

The Halliwick Concept, inclusion and participation through aquatic functional activities

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ABSTRACT

This paper presents the qualitative and quantitative data derived from studying the impact on the lives of 674 disabled individuals after they had followed the Halliwick method for one year at the Institute of Medicine and Rehabilitation - Hospital das Clinicas - University of São Paulo. The Halliwick Concept was developed in 1949 by James McMillan in England and is based on the principles of hydrostatics, hydrodynamics, and body mechanics in water. **Objective:** Halliwick's 10-Point Program forms the practical application of its concept. It helps to structure the processes of teaching and learning, logically, progressively, and safely. **Method:** The method involves working in groups that help motivate and encourage social interaction, whilst optimizing learning. Halliwick's Concept introduces water as an environment in which to work movement and motor control exercises in an innovative way. The physical properties of water promote the well being of the body's physical structures and functions, independence of movement, the understanding of new concepts of motor skills, sensory processing, cognitive learning, organization of movement patterns, and control of a diverse range of activities. The physiology of immersion is responsible for activating organ systems and improving their capacity and performance. **Results:** This pioneering project, which received support from the International Halliwick's Association and its branch, the Brazilian Halliwick Association, made the initiative accessible to thousands of disabled users in Brazil who benefited from its non-discriminatory approach. Traditional techniques for teaching swimming have been influenced greatly by the holistic characteristics of the Halliwick method, which also introduced significant refinements to hydrotherapy techniques. **Conclusion:** The method developed new ways of exercising and showed that rehabilitation programs that offer combined therapeutic and recreational activities provide consistent rehabilitation to the disabled as well as the able-bodied person. Furthermore, it allows for the individual to achieve their maximum potential and enjoy physical, psychological and social benefits.

Keywords: disabled persons, exercise therapy, hydrotherapy, immersion, rehabilitation

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INTRODUCTION

Disability and functionality, according to the International Classification of Functioning, Disability and Health (ICF), are seen as the result of the interactions between health conditions, organ functions, body systems, and structures, as well as the limitations of activities and social participation in the environment in which the person lives.^{1,2} Recognizing that every human being may experience reduced health and thus, a certain degree of disability, the ICF points out that the experience of disability is human and universal. It suggests that the individual must be observed in a multidimensional context so that the evaluation and the treatment goals are not determined only from a medical perspective, but also by activity and social participation.

Physical activity is essential for the health and quality of life of any person, with or without disability. It allows the discovery of potentials while overcoming barriers and preconceived ideas about performance and capacity, promoting personal and social inclusion and demoting attitudes of discouragement and indifference. Activities performed in a swimming pool are particularly relevant because, in addition to demanding more work from organs and systems by virtue of the physiology of immersion, they are done in the only place where exercise and free active movement can be done safely.

The Halliwick International Association defines the Halliwick concept as: "an approach to teaching all people, in particular, focusing on those with physical and/or learning difficulties, to participate in water activities, to move independently in water, and to swim".³ Based on principles of hydrostatics, hydrodynamics, and on body mechanics, the Concept was developed in 1949 by James McMillan, in England. The 10-point program is a structured learning process that facilitates the practical application of the Concept, where its elements are taught and learned logically and gradually through games and activities. The work is developed in groups that motivate and favor social interaction, and at the same time optimize learning. Its holistic characteristic influenced aquatic activities very much and brought a series of refinements to hydrotherapy techniques. It developed new ways to exercise and showed that combined therapeutic and recreational programs offer a

continuous rehabilitation to all persons and disabilities, allowing people to reach their maximum potential and bringing physical, psychological, and social benefits.

It is based on the conviction that a disabled person must fully develop his or her capacity and potential and recognizes the Halliwick concept as a holistic approach directed to total intellectual, sensory, and motor participation. Six years ago, the Halliwick Project was implemented at the Lapa Unit of the Instituto de Medicina Física e Reabilitação (Physical Medicine and Rehabilitation Institute) - IMREA - HC - FMUSP, with support from the International Halliwick Association and Associação Brasil Halliwick. A pioneer project in the country that enables to help thousands of users and guarantees egalitarian access, for it focuses on inclusion and participation.

OBJECTIVE

This work seeks to present the qualitative and quantitative results from the implementation of this project and its broad repercussions on the life of a disabled person.

METHOD

The IMREA Lapa Unit has a covered and heated swimming pool 13 meters in length and 5 meters wide. In its shallowest part, the depth is 0.95 m and in the deepest, it is 1.45 m. In its architecture, a side ramp allows access for wheelchair users, but independent entering and exiting are practiced so that the "swimmer" does not become dependent on swimming pools with this architecture. Throughout the day, the hygiene of the pool water is monitored by equipment that automatically dispenses the necessary amounts of chlorine and controls the pH. The quality of the pool water follows the standards recommended by the Health Department and it also has an infection control service through a company specialized in the bacteriological and physiochemical analysis of the water. The Lapa Unit has three individual dressing rooms adapted for wheelchairs that obey the Norm NBR 9050 and two other collective dressing rooms, one for men and one for women (Figure 1).

