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## Barrier-Free Cities for Individuals with Special Needs

### Özel Gereksinimli Bireyler İçin Engelsiz Şehirler

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## ABSTRACT

Individuals with special needs are defined as individuals who differ significantly from their peers in terms of their individual characteristics and educational qualifications for various reasons. While some of the individuals with special needs show abilities above the average, some of them show some deficiencies in mental, physical, behavioral or sensory organs. Problems faced by individuals in interaction with the environment due to mental, physical, behavioral or sensory deficiencies can be defined as disability. From this point of view, it can be said that disabled individuals have problems in meeting their daily needs and including to society and they need support because of these problems. However, with various arrangements that can be made, the problems experienced by disabled people can be eliminated. According to today's contemporary understanding of law, cities and the services provided should be accessible to all people, based on the fact of universal human rights that all people have. The aim of this study is to examine the concept of "barrier-free city", which means that cities are accessible to all individuals without any problems, within the framework of the legal rights of individuals with special needs. In this context, the concept of a barrier-free city with its legal basis, studies and suggestions related to the subject in the world and in Türkiye are discussed.

*Keywords:* disability, city, arrangement

## ÖZET

Özel gereksinimli bireyler, çeşitli nedenlerle, bireysel özellikleri ve eğitim yeterlilikleri açısından akranlarından beklenen düzeyden anlamlı farklılık gösteren birey olarak tanımlanmaktadır. Özel gereksinimli bireylerin bir kısmı ortalamanın üzerinde yetenek gösterirken bir kısmı ise zihinsel, fiziksel, davranışsal veya duyu organlarında bazı yetersizlikler göstermektedir. Bireylerin zihinsel, fiziksel, davranışsal veya duyu organlarındaki yetersizlik nedeniyle çevreyle etkileşimde karşılaştığı problemler engel olarak tanımlanabilir. Buradan yola çıkarak engelli bireylerin günlük gereksinimlerini karşılama ile topluma katılım konusunda sorunlar yaşadığı ve yaşadığı bu sorunlar nedeniyle desteğe ihtiyaç duyduğu söylenebilir. Oysa yapılabilecek çeşitli düzenlemeler ile engelli bireylerin yaşadığı sorunlar ortadan kaldırılabilir. Günümüzdeki çağdaş hukuk anlayışına göre, tüm insanların sahip olduğu evrensel insan hakları gerçeğinden yola çıkarak, şehirlerin ve verilen hizmetlerin tüm insanlar için erişilebilir olması gerekmektedir. Bu çalışmanın amacı, özel gereksinimli bireylerin yasal hakları çerçevesinde şehirlerin tüm bireylerin sorun yaşamadan erişilebilir olması anlamına gelen "engelsiz şehir" kavramını incelemektir. Bu bağlamda yasal dayanakları ile engelsiz şehir kavramı, dünyadaki ve Türkiye'deki konuya ilişkin çalışmalar ve öneriler ele alınmaktadır.

*Anahtar Kelimeler:* engel, şehir, düzenleme



## INTRODUCTION

Individuals with special needs are defined as individuals who differ significantly from their peers in terms of their individual characteristics and educational qualifications due to various reasons happening in prenatal, natal, and postnatal periods. While some of them show abilities above the average, others show some deficiencies in mental, physical, behavioral or sensory organs. Problems faced by individuals in interaction with the environment due to mental, physical, behavioral or sensory deficiencies can be defined as obstacles or disability (Ataman, 2019). According to World Report on Disability, prepared by World Health Organization (WHO) approximately 15% of the world's population live with some form of disability, and also 110 million people have significant difficulties in daily functioning, such as accessing to health, education, employment, transportation and information services (WHO, 2011). In this respect, disabled individuals might have problems in adapting to society and meeting their daily needs. For example, a physically disabled person can have problems while travelling in the city because of high sidewalks and stairs. However, if necessary arrangements are made, this person can easily travel in the city. In other words, by making various arrangements, the problems experienced by disabled people can be eliminated. According to research conducted by the United Nations News Centre, technology can improve the living standards of billions of people with disabilities similar to that of an ordinary human, by giving them space to live a normal life (United Nations, 2014).

