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7 August 2024

UCT survey provides insight into paediatric pain practices in sub-Saharan Africa

The results of a survey conducted by Anisa Bhettay, a specialist anaesthetist affiliated with the Red Cross War Memorial Children's Hospital and the University of Cape Town (UCT), have provided valuable insights into the management of paediatric pain in sub-Saharan Africa. The results are published in the July issue of *Paediatric Anaesthesia*.

Children in hospital often experience pain as a part of their disease, and are exposed to a variety of painful diagnostic and therapeutic procedures. Immaturity or cognitive impairment may preclude the verbal expression of pain, making pain assessment challenging.

"In sub-Saharan Africa (SSA) diverse cultures, languages, and unique context-specific environmental factors further compound this challenge. Children in the region are thus vulnerable to poor pain control with attendant suffering. Inadequate pain control has short and long-term consequences, with physiological, psychological, social and economic ramifications," said Bhettay.

Despite the body of research demonstrating the consequences of poor pain control, there is a significant practice gap even in high income countries (HICs). Pain is the most researched perioperative outcome in children above the age of one year. However, there are few studies reporting on perioperative pain outcomes in SSA, and a paucity of data describing the burden of pain, or current paediatric pain practices in SSA for both individual countries, and the region.

The survey aimed to gain insight into perioperative and peri-procedural paediatric pain management practices from the perspective of the specialist physician provider in Nigeria, South Africa, Uganda and Zambia. Nigeria, Uganda and Zambia are the sites of the inaugural Paediatric Anaesthesia Training in Africa's (PATA) Paediatric Anaesthesia Fellowship initiative, which has established one site in each country as a training hub for paediatric anaesthesia at fellowship level.

Bhettay said the results of the survey will inform the ongoing development of a curriculum and teaching materials for PATA. "The curriculum is intended to be both realistic using available modalities, as well as aspirational, encouraging advocacy for feasible modalities, materials and practices that may not currently be available locally," she added.

This was the first survey on paediatric pain practices amongst anaesthesia providers in SSA countries. Almost all respondents had received training in paediatric pain management, most commonly during anaesthesia training. Few reported being taught about paediatric pain management at medical school. This is congruent with a systematic review of pain medicine content in the curricula at medical schools in the UK, USA, Canada, Europe and Australasia.

Various human and equipment resources were explored to assess availability. Nurses appropriately trained in paediatric care form the backbone of good paediatric pain practices, and were available to more than half of respondents. Despite a lack of institutional guidance on paediatric pain management in 66.7% of respondents, most felt that children received good pain relief in their setting.

"While guidelines do not guarantee adherence, they are useful tools when developed appropriately and regularly updated. Children in these four countries appear to have limited access to dedicated pain services for acute, procedural and chronic pain. These specialist services, available almost routinely in HIC settings, facilitate advanced pain management strategies, often providing care for challenging patients," said Bhettay.

Bhettay shared: "Unreliable supply of medicines, lack of child-friendly formulations, and supply of near expired products are well described barriers to rendering a consistent standard of care in SSA. In this survey local anaesthetic agents, opioids, and simple analgesics were regularly available. Ketamine remains a stalwart analgesic with excellent availability, which is encouraging.

"Some children in Nigeria still receive pentazocine, and in South Africa, some receive codeine preparations, both of which have safety concerns in children. This highlights an opportunity for advocacy to improve access to safer analgesic options. Other important agents for managing pain were less available. Dexmedetomidine remains prohibitively expensive in South Africa (50 times more expensive than morphine), and is not available in Zambia. Topical creams for managing pain from skin puncturing procedures were largely unavailable."

Equipment for the delivery of more advanced pain management techniques is more limited, said Bhettay. "This possibly reflects a lag compared to adult practice, but further study is required to assess the availability of adult appropriate equipment for comparison. Patient controlled analgesic techniques are utilised to good effect by children as young as five, with superior pain control reported, and good patient and parent satisfaction. Limited availability of these advanced analgesic techniques forces reliance on older, largely opioid-based techniques, with less favourable side effect profiles."

Bhettay said the use of validated pain scoring tools is a prerequisite for evidence-based pain management. "In preverbal, non-verbal or cognitively impaired children, composite tools using observed behavioural cues should be used to facilitate an evidence-based approach to managing pain. In our survey less than half of respondents reported consistent use of pain scoring tools, which would make interpretation of pain control subjective, and difficult to validate. Consistent use of pain scoring tools and other pain assessment practices could improve paediatric pain management in this setting," she added.

"The use of good prescription practices, adhering to the WHO prescription recommendations, is encouraging and a significant step to achieving optimal pain control," she said. "Non-pharmacological pain management strategies are an important component of holistic pain management in children when used in conjunction with pharmacological

strategies. While the presence of caregiver and education/counselling and reassurance appeared to be well utilised, the use of distraction techniques could be increased, as these are generally inexpensive, translatable, and effective. Caregivers could be empowered to deliver these techniques, relieving clinicians of a potentially time-consuming burden."

According to Bhettay, the burden and prevalence of chronic pain conditions in children in SSA and for individual countries, as well as resources available for managing this burden and current practices require further study.

Bhettay concluded: "This survey provides insight into paediatric pain practices in Nigeria, South Africa, Uganda and Zambia. Medicine availability, positive pain prescription practices, and utilisation of non-pharmacological pain management strategies are encouraging, and suggest that achieving good pain control despite limited resources is attainable. Areas for improvement include the development of institutional guidelines, routine utilisation of pain assessment tools, and access to regional anaesthesia and other advanced pain management techniques."

ENDS

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