



World Water Safety

INTERNATIONAL LIFE SAVING FEDERATION

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LIFESAVING POSITION STATEMENT - LPS 06

SWIMMING AND WATER SAFETY EDUCATION

BACKGROUND: DROWNING IS A LEADING CAUSE OF DEATH

Drowning, defined as death due to respiratory impairment resulting from immersion in a liquid, is a major public health problem, and a leading cause of death and injury worldwide.ⁱ The WHO Global Burden of Disease study demonstrated that drowning is one of the most common causes of death.ⁱⁱ Drowning occurs at any age, but over half of all drowning deaths are of children under 15 years of age.ⁱⁱⁱ

Although reliable statistics on drowning in less-developed countries are scant, it is believed that over 97% of all drowning episodes worldwide occur in low and middle-income countries.^{iv} Research in Asia has shown that in many countries drowning kills more children annually than pertussis, measles, diphtheria, plague, cholera, dengue fever, and typhoid combined, and is the leading cause of death in children after infancy.^v

The great disparity in the incidence of drowning between low and middle-income countries as compared to high-income countries reflects two main differences, of which one is the different degree of exposure to water. Whereas in high-income countries water exposure commonly occurs in the context of recreation, in many low and middle-income countries exposure can be an everyday part of the routine of daily life. Another difference relates to preventive action. Successful preventive strategies, commonly utilised in fully developed countries and some less-developed countries, demonstrate that it is entirely possible to mitigate against drowning, dramatically reducing the incidence of death from this cause. Commonly accepted methods include providing instruction in water safety and swimming skills, minimizing exposure to risk by use of barriers, making personal floatation devices and rescue devices available, providing lifeguards in areas where people gather for recreational swimming, and regulating water transit and other boating. High-income countries were once where low and middle-income countries are now. For example, in 1900 the annual incidence of drowning in the Netherlands was 14.4/100,000, but by 2000 it had decreased twenty-fourfold to 0.6/100,000.^{vi}

Currently, the difference in drowning rates between higher and lower-income countries is as much as fifty fold; evidence of the effectiveness of preventative efforts in high-income

countries. It is a powerful demonstration of the effectiveness of targeting drowning as a major public health problem. Clearly, with adequate attention and effort, drowning is a largely preventable cause of death.^{vii}

Research has shown different risk factors for different demographic groups. One of these is gender. Males generally have higher drowning rates than females, with the difference typically attributed to greater exposure to water (through occupation and sport), higher rates of alcohol use (a factor in many countries), and higher rates of risk-taking behaviour.^{viii} Risk factors also differ by age group. Children under four years run the highest risk of drowning, due primarily to lack of adequate adult supervision. Ironically, in high-income countries the more common presence of home swimming pools greatly increases the risk of drowning in this age group. For older children and adults, risk factors differ by activity. During recreation, common in high-income countries, risk factors include lack of use of personal flotation devices, use of alcohol, recreation at unprotected bodies of water, and exceeding swimming ability.^{ix} In low and middle-income countries common risk factors for older children and adults are water transportation mishaps; sudden, unanticipated falls into water; and lack of swimming ability.^x

Research in low and middle-income countries in Asia has shown that young children have the highest risk of drowning, most commonly while alone or playing with a peer of similar age. In these cases, adults are almost never present, nor is anyone who is knowledgeable and skilled in rescue or resuscitation.^{xi} This illustrates the realities of drowning prevention in low and middle-income countries. Children must be trained to avoid hazardous water activity and to save themselves or their peers when faced with the possibility of drowning. In order to achieve this, the public health approach requires that as many children as possible be taught the necessary knowledge and skills.^{xii}

Recent research has shown that during major natural disasters such as tsunami, vulnerable populations, such as older women and children, are more at risk.^{xiii}

SWIMMING AND WATER SAFETY FROM A GLOBAL PERSPECTIVE

At the World Congress on Drowning 2002 the assembled experts estimated that over 80% of all drowning episodes can be prevented, and prevention is the key management intervention. Since risk factors differ by age group prevention efforts will differ. Reduction of infant and young child drowning episodes requires education of parents and carers in the importance of eliminating access to water hazards, both indoors and out, and constant visual supervision by responsible adults. This can also include social responsibility enhancement by education or statutory regulation.^{xiv} Prevention of drowning in older children and adults depends on their possessing knowledge about the hazards and risks inherent in aquatic activity, and acquiring skills for survival in these environments (basic swimming skills), both for themselves and in order to rescue others.

