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An Examination of Physical Activity, Sports, and Recreational Activity Policies for Individuals with Autism Spectrum Disorder in Turkey

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1. INTRODUCTION

Autism Spectrum Disorder (ASD) is a neurodevelopmental difference that begins in the early stages of life and leads to limitations in social communication, interaction. interests. behavior. The American Psychiatric Association (2013) defines ASD as "a developmental syndrome characterized by significant impairments in social interaction and communication, along with marked limitations in the development of interests and activities, typically manifesting before the age of three" [1]. The prevalence of ASD is increasing both in Turkey and globally, which leads to various challenges for individuals in areas such as education, health, occupational life, and social participation [2,3]. It has been reported that the

ABSTRACT

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by difficulties in social communication and behavior. Physical activity and sports are crucial for enhancing the motor skills, social interaction, and quality of life of individuals with ASD. Access to these activities represents a rights-based issue concerning equality and social inclusion. While various policies exist in Turkey, their effectiveness for individuals with ASD and implementation challenges remain underexplored. Objective: This study aims to evaluate existing state policies in Turkey that support the participation of individuals with ASD in physical activity, sports, and recreational activities, considering their scope, implementation, and impact. Methods: A literature review was conducted, examining policy documents, legislation, strategic plans, and academic publications issued by relevant governmental institutions. Collected documents were analyzed using content analysis to assess accessibility and support for individuals with ASD. Results: The analysis revealed several state policies facilitating access to physical activity and sports for individuals with ASD. Measures to promote social participation were identified; however, limitations regarding accessibility, scope, and institutional coordination were also noted. Findings suggest that while policies have positive effects, improvements are needed to enhance sustainability and inclusivity. Conclusion: Policies addressing physical activity and sports for individuals with ASD represent important progress. Nonetheless, further development is recommended to increase accessibility, inclusivity, and responsiveness to specific needs. Strengthening inter-institutional collaboration and monitoring processes is also essential for effective policy implementation.

barriers faced by individuals with ASD in their participation in social life have negative effects on the quality of life of both the individuals and their families [4].

Physical activity and sports participation in individuals with Autism Spectrum Disorder (ASD) are generally lower compared to their typically developing peers [5]. Research has shown that low levels of physical activity are associated with weaknesses in motor skills, limitations in social interaction, and a decline in quality of life [6]. Regular physical activity, sports, and recreational activities have been found to improve motor coordination, social communication, and behavioral adaptation, as well as reduce stress levels [7]. Specifically, play-based exercises and group activities are seen as effective in the

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development of social skills [8]. However, participation is hindered by environmental barriers, limited opportunities, and a lack of suitable programs [9]. Therefore, it is essential to develop holistic programs supported by family, school, and community that promote physical activity for individuals with ASD [10]. Individuals Turkey face autism in "exclusion. marginalization, and alienation," which restricts their participation in public and social spaces [11]. Deficiencies in social acceptance, a lack of awareness, and tendencies for labeling lead to limited access to recreational activities for these individuals. In this context, sports are seen as a social interaction space that strengthens societal inclusion and a sense of belonging.

In recent years, state policies in Turkey have taken significant steps to enhance the quality of life and support the social participation of individuals with ASD. The National Action Plan for Individuals with Autism Spectrum Disorder (2016-2019), prepared by the Ministry of Family and Social Services, and the updated National Action Plan for Autism Spectrum Disorder (2023-2030), have outlined comprehensive strategies aimed at the full societal participation of individuals with ASD. These documents emphasize increasing participation in sports, artistic, and cultural activities; enhancing accessibility; ensuring interinstitutional coordination; and improving the sustainability of services as key objectives [12]. This strategic direction has also been legalized in educational policies. Article 5 of the Regulation on Special Education Services [13]. Emphasizes that educational services for individuals with special needs should be planned and implemented "in a way that involves interaction and mutual adaptation with society, as much as possible, without separating them from their social and physical environments" [14]. This regulation has created a legal basis to support the access of individuals with special needs to sports and recreational activities. Therefore, the participation of individuals with ASD in physical activity, sports, and recreational activities has become a political priority not only on an individual level but also in terms of social inclusion, a rights-based approach, and societal awareness. In this context, through policies developed by the government, the creation of sustainable, accessible, and inclusive programs in these areas can have lasting effects on the individuals' quality of life, social visibility, and social integration processes.