Since its inception Halliwick has emphasized the happiness of being in the water, recognizing that pleasure intensifies learning. It

has consistently kept an equal opportunities philosophy. The term "swimmer" for all the participants emphasizes inclusion, participation, and high expectations. "Swimmers" learn to control their balance in the water without the help of floating devices, which is possible through a one-on-one work relationship, with minimal and adjustable support by the instructor. The option not to use artificial floats in the sessions follows the Halliwick philosophy concept and is justified for many reasons: they make it difficult to control breathing because they keep the face away from the water, they also make it difficult to control unwanted rotations, submersion activities, body perception, social integration, they offer a false sense of safety, and may generate dependence. With artificial flotation devices, the "swimmers" do not experience all the possible movements in the water, but are restricted to land.

The Halliwick concept

Control of breathing and balance, and freedom of movement are the main objectives of the Halliwick concept. When the ability is acquired to maintain or change the body position in a controlled manner, the participant is capable of responding with flexibility to different situations, stimuli, and tasks, creating or attempting movements efficiently and independently.

The participants are divided into groups according to the level of their abilities in water and not their disability:

1st level - Red: Skills related to their adaptation to the liquid medium, independence, and breathing control;

2nd level - Yellow: Skills related to controlling balance and body rotations along its various axes: transverse, sagittal, and longitudinal;

3rd level - Green: Skills related to movements, where the swimmer moves in the water with simple progressions and adapted swimming.

Working in groups offers the "swimmer" the possibility to increase his/her learning, for it motivates and gives the opportunity to learn with one another, improving communication and socialization. Games are also included, for they hide specific skills in playful sessions focused on learning while playing, making the session much more pleasant. Good communication between the "swimmer" and the instructor is essential to the involvement and learning process. After adaptation to the medium and acquisition

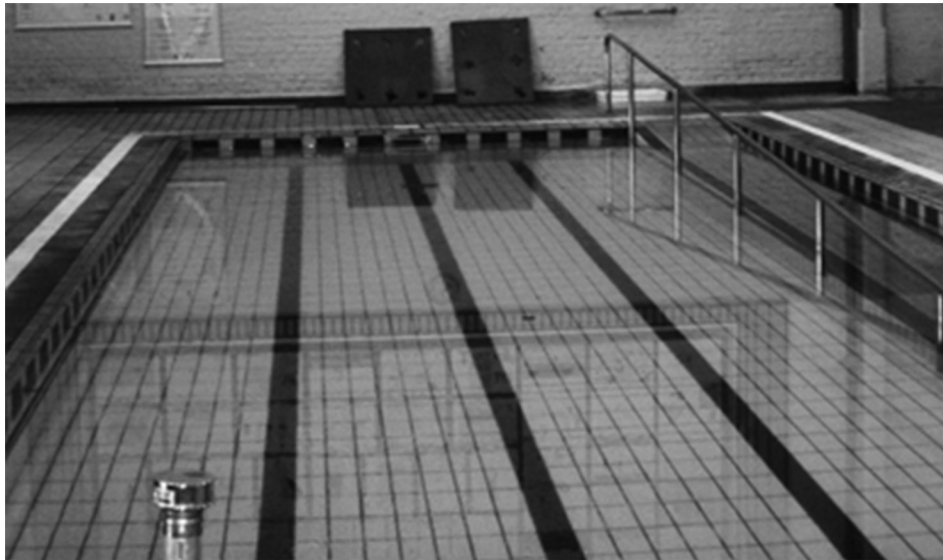


Figure 1. IMREA Halliwick Project swimming pool - Lapa Unit

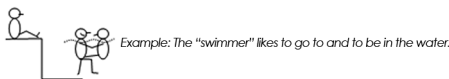
of balance control, the swimmers begin to participate in numerous independent activities. At this moment, many experience a complete freedom of movement for the first time in their lives.

The 10-point program is a learning process structured so that, even without any previous experience, the swimmer achieves independence in the water, controlling body movements, improving respiratory capacity, balance, and locomotion, becoming more self-confident and participating physically and socially. For many, it is the opportunity to be competent and independent in the water and to learn to swim, while for others it allows participation and inclusion through many aquatic activities.

The 10 points of the program are:

Mental Adjustment

Once in the water, the "swimmer" must learn to respond appropriately to this new environment, and its situations or tasks. Mental adaptation is a continuous process always present throughout the 10-point program. For example: learning to control breathing may start as just the specific skill of blowing on the water surface, but that is later combined with another skill. For instance: to sit at the bottom of the pool and release air through the mouth and/or nose.

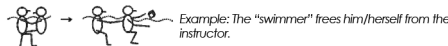


Example: The "swimmer" likes to go to and to be in the water.

