Pedagogical resources
AQUATIC ACTIVITIES

DROWNING PREVENTION FROM AQUATIC EDUCATION: MYTHS AND TRUTHS

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Despite the abundance of evidence-based information about drowning, the numbers remain alarmingly high worldwide. Considering that it constitutes a preventative cause of death, it is fundamental to adopt effective measures to reduce risk factors. Among these, two essential pillars are highlighted: education and social responsibility.

Introduction

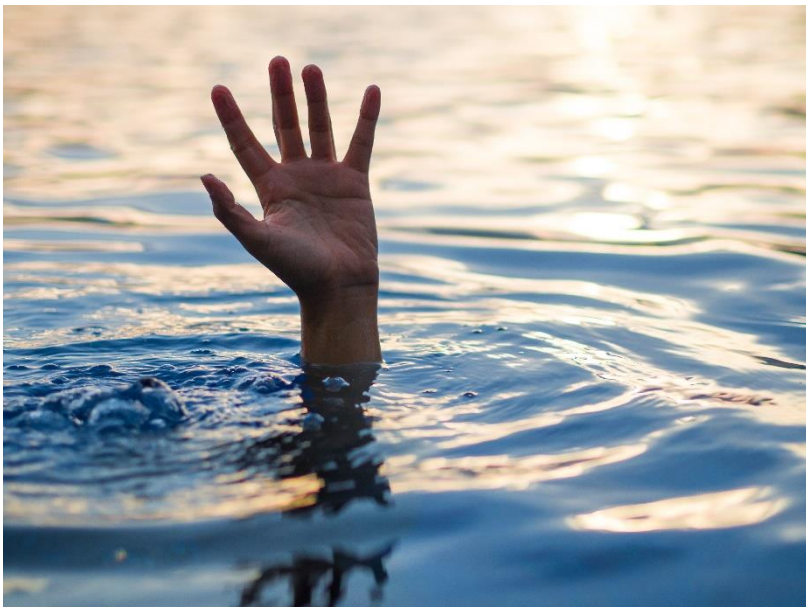
Drowning represents one of the main causes of death in childhood, adolescence and adulthood, with a higher incidence in males. It is, however, a preventable tragedy when safety recommendations are considered. Traditionally, knowing how to swim has been considered the primary means of prevention, but evidence shows that even those with aquatic skills can drown if they do not pay attention or ignore basic safety rules. In fact, several studies indicate that the greater the knowledge or skill, the greater the exposure to risk due to an excessive perception of control.

Drowning is a multifactorial phenomenon whose prevention requires a comprehensive approach: appropriate legislation, educational interventions that influence behaviour, risk management and contextualised research that identifies the specific factors in each region. How could we think that knowing how to swim is enough to prevent it? Analysing the problem carefully, thoroughly and critically allows aquatic professionals to become true agents of change, capable of providing a solid and effective layer of protection. That is precisely the purpose of this resource: to distinguish myths from realities and strengthen knowledge for more informed and conscious action.

Aquatic education programs offer a valuable opportunity to sensitise and inform society, encourage safe habits and dismantle erroneous beliefs that are perpetuated from generation to generation. The implementation of these programs, framed in a multidimensional model (Fonseca-Pinto and Moreno-Murcia, 2023), contributes to the development of a more complete aquatic competence, in which decision-making becomes a central element, as shown in Ortiz et al. (2025) and which is the basis of this paper.

Fortunately, there are guiding documents published by organisations such as the World Health Organisation, the Ministry of Public Health of Uruguay, the Sobrasa entity and the AIDEA Association, among others. These sources have been fundamental in addressing this issue and have served as a reference for the preparation of this practical document.

What is drowning?

