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FIRST AID IN PRESCHOOL SWIMMING IN ROMANIA

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Abstract:

Swimming promotes the balanced development of the body, strengthens the immune system, reduces the risk of obesity, and supports cardiovascular and respiratory health without placing excessive strain on a child's joints. In addition to teaching swimming skills, this study aims to explore how well young learners absorb and apply first aid measures to prevent injuries or, in the worst cases, drowning. Through the use of intuitive methods (such as observation and demonstration), practice methodss (exercise), testing mothod, and specialized aquatic equipment and materials, preschoolers have shown marked improvement in both general and water-specific motor skills, as well as in their ability to apply first aid techniques. Ensuring that all children receive training in safety and first aid can significantly reduce the number of drowning incidents and other accidents.

Introduction

Swimming is one of children's favorite sports from a very early age. Learning how to swim, especially through games, is something that children enjoy. Although it has a recreational side, it is also a very dangerous sport. Care must be taken to implement safety measures in swimming pools and beyond, and in the vicinity of any kind of water.

Early first aid concepts are a concern not only for swimming. Eleana Tse et all [1] examine various ways of training kindergarten children to give first aid. Also, Plischewski, C., Bollig, G., Ammirati, C., et al [2] review first aid interventions in kindergartens, emphasizing theory and practical applications.

A number of other authors have explored how first aid concepts contribute to drowning risk reduction. Morrongiello, B. A., Sandomierski, M., Spence, J. R. et al. [3] have highlighted how awareness, learning and application of this knowledge leads to increased safety at the pool edge, in the water and reduced drowning risk. Moran, K., Stanley, T., Rutherford, A. [5] emphasize the role of parents and children in drowning prevention.and pool safety. Also, Ruth A. Brenner, MD, MPH; Gitanjali Saluja Taneja, PhD; Denise L. Haynie, PhD; et al [6] define experiences at the poll

as a "water entry and exit conundrum.", meaning that one has take care when entering and exiting the water, both situations could be dangerous.

The Learn to Swim program (developed by organizations such as Swim England [7] and Australian Swimming [8]) teaches first aid in pre-school swimming, tailored to the understanding and developmental level of children aged 3 to 6 years. The main aim is preventive education, familiarization with aquatic safety and initiation into correct behavior around water, not technical teaching of first aid maneuvers.

1. General objectives in Learn to Swim for pre-schoolers: Prevent accidents through early education; Understanding the dangers in the aquatic environment; Learning the correct reactions in risky situations; Developing water confidence and basic self-rescue.

First aid and safety basics adapted to preschoolers:

1. Danger awareness, where children are taught: That water can be dangerous; Not to approach water without an adult; To call for help if someone looks in danger (not to intervene alone!).
2. Call for help, where children learn: To call for help, "Help! Someone's in the water!; Identify an adult or lifeguard; To call for a phone in an emergency (symbolically - can also be included in role play).
3. Reacting in an emergency (basic behavior) in an age-appropriate way: Don't jump in the water after someone! - Crucial rule; Use floating objects to help (e.g. throwing a ball, a rope).
4. Self-Rescue Skills

In case of an accidental fall in the water: Turn toward the edge and grab hold; Float backwards and call for help; Try to swim to the edge or a safe area.

An important role of educators and parents is to encourage a responsible and calm attitude around water, to model safe behaviors (e.g. always supervising children in the water), to repeat the basic rules frequently in different contexts (at home, at the pool, on vacations).

The proportion (importance and integration) of first aid concepts in early (pre-school) swimming varies significantly from country to country, depending on: ; Water safety culture; Structure of national swimming programs (Learn to Swim, Water Safety); Involvement of public institutions (schools, governments, aquatic rescue organizations); Rates of drowning incidents among children.

Below is a comparative picture of how first aid and water safety is addressed in pre-school education in the context of learning to swim:

1. Australia - Learn to Swim (Austswim / Royal Life Saving Society Australia)

- Weight: Very high
- Water safety is an essential component at every level from as young as 2 years.

- Inclusions: self-rescue, correct reactions to danger, understanding risks in aquatic environments

- First aid: Children learn to identify dangerous situations and call for help. At older ages (school), the basics of CPR are introduced.

2. United Kingdom - Swim England Learn to Swim Program

- Weight: Medium to high

- Water Safety Week is integrated into the program annually.

- Preschoolers learn: to stay calm in the water, to ask for hel, not to jump in after another child in difficulty

- First Aid: not formally taught to preschoolers, but concepts of calling for help and personal safety are introduced.