Drawings by Jean-Pierre Maes - Halliwick Senior Instructor

Disengagement

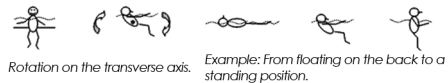
It is a continuous process in which the "swimmer" becomes physically and mentally independent. For example, a "swimmer" who is afraid of the water at first will need ample support: physical, visual, and verbal. But when he/she becomes more self-confident, less and less support will be offered leading to freedom from the instructor.



Example: The "swimmer" frees him/herself from the instructor.

Transversal Rotation Control

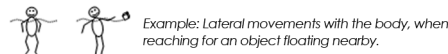
It is the ability to control movements around the frontal-transverse axis of the body. For example: in the vertical position, to lean forward and blow water bubbles, or to be able to maintain a standing position without losing balance, or even to move from floating on the back to a standing position.



Rotation on the transverse axis. Example: From floating on the back to a standing position.

Sagittal Rotation Control

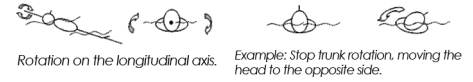
This is the ability to control lateral movements around the sagittal-transverse axis. For example: in the vertical position to put one ear on the water, or movements to transfer the body weight to the right and to the left, alternately.



Example: Lateral movements with the body, when reaching for an object floating nearby.

Longitudinal Rotation Control

It is the ability to control movements around the sagittal-frontal axis. Whether in the vertical position or floating horizontally. For example: in the vertical position, to rotate in the same place, or floating in pronation, with the face in the water, to rotate to the supine position.



Rotation on the longitudinal axis. Example: Stop trunk rotation, moving the head to the opposite side.

Combined Rotation Control

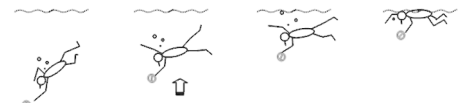
This is the ability to control movements when any rotation is combined with another. For example: from a seated position on the lip of the pool, to enter the water rolling transversally and longitudinally to floating on the back (supine), or to return to a stable position, while floating on the back, after losing balance to the front.



Combining rotations into one movement. Example: From vertical position, lean forward, floating on the back.

Uphrust

This is a physical property of the water that makes it possible for most "swimmers" to float. MacMillan calls it mental inversion, for the "swimmer" must invert his thinking and realize that his body floats with the water's upthrust and does not sink with the action of gravity. Submersion activities are taught offering the possibility to experience buoyancy and the notion of how difficult it is to remain under water. Examples of buoyancy are: the "swimmer" takes his feet from the bottom of the pool and realizes that the water can support him, or while collecting objects from the bottom of the pool, the "swimmer" sees that the buoyancy pushes him back up to the water surface.



Example: While trying to collect an object from the bottom of the pool, the "swimmer" will feel that he will return to the surface with little or no effort.

Balance in stillness

This is the ability to remain still in the water and depends on both: physical and mental balance control. Floating is an example of balance and stillness. When in balance, other activities can be performed more easily.



Example: The "swimmer" maintains the floating position in turbulent waters.

Turbulent gliding

While floating on the back, the "swimmer" is moved through the water by the instructor without any physical contact. This is possible when the instructor creates turbulence under the "swimmer's" shoulders as he walks backwards. The "swimmer" has to control unwanted rotations and does not make any propelling movement.



Example: the "swimmer" glides through the water as a result of the turbulence generated by the hands of the instructor and/or by his locomotion in the water, walking backwards.

Simple Progressions and Basic Stroke

These are basic propulsion movements that can be made with the arms, legs, or even with the trunk. For example: in the horizontal (supine) floating position, opening and closing the legs or even rowing movements with the hands. The basic swimming movements require coordination and more complexity, because they involve raising the arms out of the water and glide. For example: in the position of floating on the back with the arms beside the body, bring them to shoulder height keeping them on the water, then move them to the sides of the body, glide, and start the movement again.



Example: Rowing movement with the hands causes propulsion in the water.

Dominating the Halliwick - Ten-Point Program, the "swimmer" is able to perform a wide variety of activities in the water.

Evaluation of abilities and evolution

To monitor and to objectively know the efficiency of the Halliwick concept in the model proposed by the project, a critical and careful evaluation was prepared to build data and to observe the results obtained in accordance with the items indicated below. Observing the users, their behavior, and their needs at home reveals their participation, collaboration, and performance, which helps re-evaluate methods and dynamics employed and will promote their grouping according to their ability levels. As ground-based creatures, based on and adjusted to gravity, we must learn to adapt to the different experiences of being in the water.

Specific elements of the evaluation

The initial evaluation focuses on knowing the adaptation of the swimmer to the aquatic

environment and his abilities and needs when immersed in water.

In the dressing room

- Type of help needed;
- Type of transference used;
- Personal hygiene: Dependent - semi-dependent - independent;
- Dressing: Dependent - semi-dependent - independent;
- Type of locomotion: Wheelchair, walker, crutches, independent.

Access to the pool

- Use of ramp;
- Transference from wheel-chair/walker/crutch to the edge;
- Use of auxiliary equipment/elevator or manual help.