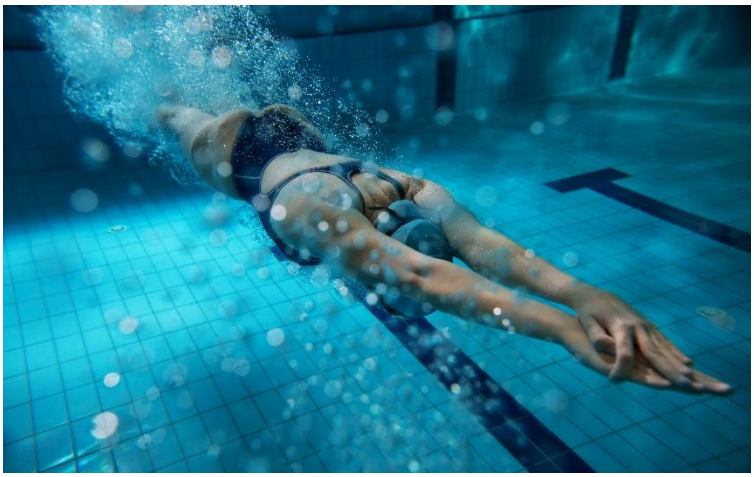


According to the World Health Organisation (WHO, 2014), drowning is the process of experiencing breathing difficulties as a result of immersion or submersion in a liquid medium. It is referred to as immersion when the water comes into contact with the airways without completely covering them, and submersion when the airways are completely below the surface of the water. Drowning can be classified as **fatal** when it results in death, or **non-fatal**, when the person survives, although he or she may have severe physical, cognitive or motor sequelae. These non-fatal cases require special attention, as they are often underreported and may outnumber fatal drownings by as much as three times, according to estimates.

The severity of a non-fatal drowning can be assessed by considering two dimensions: respiratory difficulty and the degree of morbidity, i.e., the loss of motor, cognitive or physical abilities prior to the incident (WHO, 2021). The consequences of drowning, whether fatal or not, do not only affect the victim, but also those who were present, such as family members, friends or witnesses. The emotional and psychological impact can be profound and long-lasting.

This is why professionals in the aquatic field, whether in swimming pools or natural environments, play a key role in prevention, education and public awareness. In the long run, their intervention can positively influence the local aquatic culture, transforming beliefs and behaviours related to the aquatic environment and safety.

Myths and truths about drowning prevention



Myth 1: "Knowing how to swim in a pool is enough to be safe in any aquatic environment"

Believing that mastering swimming in a pool guarantees safety in any aquatic environment is a common misconception. Swimming pools are controlled environments: the water is clear, the temperature is stable and there are no currents or waves. However, most drowning incidents occur in natural environments such as rivers, lakes or beaches, where conditions can change rapidly and present unpredictable risks (currents, waves, changes in depth, temperature, wildlife, etc.). The traditional model of teaching swimming often focuses on technical skills and swimming styles, but does not prepare children to interpret signals, assess risks or make safe decisions in variable contexts. True aquatic competence involves knowing how to adapt to different scenarios, recognise one's limits, and act preventively (Fonseca-Pinto and Moreno-Murcia, 2023; Stallman et al., 2017).

Myth 2: "Floating instruments such as armbands, buoys or mats prevent drowning"

The use of floating materials (armbands, buoys, mats, fins, mermaid tails) is common in children's aquatic activities, but their function is pedagogical and playful, not safety-related. These objects can give a false sense of protection to both children and responsible adults, which can lead to less supervision. In addition, they can become loose, get punctured or hinder mobility, increasing the risk of an accident. In non-formal settings, the only recommended item is a properly fitted and approved lifejacket. No flotation device is a substitute for active and permanent adult supervision.

Myth 3: "The risk of drowning is equal for every child"

The risk of drowning varies according to age, gender and social context. Boys, for example, tend to overestimate their aquatic skills and underestimate the dangers, often because of peer pressure or the need to demonstrate courage in front of their peers. In addition, as children grow older and gain autonomy, they tend to move from artificial aquatic spaces (swimming pools) to natural (rivers, beaches), where risks are greater and less controlled. Prevention should consider these differences and adapt educational strategies to the characteristics and behaviours of each group.

Myth 4: "Aquatic education consists only on learning swimming techniques"

Aquatic education in the 21st century must be comprehensive and multidimensional. It is not enough to teach swimming styles; it is essential to include aquatic literacy (understanding the environment and its risks), drowning prevention and environmental education. Aquatic competence encompasses motor (knowing how to do), cognitive (knowing how to know) and socio-affective (knowing how to be) dimensions, promoting decision-making, self-evaluation and cooperation. Programs should be inclusive, adapted to sociocultural realities and encourage experiences in different aquatic contexts (Fonseca-Pinto and Moreno-Murcia, 2023).