3. Canada - Red Cross Swimming Program [7] (replaced by Lifesaving Society from 2022)

- Weight: High

- In the Swim for Life program, preschool children learn:how to react in emergencies, self-rescue drills (float, call for help)

- First Aid: Not directly taught at young ages, but associated behaviors (calling for help, staying afloat) are reinforced.

4. United States - American Red Cross [8] / YMCA / SwimAmerica

- Weight: Variable (depending on state and program)

- Good programs include: water Smart Behavior, pool/lake safety

- Preschoolers learn: what not to do around water, tell an adult when someone needs help and First Aid: It is only introduced in programs for older children (usually over 8 years old).

5. Sweden - Skolverket & Barnsimskola [9]

- Share: High

- Sweden has one of the most advanced water safety cultures.

- Preschoolers are educated through games in: floating, swimming to the edge, water confidence

- First aid: only tackled in the school cycle, but the concepts of avoiding panic and calling for help are present early.

6. Romania - Private programs & sporadic in kindergartens

- Share: Low

- Lack of a unified national program for preschool learning to swim.

- Some private courses include: elements of self-rescue, safety education (instructor-initiated)

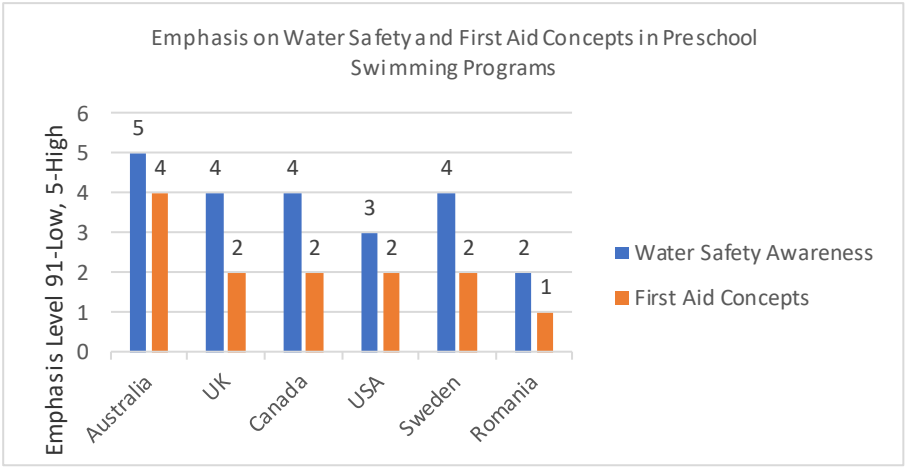
- First aid: not formally taught to pre-school children.

Table 1. Aquatic safety in different countries

Country	Aquatic safety (Early age)	First aid (Early age

Australia	★★★★★	★★★★
Great Britain	★★★★	★★
Canada	★★★★	★★
USA	★★★	★★
Sweden	★★★★	★★
Romania	★★	★

Chart 1 Water safety awareness and first aid concepts in different countries



Material-method: The aim of the research was to raise awareness of the risk of injury and how children can be taught basic first aid. Also, these exercises differ in deep water pools compared to shallow water pools. Because the research was done in a pool where the wave break creates a considerable distance from the pool surface and the water is relatively deep for preschoolers (1.35 m), the way first aid movements were practiced is different from other pools where the wave break is at the surface of the pool. Of course, children were instructed on safety precautions on the pool beach, at the pool edge, and in the water.

The objectives of this research approach are: to maintain the children's state of health, the harmonious development of the bone, muscular and cardiovascular system, to combat childhood obesity, which in recent decades has been appearing in very young children, to teach swimming as a life skill, to introduce them to safety measures near the water.

The research hypotheses are as follows:

- The use of edge ladders for entering and exiting the water improves preschoolers' gross motor skills;

- By practicing the specific means of buoyancy (horizontal and vertical raft), children will feel safe in a new environment, water;

- If the preschoolers practice the introductory concepts of swimming, they will be able to move in the water more quickly and safely;

- As children's aquatic skills develop, preschoolers learn more first aid concepts and can apply them.

In terms of inclusion criteria, children between 4 and 5 years old, boys and girls, who participated in their first introductory swimming lessons were included in this study. The methods used in the experiment were intuitive methods, such as observation, demonstration, practical methods - practicing, testing method. We applied several tests to the preschoolers: During an introductory course (8 hours), the children practiced the basics of lifeguarding. First of all, the children were taught to use aids (belts, fins, noodles), materials that ensure buoyancy.