This research aims to examine the scope, implementation, and impact of physical activity, sports, and recreational activity policies for individuals with ASD in Turkey. The significance of

this study lies in analyzing how the existing policy documents are applied specifically to individuals with ASD and how these policies reflect on the social participation of these individuals. Furthermore, the research aims to present the current status of access to physical activity for individuals with ASD based on content analysis of policy documents, strategic plans, legislation, and academic studies, and to identify areas that need improvement.

2. AUTISM SPECTRUM DISORDER

ASD is a neurodevelopmental condition with early onset and heterogeneous clinical presentations. primarily characterized persistent difficulties in social communication and interaction, as well as restricted and repetitive patterns of behaviors or interests [15]. The diagnostic framework defined in the DSM-5-TR emphasizes, in addition to persistent deficits in social-emotional reciprocity. nonverbal communication, and the ability to maintain relationships, the presence of at least two types of restricted and repetitive behavior patterns [16]. The ASD phenotype manifests across a wide spectrum, often accompanied by differences in attention, language, sensory processing, and functioning; this executive heterogeneity necessitates individualized approaches in both assessment and service planning [17].

Epidemiologically, while global prevalence rates vary depending on methodology and scope, systematic reviews have reported findings ranging between 0.6% and 1.0% [18]. A more recent systematic review, accounting for methodological variations and improvements in surveillance systems, has shown significant regional variability, yet an overall sustained trend toward increased reported prevalence [19]. According surveillance authorities such as the CDC, recent estimates indicate that prevalence has risen to approximately 1 in 31 among 8-year-old cohorts. Although the expansion of screening programs and increased awareness contribute to this rise, these factors alone cannot fully explain the trend [20].

Clinically and functionally, ASD exerts a significant impact on daily living and participation from early childhood, due to difficulties in interpreting social cues, joint attention, emotion recognition, flexible problem-solving, and sensory regulation. Enhancing early symptom recognition and referral processes is key to providing appropriate support during critical developmental periods [20]. The World Health Organization underscores the variability of ASD symptoms and needs across the lifespan, emphasizing the

importance of individualized support, accessible services, and social participation [21].

In light of updated evidence on diagnostic criteria and epidemiology, ASD is a condition that requires personalized planning in education, health, and social participation due to its heterogeneous course and associated difficulties. This framework serves as the foundation for examining, in the following sections, the policy structures in Turkey and the effects of sports, physical activity, and recreational domains on the participation and quality of life of individuals with ASD.

2.1. Autism Policies in Turkey

Autism policies in Turkey have been shaped within a rights-based approach that guarantees equal participation of individuals with disabilities in all aspects of life. The legal foundations of this approach are established by the United Nations Convention on the Rights of Persons with Disabilities [22], to which Turkey became a party in 2009; Law No. 5378 on Persons with Disabilities [23], and the Regulation on Special Education Services issued by the Ministry of National Education [13]. Law No. 5378 secures the rights of persons with disabilities and regulates the responsibilities of public institutions in the areas of education, health, employment, accessibility, and social services. Article 4 of the law establishes the principles of "equality, participation, and a holistic approach" in planning services for individuals with disabilities, while Articles 14 and 15 aim to ensure their full participation in social life [23].

A milestone document in institutionalizing autism policies in Turkey was the National Action Plan for Individuals with Autism Spectrum Disorder [24]. Prepared under the coordination of the Ministry of Family and Social Policies, the plan was approved by the High Planning Council (Decision No. 2016/8, dated 13 April 2016) and published in the Official Gazette on 3 December 2016. The primary objectives of this first action plan were to improve the quality of life of individuals with ASD, enhance service accessibility, and ensure inter-agency coordination. The plan was structured around six priority areas:

- 1. Increasing public awareness and knowledge about ASD;
- 2. Establishing an early diagnosis, treatment, and referral chain;
- 3. Developing educational and support services for families:
- 4. Enhancing the quality of educational and special education services:
- 5. Expanding employment opportunities;

6. Strengthening social services, social assistance, and community participation [24].

During implementation, a Monitoring and Evaluation Board for the Autism Action Plan was established, involving various ministries and civil society organizations to oversee policy processes. The board prepared regular monitoring reports to evaluate the performance of public institutions. However, in the first action plan, sports, physical activity, and recreational activities were not defined as direct strategic objectives; rather, they were indirectly addressed under the heading of "enhancing social participation."

