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Contribution of Swimming to Motor Development in Children from 7 To 9 Years

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1. Abstract

The teaching of swimming is a habit that has been growing among people, so every day a new aquatic center comes up, schools begin to join swimming pools and make available to their students in this sport. Now a days the International Swimming Federation (FINA) has in its Official Swimming Rules Book (2017) four styles of swimming that should be taught to children, young people and adults who want to learn the practice of this sport and who are allowed in the official competitions of the federation and its affiliates in the countries, among these styles are crawl swimming, backstroke, breaststroke and butterfly swimming. According to Oliveira (2010), swimming is considered one of the healthiest sports, because it works with various muscle groups and body joints in a pleasant and different environment from what we live. This practice, besides being important for the formation of his personality and intelligence, also contributes to the physical and motor development of the subject.

2. Introduction

In current studies on swimming learning, there is an increasing talk about the playful form of teaching for children, especially in early and second childhood. Barbosa (2007) states this saying that “from children's tales, the teacher can approach the child's world, creating imaginary and creative situations, making the child approach the teacher, having a relationship of trust, focusing on learning in a pleasant and joyful way and valuing what is taught as well as what is learned."

Human motor development is a very important element that has been studied by experts. According to studies by Gallahue, Ozmun and Goodway [1], “the process of motor development is mainly revealed by changes in the behavior of movements over time.” With the ever-changing world, we live in a process where we learn to move with mastery and competence. Therefore, according to Piaget (apud MIRANDA 2017), there are four phases in the human being's childhood, he still states, that these phases have beginning and end. The first phase is the sensory motor (0 to 2 years). The second phase is preoperative (2 to 7 years). The third phase, in which this research will be carried out, is the concrete operative (7 to 11 years). The fourth and final phase is formal intelligence (11 years or older). Also, according to Gallahue, Ozmun and Goodway [1], motor development can be divided basically into four phases: Reflective motor phase - from birth to approximately 1 year of age; Rudimentary motor

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fundamental motor phase - from 2 to 7 years old and specialized motor phase - from 7 years old, each of which depends on the proper development of the previous phase so that the child can use his movements with satisfactory performance to performing motor tasks in their daily life, in recreational and sports activities. Thus, Gallahue, Ozmun and Goodway [1] summarize by saying that "the development process in general is seen as hierarchical. That is, the individual goes from general to specific and simple to complex while gaining mastery and control over the environment."

However, entering specifically the object of this study, which are children from 7 to 9 years old, we will highlight about the specialized phase, already mentioned above, and which the authors define as the phase that occurs from 7 years of age. And this phase is also divided into stages, which are these: transition stage: between 7 and 8 years; Application stage: Approximately from 11 to 13 years old, and Lifelong use stage: From 14 years old on and takes on throughout adulthood [1]. Also, according to the authors, the good development of the previous phase can define the good use or not of this phase [1]. However, they highlight in this same study that there are a number of variables that can have a direct influence on the child's good performance in this learning phase, such as their physical and physiological characteristics, or environmental (external) factors. According to Gallahue, Ozmun and Goodway [1], "During the transition period, the individual begins to combine and apply fundamental movement skills to perform special skills in sport and recreational environments." In other words, the transition stage is the main beginning of the period when the individual begins to develop more complex movements, to combine several basic movements he learned in the fundamental phase, to perform alternate movements such as throwing, balancing, widening laterality, participate in the most difficult games and games, etc. According to Correa and Massaud (1999), through aquatic activities it is possible to obtain an enlargement of the motor repertoire as well as assist in maturation and lead the person practicing the sport to develop motor skills, affective and cognitive and expand the possibilities of sociability and self-confidence. For Borges and Maciel (2016), swimming plays a very important role in the child's psychomotor repertoire, because in this context, this sport improves physical conditioning, limb coordination, amplitude of motor development, laterality, balance, agility and many others. skills, including school learning and daily activities. Swimming also has benefits for the cardiorespiratory system, Haddad (2007, p.16) states this in his study saying that "water pressure and resistance, together with the effort of the activity result in an increase of metabolism, promoting the strengthening of the cardiac musculature, the increase of the volume of the heart and a consequent improvement of the circulatory system.