Table 2 The means [10] used in this study were:

Specific means	Exercise For basic motor skills: climbing up, descending, spatial orientation For specific motor skills: vertical floating, horizontal floating, gliding, freestyle kicks, freestyle arms movement, underwater exhalation
Non-specific means	Proper swimming equipment, pool maintained to optimal hygienic standards

A very important aspect was considered to be getting in and out of the water independently:

Fig. 1. Getting out of the pool

Fig. 2. Entering the pool

Another important aspect that we practiced with the children in the lifeguarding group was the following: if they noticed that a child might have safety problems in the water, they should not intervene to touch him, but to call for help, and until they arrive, to give him some helping materials (life jacket, noodle).

Fig. 3. Using a noodle

Then the children were introduced, in addition to floating, gliding and those specific to the introductory courses under the supervision of the instructor, to orient themselves in the water, to reach the edge of the pool safely.

The methods used in the experiment were the intuitive ones, such as observation, demonstration, practical methods - practicing, test method. We applied several tests to the preschoolers:

- Star, the exercise describing the horizontal floating; the children learned to float with arms and legs apart;
- Blowing the ball over a distance of 5 meters, an exercise that develops underwater exhalation;
- Returning from the middle of the water using a stick, an exercise that develops orientation and movement in the water;
- Climbing in/out of the water on a ladder, develops children's ability to enter and exit the water independently and voluntarily.

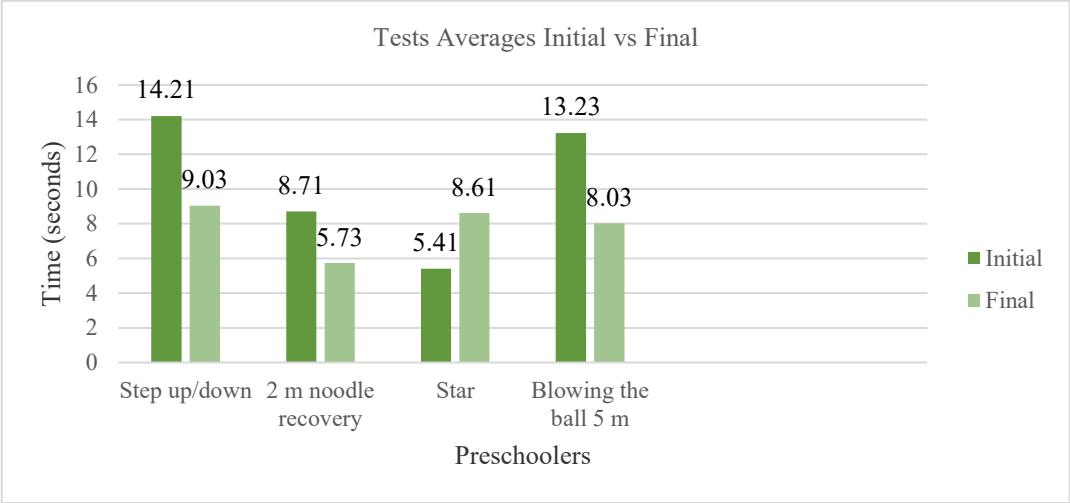
Results: After completing the 8-hour introductory course, we monitored the children's ability to carry out the first aid measures implemented. If at the beginning of the course they took a very long time, the children did not have the skill, dexterity to go up and down the stairs, to orient themselves in the water and to reach the edge in the shortest time, after the course the time of execution of these elements decreased, the orientation in the water improved, consequently the safety status at swimming courses increased considerably.

Table 2 Measurements

Nume	Step up/down I (sec)	Step up/down F (sec)	2m noodle recovery I (sec)	2m noodle recovery F (sec)	Star I (sec)	Star F (sec)	5 m blowing the ball I (sec)	5m blowing the ball (sec) F
I.I.	13,6	9,5	8,6	6,1	5,1	9,7	12,1	7,8
I.Ş	15,4	10,9	9,9	5,5	5,6	10,1	13,5	8,3

L.L.	12,8	7,1	7,1	4,3	6,1	11,2	11,6	6,3
P.M.	14,1	8,9	8,3	5,6	4,9	9,3	14,4	8,8
P.S.	15,6	9,5	10,5	7,8	4,5	8,9	15,3	9,1
M.M.	13,8	8,3	7,9	5,1	6,3	11,7	12,5	7,9
Average	**I**	**F**	**I**	**F**	**I**	**F**	**I**	**F**
	14,21	**9,03**	**8,71**	**5,73**	**5,41**	**8,61**	**13,23**	**8,03**
Weight	**36,47%**		**34,21%**		**37,16%**		**39,30%**	

Chart No. 2 Tests Averages Initial vs Final



Step Up/Down Test **s**hows a consistent improvement in time after intervention across all participants**.** 2m Noodle Recovery indicates faster response times post-intervention.

