



SURVEY OF THE EXPERTS' OPINION ON THE THERAPEUTIC EFFECT OF SWIMMING

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ABSTRACT

One of the most widely used sports in the world, as a treatment method for the correction of spinal deformities is swimming. The horizontal position that the body takes in the water helps to unload the spine, and from this position the muscles of trunk can be train.

THE PURPOSE of the study is to research the opinion of experts - swimming coaches on the therapeutic effect of swimming in children with incorrect posture or spinal curvature.

METHODS: For the purpose of the survey was used questionnaire method. The participants of the study are 32 swimming coaches. All collected data were processed and analyzed.

RESULTS: 70% of coaches answers that there are children with deviations from the correct posture or spinal deformities in their training groups. Over 65% of the coaches say that the number of children with spinal problems in their groups is up to 5 children, and 30.8% - up to 10 children.

CONCLUSIONS: Most of the specialists have been training children with spinal deformities in their practice. All coaches believe that the systematic swimming trainings improve the body posture of children. Not a small percentage of children begin to be involved in swimming training by their parents who are looking for therapeutic effect of swimming on the spine.

Key words: body posture, spinal deformities, children, coaches, parents.

INTRODUCTION

According to Dimitrova, E. et all (2013) during last decades, in our country there is no organizational structure responsible for the implementation of screening and prevention of postural disorders and spine deformities in students. Ordinance No. 39 on Preventive and Clinical Examinations, 2004 provided only basic guidelines for action (1). According to Burrton, M. (2013) studies in a number of countries have shown an increase in back pain complaints in about 13% of children aged 12-16 years and in about 30% in children aged 15-19 years (2).

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The adverse effects of lower physical activity expected by experts in recent years have been confirmed by a series of scientific studies. Scientific paper of Zaharieva, D. and Angelcheva, M. (2013) cited Scandinavian study which shows that almost 60% of children who watch TV for 1-2 hours a day complain of back pain (3). Same authors did a nationally representative survey with students aged 6-19 in 2010-2011 which showed that only 24% of them had the recommended physical activity of at least 60 minutes per day, and 35% of them were physically active less than two days a week (3). According to Paskaleva, R. (2013) in order to protect the still weak and fragile skeletal system of students who have to sit for a long time, systematic general or corrective physical exercises are necessary (4).

According to some authors (Clarke, A. et al, 2010; Stoychevski, M., Belomazgeva-Dimitrova, S., 2018) spinal deformities affect posture and change individual body structures. The most serious health changes are observed in the chest and abdomen (5, 6).

Many literature sources (Kutincheva, P., Dilova-Neykova, Ts. 2008; Bielec, G., et al, 2013; Jandrić, S., 2015) show that corrective swimming is a tool of great importance for the prevention and treatment of poor body posture and spinal deformities. The horizontal position occupied by the body in the water helps to unload the spine, and from this position symmetrical exercises can be done to purposefully train the muscles of the torso and the shoulder muscles responsible for maintaining proper body posture (7, 8, 9). According to some authors, one of the most widely used sports in the world to correct spinal deformities is swimming.

Spine deformities are not only an aesthetic problem according some scientific publications (Chernogorova, S., 1985; Sokolov, B., Markova-Stareinshinska, G., 1991; Gielen, J., Van den Eede, E., 2008) when they deteriorate, the adverse effects on the overall condition of the child's body and the functioning of the organs in the thoracic and abdominal cavities increase (10-12).

All these unfavourable tendencies provoked us to establish the opinion of experts in practice, e.g.

swimming coaches, in combating poor posture and spine deformities in children.

The purpose of the study is to examine the professional opinion of experts in practice, e.g. swimming coaches, on the therapeutic effect of swimming in children with incorrect posture or spinal deformities.

MATERIALS AND METHODS

To achieve the purpose of the study, a questionnaire was conducted in March 2021 among swimming coaches from the country licensed by the Bulgarian Swimming Federation. The results of the survey were statistically processed by frequency and graphical analysis. When analysing the results of the answers to the questions, their sequence was not observed.

The **contingent of the study** represents 32 swimming coaches from the country. 60% of them were men, and 40% - women.

RESULTS AND DISCUSION

For a start, it was important for us to establish the professional experience of the coaches surveyed, with the largest number of them or 38.5% having work experience of 5 to 10 years, followed by coaches with experience of more than 10 years - 30.8 %. The swimming experts that participated in the survey with experience of 1 to 3 years and those with experience of 3 to 5 years were equally represented, constituting 15% of the respondents (**Figure 1**).