Experience in high-income countries has mainly been with formal training in water safety knowledge and skills in recreational settings, often in concert with competitive swimming and other aquatic sports.^{xv} As a result, most high-income countries have well-developed physical infrastructures (such as supervised pools and aquatic recreation areas), institutional infrastructure (such as swimming clubs and life saving organisations), and human infrastructure (such as on-duty lifeguards and qualified trainers with a wide range of competencies). Experience has shown that measures such as these, along with the widespread adoption of formal swimming training for children, have resulted in a remarkable reduction in drowning rates. The United States Lifesaving Association, for example, has demonstrated that the chance of drowning at a natural body of water when trained

lifeguards are on duty is only 1 in 18 million.^{xvi} The estimated 3% of drowning episodes that occur in high-income countries represent both a remarkable public health achievement and a successful approach to the problem of drowning. Even at these low rates, however, in the context of the relatively high overall safety, typical of high-income countries, drowning remains a proportionately large public health burden when contrasted with other causes of death. Indeed, it is often one of the leading causes of child and young adult deaths in these countries.^{xvii} As such, redoubled efforts to increase the implementation of these preventative measures are clearly necessary.^{xviii, xix, xx}

Since 97% of all drowning episodes occur in countries with more limited financial, institutional or human resources, drowning prevention in these resource-poor settings will require recognition of limitations and an adaptation of the successful strategies of higher-income countries. Research from Bangladesh, one of the poorest countries in the world, but one with a culture of water safety, has shown that educating mothers to eliminate water hazards in and near the house, to supervise very young children carefully, and to teach children to swim at a basic level of skill early in life, lead to significant and sustained decreases in drowning rates.^{xxi} Evidence is rapidly accumulating that a basic level of water safety knowledge, coupled with a basic level of swimming skill (often called survival swimming) is sufficient to prevent most drowning episodes.^{xxii}

To be successful, global drowning prevention efforts must allow for differences between countries with differing income levels. While many of the measures successfully employed in high-income countries could be successful in other countries, social realities require tailoring of preventive measures to the circumstances and causes of drowning. A more basic and resource-sparing approach in low and middle-income countries will, generally, be needed, with a focus on key target groups such as parents and carers of infants and young children. These groups should be taught the basics of water safety and the importance of their children learning to swim as early in life as possible. Coupled with efforts to help these countries develop the same effective institutions and professionals as are typical in high-income countries, the result should be a gradual but steady decline in the incidence of drowning over time, as has been the experience in high-income countries.^{xxiii}

NOTE: The terms high-income (for example OECD), middle-income, and low-income have been used to describe countries at varying levels of development. These terms relate to average incomes and must be taken in the context that there are very low-income individuals in high-income countries, as well as very high-income individuals in low-income countries. Thus, certain strategies for low-income countries may be valuable for specific populations in high-income countries and vice-versa.

STATEMENT

1. Death by drowning is a leading public health problem in all countries. Prevention requires public and government support.
2. The vast majority of deaths by drowning can be prevented.
3. Everyone, ideally commencing at a young age and regardless of ability and background, should have access to training in water safety, personal survival, and water rescue.
4. Knowledge and understanding of water environments and their associated hazards should be taught to everyone at the earliest possible age.
5. This awareness training should be accompanied by the provision of swimming teaching, in the safest manner possible and to at least a basic level of skill that provides the capacity for survival after unexpected and sudden immersion in water.

6. Acquisition of more advanced water safety knowledge and swimming skills, to include water rescue and competitive swimming, should be encouraged as these enhance aquatic safety.
7. Water hazards should be reduced wherever possible, particularly where swimming and water safety education take place.
8. Trained lifeguards should provide prevention, rescue, and treatment where recreational swimming and water safety education take place.
9. Wherever possible, organisations with drowning-prevention expertise, based in high-income countries, should provide assistance to lower-income countries.
10. Accessible and affordable training in water safety and swimming skills should, ideally, be made available for everyone, particularly children, in all countries, to a level consistent with the ILS International Water Safety and Swimming Education Guidelines.

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