Entering the water from the edge of the pool

- With total support in saddle position;
- Frontal;
- With rotation;
- Other.

Necessary support

- Physical: Total, partial, without support, or with help;
- Visual: At the front, side, or behind the swimmer;
- Verbal: Amount of encouraging words and orientation to the activity.

Specific elements of adaptation

Relaxation

Indicators of poor adaptation:

- Tension;
- Grabbing;
- Eyes closed;
- Holding breath;
- Extending neck and head;
- Dry face;
- Shoulders outside the water;
- Speaking too much or too little;
- Attitudes opposite to their usual behavior.

Aspects considered in the adaptation

- To the transportation used;
- To new people;
- To the building and accessibility;
- To the swimming situation: dressing room facilities, sounds, smells, lighting, preconceived ideas about abilities in the water;
- To the water: entering and exiting, body sensation when immersed and wet, tactile sense, temperature,

impedance to movement, upthrust, keeping eyes open, and safety. Reactions used on land may be useful in the water.

Observations on Breath Control

Breathing control is a vital element in all aspects of pool work. Inhaling is an automatic reaction, oral and nasal exhaling must be controlled for safety reasons: exhaling avoids the inhalation of water. Exhalation must be automatic whenever the face approaches the water. Breathing control establishes:

- Momentum;
- Rhythm;
- Adjustment according to demand and activity;
- Allows a regular and relaxed pattern.

Respiratory pattern: Thoracic - Abdominal - Mixed. Symmetrical or Asymmetrical.

Disengagement

This is a gradual process in which the swimmer becomes physically and mentally independent. The disengagement is always considered for each new activity or exercise.

Types of disengagement

- From one instructor in particular;
- From the edge or from the bottom of the pool;
- From a group. Progressing to a more advanced group;
- Being independent in the water;
- Disengaging from the sector and from the unit.

Static balance in the vertical position

- Level of the water;
- Does the misalignment of the gravity center and floatability provoke rotation?
- Is there control of the trunk?
- Does the swimmer need support to maintain static balance? What type of support?
- Does the swimmer help with propulsion of upper limbs to maintain static balance?

Controlling head movements

- Does the swimmer control movements?
- When the swimmer moves the head, does rotation occur?
- Is there voluntary inhibition of unwanted rotations?
- Does the swimmer need support?

Dynamic balance

- Gait;
- Level of the water;
- Type of gait;
- Most difficult phase;
- Controls trunk;
- Does the swimmer need support during gait? What type?
- To maintain balance during gait does the swimmer seek help with propulsion of upper limbs?
- Does the swimmer compensate or alter posture to conquer resistance and maintain balance during gait?

Transverse, Sagittal, Longitudinal, and Combined Rotations

First, we identify how the swimmer inhibits an unwanted rotation. The tendency to roll may be caused by water turbulence or by body asymmetries; we observe the behavior of the body and motor control of the swimmer in situations such as these. Then, we verify whether the swimmer starts a rotation and how he/she uses head, arm, or leg movements to start it or execute it.

Balance and stillness

In the evaluation, when the swimmer is well adapted to the water, we verify their ability to maintain the floating position requesting that the swimmer stay still and relaxed. To maintain this position in the water against turbulence stimulates coordination, body awareness, and control. When in balance, the swimmer can move and perform different or associated activities easily.

Eligibility criteria**Care and Precautions**

- Hypo or hypertension. Floating blood pressure;
- Convulsions and Epilepsy;
- Vertigo;
- Low vital capacity;
- Renal illnesses;
- Diabetes;
- Hypo or hyperthyroidism;
- Intense X-ray therapy;
- Open wounds;
- Urinary incontinence;
- Serum-positive for HIV;
- Athlete's foot;
- Hydrophobia;
- Hemophilia;
- Tracheotomy;
- Contact lenses;

- Otitis;
- Chlorine sensitivity.

Counter-indications

- Difficulty to breathe in dorsal decubitus;
- Unstable with medications;
- Deep venous thrombosis, with symptoms of healing;
- Uncontrolled fecal incontinence;
- Frequent diarrhea and vomiting;
- Infected wounds;
- Allergy to chlorine;
- Urinary incontinence with bladder infection;
- Skin infections, including athlete's foot;
- Body areas without any skin;
- Excessively high, low, or unstable blood pressure;
- Low vital capacity;
- Severe epilepsy;
- Water phobias must be treated with appropriate techniques and be supported with activities on land applied by specialized professionals.

Other expected outcomes

Improvement of self-esteem: In the water we expand our possibilities of movement and, as we learn to dominate and control our bodies, we rebuild a positive self-image.

Self-knowledge, self-appreciation, and expression: With the satisfaction of bodily discoveries, we develop a more positive perception of ourselves, self-knowledge, self-appreciation, and the opportunity to express ourselves and be creative.