Figure 1. Coaching experience of experts surveyed

The coaches unanimously answered in the affirmative to the question “Do you think that the systematic practice of swimming improves the physical posture of children?”.

70% of the experts said they had children with spine curvature disorders or poor posture in their swimming groups. It was important to find out

the number of children with spinal deformities in the groups of the coaches, so the next question to them was “What is the number of children with spinal deformities in your groups?”. 64.5% of the coaches said that there were up to 5 children in their groups, and 30.8% said there were between 5 and 10 children with posture and back problems training swimming in their groups (**Figure 2**).

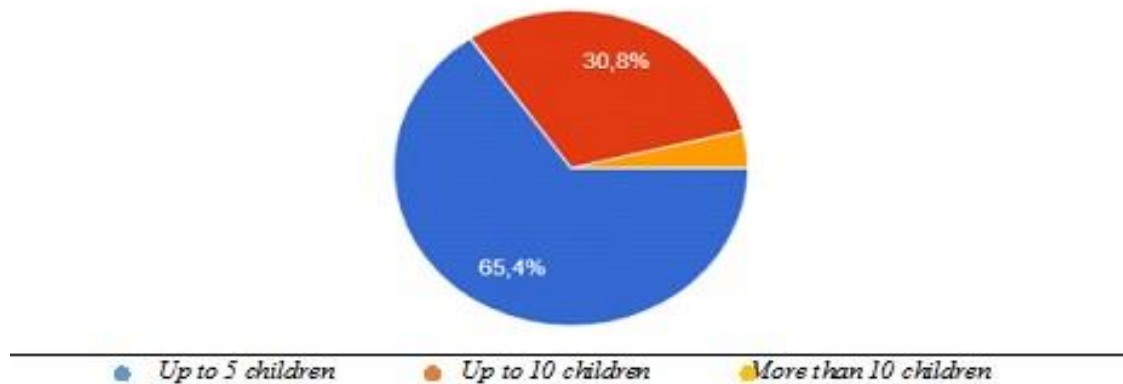


Figure 2. Number of children with spine curvature disorders in the groups of the experts

The next important point was to determine whether the “spinal deformities” condition in the children was diagnosed by a medical professional or was the result of observation and assessment by the coach. 60% of the experts indicated that the children with spinal deformities in their groups had been diagnosed by a physician and had the appropriate document. From this, the following conclusion could be made: if 70% of the experts surveyed had encountered the problem of spine curvature disorders in their swimming groups, and 60% of the children had a physician's confirmation, then 10% of the children attending swimming lessons or training practically had a hidden or suspected spinal deformation not certified by a physician, but observed by the swimming coach or parents.

We should summarize another interesting statistic: practically, there were a large percentage of children who were enrolled in swimming training by their parents looking for the healing and remedial effect of swimming, without being certified by a physician, but at the subjective discretion of their parents. To the question “Are there children in your groups who

attend the training due to problems with the spine and the correct posture at the subjective discretion of their parents?”, 71% of the coaches answered “Yes”, over 21% answered “No”, and about 8% did not have such information. It should be noted that about 65% of the coaches said that when enrolling their children in the swimming groups, the parents reported deviations from the correct posture or spinal deformities in their children, but the assessment was up to the parents, not the physician, whence comes our second conclusion: parents trust swimming in search of its healing and remedial effects.

Based on the fact that physical performance is essential when working with children with poor posture or spinal deformities, we asked the coaches if they observed in those children less developed motor skills than in other children. We found that 25.9% could not decide and draw such a conclusion, but according to 44.4% of the respondents, the physical qualities of children with spinal deformities were less developed, and 29.6% of them did not observe such a pattern (**Figure 3**).