In fact, disability is a multi-dimensional phenomenon which has medical, social and cultural dimensions. Thus, disability is a theoretically complex topic. Disabled people constitute a certain segment of the society, and they have difficulties in accession to services. Throughout the history, people with disabilities have been excluded from society, exposed to discrimination and stigma (Çetin, 2016). When this situation is discussed in terms of human rights, it is clear that it is against the principle of equality. However, positive attitudes towards the disabled and awareness about their rights was only be achieved after World War II (Coombs, 1990). According to today's contemporary understanding of law, cities and the services provided should be accessible to all people, based on the fact of universal human rights that all people have. The concept of "barrier-free city", which means that cities are accessible to all individuals without any problems, within the framework of the legal rights of individuals with special needs. In barrier-free cities, people with disabilities, can move freely and integrate with the city without any restrictions, any fear or anxiety for encountering obstacles and without help from anyone (Çakır Sümer, 2015). Barrier-free cities where disabled people can integrate with the society easily are defined as inclusive environment. According to Gülbahar (2017) inclusive environment enables disabled people communicate with others in social life and thus boost self-confidence of them. In other words, a disabled person who can access anywhere in the environment can realize his/her true potential.

## PURPOSE AND METHOD

### **The Purpose of the Study**

This study aims to examine the concept of "barrier-free city". In this context, the concept of a barrier-free city with its legal basis is defined. Furthermore, studies and suggestions related to this topic in the world and in Türkiye are discussed.

### **The Method of the Study**

In this study, review methodology was used. This article focused on reviewing the literature about disability, different models of disability, legal regulations for individuals with special needs and the necessity of barrier-free cities. Therefore, studies and suggestions about barrier-free cities are reviewed.



## RESULTS

### Different Models of Disability

There are several models about disability with different perspectives. These models try to define disability in various perspectives using distinct approaches. Degener (2016) stated that there have been many different models of disability which attempt to explain disability since the 1960s. According to Prince (2021) none of these models define diverse lived realities for disabled people completely. In other words, each model has some strengths and some weaknesses about disability which is a multi-dimensional phenomenon. Although there are many models in the literature, three basic models will be particularly focused in this study. These models are medical, social and human rights model.

**Medical Model:** This model is also called “biomedical model” model which was accepted in the early part of the twentieth century. It views the disability as a personal problem that needs to be cured by the medical professionals (Series, 2020). Medical model emphasizes the impairment and inability of the person with disability to perform different functions due to their physical condition. In other words, the medical model prioritizes the limitations of the disabled people (Kumar and Subudhi, 2015). According to medical model, the problems of disabled individuals can be solved by focusing on the individual. As cultural and social dimensions of disability are ignored in this model, it is viewed as insufficient and out of date at the present time.

**Social Model:** The basis of this model was formed with questioning the attitudes and the society's point of view towards disability by disabled individuals in organized groups in the 1960s and 1970s (Temiz, 2022). Social model, which has been emerged by criticizing medical model, focuses on socio-structural barriers and restrictions. This model defines disability as a barrier that obstruct disabled individuals such as environmental settings or negative attitudes of other people. According to social model, in order to solve the problems of disabled individuals, society and environment must change.

