



Received: 22-10-2022

Accepted: 02-12-2022

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Investigation of the effect of in-water exercises for Therapeutic Recreation on Children

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Abstract

Introduction: The aim of this study is to investigate the physical development of individuals with mental and physical problems who receive water therapy in the Special Education Rehabilitation Center.

Materials and Methods: The study involved 14 mentally and physically challenged children who received water therapy at a Special Education Rehabilitation Center. The age of children is between 7-14 years. The mentally problematic children who participated in the research are the children who have moderate and mild mental problems and the children who have physical problems are the children who have orthopedic disabilities (walking, running, jumping, etc.).

For the research, a special movement training program was prepared for children with mental problems and physical problems. While preparing the program, support was received from special educators, physical therapists and recreation specialists. The research was applied for 2 months, 3 days a week and 60-90 minutes.

Results: At the beginning of the study, it was observed that children with mental problems were afraid to enter the water, did not obey the commands, exhibited behaviors that they did not want to separate from the mother and father, while the children who had orthopedic problems were afraid to enter the water, constantly waiting for help, and hesitating to move unaided in the water.

Conclusion and Evaluation: At the end of the research process, children with mental problems entered the water comfortably (85%), even rushed to enter, were not afraid of water (85%), obeyed the commands more (90%), continued to work separately from the mother and father (90%), and in children with orthopedic problems, they entered the water more willingly (80%), they wanted to move in the water without waiting for help (85%), It was observed that they were able to do the movements shown mostly (90%), and the majority of children (90%) who experienced walking problems were able to do walking exercises.

Keywords: Water Therapy, Special Education, Rehabilitation

1. Entrance

Sporting activities are a necessary occupation for a healthy and happy life in terms of quality of life. This effort is important for all individuals. It has a different importance especially for individuals with special needs. Because all sports activities and activities to be carried out can open a new window to individuals who already face many obstacles in their lives and need special education who live with the stress created by these obstacles (Özer, D.S., 2001)^[1].

For children with mentally special needs, they do not find the opportunities for physical activity necessary for the use and development of large and small muscle groups, for many reasons. Individuals with special educational needs can make a great contribution to their developmental characteristics through physical activities, games, recreational activities, etc. that they can participate in from their preschool education. The best environment where they can have physical activity opportunities with school age is physical education and sports classes (Yıldız, Ö., *et al.* 2011)^[8].

Regardless of the special education and needs group and degree, moving, exercising, participating in sports activities, playing games give happiness to the individual, and the pleasure of moving is an important tool in meeting the individual's needs for fun and achievement and increases the motivation for life. This increases the quality of life. Sport contributes to the social integration of disabilities by enabling them to develop physically, spiritually and socially (Eichsteadt, C.B., & Lavay, B. W., (1995)^[7].

It is a fact that individuals with special educational needs participating in sports activities will adapt to society and accelerate their socialization processes while at the same time providing positive development in their physical and physiological capacities.

The problems experienced by individuals with special needs belong not only to the disabled, but also to their environment, their families and all members of society (Siegel JC, Marchetti M, Tecklin JS. (1991) [2]. Butterfield SA, Ersing WF. (1986) [2].

Many studies have reported that the muscle strength of individuals with special mentally trained needs is lower than their normal partners (Pitetti, K.H., Yarmer, D.A., Lower Body 2002) [4]. When they engage in physical activity, they are not able to show sufficient motivation, concentrate and get bored quickly (Stadler, L.V., and Pitetti, K.H., 1996) [5]. (Winnick, J.P., 1995) [6].

2. Material and method

The study included 14 Mentally and Physically Problematic

Children with Special Needs Who Received Water Therapy at the Special Education Rehabilitation Center. The age of children is between 7-14 years. The mentally problematic children who participated in the research are the children who have moderate and mild mental problems and the children who have physical problems are the children who have orthopedic disabilities (walking, running, jumping, etc.).

For the research, a special movement-training program was prepared for children with mental problems and physical problems. While preparing the program, support was received from special educators, physical therapists and recreation specialists. The research was applied for 2 months, 3 days a week and 60-90 minutes.