Given the above, this study aims to present, through perception, the contributions of swimming in the motor development of children aged 7 to 9 years.

3. Materials and Methods

3.1. Study Design

This is an observational, descriptive and exploratory study of quali-quanti character.

3.2. Sample

The sample consisted of ten parents or legal guardians, who answered their perceptions regarding the contributions of swimming to the development of their children, where the age ranged from 7 to 9 years. The study setting was two aquatic centers located in the city of Salvador in the state of Bahia.

3.3. Instruments

A semi-structured questionnaire (Appendix I) containing the data of the children and their guardians was applied, as well as six objective questions and two subjective questions, together with a free and informed consent form (ICF).

3.4. Procedures

The invitation to participate in the study occurred at

the locus of the research and all participants were advised and instructed to read the Free Informed Term (ICF). After this stage and signing of the interview began. The questionnaire was delivered and completed by those responsible in the presence of the authors, to clarify any doubts. Inclusion criteria were used for children who practiced only swimming as a sport, with a regular frequency of at least twice a week and who had more than two months' time to perform the activity. As exclusion criteria, they were used with children who practiced other sports, as well as having classes less than two months and less than two days a week.

4. Statistical analysis

Data analysis took place in two modalities: The first through the grouping of results from objective questions and later the analysis of subjective questions. In this process, the data were tabulated and organized in the order of the questions. We also used the class interval for the distribution of months of practice in the sport, then the frequency distribution.

5. Results

The study sample was characterized by ten parents or guardians and school-age children who regularly attended swimming. Of the children, 60% are male and 40% female. Referring to the time in sports, Table 1 shows that most participants (50%) were swimming less than one year.

Table 1: Time of practice in swimming.

Time (months)	f	f %
2 a 11	5	50
12 a 24	2	20
25 a 96	3	30
Total	10	100

f - absolute frequency; f% - relative frequency.

In the objective questions, we observed unanimity regarding the "regular" and "bad" answers, where neither parent or guardian marked these options, only "good" or "great" for all questions. As we can see in Table 2, where it shows these answers.

Table 2: Perception of parents or guardians regarding the child's evolution after the start of swimming classes.

Improvement	Great	Good	Regular	Spacious
Flexibility	5	5	0	0
Physical disposition	6	4	0	0
Cardiorespiratory	7	3	0	0
Motor control	8	2	0	0
Physical strength	6	4	0	0
Position	6	4	0	0

6. Discussion

The issue on motor control development was the most prominent, where 80% of parents referred as excellent, and 20% as good, about the evolution after the child's start in sports. Within this context, these data corroborate what Borges and Maciel (2016) say in their study on the role of swimming, stating that it is extremely important in "amplitude of motor development, laterality, balance, agility and many other skills". Another fact that stands out is about the cardiorespiratory improvement of children, where 70% affirm a great evolution and 30% highlight as good. According to Rangel [2], swimming since the early months of the child's life has numerous benefits, including increased cardiorespiratory resistance and motor coordination. Regarding the answers about the posture, disposition and physical strength of the children, 60% of parents described it as "excellent" and 40% as "good".

When it comes to the question of flexibility, 50% of the answers reported as "great" and 50% as "good". Farinatti's study (2000) confirms this by saying that swimming is the sport where there is the largest amount of work that demonstrates the possible relationship between flexibility and sports

performance.

7. Conclusion

Children aged 7 to 9 years old who regularly swim in both aquatic centers showed superior results in relation to the domains covered by the questionnaire. Therefore, the objective of this research was to prove if swimming has any influence on the motor development of children aged 7 to 9 years, were successfully achieved. It is concluded, therefore, that the swimming practice provides the children in the analyzed age group a great daily physical disposition; more flexibility; cardiorespiratory improvement; sports practitioner to develop motor skills, affective and cognitive and expand the possibilities of sociability and self-confidence; The symmetrical work provided by the alternating movement of limbs and their traction on the paravertebral musculature has extraordinary efficacy in reducing deviations, especially with regard to the structure of the feet, lumbopelvic region and upper and cervical dorsal region.

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