Childhood drowning:

Morbidity and mortality from a Johannesburg Paediatric ICU, 2003 to 2013

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Abstract

Drowning is a worldwide significant but preventable public health problem. South Africa has one of the highest rates in the world of unintentional drowning mortality in the under five year age group. The aim of this study was to describe the population of patients admitted to a Johannesburg PICU with the diagnosis of drowning and to investigate potential prognostic factors recorded within the first 12 hours after admission. A retrospective record review of all the children between zero and 14 years admitted to PICU between January 2003 and December 2013, with a diagnosis of “drowning” or “near-drowning” was conducted. Of the 215 children admitted into the unit in the 11 year period, 11 did not meet inclusion criteria. Seventy-two percent of the population were male and the mean age was two years and seven months, with the majority of patients under the age of three years (76.5%). There were 71.6% discharged with a good neurological outcome while 10.3% died in hospital and 24% were classified as having a poor outcome with neurological sequelae. These results, similar to those found in previous hospital based studies, showed that more boys are likely to drown than girls and that the largest number of victims fall in the one to four year age group. Univariate analysis found 15 physiological variables (all recorded in the first 12 hours after admission) to be significantly associated with outcome. When a forward stepwise multivariate discriminant analysis was used six variables were found to be significant predictors of outcome, GCS (≤6) and sodium (>148mmol/L) having the strongest association, but no one factor was found to accurately predict outcome. It is therefore recommended that every patient who has drowned be treated aggressively, no matter their presentation or history.