Based on the implementation experience and field reports from the 2016-2019 period, a new policy document the National Action Plan for Autism Spectrum Disorder (2023–2030) was introduced. Developed under the coordination of the Ministry of Family and Social Services, Directorate General of Services for Persons with Disabilities and the Elderly, this second plan adopts a rights-based, holistic, and sustainable approach. It identifies nine strategic goals to strengthen the realization of the rights of individuals with ASD, among which the eighth goal, "Supporting participation in sports, artistic, and cultural activities," is particularly noteworthy. Within this framework, the plan envisions collaborative projects between the Ministry of Youth and Sports, the Ministry of National Education, the Ministry of Culture and Tourism, and local governments to improve access to physical activity, recreational programs, and cultural events for individuals with ASD [25]. Compared to the previous plan, it has been strengthened in terms of data-driven management, monitoring and evaluation systems, and local implementation mechanisms. Accordingly, Provincial Monitoring Commissions have been established to oversee implementation at the local level an innovation that enhances inclusivity by decentralizing authority and responsibility [12]. In summary, autism policies in Turkey laid their institutional foundations with the 2016–2019 plan and evolved into a rights-based, sustainable, and multi-stakeholder structure through the 2023-2030 plan. One of the most significant innovations of the new plan is its treatment of sports, physical activity, and recreational participation as a social right and its integration of these areas into the core of social inclusion policies.

2.2. Sports, Physical Activity, and Recreational Activities in Autism Policies in Turkey

For individuals with ASD, physical activity, sports, and recreational activities are recognized as critical domains that provide multifaceted

benefits—not only for physical and mental health but also for cognitive, behavioral, social, and emotional development [25]. Research demonstrated that participation in regular physical activity significantly improves behavioral regulation, attention span, motor coordination, self-efficacy social interaction. and individuals with ASD [26,27]. Physical activity is particularly considered a supportive tool for alleviating ASD-specific challenges in sensory regulation and executive functioning [28].

There is strong evidence that exercise-based interventions reduce repetitive behaviors, increase response to stimuli, and decrease aggression and hyperactivity in individuals with ASD [29]. These effects are associated with the neurophysiological role of physical activity in regulating dopamine and serotonin levels. Group-based activities have also been shown to enhance social learning by strengthening peer communication and joint attention processes [30]. Pan reported significant improvements in motor skills, balance, and muscle endurance in children with autism participated in a 12-week physical activity program, with these improvements paralleling increased levels of social participation [26]. Similarly, a meta-analysis by Healy et al. [28] demonstrated that physical activity interventions effectively improve self-regulation, emotional control, and social communication in children and adolescents with ASD. Recreational activities such as swimming, cycling, rhythm exercises, voga. and play-based interventions—have also been found to significantly enhance stress management, self-confidence. and social motivation [31]. with individuals ASD Group-based recreational activities contribute to developing social roles and a sense of belonging [32]. Waterbased activities, in particular, have been shown to reduce sensory integration difficulties facilitate behavioral regulation due to their calming effects [33].

In Turkey, the participation of individuals with ASD in sports and recreational activities was first addressed at the policy level during the 2016–2019 National Action Plan for ASD. However, during this period, physical activity and sports were not established as direct strategic objectives but were instead indirectly included under "enhancing social participation." Although this plan made significant progress in awareness, early diagnosis, and educational services, it did not systematize policies for access to physical activity at the institutional level. In contrast, the 2023–2030 National Action Plan for ASD addressed this gap by explicitly including Goal 8: Supporting participation in sports, artistic, and cultural

activities. This goal, coordinated by the Ministry of Youth and Sports, the Ministry of National Education, the Ministry of Culture and Tourism, and local governments, aims to promote access to physical activity through appropriate facility design and material adaptation for individuals with ASD [12].