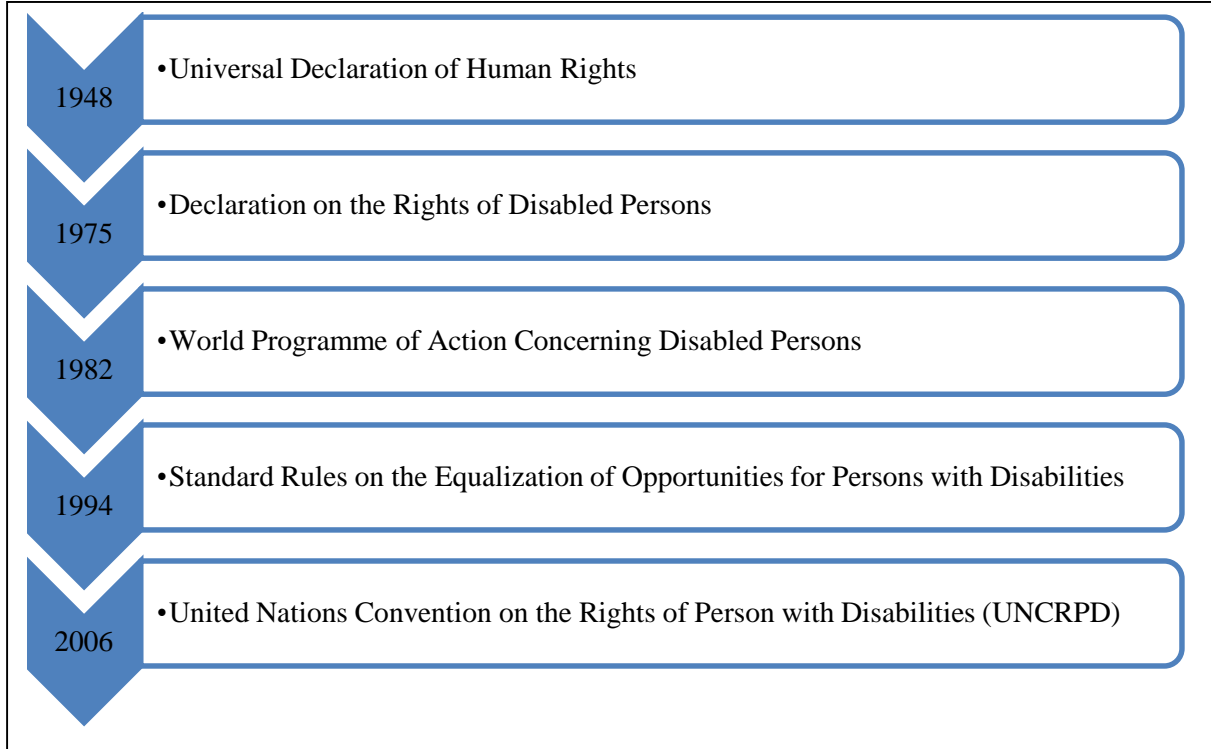
**Human Rights Model:** This model depends on the inherent dignity of all people (Degener, 2016). This model has been developed since the second half of the 20th century. The United Nations General Assembly declared 1982 as “International Year of Disabled Persons”. Thus the United Nations emphasized equal opportunity rights for people with disabilities. Furthermore, it has underlined the need to eliminate barriers for full participation in order to have equal economic and social living conditions.

### Legal Regulations and Disability Policy in Turkiye

There are both international and national legal regulations applied in Turkiye, about the rights of disabled people. Their rights are guaranteed by the Constitution of the Republic of Turkiye (1982), various laws and international agreements, and efforts have been made to improve the existing difficult conditions of the disabled and to eliminate the inequality between the disabled and the non-disabled. Especially in the last 15-20 years, studies on disability have increased in Turkiye and social policies have been developed. The international and national legal regulations about the rights of the disabled people are explained below.

### International Legal Regulations

United Nations (UN) is the largest international organization, which aims international peace and security. Within this context, UN develop economic and social development programs including legal regulations about disability. The international legal regulations about disability are listed in Figure 1.



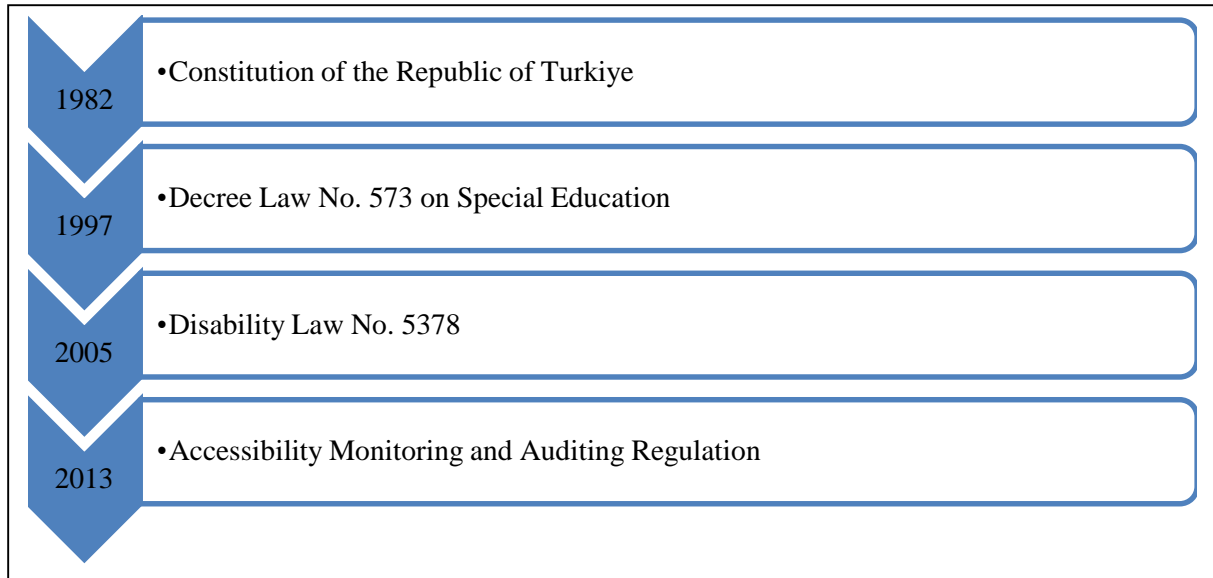
**Figure 1.** The list of international legal regulations about disability

