DOI: https://doi.org/10.53350/pjmhs221621046

ORIGINAL ARTICLE

Investigation of Published Postgraduate Theses on Individuals with Down Syndrome in the Field of Sport Sciences in Turkey

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ABSTRACT

Background: Sports activities are one of the most important factors that play a role in the rehabilitation of individuals with special needs and their reintegration into society. Individuals with special needs can take the opportunity to protect and develop their existing abilities with the sports activities they participate in. In this context, studies on individuals with Down syndrome in the field of sports sciences gain more importance.

Aim: The aim of this research is to examine the postgraduate theses on individuals with down syndrome in the field of sports sciences in Turkey.

Methods: In the literature, review studies are generally carried out with three different methods: systematic review, traditional review and meta-analysis. This research was designed using the systematic review method. A total of 176 theses were reached as a result of the search made by scanning the keyword "Down Syndrome" between 20.03.2022 and 30.03.2022 on the database of the Turkish National Thesis Center. As a result of the first evaluation made within the framework of the inclusion criteria of the research, it was determined that 165 theses were outside the field of sports sciences and these theses were not included in the research within the scope of exclusion criteria. Within the scope of the inclusion criteria of the study, it was determined that there were 11 postgraduate theses and these theses were grouped as the theses suitable for the purpose of the research and included in the research.

Results: Physical activity, exercise and games improve motor skills of individuals with Down syndrome. The happiness and anxiety levels of parents who participate in practices such as physical activity and exercise increase. Practices such as physical activity and exercise positively affect the psychomotor, cognitive and social development of individuals with Down syndrome. Sportive performance parameters of individuals with Down syndrome vary according to characteristics such as age, height, and gender. Recreational activities in special education and rehabilitation centers positively affect the health, perception and self-behavior levels of children with Down syndrome. Therapeutic recreational activities positively affect the socialization of individuals with Down syndrome.

Conclusion: As a result, it can be said that participation physical activities can positively affect the cognitive, affective and physical levels of individuals with Down syndrome.

Keywords: Down Syndrome, Sports Sciences, Individuals with Special Needs

INTRODUCTION

Down Syndrome is a genetic disorder caused by a trisomy of the 21st chromosome [1]. Its prevalence worldwide has been reported as one in every 800-1000 live births [2]. Cognitive disorders are observed in almost all individuals with Down Syndrome. Most individuals have an IQ in the range of 50-70 or 35-50 and are classified as mild to moderately retarded. However, there are individuals with Down syndrome who have an IQ of 20-35 and have severe cognitive impairment [3,4]. In addition, individuals with Down syndrome have various problems such as delay in motor development, sensory and motor problems, perceptual disorders, and adaptive behavior disorders [5].

It has been reported by parents and professionals in the literature that children with Down Syndrome frequently have problems in attention, motor activities and sensory integration [6-8]. For example, in a scientific study, it was reported that rough and fine motor skills in children with Down Syndrome were lower than their peers with normal development [7,9,10]. Delays in the motor skills of these children; It negatively affects activities such as balance, dexterity and playing games and limits their participation in daily life activities [8,11]. In addition, it is known that children with Down Syndrome have a shorter attention span as a result of sensory modulation and sensory integration disorders and have problems in the continuous attention parameter [12-15].

Children with Down Syndrome experience sensory integration problems as a result of limited sensory experience resulting from a lack of motor control. Physical, cognitive and sensory integration problems affect children's functional abilities in activities of daily living [16-18]. In the literature, various rehabilitation approaches such as neurodevelopmental therapy, virtual reality applications, and game therapy, which are adapted to individual needs, are used in Down Syndrome [19]. With such methods, it may be possible to increase the quality of life of individuals with Down Syndrome. Therefore, it is important to conduct scientific studies on individuals with Down Syndrome and to develop new techniques, treatments and approaches.

It has been reported by many researchers that sports activities can positively affect the social adaptation and skills, sportive parameters, motor and behavioral development of individuals with Down syndrome [20-22,26,27].

Sports activities are one of the most important factors that play a role in the rehabilitation of individuals with special needs and their reintegration into society. Individuals with special needs can take the opportunity to protect and develop their existing abilities with the sports activities they participate in [23,28]. In this context, studies on individuals with Down syndrome in the field of sports sciences gain more importance.

Aim of the study: The aim of this research is to examine the postgraduate theses on individuals with down syndrome in the field of sports sciences in Turkey.

