

THE CONTRIBUTION OF SMART DEVICES IN MAINTAINING AN ACTIVE LIFESTYLE BY PRACTICING SWIMMING AS A FREE TIME ACTIVITY

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(Original scientific paper)

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Abstract

Diversifying access to information and the individual's desire to acquire new skills is a challenge in today's society. More and more people want to spend their free time in a variety of ways, regardless of the season. There are, however, free time activities which, due to its characteristics, after a prior qualified information about how the activities can be carried out. It is very important for the adult to understand the value of sports activities carried out in her free time, why have the effect of removing the accumulated stress and fatigue. We will highlight the contribution of smart devices in the formation of the habit of practicing swimming as an activity in free time and the importance of awareness of obtaining a healthy lifestyle by practicing it. More than that, through the effort made during the swimming sessions, you can maintain a good effort capacity and a quality night's sleep, as well as the possibility to continue practicing such a sports activity in the long term.

Key Words: *free time activity; swimming; active lifestyle.*

Introduction

The stress so the extension of intellectual activity that requires concentration and increased attention, held backgrounds noisy, stressful, in which individuals have different personalities, different ways of behavior, ideals and motivations convergent and divergent imposes the need for integration in an activity to produce physical relaxation and more concern less stressful (Catanescu, 2014). The sports equipment and devices used that contribute to the achievement of human/sports performance support the use of new technologies that have become a certainty by improving the performance of some materials (Tătar, 2020a, p. 155).

Among the many activities that can be carried out as a free time activity, there is also swimming, which from year to year can be practiced in more and more tourist locations.

To swim means to float, glide, and move forward in the water with the help of rhythmic and coordinated movements of the arms, legs, head, and breathing, specific to technical procedures: freestyle, breaststroke, backstroke, butterfly.

The way we interact with the environment and also the way we can capitalize on its resources can create new perspectives that can be capitalized in human society (Tătar, 2020b, p. 56). As we know, the challenges are continuous, and the technological evolution makes us constantly rethink the way we choose to maintain a healthy lifestyle and practice sports activities in our free time. In this sense, we will try to argue possible aspects that can contribute to motivating individuals to pay attention to this fact, namely:

What are possibilities to practice the swimming as a free time activity?

The possibilities for practicing swimming as a free time activity are varied, with the only condition being the presence of a body of water, either in its natural form (open water) or adapted through construction (swimming pools, aquatic facilities etc.). This allows for adaptation of swimming movements in the aquatic environment by combining various techniques from competitive swimming (Plăstoi, 2008), utilitarian and applied swimming, synchronized swimming (combining swimming, gymnastics, and dance), and/or adapted water polo. Practicing in organized forms can also combine specific movements from aqua fitness and aqua gym, combined in ways that offer enjoyable free time activities to individuals.

What are the characteristics of this type of activity

It can be practiced at any time of the year, indoors or outdoors, in specially designed spaces (swimming pools or recreational bases) or in open water (which can be simple, sea, mineral, or natural hot water)

It can be practiced individually or in a group.

There is no age restriction, as participants in the same group can have different ages.

It does not require high costs for acquiring equipment.

It offers benefits to the optimal health status, toning the body, compensating for intellectual activities, eliminating daily stress, and generating psychological relaxation.

It contributes to increasing socialization.

What are the categories of people who can practice this physical activity?

all age categories;

all citizens regardless of their professional activity;

individuals who practice or have practiced competitive sports;

individuals with various medical conditions who have clearance from their doctor to perform specific swimming movements in water; water having a higher conductivity, thermal exchanges are faster than in air, and chemical exchanges (through the chemical elements present in water in a natural or added form) are quickly achieved through contact with the skin or inhalation of water vapor from the surface of the water.

How can we improve the information about swimming as a free time activity?

by watching specific swimming technique movements, broken down for arms, legs, and breathing, accessed out of curiosity or a desire to learn something new;

attending beginner swimming courses;

going to swimming pools or aquatic centers, individually or in groups;

accessing websites with video recordings of swimming as a free time activities.

What are the reasons for swimming practicing and the impact on state of health?

There are many reasons why swimming can be practiced as a free time activity with positive effects on health, the following being just a few of them.

a) Effects on the cardiovascular system:

Increases the volume of blood in the heart by increasing venous return (immersion up to neck level can increase central blood volume by up to 60%);

Increases the strength of myocardial contraction by increasing the volume of blood that reaches the heart; Increases cardiac output by approximately 35% (equivalent to the effects of maximum physical activity on land);

Increases heart rate and cardiac output, which are also dependent on water temperature (heart rate increases in warm water).

b) Effects on the respiratory system:

Due to the pressure exerted by the fluid environment on the chest, the lung volume decreases, and therefore the volume of expired air also decreases;

Pulmonary compliance is reduced and pressure in the pleural cavity increases (when the human body is submerged up to the neck, the difficulty of breathing increases by 60%);

Breathing is hindered by the increased volume of central blood (thoracic vessels);

It increases respiratory effort, being a very good method for respiratory exercises.

c) Effects on the myoartrokinetic system (locomotor apparatus):

The blood flow to the muscles increases almost threefold (a large part of the increased cardiac output is directed to the skin and muscles);

The elimination of toxic metabolites from the muscular level increases and reduces edema;

The rate of muscular metabolism and local consumption of oxygen increases.