In Figure 1, it is seen that there are several international legal regulations about disability accepted by UN. “Universal Declaration of Human Rights” is an international document accepted in 1948, by the UN that enshrines the equality of rights and freedoms of all human beings. This was followed by the "Declaration of the Rights of Persons with Disabilities" in 1975, which documented that discrimination against persons with disabilities will constitute a violation of human rights; thus, persons with disabilities have the right to benefit from all the social and political rights equally with the non-disabled persons. "World Program of Action for Persons with Disabilities" which was developed in 1982, was a global strategy in order to prevent disabilities, ensure rehabilitation services and the equalization of opportunities (Lang, 2009).

In 1994, “Standard Rules on Equal Opportunities for Persons with Disabilities” were determined. In 2006, the “International Convention on the Rights of Persons with Disabilities” was established by the UN. This convention was adopted by Türkiye in 2007. Convention on the Rights of Persons with Disabilities was adopted by the UN in 2006 and entered into force in 2008. Since then, 177 countries, except United States of America, have ratified it. The convention, which consists of fifty articles, included many personal, social and political rights. This convention proclaims that disability results from an interaction of impairments with attitudinal and environmental barriers which hinders full and active participation in society on an equal basis. Furthermore, the signatory counties commanded to regulate their national laws, in order to identify and eliminate obstacles and barriers, basing on this convention.

### **National Legal Regulations**

The rights of persons with disabilities are guaranteed firstly by Constitution of the Republic of Türkiye (1982) and various laws. Moreover, regulations have been made to improve the existing difficult conditions of persons with disabilities, and to eliminate the inequality between persons with and without disabilities. The national legal regulations are listed in Figure 2.