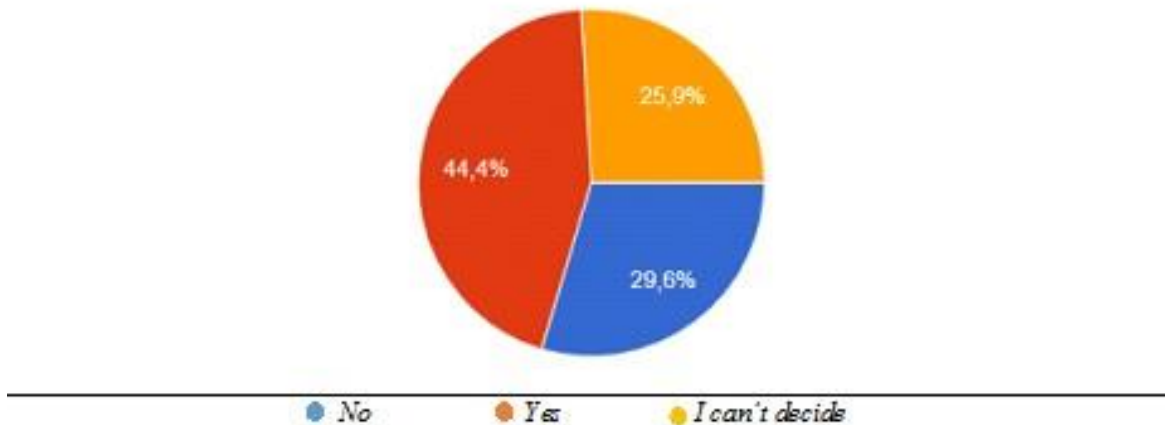


Figure 3. Do you find less developed motor skills in children with impaired posture or spine curvature disorders compared to other children?

We asked the coaches if the progress in the swimming learning or training process was the same in the children with deviations from the correct posture and spine curvature disorders, and in the children who did not have such problems and found that according to nearly 47% of the coaches the progress was the same. For almost half of the experts, there was no connection between the deteriorated posture or spine curvature disorder and the ability of children to train swimming. But almost 29% of the respondents believed that those children had problems learning and their pace of learning was not the same. 25% of the coaches could not decide if there was a connection.

An important point of the survey was to determine whether children with spinal deformities were more motivated in the swimming learning or training process, which is an important part of the correction and progress in combating poor posture and spine curvature disorders. According to half of the coaches, the motivation for progress was more visible in the children with spinal deformities than in other children. 33.3% of the experts could not decide, and 16.7% of them did not think there was a connection (**Figure 4**).

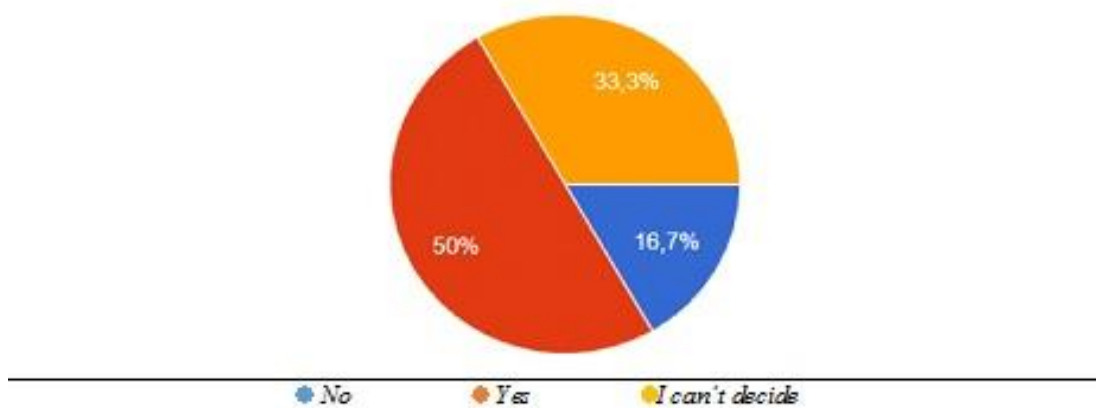


Figure 4. Do you think that children with posture disorders or spine curvature disorders are more motivated in the learning / training process than other children?

More than half of the respondents or 54% reported that the children attending their trainings had established problems with proper posture and reported back pain. The same percentage of coaches reported easier fatigue in those children, too. 46% of the experts reported they had observed that children with deviations from the correct posture and spine curvature disorders were more closed and introverted in their communication with other children, and about 11% could not decide.

CONCLUSION

The results of the survey allowed us to make the following conclusion. Most of the experts surveyed had children with spinal deformities in their groups and worked actively with them. Sports experts (swimming coaches) played a key role in the prevention and correction of poor body posture and spinal deformities, as well as in the formation of motor skills and improvement of the performance of children. The motivation for progress was more visible in children with spinal deformities than in other children. Progress was the same in children without deviations and with deviations from the correct posture, despite the introversion and easier fatigue of those children compared to others. According to most experts, there was no connection between poor posture or spinal deformities and the ability of children to train swimming. All coaches surveyed were of the opinion that the systematic practice of swimming improved the posture of children. Most of the children were enrolled in swimming training by their parents because of their confidence in the healing and remedial effect of the sport.

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