The plan's implementation strategies include:

Expanding accessible sports facilities, Establishing barrier-free recreational areas, Supporting family-based physical activity programs, Promoting inclusive sports projects by local governments [25].

In addition, the Regulation on Special Education Services [13] defines participation in social, sports, and cultural activities as an integral part of the educational process for individuals in special education institutions. Article 5 explicitly states that "education for individuals with special needs must be provided in interaction with [14]. This regulation provides society" fundamental legal basis for supporting schoolbased sports activities that promote the social inclusion of individuals with ASD. Furthermore, initiatives such as the Barrier-Free Sports Project (2020) led by the Ministry of Youth and Sports, in collaboration with the Turkish Federation for Sports for All, have begun to develop accessible models for individuals with Participation rates in branches such as swimming, athletics, rhythm activities, bocce, and table tennis have reportedly increased [34]. Nevertheless, in practice, local governments continue to face challenges in sustainability due to limitations in resources, specialized personnel, and accessible facilities. Therefore, institutionalizing sports and recreational activities for individuals with ASD should involve not only physical accessibility but also trained staff, adapted materials, individualized performance assessment systems, and family involvement. The literature highlights that family participation is a key determinant of motivation and continuity for individuals with ASD [10].

3. MATERIALS AND METHODS

This research was conducted within the framework of qualitative research methods using the traditional review method. The traditional review method is based on the systematic collection, evaluation, and reinterpretation of existing knowledge and documents on a specific topic [35]. This approach is frequently used in the social sciences to comprehensively examine the historical and current contexts of policies, regulations, and institutional arrangements.

In this study, state policies supporting the access of individuals with ASD to physical activity, sports, and recreational activities in Turkey are discussed. No new field data was generated for this research; instead, the existing body of knowledge was compiled and analyzed through the review of policy documents, legal regulations, strategic plans, national programs, and academic publications [36]. During the data collection process, policy documents, strategic plans, and regulations published by institutions such as the Ministry of Youth and Sports, Ministry of National Education, Ministry of Family and Social Services, Ministry of Health, and the Presidency of Strategy and Budget were examined. Additionally, academic studies, theses, and reports published between 2000 and 2024 were accessed through databases such as the Official Gazette, the Legislation Information System, YÖK Thesis Center, Google Scholar, TR Dizin, and ULAKBİM. Data obtained from the literature and policy documents were discussed, and the current situation in Turkey was addressed with its strengths and areas for improvement.

4. DISCUSSION AND CONCLUSION

When examining autism policies in Turkey, it is observed that the approaches towards sports. physical activity, and recreational activities have been increasingly strengthened in recent years. The first national policy document, the National Action Plan for Individuals with Autism Spectrum Disorder (2016–2019), served as an important starting point for improving the quality of life of individuals with autism and ensuring their full participation in social life. However, during this period, physical activity, sports, and recreational activities were addressed indirectly under the heading of social participation, rather than as a separate policy axis. This situation suggests that, despite progress in areas like early diagnosis, education, and awareness, movement-based participation remains limited at the institutional level. The experiences gained during the 2016-2019 period have led to the reflection of shortcomings encountered in practice into new policy documents. In this regard, the National Action Plan for Autism Spectrum Disorder (2023-2030) has made significant progress by defining physical activity and recreational participation as an independent strategic goal. The eighth goal of the plan, titled "Supporting Participation in Sports, Artistic, and Cultural Activities," defines the access of individuals with autism to sports not only as a rehabilitation process but also as a right. It is believed that this approach will increase social inclusivity and help individuals with autism

become more visible in social life. With the implementation of the plan, an institutional coordination mechanism has been established among the Ministry of Youth and Sports, the Ministry of National Education, the Ministry of Culture and Tourism, and local governments. This is expected to prevent duplication of services and ensure that opportunities in the field of sports reach a wider audience. Furthermore, the Provincial Monitoring Commissions envisioned in the 2023-2030 plan are expected to allow for the monitoring of participation at the local level. It is believed that this structure will contribute to the dissemination of best practices by increasing the visibility of projects developed by governments at the central level.