Myth 5: "Supervision of children in the water can be substituted by other minors or safety instruments"

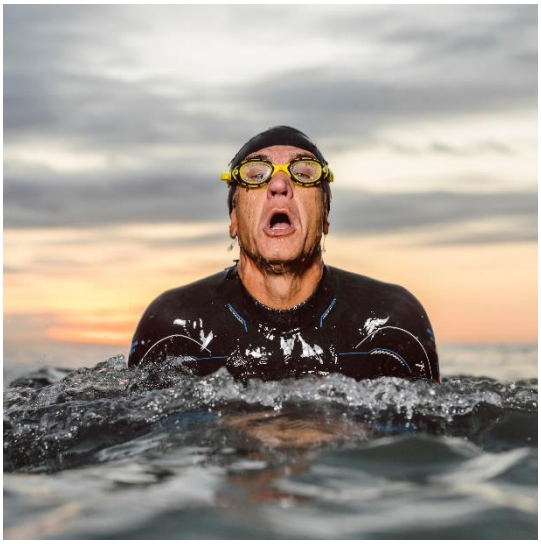
Delegating the supervision of children to other minors, adolescents or entrusting it to flotation devices is a serious mistake. Children and adolescents lack the maturity, sustained attention and responsiveness necessary to respond to an aquatic emergency. Flotation devices, as explained above, are not a substitute for supervision. The only truly effective measure is active, permanent and responsible adult supervision, preferably in areas supervised by professionals.

Myth 6: "Every aquatic context is equally safe if you know how to swim"

Each aquatic environment presents specific hazards. What is safe in a swimming pool may not be safe in a river, lake or beach. Factors such as temperature, visibility, depth, presence of currents or wildlife, and accessibility to the exit vary greatly. Aquatic competence must be contextual and specific, and risk perception must be adjusted to personal, environmental and task characteristics. Education should teach children to observe, interpret and decide according to the context, not only to swim (Fonseca-Pinto and Moreno-Murcia, 2023).

Myth 7: "Fatigue and cold are not relevant factors in drowning risk"

Fatigue and cold are underestimated risk factors. Fatigue affects the ability to float, think and react, and cold can quickly reduce energy and coordination. In extreme situations, these factors can prevent a child from calling for help or staying safe. It is critical that both children and adults learn to recognise the signs of fatigue and cold, and to act preemptively, stopping activity and seeking help if necessary.



Myth 8: "Drowning prevention responsibility falls only on lifeguards "

Drowning prevention is a shared responsibility between the educational community, families and the children themselves. Lifeguards play a key role, but their main function is prevention and education, not just rescue. We must all be agents of prevention, learning and transmitting information, respecting signs and rules, and promoting a culture of safety and self-care in the aquatic environment.

Myth 9: "Physical barriers or alarms are enough to prevent drowning"

Physical barriers (fences, gates) and alarms are useful tools for reducing unsupervised access to aquatic spaces, but they are not infallible. They can fail, be left open or turned off, and are never a substitute for active surveillance. The most effective prevention is a combination of measures: education, supervision, physical barriers, and fostering a culture of safety throughout the community.

Myth 10: "A good swimmer does not need a life jacket and can carry out any activity in the water without any help"

The use of a life jacket is not conditioned by age, skill level or personal confidence. It is a mandatory safety element in all nautical activities, just like a seat belt in a car or a helmet on a bicycle. In the event of a fall or capsize, it allows you to float, conserve energy and wait for help. Aquatic education programs should teach its correct use as an integral part of aquatic competence.

Myth 11: "Aquatic programs for babies prevent drowning"

Infants under 2 years of age do not yet develop a real perception of risk and that programs for this age group may generate false expectations in families about the child's autonomy in the water. Early aquatic education has an adaptive value, but should not be considered as a shield against drowning. Adult supervision remains indispensable.

Myth 12: "It is difficult to drown in small bodies of water"

There is a mistaken belief that drowning only occurs in large bodies of water or in extreme situations, but evidence shows that young children can drown in just a few centimetres of water, such as in a bathtub, a bucket, a paddling pool or even in puddles. Drowning can happen quickly and silently: a few seconds of carelessness is all it takes

for a fall or a tumble to turn into a tragedy.

Conclusion

Drowning prevention requires much more than knowing how to swim or use flotation devices. As has been demonstrated throughout this document, drowning is a complex and multifactorial phenomenon that requires a critical, informed and contextualised view. Debunking widely held myths, such as the apparent safety of swimming in a pool, the efficacy of flotation devices, or the belief that good swimmers are risk-free, is an essential step in building a true aquatic safety culture.

Aquatic competence should not be reduced to technical proficiency, but expanded to a comprehensive understanding of the environment, sound decision making, respect for rules and risk awareness. Professionals, educators, families and communities have a fundamental role in this process. Prevention is a shared task, based on continuous education, responsible supervision, the appropriate use of protective measures and the promotion of a reflective attitude towards water.

Only through collective commitment, solid training and the abandonment of erroneous beliefs will we be able to significantly reduce drowning cases and protect the lives of children, young people and adults in any aquatic environment.

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