Psychophysical unwinding: reduction of tension, relaxation, emotional balance: In a pool, the individual releases energy and favors free expression. In addition to the pleasure given, the musculature relaxes, free and independent movement is possible, tension and stress levels decrease, there is relaxation, tranquility, and recreation.

Socialization and social integration: The activity made in the water allows a general functional activation and motivation that contribute to social integration. Any form of teaching represents a social action field where there are multiple integration, communication, and cooperation processes between people.

Improvement of behavior, confidence, and self-control: Working with the body provides a sensation of aliveness, wellbeing, and a feeling of accomplishment. Taking advantage of his capacities and deconditioning

attitudes of discouragement and indifference, the swimmer becomes more self-confident and motivated to face his difficulties, overcoming pre-conceived barriers and ideas about performance and capacities.

Independence and autonomy: Learning or re-learning movement is an evolving process where independence and opportunities to relate with the world are developed.

RESULTS

Table 1 and Figure 2 show the number of participants/year and their respective levels of ability. All those enrolled in the project were disengaged after one year of therapy, giving their places to those on the waiting list. In the last 6 years there was an average of 142 swimmers in activity per year.

We monitored 398 swimmers (n = 398) at the Red Level verifying how many, as a percentage, acquired each one of the specific abilities of this level. Regardless of their disability, one can see that the abilities of breathing control and static and dynamic balance were achieved by a larger group of subjects. In contrast, the more complex abilities such as water entry and exit from the edge of the pool, and floating position had a lower percentage of participation. Figure 3 shows the percentage of swimmers for each ability.

For the same group we verified the average time (in months) needed to retain the abilities of the level, as shown in Figure 4.

In the Yellow Level Abilities, we monitored a group of 186 swimmers (n = 186). Figure 5 shows the percentage of users who acquired specific abilities of this level, which are related to balance control and body rotations along its various axes: transverse, sagittal and longitudinal, thrust, balance, and stillness. It is noted that abilities already worked in the previous level facilitate the learning process at this level. This was expected, for the Halliwick concept Ten-Point Program is a learning process structured on pre-requisites. It is also seen that, as in the previous level, new and more complex abilities demand more time to acquire (Figure 6).

In the green level, there are basic movements of propulsion where the swimmer musters and associates activities with arms, legs, and even the trunk, moving through the water in simple progressions and adapted movements (Figure 7 and 8). In this group we monitored 90 users (n = 90).

At the end of each year we distribute a questionnaire to the participants and/or

Table 1. Halliwick project participants at IMREA per year and per level of ability

Ability/year	2006	2007	2008	2009	2010	2011
Red Halliwick	85	75	89	100	99	76
Yellow Halliwick	43	44	36	20	20	20
Green Halliwick	14	16	22	35	32	28

responsible people so that they can express their opinions and perceptions on the 4 aspects considered fundamental in the project. Figure 9 show the percentage of satisfaction of 1,044 users (n = 1044) who voluntarily responded to the following questions:

Swimmers x Skills x Year

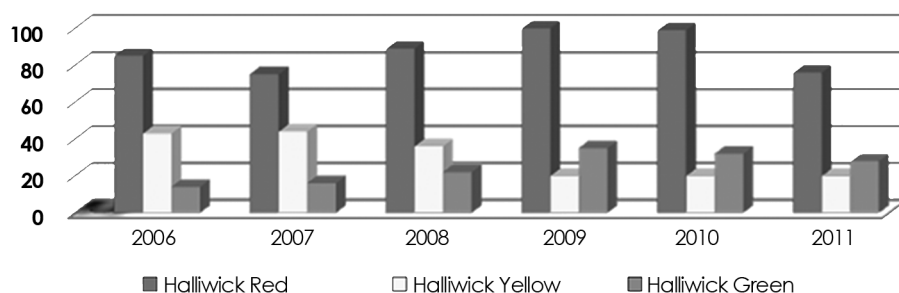


Figure 2. Halliwick project participants at IMREA per level of ability

In relation to the instructor:

- Organization of the session;
- Punctuality;
- Objectivity;
- Ethics and professionalism;
- The form of teaching;
- Use of time in the session;
- How the instructor commanded the group;
- The safety provided in the sessions;
- The general or specific guidance;
- Motivation of the session.

In relation to the results achieved:

- You noticed that there were results;
- Your disposition after the session;
- Activities in your daily life;
- You noticed results quickly.

In relation to the environment:

- Access to the pool;
- Dressing rooms;
- Lighting;
- Environment noise level;
- Pool size;
- Water depth;
- Water temperature.

In relation to hygiene and safety:

- Hygiene in dressing rooms and surrounding areas;
- Cleanliness of the water in the pool;
- Available equipment;
- Equipment cleanliness;
- Dressing rooms and pool safety;
- Toilet chair;
- Showers.