Table 1: Special Movement Training Program Applied in Research

Weeks	Days	Purpose	Benefits
1	Sat	Walking outside the pool, running, jumping.	Ability to walk, run and jump balanced.
	Sunday	Holding, grasping, throwing.	Ability to hold, grasp and throw objects accurately and firmly.
2	Sat	Poolside Walking, running, jumping.	Ability to walk, run and jump balanced.
	Sunday	Holding, grasping,	Ability to hold, grasp and throw objects accurately and firmly.
3	Sat	Walking outside the pool, running, jumping.	Ability to hold, control and throw balls of different sizes and weights.
	Sunday	Holding, grasping, throwing.	Ability to hold, control and throw balls of different sizes and weights with both hands and feet
4	Sat	Poolside Walking, running, jumping.	Ability to hold, control and throw balls of different sizes and weights.
	Sunday	Holding, grasping,	Ability to hold, control and throw balls of different sizes and weights with both hands and feet
5	Sat	Poolside Walking, running, jumping.	Ability to roll evenly and properly, climb, walk in balance, bounce.
	Sunday	Holding, grasping, throwing.	Balanced and smooth Rounding, climbing, walking in balance, bouncing.
6	Sat	Poolside Walking, running, jumping.	Ability to roll evenly and properly, climb, walk in balance, bounce.
	Sunday	Holding, grasping,	Balanced and smooth Rounding, climbing, walking in balance, bouncing.
7	Sat	Swimming, running, jumping in the pool.	To be able to do the skills specific to sports branches in accordance with the technique in water
	Sunday	Holding, grasping, throwing.	To be able to do the skills specific to sports branches in accordance with the technique in water
8	Sat	Swimming, running, jumping in the pool.	To be able to do the skills specific to sports branches in accordance with the technique in water
	Sunday	Holding, grasping,	To be able to do the skills specific to sports branches in accordance with the technique in water
9	Sat	Swimming, running, jumping in the pool.	Ability to hold, control and throw balls of different sizes and weights in water with both hands and feet.
	Sunday	Holding, grasping, throwing.	To be able to roll in the water in a balanced and smooth way, to climb, to walk in balance, to bounce.
10	Sat	Swimming, running, jumping in the pool.	To be able to do the skills specific to sports branches in accordance with the technique in water
	Sunday	Holding, grasping,	To be able to play games in the water as a partner and as a group, to follow the rules
11	Sat	Swimming, running, jumping in the pool.	To be able to play games in the water as a partner and as a group, to follow the rules
	Sunday	Holding, grasping, throwing.	To be able to play games in the water as a partner and as a group, to follow the rules
12	Sat	Swimming, running, jumping in the pool.	To be able to play games in the water as a partner and as a group, to follow the rules
	Sunday	Holding, grasping,	To be able to play games in the water as a partner and as a group, to follow the rules

Table 2: Results of Observation Applied in Research Expert Observation Results

	Observation Status	Positive	Negative	Ambiguous
1	Whether the children participating in the research are willing or not			
2	Relationships of the children who participated in the research with their friends			
3	Solidarity status of the children participating in the research			
4	Compliance with commands of children participating in the research			
5	Disciplined working status of children participating in the research			
6	Compliance with the rules of the children participating in the research			
7	Work continuity of the children participating in the research			
8	Study success of children participating in research			
9	Compliance of children participating in research with reward and sanction			
10	Physical development of children participating in the research			

According to the observation of the therapeutic recreation experts who applied the research in Table 2; It was observed that the children participating in the study were reluctant in the first weeks of the studies, could not communicate with their friends, did not help each other and did not obey the commands.

In the last weeks of the study, it was observed that they entered into dialogue with their friends, with whom they were more willing to work, helped each other in the use of materials during the study and obeyed the commands.

Again, in the first weeks, it was observed that they exhibited undisciplined behaviors in the studies, that they mostly did not comply with the rules, that they disrupted the studies, that their success was low, that they participated in the studies in a disciplined manner towards the last weeks, that they adapted to the rules, that there was continuity in the studies and that they developed their success in a positive way.

Table 3: Interview Results Applied in the Research Parent Interview Results

Interview status	Positive	Negative	Ambiguous
1 Whether your child is willing or not			
2 Your child's relationships with friends			
3 Your child's mutual aid situations			
4 Your child's compliance with commands			
5 Your child's disciplined working situation			
6 Your child's compliance with the rules			
7 Your child's work continuity			
8 Your child's work success			
9 Your child's compliance with reward and sanction			
10 Your child's physical development			

According to the opinions of the parents of the children who participated in the research in Table 3; At the beginning of the research, it was stated that their children were not very willing, could not communicate with their friends, did not help each other, did not obey the commands much, while in recent weeks they participated in the studies with more enthusiasm, started to communicate with their friends, helped each other in the studies and obeyed the commands. According to the opinions of the parents, it was stated that they had difficulty in complying with the rules in the first weeks, that they did not show continuity in their studies, that their success was low and that they had problems in awards and sanctions, while in recent weeks it was stated that they had increased their compliance with the rules, work continuity, success increased and they complied with the award sanctions.

3. Discussion and conclusion

At the beginning of the research, it was observed that children with mental problems were afraid to enter the water, did not obey the commands, did not want to be separated from the mother and father, while in children with orthopedic problems, they were afraid to enter the water, they constantly waited for help, they were afraid to move unaided in the water, while at the end of the research process, children with mental problems entered the water comfortably or even rushed to enter, It has been observed

that they are not afraid, they obey the commands more, they continue to work separately from the mother and father, and in children with orthopedic problems, they enter the water more willingly, they want to move in the water without waiting for help, they can mostly do the movements shown, and the majority of children (90%) who have walking problems can do walking exercises.

In scientific studies, it is in line with the fact that individuals with learning difficulties provide physical, social and mental improvements with sports activities and exercise programs. (Fame and his friends, 2001).

As a result of the physical fitness training they carried out for mentally disabled children at the age of 11-18, they found a significant increase in knee flexion-extension muscle strength. Rimmey and Kely (Rimmer, J. H., Kell, 1991)^[10].

They observed significant improvement in lower extremity muscle strength with weight training. They stated that the strength training program for these individuals should include activities that the person enjoys, progressive, individually planned and that target special muscle groups in the trunk, arms and legs (Özmen, T. Yıldırım, N. Ü., 2011)^[11].

Azeem, K., Ameer, A. A. (2011)^[12] state in their studies that the fact that students with disabilities start at the earliest age for their physical and motor performance increases their success even more. They also found no significant differences in development between male or female students.

In their research on preschool children, Özbar and Kayapınar (2006) found significant improvements in hand-eye coordination in children with the six-month movement training program.

As a result, it can be said that the in-water movement training program with exercise and sports content applied to disabled children provides positive developments in children, there are improvements in coordination hand skills and especially significant development in strength development.

4. Resources

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