makers in the Department of Health, the distribution of health care resources are being rationalised and redirected to benefit the majority of the previously disadvantaged population of the country. The role and rationalisation of intensive care medicine has to be re-evaluated to ascertain that it is at a level appropriate for a developing country. Despite progress made, the subspecialty of intensive care medicine faces challenges from changing disease patterns and from lack of human and financial resources as these are redirected to primary health care and other priorities facing the country.

Keywords critical care, intensive care, intensive care units

In South Africa, critical care medicine began in the late 1960s and early 1970s and was initiated by enthusiastic individuals from an anaesthesiology background. In the early 1980s, a more formal approach was taken, beginning with the establishment of the Critical Care Society of South Africa. This society constituted members of the medical and nursing care professions.

The Critical Care Society of South Africa set out guidelines for the establishment of proper intensive care units (ICUs) for the care of the critically ill. The structure of the facilities established was largely modelled on those that exist in Australia, the USA and Europe [1].

Organisational structure

South African ICUs are structured and graded according to the 1983 National Institutes of Health Consensus Development Conference [2].

The units are graded from level I to level IV. The level I units are found in university-affiliated tertiary referral hospitals, and are run on a closed unit principle. These units tend to have highly sophisticated equipment and can manage a wide spectrum of critical illness disease processes. The units have

a dedicated Medical Director and 24-hour dedicated medical staff coverage (specialists, residents and medical officers). A nurse:patient ratio of 1:1 is adhered to in some units, but in some units this ratio is on a 1:2 basis.

There is a parallel health care structure in South Africa: public and private. While level I academic ICUs are located in the public sector, the private health care sector runs profit-driven level II–IV ICUs that are staffed by non-intensivists. Level II units describe those with a specific purpose, such as a coronary care unit or a neuro ICU; level III units are community hospital ICUs with limited invasive monitoring; and level IV are high dependency units. These private units cater for a small percentage of patients with medical insurance plans.

Staff training

In 1992, academic ICUs were formally accredited for the training of medical specialists as intensivists. These professionals could have background specialities in internal medicine, paediatrics, surgery and anaesthesiology. These specialists would train in an accredited unit ('fellowship') for a period of 2 years and, on completion, could register the critical care subspecialty with the Health Professions Council of South Africa.

In 1999, a faculty of Critical Care Medicine was established in the College of Medicine of South Africa. With effect from September 2001, the critical care specialist trainees have to write and pass an examination to be certified as intensivists.

Nurses are trained through Colleges of Nursing and the university. First, the students complete a 4-year degree to qualify as professional nurses, then follows 1 year of practical training in an accredited ICU and, finally, they sit a national examination for the South African National Intensive Care Nursing Diploma to be certified as critical care nurses.

The facilities for training ICU technologists are very scarce. Most technologists who wish to work in the ICU train in technical colleges and undergo further hands-on training and experience once in the ICU.

There are no formal training programmes for respiratory therapists in South Africa.

Resources

In South Africa, ICU beds account for 1–2% of all acute care beds [3]. There is therefore a dire shortage of critical care beds. For example, Chris Hani Baragwanath Hospital, a 3000-bed institution, has only an 18-bed multidisciplinary ICU. These beds are not guaranteed, as some may be closed depending on the number of nurses available on a daily basis. This scenario is duplicated right throughout the major academic hospitals in South Africa.

Although South Africa trained enough critical care nurses and doctors in the past, there is currently a shortage of both in the public sector. This shortage occurs because of attrition to the private sector and to developed countries that aggressively recruit these professionals and offer them attractive remuneration packages.

As a result of the severe shortages of ICU beds, especially in the public sector, intensivists have had to draw up strict admission/exclusion criteria to their units in order to be able to offer this form of expensive therapy to patients who are most likely to benefit from it. Examples of exclusion criteria include AIDS, neurological devastation, end-stage cardiac or renal disease, and severe head injury with a Glasgow Coma Score <8 in an adult patient.

The selection of suitable candidates for the ICU is a stressful triage exercise that intensivists in South Africa have to deal with on a daily basis.

Disease profiles

South Africa is a land of contrasts, a legacy that stems from its political history. Most hospitals and other health care facilities service communities from a spectrum that ranges from a first-world environment to an informal settlement environment.

Table 1

Chris Hani Baragwanath intensive care unit (ICU) adult patient profile (1-year period)

Mean age	38 years
Male	65%
Female	35%
Mean APACHE score	20
Diagnoses (ICU)	
Trauma	53% (MVA, gunshot, stabbings, etc.)
Medical	30% (sepsis, metabolic, O/D, etc.)
Postsurgical	4% (elective)
Obstetrical/gynaecological	5% (PET, HELLP, sepsis, postoperative)
Infectious diseases	8% (tetanus, malaria, cholera, etc.)
Mortality	
Actual	31.5%
Predicted	30%

Despite having a sophisticated health care structure in some areas, the disease patterns in South Africa still reflect those of a less developed country. These patterns are also reflected in the ICU admission diagnoses (Table 1). The profile presented in Table 1 is from an analysis carried out in the adult ICU section of Chris Hani Baragwanath Hospital in July 2000.

Conclusion

The structure of critical care facilities in South Africa that has been established is a sound one with several centres of excellence in some parts of the country.

In most level I units, the care delivered is as good as that in any developed country. However, the delivery of critical care faces major challenges in South Africa. The country has limited resources that must be rationally used and distributed. In the past, the majority of the South African people were disadvantaged in many respects, including health care delivery. There is now a concerted effort to redirect resources to primary health care to benefit the majority of the South African population. This obviously means there will be fewer resources for high-tech medicine, including ICUs.

Since the 1994 democratic elections, South Africa's borders have opened up and citizens of neighbouring countries come to this country to seek, among other things, better health care. This imposes increasing numbers of patients on a system that is already struggling to cater for its own indigenous people. Superimposed on this is the unabating HIV epidemic that has hit sub-Saharan Africa. Skilled professionals have also

emigrated to developed countries for various reasons, such as career insecurity, the change in government, the high levels of crime, and better remuneration.

All these factors impose major challenges on health care in South Africa in general, but also on critical care medicine in particular. Can critical care survive in South Africa? There is no easy answer. There is no doubt that there is a strong place for critical care medicine in South Africa.

Critical care healthworkers have to put forth strong motivations to the country's health policy-makers of the important part they play in the delivery of holistic health services. The country's policy-makers should also take heed of the skills/brain drain facing the country and come up with incentives to attract professionals to stay in South Africa.

Competing interests

None declared.

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