RED LEVEL - n = 398

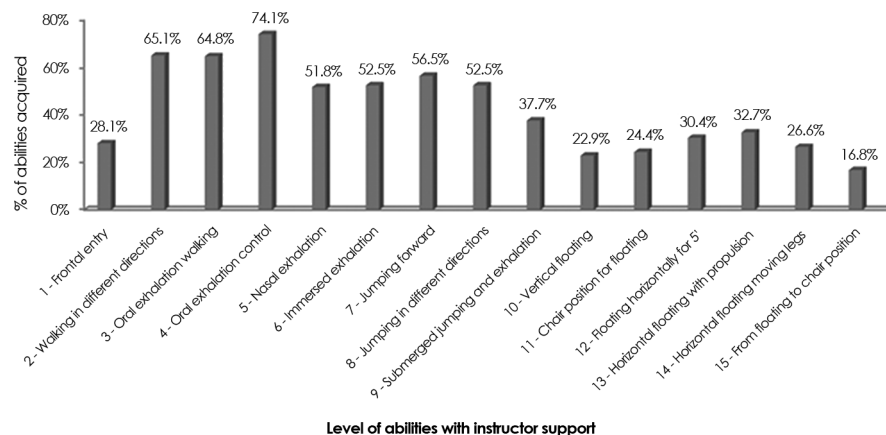


Figure 3. Abilities worked at the red level and the percentage of swimmers who acquired them

RED LEVEL - n = 398

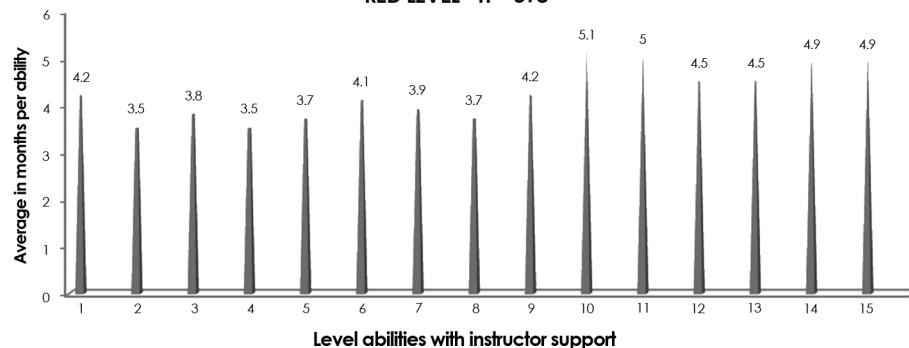


Figure 4. Average time in months to acquire red level abilities

DISCUSSION

The Halliwick concept is efficient as an approach to teaching people to participate in aquatic activities, to move independently, and to swim. Its success is due to the Ten-Point Program that structures the work to be developed in the water. The Ten-Point Program improves abilities to initiate and perform movements and activities that are difficult to do on land, but possible in the water. Thus, responses to larger and better

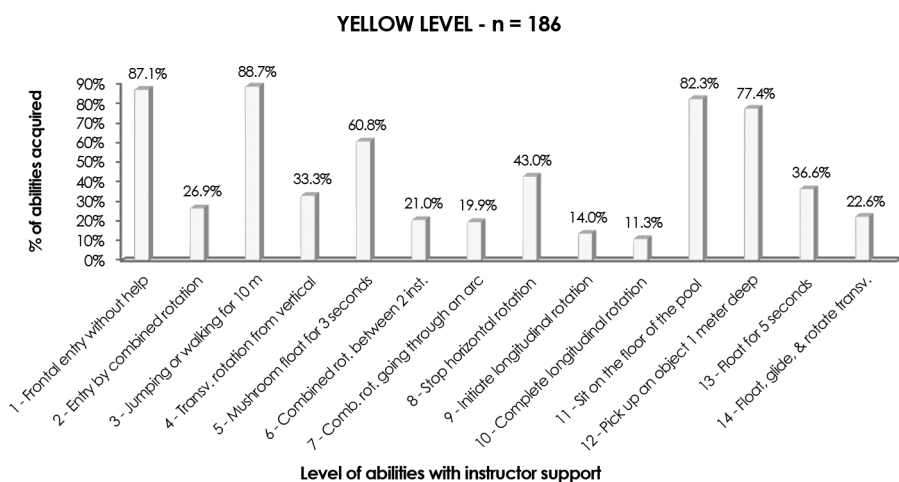


Figure 5. Abilities worked at the yellow level and percentage of swimmers who acquired abilities