Results

After completing the 8-hour introductory course, I monitored the children's ability to perform the first aid measures implemented. If at the beginning of the course they took a very long time, the children lacked the skill and dexterity to go up and down the stairs, to float, to breathe out, to orient themselves in the water and to reach the edge in the shortest possible time, after the course the time of execution of these elements decreased, the orientation in the water improved, consequently the safety status at swimming courses increased considerably. As it can be seen from the table with the applied tests, the results of the tests applied to the preschoolers show that their skills in the 4 applied tests improved significantly, so that the preschoolers improved their swimming skills as well as lifeguarding skills. Significant performance improvements were observed in both step up/down and 2m noodle recovery tasks. Average reduction in time demonstrates improved motor skills, confidence, and water control. Improvement percentages suggest that the intervention or training program had a strong positive impact, especially on physical agility and self-rescue ability. The children were also trained to apply these first aid

measures in places other than the pool where they were taught and supervised, as well as in other places where there are water surfaces.

Discussions: I compared the results obtained in my study with the information obtained in the article "Caregiver water safety knowledge and views of toddler water competency", written by Molly B. Johnson & Karla A. Lawson. [11]. Both articles deal with child water safety. If in my study I focused on teaching preschoolers water skills and first aid measures, in this article the focus is on teaching adults drowning prevention measures for children. Questionnaires were given to adults with 10 of the most important water safety measures. It was found that, on average, adults answered 6 of the 10 water safety questions correctly

In Romania, the share of first aid concepts in swimming lessons for pre-school children varies significantly from one city to another because there is no mandatory unified national program, programs are mainly organized by private clubs, swimming schools or partner kindergartens, the emphasis on water safety and first aid depends on the vision of the instructors and the facilities.

Table 2 Percentage of first aid concepts in major cities in Romania

City	Estimated weight	Observations
Bucharest	★★★ (3/5)	Some clubs introduce safety and self-rescue
Cluj-Napoca	★★★★ (4/5)	Good private initiatives, some collaboration with lifeguards or SMURD
Timișoara	★★★ (3/5)	Modern private clubs, but uneven approach
Iași	★★ (2/5)	Courses focused more on swimming technique, little mention of first aid
Constanța	★★★★ (4/5)	Due to proximity to the sea - more focus on safety and prevention
Brasov	★★ (2/5)	Few courses integrate first aid education
Oradea	★★★ (3/5)	Modern basics, some clubs implement safety concepts
Sibiu	★★ (2/5)	More focus on basic technique; limited first aid education

Other research by the authors [13,14, 15, 16] concluded that survival swimming styles contribute to lower energy expenditure and delay the onset of fatigue, thus allowing subjects to cover greater distances. Survival swimming includes a set of essential techniques and styles that are recommended to be known and applied in critical situations, when you cannot rely on the help of someone else. In such moments, you become your own savior, and mastering survival swimming can ensure your chance of reaching dry land safely again.

Conclusions

Based on the hypotheses of this research, each of these hypotheses needs to be tested. Thus, the first hypothesis, the improvement of preschoolers' general motor skills by climbing up and down the ladder is confirmed, the children became more psychomotor coordinated, more self-confident, and the time of climbing up and down the ladder decreased for each of them. Preschoolers practiced specific

buoyancy techniques (horizontal and vertical floating), developed greater comfort in the aquatic environment, and learned to change positions in the water without fear. The improved results from buoyancy tests support the second hypothesis of the study.

By the end of the introductory course, the preschoolers have mastered the notions of swimming initiation, they managed to improve their execution time, but most of all they correctly executed the freestyle kicks and arms movement during the course, confirming the third hypothesis. Finally, the children learned to get in and out of the water, to float, to orient themselves in space, to swim, to reach the edge safely, which confirms the fourth hypothesis of the research, the means of first aid have been mastered by the children and they know how to be safe near the water. It is also important that they have also learned what they are not allowed to do without an adult, which can save their lives in potentially dangerous situations. Swimming is a beautiful sport that is beneficial at any age. But in order to practise it safely, first-aid skills must be learned from early childhood. The more safety precautions are followed around the pool and in the pool, the less risk there will be of accidents or drowning. This is done not only at the pool under supervision, but especially in places that are not equipped or do not have a professional lifeguard. If all swimmers are trained in safety and first aid measures, there will be far fewer cases of drowning or injury, and going swimming will be a relaxing and enjoyable activity.

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