Characterizing Analgesic Use during Air Medical Transport of Injured Children

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BACKGROUND: Pain management is an important aspect of emergency care for children suffering traumatic injuries. Objectives. The objectives of this study were to characterize analgesic administration to injured children during air medical transport, to describe factors associated with analgesic use, and to examine the effects of patient race on analgesia. Methods. We used electronic records for patients transported by a regional air medical transport agency. We retrospectively examined data from 2003–2012 for patients ?15 years old suffering traumatic injuries. We used bivariable analyses to identify associations for multivariable logistic regression models to determine factors associated with our outcomes –documentation of pain score and analgesic administration. Results.Of 5,057 patients, the median age was 8 (IQR 3–12) years. The majority of patients were male (66%, 95% CI 64–66%), were white non-Hispanic (83%, 95% CI 82–84%), and had no pain score documented (61%, 95% CI 60–62%). While only 15% of patients received analgesics overall, 70% with an initial pain score ?5 received analgesics. In unadjusted models, non-white race was associated with lower odds of having a pain score documented (OR 0.52, 95% CI 0.44–0.62) and receiving analgesics (OR 0.64, 95% CI 0.50–0.82). After adjusting for confounders, there was no evidence of racial differences in pain management. Multivariable analysis revealed that younger age, lack of intravenous access, higher Glasgow Coma Scale, systolic blood pressure <100, transportation from the scene, initial pain score <5, and not having a pain score documented were associated with lower odds of receiving analgesics. Conclusions. Few pediatric patients had pain scores documented and fewer received analgesics during air medical transport for injuries. Racial differences in analgesia seen in unadjusted analyses did not persist after controlling for confounders. Resources, training, and appropriate pain management protocols should be made available to facilitate pain assessment in children as a strategy for increasing appropriate analgesic use during transport.

Journal:

Prehospital Emergency Care
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