MATERIAL AND METHODS

Research model: In the literature, review studies are generally carried out with three different methods: systematic review, traditional review and meta-analysis. This research was designed using the systematic review method [24]. The systematic review consists of synthesizing the findings obtained from the studies included in the research by examining all the studies published in the relevant field within the framework of various inclusion and exclusion criteria in order to answer a question or find a solution to a problem [25].

Inclusion criteria for the study; Being in the status of a postgraduate thesis published in the field of sports sciences, the participant group consisting of individuals with down syndrome or their parents. Exclusion criteria from the study; Being in the status of an unpublished postgraduate thesis in the field of sports sciences, the participant group not consisting of individuals with down syndrome or their parents.

Scanning Strategy and data collection: A total of 176 theses were reached as a result of the search made by scanning the keyword "Down Syndrome" between 20.03.2022 and 30.03.2022 on the database of the Turkish National Thesis Center. As a result of the first evaluation made within the framework of the inclusion criteria of the research, it was determined that 165 theses were outside the field of sports sciences and these theses were not included in the research within the scope of exclusion criteria. Within the scope of the inclusion criteria of the study, it was determined that there were 11 postgraduate theses and these theses were grouped as the theses suitable for the purpose of the research and included in the research (Figure 1).

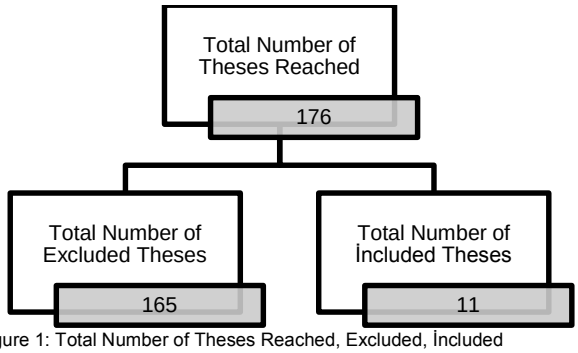

Figure 1: Total Number of Theses Reached, Excluded, İncluded

RESULTS

The data obtained from a total of 11 graduate theses, including 9 master's theses and 2 doctoral theses (Figure 2), are given in the table below (Table 1).

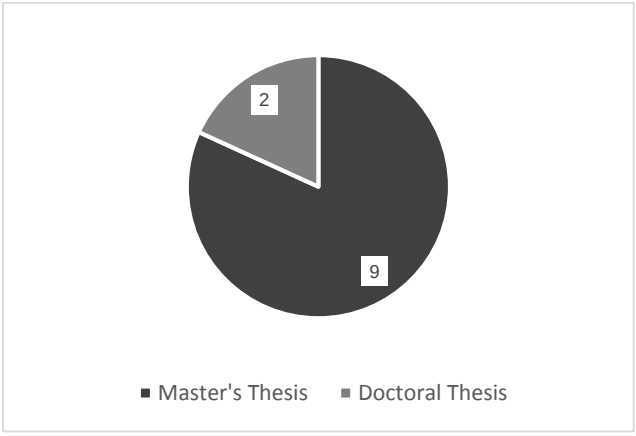

Figure 2: Number of master's theses and doctoral theses

Table 1: Findings related to level postgraduate (GR), year of publication (PY), aim (AM), age of participant (AG), number of participant (NP), data collection tools (DC) and results (RS).

Number of thesis	Contents	Results
1	GR	Master Degree
	PY	2022
	AM	The aim of this study is to examine the effects of the game activities module applied to students with Down Syndrome through distance education on motor skills.
	AG	4-7 ages
	NP	20 Individuals with Down Syndrome
	DC	Bruininks-Oseretsky Motor Proficiency Test Short Form (BOT-2 SF)
	RS	It has been determined that the activity program consisting of games and exercises given through distance education improves the motor skills of children with Down Syndrome.
2	GR	Master Degree
	PY	2021
	AM	Investigation of happiness levels and trait anxiety status of parents of individuals with Down syndrome and autism participating in recreational activities.
	AG	Unspecified
	NP	81 parents of individuals with Down syndrome
	DC	Oxford Happiness Scale
	RS	It has been determined that recreational activities and exercises increase the happiness levels and trait anxiety levels in disabled individuals and their parents.
3	GR	Master Degree
	PY	2021
	AM	The aim is to provide comprehensive information on the subject by evaluating the studies on the effects of exercise and sports on psychomotor, cognitive and social-emotional areas in individuals with Down Syndrome.
	AG	-
	NP	33 articles
	DC	A systematic review
	RS	It has been determined that exercise and sports have positive effects on individuals with Down Syndrome in terms of psychomotor, cognitive and affective aspects.
4	GR	Master Degree
	PY	2021
	AM	It was investigated whether the balance and flexibility levels of individuals with Down syndrome differed significantly according to age range, gender and height. In addition, it was investigated whether isokinetic muscle strength differed significantly according to angular velocity.
	AG	9-18 ages
	NP	15 Individuals with Down Syndrome
	DC	Sit and reach test, force measurement with isokinetic dynamometer, balance measurements on Sportkat balance device
	RS	The flexibility scores of individuals with Down syndrome in the 14-18 age range are higher than those in the 9-13 age range. Individuals with Down syndrome have higher flexibility scores than men and tall people have higher flexibility scores than short ones. Individuals with Down syndrome in the 9-13 age range have better balance performance than those in the 14-18 age range. As the angular velocity value increases, the averages of the flexion and extension values of the participants decrease.

