Extending the Respiratory Care of Children Into Long-term Support

With recent advances in medical technology and mechanical ventilation over several decades, the population of children that can survive under special healthcare support is increasing. The diseases that present with chronic respiratory insufficiency range from airway and lung problems to neuromuscular diseases and central respiratory drive control problems. Children with chronic respiratory insufficiency problems provide a unique challenge to the medical care and community. Some articles from different countries have surveyed about this specific population.1–4

Many technologic improvements for children and conceptual changes regarding long-term mechanical ventilation, chronic care facilities, and home care with more resources have contributed to this phenomenon of expanding population. The global tendency of chronic respiratory care in children is moving forward to more home care, and more noninvasive respiratory care.5

In Taiwan, after a great deal of effort, including the challenge of the severe sequel of Enterovirus 71 endemic infection in 1998, Taiwanese children who need special respiratory system support are receiving much better care and more resources to support their requirements, but there are scant data in the literature.

In this issue of Pediatrics and Neonatology, Hsia and his colleagues6 have reported a medical chart retrospective review of children who received long-term mechanical ventilation and came back to the hospital for acute care in a medical center in Northern Taiwan. Their inclusion criteria were readmission to their pediatric intensive care unit (PICU) and the use of mechanical ventilation support for more than 3 months. This target study group is a very large and an important one from a single medical center in Taiwan, which includes 139 children on long-term mechanical ventilation support. These patients represent a higher-risk group of this population, and the follow-up and complications necessitating return to the PICU during their duration of long-term mechanical ventilation support are reported. Hsia et al6 reveal that there are more higher-risk children staying in the chronic respiratory care wards rather than those returning home for in-home care. They also confirmed the shift of the disease pattern, revealing that Taiwan is similar to other countries as the population of children with long-term ventilator support is changing to involve more diseases of neuromuscular origins.

As a single medical center, their data showed relatively few numbers of patients using noninvasive mechanical ventilation support and performing home care, which is different from the tendency revealed in population reviews from other countries.1–4 This discrepancy may be due to the selection bias of their study group, which mostly contains the more higher-risk patients who usually stay in chronic respiratory care wards and for whom it is hard to go home. Thus, these more severe patients also will display a tendency toward the use of more invasive respiratory supports.

This study provides important information and characteristics of the more unstable and critically ill children who are using long-term mechanical ventilation support in Taiwan. In the future, we need more information to understand and reflect the whole population of long-term mechanical ventilation in Taiwan, and how their indications, ethical issues, respiratory care quality, and weaning training have been performed to keep on monitoring care quality and patient life quality improvement.

Frank Leigh Lu*

Department of Pediatrics, National Taiwan University Hospital and National Taiwan University Medical College, Taipei, Taiwan

*15 F, 8 Zhongsan South Road, Taipei 100, Taiwan.

References


