

Aquatic cervical and head trauma: Nobody told me it could be a jump in the darkness!

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A trauma, from a jump into the water can be life altering event that happens suddenly, without warning. It seems to be just a fun and carefree jump, but in a matter of seconds can become a catastrophic incident. Why is the public not better warned of such an important and tragic situation? Since very few papers have been published (1,2,3) and the profile is not entirely known, this may explain why. Our knowledge on this is speculative and scarce. Our purpose is to demonstrate the profile of people injured, which in turn could reduce their incidence.

Methods

All International Code Disease W16 (Fall, jump or diving into water), from January 2003 to December 2007 were evaluated using death certificates and epidemiologic morbidity–DATASUS<www.datasus.gov.br>.

Results

There were 2,923 people injured by falling, jumping or diving into the water (ICD W16), of which 321 died (11%) (67% before hospital). There was an escalating increase of injuries in the period evaluated (500(2003) to 844 (2007)) but the number of deaths were similar (66(2003) to 60(2007)) which demonstrate the decrease of death rates from 13% to 7% mainly from the reduction of death in the pre-hospital setting. Injuries were spread along all ages with a modal curve peaking at 20 to 29 years old (28%). Males were 79% of all injuries, mainly from 1 to 69 year old, with a peak at 20 to 29, being 8.7 times more often than females and 6.3 times at younger than one year old. The most frequent location of injury was natural bodies of water (60%), with swimming pools comprising 5.3%. 2,709 injured patients needed hospitalization over a total of 19,035 days (7 days/patient) with 4% death. Hospital cost was US\$1,714,428.30. The Brazilian risk of injury due to a jump into the water was 0.3, and the risk of death 0.04/100.000 inhabitants. In the north region of the country where there is no coastline, the risk of injury was 2.5 times greater.

Discussion

The W16 ICD code includes many different epidemiologic incidents, which can produce a confusing statistical bias and misunderstanding (e.g. drowning after a fall or jump). On the other hand, is very specific in categorizing all injuries from jumping or falling into the water. It allows identification of how many are secondary from one irresponsible act 'to jump into unknowingly dangerous water'. This number of cases is sometimes under-whelming, when excluding cases of no hospitalization (low severity), some private hospitalizations and cases at hospitals which were not able to charge. Over a five year evaluation period, 67% of death occurred before hospital admission, showing the severity of this aquatic injury. Although the number of cases increased in Brazil during the study period, the number of death is decreased, especially in the pre-hospital setting, probably due to a more efficient assistance in the pre-hospital setting. These injuries affect mostly young males who seek fun at inland natural bodies of water. Brazil has a low incidence (1 per 100,000 inhabitants) compared with other traumas, but considering all costs involved in this injury: 19,035 days out of working (hospitalization) plus time to recovery (unknown time); permanently family income losses; hospitalization cost of US\$1,714,428.30 and all costs not fully quantified, the outcome is unacceptable. Especially in a country like Brazil, it would be much more reasonable and less expensive if we were to use all of these resources to warn the population at risk, and thus to reduce the incidence of this injury. Other countries may have different rates, depending on a wide variety of elements but it would be very important to know different figures to allow comparison and the ways to reduce it.

References

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