5	GR	Master Degree
	PY	2020
	AM	The effects of adapted physical education and game activities on the physical fitness levels of individuals with Down Syndrome were investigated.
	AG	7-11 ages
	NP	36 Individuals with Down Syndrome
	DC	Anthropometric tests, vertical jump test, flexibility (sit-reach) test, hand (right-left) grip strength test, stroke length measurement, sitting height measurement
	RS	It has been determined that 16 weeks of adapted physical education and play exercises contribute to the physical fitness levels of children with Down Syndrome.
6	GR	Master Degree
	PY	2019
	AM	To determine the effects of sportive recreation activities carried out in special education practice and rehabilitation centers on children with Down syndrome.
	AG	Unspecified
	NP	11 teachers working at the Special Education Application Center
	DC	Semi-structured open-ended interview form
	RS	It has been determined that recreational activities have positive effects on the health, perception and self-behavior levels of children with Down syndrome.
7	GR	Master Degree
	PY	2018
	AM	This research was carried out to examine the effect of therapeutic recreational activities on the social development of children with Down syndrome.
	AG	07-12 ages
	NP	69 Individuals with Down Syndrome
	DC	Social Skills Assessment Scale
	RS	It has been determined that therapeutic recreational activities applied to students with Down Syndrome have an effect on their social development.
8	GR	Doctorate
	PY	2017
	AM	The aim of this study is to examine the effects of regular physical activity on the life satisfaction and trait anxiety levels of the families of individuals with Down syndrome.
	AG	-
	NP	100 parents of individuals with Down syndrome
	DC	Oxford Happiness Scale
	RS	It has been determined that the participation of children with Down syndrome in physical activity may increase the happiness and anxiety levels of the parents.
9	GR	Master Degree
	PY	2017
	AM	It was investigated whether physical education and sports activities have an effect on the psychological adjustment levels of children with Down syndrome.
	AG	07-18 ages
	NP	10 Individuals with Down Syndrome
	DC	Hacettepe Psychological Adjustment Levels Scale
	RS	It has been determined that physical education activities applied for 16 weeks have a positive effect on the psychological adjustment levels of children with Down syndrome between the ages of 07-18.
10	GR	Doctorate
	PY	2011
	AM	This study examined the effects of a 14-week physical activity program on the motor skills and activities of daily living of children with Down syndrome.
	AG	6-10 ages
	NP	26 Individuals with Down Syndrome
	DC	Test of Gross Motor Development (TGMD-2)
	RS	It has been determined that a 14-week physical activity program improves motor skills and daily living skills of individuals with Down syndrome.
11	GR	Master Degree
	PY	2001
	AM	In this study, the contributions of physical education and physical activity practices and swimming sports to the development of children with Down Syndrome were investigated.
	AG	9-15 ages
	NP	20 Individuals with Down Syndrome
	DC	Brockport Test battery
	RS	A significant improvement has been observed in the physical performance of children with Down Syndrome who train within the framework of swimming and physical education activities. In addition, it was found that children with Down Syndrome who participated in swimming training had a greater increase in their physical capacity.

CONCLUSION

As a result, it can be said that participation in all kinds of physical activities can positively affect the cognitive, affective and physical levels of individuals with Down syndrome. however, it has been determined that the number of theses published in the postgraduate thesis in the field of sports sciences is quite low. In this context, it is recommended to conduct more thesis studies. In addition, it may be recommended to conduct studies with a larger number of participants. In addition to this, it was determined that the participant age group was 18 years old and under. It may be recommended to include individuals with Down syndrome in the older age group in future studies.

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