As a result of the physiological effects of water on the human body during movements in an aquatic environment, recreational swimming represents an exceptional way to maintain an optimal state of health (Tătaru & Plăstoi, 2015). Moreover, it can be an alternative that contributes to increasing individuals' capacity for effort, offering the possibility of adapting movements recreationally.

The reduction of gravitational force allows individuals to perform intense physical efforts, due to the compensation of the weight felt on the joints and the varied positions that the body can take during movements in the water, contributing to the improvement of balance and coordination.

People with various conditions can perform various movements in the aquatic environment as a recreational activity, movements that would be very difficult to perform in the terrestrial environment by these types of individuals, in order to improve their quality of life (Chera & Plăstoi, 2016). This recreational activity does not refer to "hydrokinetic therapy," which involves an exercise program carried out in the aquatic environment to restore the body after trauma or for various conditions.

Other benefits: Performing various movements in water, for different purposes, will allow (objectives - Sbenghe, 1987; Drăgan, 2002):

- Increased joint mobility;
- Increased muscle strength;
- Increased flexibility of musculo-articular structures;
- Increased proprioceptive control;
- Cardiovascular and respiratory system training during effort;
- Increased overall functional level (for individuals with conditions);
- Decreased level of deficiency (for individuals with conditions).

Contraindications:

- Decompensated or advanced cardiovascular, respiratory, digestive, and renal diseases;
- Febrile states, infectious diseases;
- Uncontrolled arterial hypertension;
- Individuals with uncontrolled convulsions;
- Individuals with open wounds or unhealed scars;
- Individuals with dermatological conditions or hydrophobia.

What are the perspectives in practicing swimming as a free time activity?

Starting from the multidisciplinary approach that aims to be offered to children from an early age, and maintained throughout their growth and development, the motor skills and capacities targeted by this type of activity favor and contribute to the overall development of young people, offering them varied opportunities to improve their body's resistance to effort, interact with peers, and protect the environment.

Most of the time, free time activities can be combined, allowing for a variety of ways in which they can be practiced. Furthermore, the current availability of unlimited possibilities to visualize and access professional or personal posts from various portable sources, with free time activities that also include aquatic activities such as swimming, outlines sustainable perspectives supported by the benefits of maintaining an optimal physical and mental health.

In the same vein, more and more facilities are equipping their spaces with swimming pools, thus offering the possibility of practicing this form of swimming for different purposes. Some of these locations also provide attractive programs of physical exercises executed in water combined with the partial movements of various swimming techniques, for all age categories.

Material & methods

The group of people was monitored for a period of 6 months (September 2023-February 2024) and consisted of 20 people between the ages of 20 and 35.

At the beginning of the monitoring, a percentage of 50% of them knew how to slide on the water, and the rest could maintain themselves on the surface of the water. The people involved participated 2 times/week, 1 hour at each meeting, for 6 months. After 3 meetings, each person managed to swim through a preferred swimming technique.

During the monitoring, the increase of the body's resistance to effort was monitored by covering increased distances from one stage to another, by tracking personal values with the help of smartwatches and highlighting pulse values over the distances covered. Caloric intake and sleep quality were also monitored. All people had smart devices through which the values from each swimming session were monitored. This aspect created an additional motivation for each person and generated a heightened awareness of the role of devices in maintaining the quality of life.

The use of smart devices eased the process of collecting individual data and gave the opportunity to archive the indicators targeted by the research. In a range from 1 to 10, where 1 represents the initial stage, and 10 represents the final stage, the values of the subjects were centralized in graphics no. 1.

The positive evolution of all subjects was based on the stimulation of the activity carried out in the swimming pool through the precise and real-time monitoring of the distances covered, the heart rate and the generation of a general state of well-being with positive effects on night sleep (REM values).