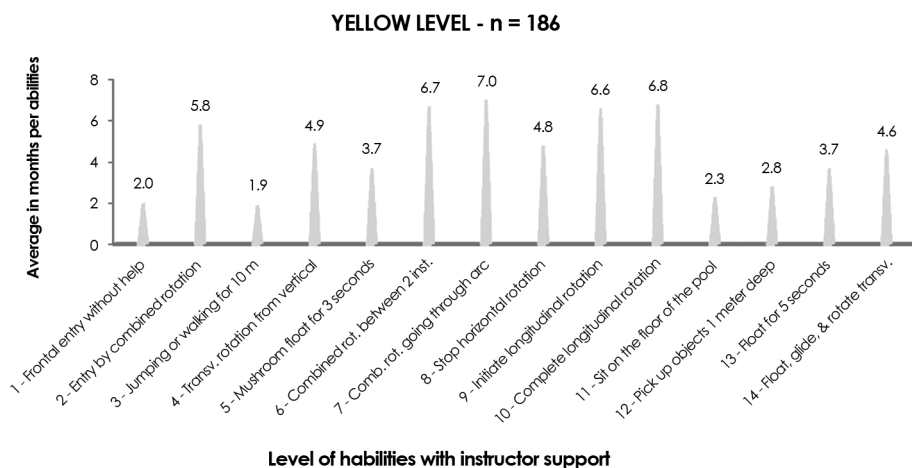


Figure 6. Average time in months to acquire yellow level abilities

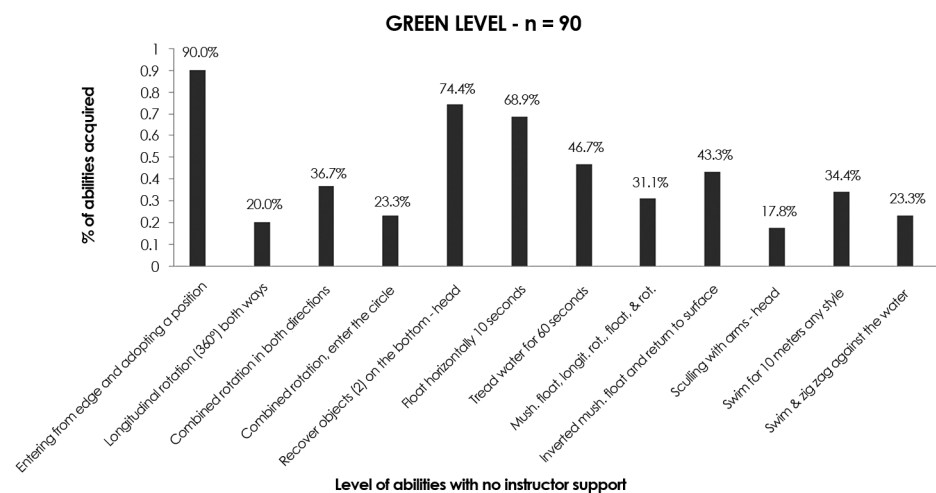


Figure 7. Abilities worked at the green level and percentage of users who acquired those abilities

movements and their organization were observed consistently.

The water viscosity resists and diminishes the speed of the movement, giving the swimmer time to recover balance with little instructor intervention, which contributes to independence in the water. Abilities recently acquired in the water can be practiced, repeated, and consolidated on the ground. Asymmetries and associated reactions induce unwanted body rotations, and the Halliwick, through rotation control, demands different movements and makes an obvious improvement in body alignment. Because there is less risk of getting hurt or falling on hard surfaces, the fear of falling is reduced and learning activities such as vertical balance and gait re-education become easier.

In immersion, sensory/perceptive processes are stimulated, which results in efficient coordination, special orientation, and general understanding. Group activities promote social abilities, chatting, communication, opportunities to learn rules, and to win and lose in games and competitions. Going to the pool stimulates a number of distinct activities before and after entering the water such as packing a bag, the traveling, and changing clothes.

Water allows a wide variety of exercises and activities with the same goal. By itself, it is a ludic element that motivates and brings challenges, especially in long-term treatments. People with specific limitations can receive special attention in the areas of movement, mobility, amplitude, coordination, planning, strength, stamina, respiratory capacity, oral control, and physical abilities.

In the water, the help given by the instructors is applied to specific points, allowing the swimmer to organize movements and stabilize, and have time to recover his balance with little intervention. Hypertonia is influenced by the effort to maintain balance and move against gravity, but in the water the gravity effect is different, and consequently there is a reduction in tonus and hypertonia.

The Halliwick concept introduces a new environmental factor to work strategies in movement and balance control in a different way.⁴⁻⁸ The attributes of the aquatic environment, more specifically, the physical properties of the water, help people to develop their physical, emotional, and social integration abilities. The individual quality of life is at the center of the holistic approach to health used in the Biopsychosocial model of the World Health Organization's International Classification of Functioning, Disability, and Health (ICF).⁹ The Halliwick holistic approach to teach people to participate in aquatic activities, moving

