Drowning

Fact sheet
Updated: October 2014

Key facts

- Drowning is the leading cause of death between the ages of 5 and 14 years in the Western Pacific Region.
- There are an estimated 73,000 annual drowning deaths in the Region.
- This figure may significantly underestimate the actual public health problem related to drowning.
- Children, males and individuals with increased access to water are most at risk of drowning.

Scope of the problem

In 2011, more than 73,000 people died from drowning in the Western Pacific Region. Drowning is the leading cause of deaths for children aged 5 and 14 years in the Region. More than 20% of global drowning deaths occur in the Region. Low- and middle-income countries account for the majority of drowning deaths.

Global data on drowning substantially underestimates the magnitude of the problem as it excludes drowning due to natural and transportation disasters.

Who is at risk?

Age

Age is one of the major risk factors for drowning. This relationship is often associated with a lapse in supervision. In general, children under 5 years of age have the highest drowning mortality rates.

Child drowning statistics from a number of countries are particularly revealing:

- Australia: drowning is the 2nd leading cause of death in children aged 1-14 years.
- Cambodia: drowning is the leading cause of injury death in children 1-4 years.
- China: drowning is the leading cause of injury death in children aged 1-14 years.
- Philippines: drowning is the leading cause of injury death in children and adolescents aged 1-17 years.
- Viet Nam: drowning is the leading cause of injury death in children aged 1-14 years. The drowning rate in Viet Nam in 2010 for children under 4 years of age was 12.9/100,000.

Gender
Males are especially at risk of drowning, with twice the overall mortality rate of females. They are more likely to be hospitalized than females for non-fatal drowning. Studies suggest that the higher drowning rates among males are due to increased exposure to water and riskier behaviour such as swimming alone and drinking alcohol before swimming alone and boating.

Access to water

Increased access to water is another risk factor for drowning. Individuals with occupations such as commercial fishing or fishing for subsistence, using small boats in low-income countries are more prone to drowning. Children who live near open water sources, such as ditches, ponds, irrigation channels, or pools are especially at risk.

Other risk factors

There are other factors that are associated with an increased risk of drowning, such as:

- lower socioeconomic status, being a member of an ethnic minority, lack of higher education, and rural populations may be associated
- infants left unsupervised or alone with another child in a bathtub
- unsafe or overcrowded transportation vessels lacking flotation devices
- alcohol use, near or in the water
- medical conditions, such as epilepsy
- tourists unfamiliar with local water risks and features
- floods and other cataclysmic events like tsunamis

Prevention

Drowning prevention strategies should be comprehensive and include: engineering methods which help to remove the hazard, legislation to enforce prevention and assure decreased exposure, education for individuals and communities to build awareness of risk and to aid in response if a drowning occurs, and prioritization of research and public health initiatives to further define the burden of drowning worldwide and explore prevention interventions.

Engineering methods to eliminate exposure to water hazards are the most effective strategy for drowning prevention. Measures included in this strategy focus on draining unnecessary accumulations of water or altering the environment to create barriers to open water sources. Examples include:

- development and implementation of safe water systems, such as drainage systems, piped water systems, flood control embankments in flood prone areas
- building four-sided pool fences or barriers preventing access to standing water
- creating and maintaining safe water zones for recreation
- covering of wells or open cisterns
- emptying buckets and baths, and storing them upside-down
Legislation can be a preventive strategy. For instance, mandating a four-sided fence around a pool can decrease risk of drowning. Nevertheless, laws and regulations requiring pool fencing by themselves are insufficient. Adequate enforcement and verification of closure systems is often necessary to achieve reductions in drowning rates.

Other laws or regulations that target risk factors for drowning but for which there is currently insufficient evidence include laws requiring regular safety checks of transportation vessels, and laws on alcohol use while boating or swimming. However, the availability of properly-fitted and appropriate personal flotation devices in boats is an effective drowning prevention strategy.

Individual and community education on drowning awareness, risks associated with drowning and learning waters survival skills appear promising strategies to prevent drowning. Similarly, ensuring the presence of lifeguards at swimming areas also appears to be a promising strategy to prevent drowning.

Ensuring immediate resuscitation by increasing the capability of first responders to provide first aid in cases of drowning can decrease the potential severity of outcomes.

Some other strategies for which there is currently insufficient evidence and for which further research is needed are:

- learning to swim programmes for school children and adults
- supervision of children in and outside the home and establishing parent groups or other child care mechanisms in rural communities, especially around harvesting
- educating children on not entering fast-flowing streams and not swimming alone

**Further information**

A new WHO publication, *the Global Report on Drowning Prevention*, to be launched in November 2014, makes recommendations for ways to reduce this preventable tragedy.