Results

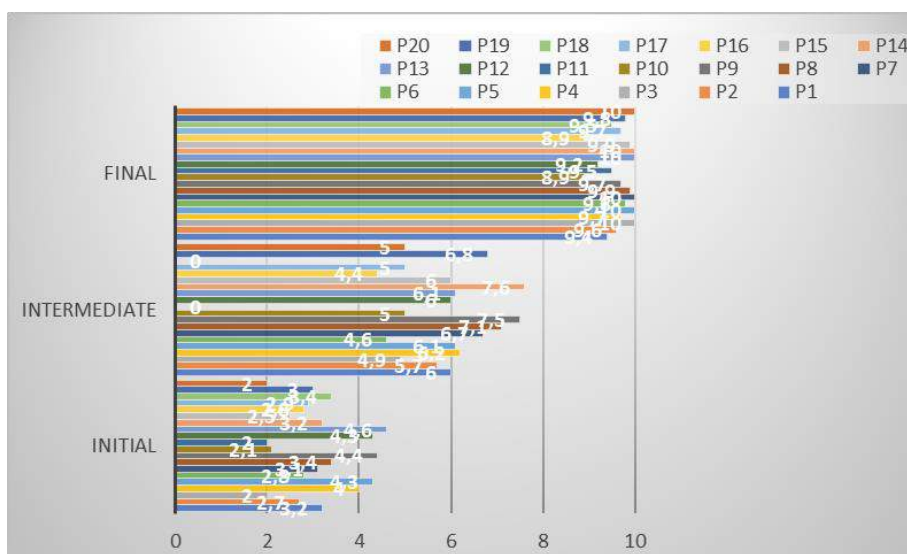
The obtained results confirmed the value of practicing swimming, all the participants in the monitoring program (100%) continuing swimming as a free time activity.

For the whole group of people monitored was highlighted an increase of effort capacity, an improvement of joint mobility, as well as the acquisition of a good health and well-being.

The interpretation of the individual data collected provided the opportunity to archive the indicators targeted by the research. their distribution can be found in graph no. 1.

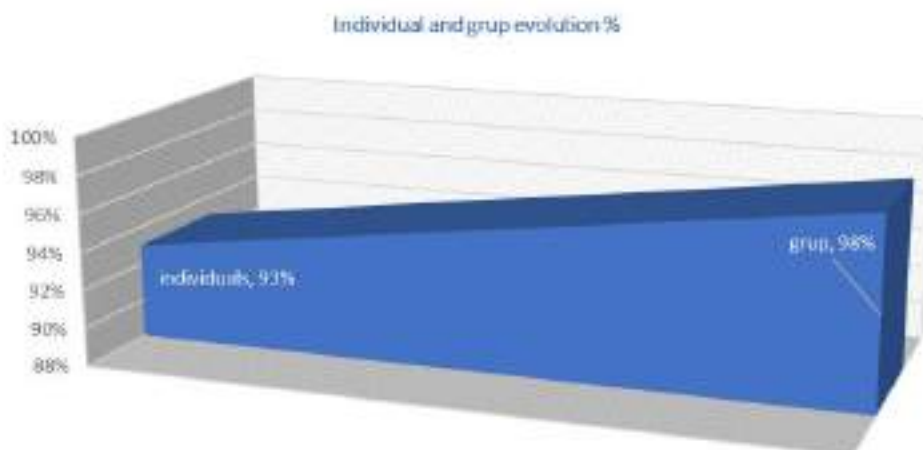
Motivating subjects to swim in the pool and accurately monitoring, in real time, distances covered, heart rate and generating a general state of well-being with positive effects. on night sleep (REM values) was increased by smart devices used in each session.

Graph no.1



The data recorded with the smart devices also allowed a centralization of the average percentages obtained: between 89% and 98% for each participant (result 93%) and 98% average growth/group (graph no.2).

Graph no.2



In addition, the feedback provided by each individual regarding the well-being and benefits of practicing swimming as a free time activity, was a positive one. More than that, the 6 aspects mentioned in the previous part were also targeted, and which, for the most part, are supported by different devices.

Another result was the answer of the question: Does this type of physical activity offer safety to the practitioners? The answer to this question, taking into account the previous arguments, is YES! Engaging in this type of activity does not put practitioners in danger, as the purpose of it is to contribute to maintaining physical and mental health, as well as creating a state of good mood and recreation. The fact that it is not carried out with the help of or through the use of bulky or dangerous materials provides safety and confidence throughout the activity. Furthermore, the fact that it does not require the purchase of additional, expensive equipment or qualified supervisory personnel, can become a comfortable activity for practitioners, which enhances the pleasure of long-term practice.

Discussion

The discussions were based on the evolution of each participant and the role of smart devices in maintaining a healthy lifestyle by practicing swimming as a leisure activity. Also, the formation of an informational culture was considered, based on the arguments of the 6 aspects mentioned in the first part of the work, namely: What are possibilities to practice the swimming as a free time activity? What are the characteristics of this type of activity? What are the categories of people who can practice this physical activity? How can we improve the information about swimming as a free time activity? 5. What are the reasons for swimming practicing and the impact on state of health? What are the perspectives in practicing swimming as a free time activity?

Conclusions

All the aspects mentioned above can be taken into account in a singular or combined sense, but regardless of how they are used, the benefits of practicing swimming as a free time activity prove to be beneficial in terms of maintaining optimal health.

The promotion of this type of physical activity carried out in the aquatic environment, as a free time activity, supports the improvement of the skills of people who practice swimming and supports the sustainability of free time activities.

Obtaining positive results confirmed the value of practicing swimming by using smart sensors to monitor the activity, monitored individuals showing an improvement in exercise capacity, as well as the acquisition of good health and well-being.

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Conflicts of interest - The authors declare no conflict of interest.

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