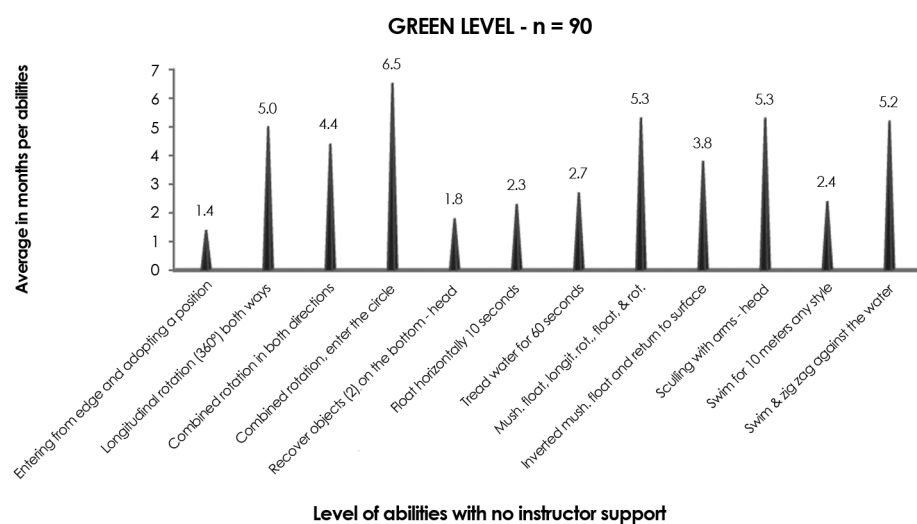


Figure 8. Average time in months to acquire green level abilities

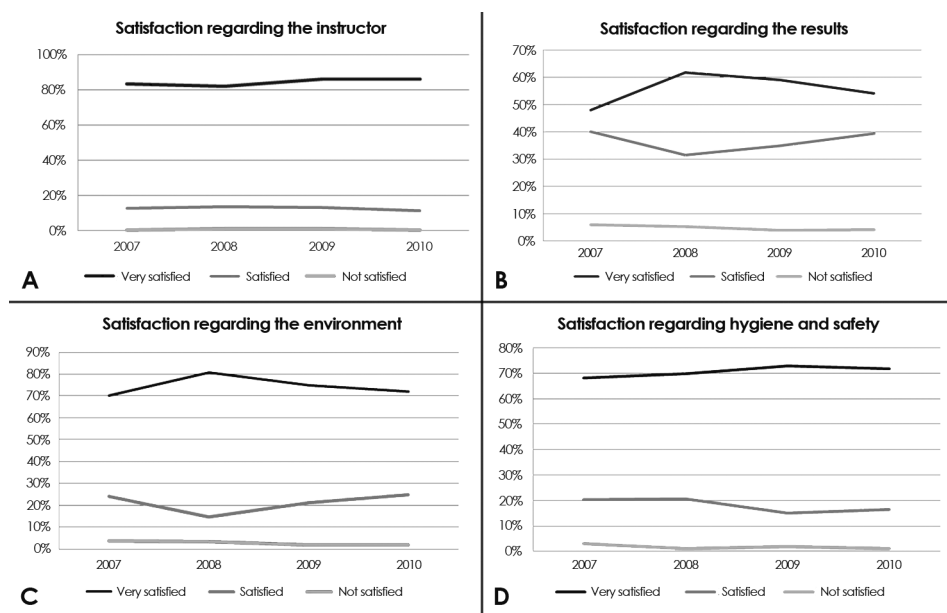


Figure 9. Percentage of satisfaction of users (n = 1.044)

independently, and to swim is well adapted to the ICF structure.

Swimming promotes wellbeing and life expectancy, and as a therapeutic tool it has an important role in the improvement and maintenance of health. Halliwick offers a wider dimension when stressed people experience mental as well as physical relaxation, those with low self-esteem experience success, improving their self-image, and those with challenging behavior are benefitted by having their energy channeled within an activity with

a defined goal and purpose, hyperactive individuals experience calmness and tranquility in their activities, and those who have learning difficulties take advantage of a pleasant and well-structured session, motivating learning in various areas. There are those who have their movements restricted who now feel their mobility increase; even with weak muscles they can move and experience strength. People with low tolerance for exercising taste the increase in stamina, and those with unwanted movements discover that the water

impedance helps to improve and to gain control. Lonely people benefit from the social aspects of being part of a group, and those who are afraid of water overcome their fear as soon as they increase their confidence. Those excluded now experience inclusion, and those who need a gentle environment to exercise find it in the water, and everybody can learn how to swim! The Halliwick concept is a guide or a tool to intensify and program multiple approaches. Water is fun, exciting, and tranquilizing; it allows one the freedom of movement, to experiment with the body in a different way, and to develop social contact. This is extremely motivating!

Margaret Reid Campion wrote in her book "Hydrotherapy: Principles and Practice": "the influence of the Halliwick method in aquatic activity is marked. It has brought refinement to hydrotherapy techniques, developed new meanings for exercises, and it shows that therapeutic combination and recreational programs promote continuous rehabilitation for all the disabilities in both fields, pediatric and adult, allowing the maximum potential to be reached, resulting in physical, psychological, and social benefit".¹⁰

CONCLUSION

To develop the maximum potential of people with physical disabilities, to reduce limitations, and to surpass pre-conceived ideas are some of the goals of the Institute of Physical Medicine and Rehabilitation - Hospital das Clinicas - FMUSP. The Halliwick method promotes these goals when it offers the multiplicity of its benefits, very well founded on scientific principles and on the mechanics of bodies in immersion.

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