When examining the Strategic Plan of the Ministry of Family and Social Services (2024-2028), it is observed that sports and recreational activities are considered one of the main components of social inclusion policies. The plan, under the axis of "Strengthening Social Inclusion and Participation," sets the strategic goal of popularizing cultural, artistic, and sports activities that will help individuals with disabilities integrate into society. This goal is expected to contribute to increasing the interactions of individuals with autism with their social environment. The Barrier-Free Sports Project, carried out by the Ministry of Youth and Sports, is of particular importance in demonstrating the on-the-ground reflection of Through these programs, national policies. individuals with autism have the opportunity to participate in regular activities in disciplines such as swimming, athletics, table tennis, and bocce. It is believed that this will enhance both their physical performance and self-confidence. If the program is expanded, it is expected that social awareness will increase in local governments, and families will become more actively involved in the process.

In light of the information obtained, it is clear that there is a positive trend in Turkey's autism policies toward sports and recreational activities, but some challenges remain at the implementation level. In particular, local government infrastructure deficiencies, insufficient trained personnel, and limited financial resources make it difficult to implement these policies effectively. Therefore, it is believed that increasing the project development and implementation capacities of local governments would be beneficial. Additionally, the monitoring and evaluation processes of the goals outlined in policy documents should be supported by regular reporting to ensure the sustainability of the implementations. In recent years, Turkey's autism policies have achieved a more holistic structure, and sports and recreational activities

have become a fundamental part of social participation policies. It is believed that these developments have strengthened the participation of individuals with autism in social life and brought the country closer to international standards in this area. However, it is important to continuously monitor the impact of existing policies on the ground and diversify them at the local level, as this will provide both individual and societal benefits in the long run. Evaluations conducted within the framework of autism policies in Turkey show that current practices have made significant progress, but there is a need for improvement in some areas to increase their effectiveness on the ground. In various suggestions are being this regard, developed to ensure the sustainable implementation of the goals outlined in the National Action Plan for Autism Spectrum Disorder (2023–2030) and the Strategic Plan of the Ministry of Family and Social Services (2024-2028). First and foremost, it is necessary to strengthen the monitoring and evaluation system in order to measure the impact of the activities carried out and make policy processes more transparent. Performance indicators should be defined for the strategic goals outlined in the national action plan, and annual reports should be published regularly. believed approach is to accountability in the implementations and provide a scientific basis for future planning.

To increase effectiveness at the local level, it would be beneficial to establish Barrier-Free Sports Coordination Units within municipalities. These units would plan, register, and ensure the continuity of access to physical activity and recreational activities for individuals with autism. structure is expected to strengthen coordination at the local level and contribute to the more systematic implementation of services. It is also seen as essential to implement mandatory inservice training programs for sports instructors, special education teachers, and psychologists to raise awareness about autism. It is suggested that these training programs be planned to include staff working in private rehabilitation centers as well as public institutions. Increasing the number of trained personnel is expected to improve the quality and efficiency of implementations. In terms physical accessibility, universal principles should be observed in sports facilities, and existing facilities should be made accessible. These regulations are expected to strengthen the social participation of individuals with autism and raise the awareness level of society. Moreover, encouraging family participation will increase individuals' motivation and continuity. Therefore,

it is recommended that sports and recreational activities be conducted using family-based models.

Collaboration models between universities and public institutions should be established to ensure that implementations are based on scientific foundations. Supporting academic research with field data will not only guide national policies but also facilitate dissemination of successful practices. Additionally, creating a national database that shows the participation rates of individuals with autism in sports and recreational activities will be crucial in identifying regional disparities and ensuring the fair distribution of resources. Developing financial support mechanisms will increase the project development capacity of local governments. In this regard, it is suggested to create special funds and grant programs that encourage the participation of individuals with disabilities. Furthermore, national media campaigns and informative social events should be organized to raise awareness throughout society. These efforts are expected to contribute to the formation of inclusive social environments.

Conflict of Interest

No conflict of interest is declared by tehe authors. In addition, no financial support was received.

Author Contributions

Conception and design of the study: ÖS; Data collection: ÖS, VC, SS; Data analysis: ÖS, VC, SS; Data Interpretation: ÖS, VC, SS; Drafting the article and/or its critical revision: ÖS, VC, SS; All authors have read and agreed to the published version of the manuscript.

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