



Challenges in the critically ill child: a global vision



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Many of the markers that involve the care given to critically ill children have exhibited enormous advances over recent decades. Conditions which resulted in unacceptably high mortality at the start of the 1980s, such as septic shock and acute respiratory distress syndrome (ARDS), have had their mortality rates reduced drastically to a level around 25 to 30%.¹ Many of these advances can be attributed to technological progress (for example, the implementation of transplantation programs, high-frequency ventilation and extracorporeal membrane oxygenation, among others). However, when we investigate the principal causes of the deaths of children (involving acute or critical chronic diseases) we observe that the improvements in short and medium term prognosis have been primarily linked with the implementation of aggressive treatment protocols the rationale of which are based on scientific evidence.¹⁻⁴

In this sense, pediatric intensive care units (PICU) truly act as laboratories, where new and existing protocols are assessed in great detail and compared in terms of effectiveness and efficacy.^{4,5} The great majority of these protocols have been conceived and created for use in a PICU environment. However, because of their efficacy and safety, they end up being incorporated into the treatment used in emergency environments.¹⁻⁷ It is precisely here that this "global vision" for the care of critically ill children resides: to provide continuity of care from transport, through hospital admission to, finally, the PICU, following an increasing level of complexity, with the adoption of measures with proven efficacy right from the outset and without delays or omissions based on a disputable lack of equipment or experience.^{1,3,7}

Another aspect of this "global vision" is the universal aspect of these problems, since the majority of these acute situations are distributed across almost the entire planet, with variations in prevalence and certain local nuances.⁴⁻⁷ In selecting our authors, in addition to their recognized capabilities, we intend to offer the readers of the *Jornal de Pediatria* a multicultural approach with work by pediatric critical care specialists from different regions around the planet. In their texts we observe that, while providing the international recommendations on each topic, they also describe features and challenges specific to their locales. We imagine that in this "global or multicultural vision" we will come to recognize simi-

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larities with and differences from our local situation and that we will be able to implement solutions already in use in other parts of the world.

During the 1970s and 1980s, irrespective of how well-informed physicians may have been, they were condemned to a delay of 4 to 6 months in their knowledge, resulting from the time it took for printed scientific journals to arrive. With the rapid access to information that is characteristic of modern times, in addition to making real time access to information more democratic, the barriers of cultural colonization, of knowledge retention and even of language have been broken. Now that knowledge is made available to all at the same time, it is not surprising that regions previously considered mere consumers of information (Brazil, India and many Asian countries for example) have also began to generate and produce knowledge. Therefore, the inclusion in this supplement of work by authors from those countries together with contributions from critical care pediatricians with well-established reputations from North-America and Europe, is more than a simple protectionist maneuver, it represents a "global or multicultural vision" of current challenges, and also recognition of their contribution to the development of knowledge in the field of pediatric intensive care.

Another impressive facet of current medicine is its capacity to question both new concepts and older, ingrained ones. The universe of pediatric critical care includes a mixture of old and new dilemmas. It should not, therefore, be a surprise that, in the light of current knowledge, we are revisiting questions such as: Are the recommendations for fluid and electrolyte maintenance proposed by Holliday in the 1950s still valid for patients under current conditions? Is metabolic acidosis a factor that should be treated, or just a marker of severity? Should children with shock of varying etiologies and in different immunological states be treated according to a single pro-

tocol or should adjustments be made for each situation (for example, meningococcemia, febrile neutropenia, dengue, unknown agent)? What has really changed in the current recommendations for cardiopulmonary resuscitation? Who, and in what situations, will benefit from invasive ventilation? Should the management of children's families during the period prior to death follow the standards defined in the North-American literature or is there another option that is better fitted to our situation? These and other themes will be the subjects of discussion in the 12 review articles selected for this supplement. We hope that they please and that they meet the expectations of the Jornal de Pediatria's readers.

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