
Estimating morbidity associated with unintentional drowning episodes

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Background

Worldwide, there are over 400,000 deaths per annum from unintentional drowning – it is recognized as the second leading cause of global unintentional fatalities. Much less is known about nonfatal episodes, and even less about associated sequelae. This systematic literature review is being completed on behalf of the Global Burden of Disease (2005) Injury Expert Group. The purpose of the review is to estimate the global incidence rates for nonfatal unintentional drowning episodes, and to describe the duration of drowning consequences among those who survive.

Methods

Studies published in any language cited in MEDLINE; EMBASE; PsychINFO or SPORTSDISCUSS between January 1980 and December 2007 were obtained for review. Population-level studies that describe incidence or prevalence of nonfatal (submersion incident involves cardiac arrest and asphyxia for which resuscitation occurs, resulting in survival beyond 24 hours) drowning episodes in pre-determined GBD regions (n=21) or counties within a region, as well as studies that describe the progression of drowning consequences among survivors, were retained for analyses. This includes studies on drowning related to natural disasters (e.g. floods, cyclones, tsunamis), water and other transport incidents. Data were extracted using a standardised abstraction procedure.

Results/Discussion

The initial search strategy yielded 14,926 papers. After reading the title, 13,697 were discarded, leaving 1,229 papers. An additional 814 articles were discarded upon review of the abstract, leaving 367 papers for checking against the review criteria. Of these 367 articles, 159 were discarded, leaving 208 articles for data extraction. Only 60 of these articles included data on nonfatal drowning episodes, and only 12 articles focus solely on nonfatal drowning. Reasons for exclusion included: not population level data (e.g. case-series or occupation-specific); condition-specific studies (e.g. drowning in epilepsy); no primary data present; no numerical data present; study published prior to 1980. Data extraction is almost completed.

Analyses of meta-data indicate that while some GBD regions have rich published data relating to nonfatal drowning incidents, overall there is an absence of high quality epidemiological data on nonfatal drowning incidents. Published data on sequelae is very limited. Data on nonfatal drowning events and associated sequelae are crucial to effectively inform global drowning prevention strategies.

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