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Resuscitation Skills: Training and evaluation

Pediatric cardiopulmonary arrest is a unique entity and differs from adult CA in etiology, initial pathophysiology and neuronal milieu affected by this disease. CA in children is the result of asphyxia in a majority of the cases. Nearly 40% of cardiac arrests occur in hospital. The American Heart Association's National Registry of Cardiopulmonary Resuscitation (AHA NRCPR) reports that survival following in-hospital cardiac arrest is reported to be 27% in children.The outcomes following out-of-hospital cardiac arrest are even dismal to the tune of 6-8%. Providing high quality CPR is one of the most important factors documented to influence these survival rates. The cornerstone of providing high quality CPR lies in the education and training of healthcare professionals involved in the care of sick children. Of all healthcare professionals' nurses are often the first to discover a patient of cardiac arrest in most emergency wards owing to the nature of their duties. Studies evaluating knowledge and skills of nurses in a pre-training and post training model are therefore essential to understand the gaps in these domains and improvise strategies to improve the same. The research paper on knowledge and skills in CPR in nurses posted in acute care areas is one such attempt and the readers may well use the methods suggested in this study for improving the competence in CPR of nurses posted in acute care areas in their respective units.

The management of children with cardiac arrest irrespective of the setting is as per the recommendations of the American Heart Association (AHA) guidelines for cardiopulmonary resuscitation and emergency Cardiovascular Care. They are popularly known as Pediatric advanced life support and basic life support guidelines.These guidelines have been developed by the International Consensus on CPR (ILCOR) Pediatric task force and is updated every 5th year. The most recent of these resuscitation guidelines is the Pediatric Advanced Life Support (PALS) 2010 guidelines.The major change in CPR as per the 2010 guidelines is the order of recommended maneuvers, from A-B-C to C-A-B: Chest compressions are now to be administered before airway opening and rescue breathing. Consequently, the directive to "look, listen, and feel" for breathing before beginning chest compressions has been removed from the algorithm. The other important recommendations have been described concisely through the updates on pediatric and neonatal cardiopulmonary resuscitation guidelines presented in this issue. These are aimed at refreshing the knowledge and understanding of the readers on these very basic topics.

A lot of researchers have focused on vasopressin in the last decade. In light of the potential beneficial effects of this drug, the European Resuscitation Council and the AHA guidelines recommend vasopressin as an alternate to first or second dose of epinephrine in adults with cardiac arrest. However no such recommendations have been made for children owing to the paucity of literature on this subject in children. The clinical question on vasopressin is an attempt to address the issue of using vasopressin in pediatric cardiac arrest and to provide impetus for further research on this important topic in children.

Another important question on drug therapy in neonatal resuscitation has been on the use of sodium bicarbonate during CPR. The controversies surrounding this drug are described in detail in the clinical question on sodium bicarbonate with a final word on whether or not to use this drug.

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