**Figure 2.** The list of national legal regulations about disability

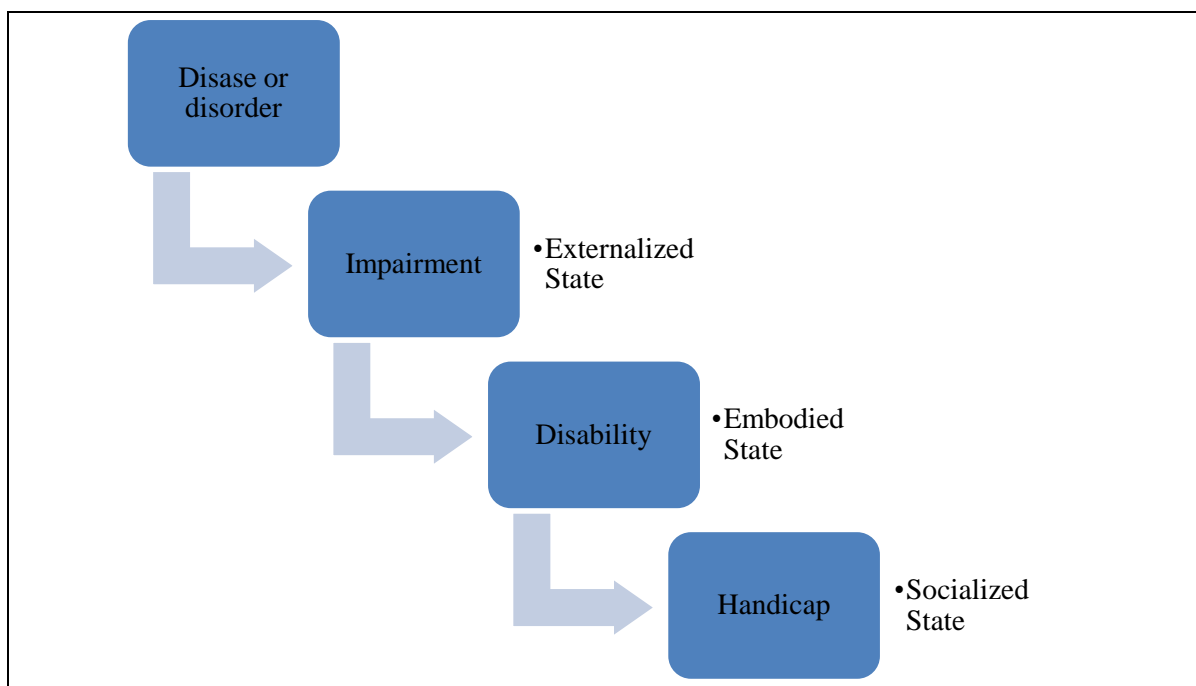
According to Constitution of the Republic of Turkiye (1982) in Article 10, the principle of equality is stated as “Everyone is equal before the law without distinction as to language, race, colour, sex, political opinion, philosophical belief, religion and sect, or any such grounds.” Paragraph added on September 2010 states that “Measures to be taken for children, the elderly, disabled people, widows and orphans of martyrs as well as for the invalid and veterans shall not be considered as violation of the principle of equality.” In addition, with the "Decree Law on Special Education" issued in 1997 in Turkey, terms such as individuals with special needs, inclusion, family education and participation, special education support, Individualized Education Program have been started to be used and legal regulations have been made. The Disability Law, which was issued in 2005, covers the regulations regarding the rights of persons with disabilities in Turkiye. In accordance with subparagraph (f) of Article 3 of the Disability Law No. 5378, accessibility was defined as “the safe and independent accessibility and use of buildings, open spaces, transportation and information services, and information and communication technology by the disabled”. Finally, “Accessibility Monitoring and Auditing Regulation” was published on 2013 and revised in 2016. The principles guiding disability policy and practices in Turkiye are anti-discrimination, independent living, accessibility, equal opportunities, full participation, gender equality (Republic of Turkey Ministry of Family and Social Policy). These principles are shown in Figure 3.



**Figure 3.** The principles guiding disability policy and practices in Turkiye

## The Policy of World Health Organization About Disability

World Health Organization (WHO) is the United Nations agency working to promote health, keep the world safe and serve the vulnerable all over the world. By developing the International Classification of Impairments, Disabilities and Handicaps (ICIDH), WHO has tried to prevent conceptual confusion by defining the concepts of impairment, disability and handicap, which are used interchangeably. Therefore, WHO divided and classified disability into three groups within the scope of health (WHO, 1980: 14). These groups are shown in Figure 4 and explained below.



**Figure 4.** Classification of disability within the scope of health by WHO in 1980

Impairment refers to the state of an abnormal state or loss of psychological, physiological or anatomical structure or function. Disability is a situation where the ability to perform the activity resulting from incompetence is restricted or deficient. Handicap is a disadvantageous situation that limits or prevents an individual from fulfilling their normal roles, depending on age, gender, social and cultural factors, due to a disorder or disability.

When this classification is examined, the classification seems to depend on medical model in which the social dimension of disability is ignored. However, after 1980, WHO developed and started to use the International Classification of Functioning, Disability and Health (ICF) system in 2001. In the ICF system, the concept of disability and the disability status of the individual are tried to be defined and classified in a different way within the framework of the social approach. In addition to the classification of environmental factors, participation in social and daily life, impartiality and equal treatment with other members of the society were introduced (WHO, 2001: 5). Also in Türkiye, the disability classification in “About the Disability Criterion, Classification and Health Board Reports to be Given to the Disabled” adopted in 2013, is based on the ICF system published by WHO.

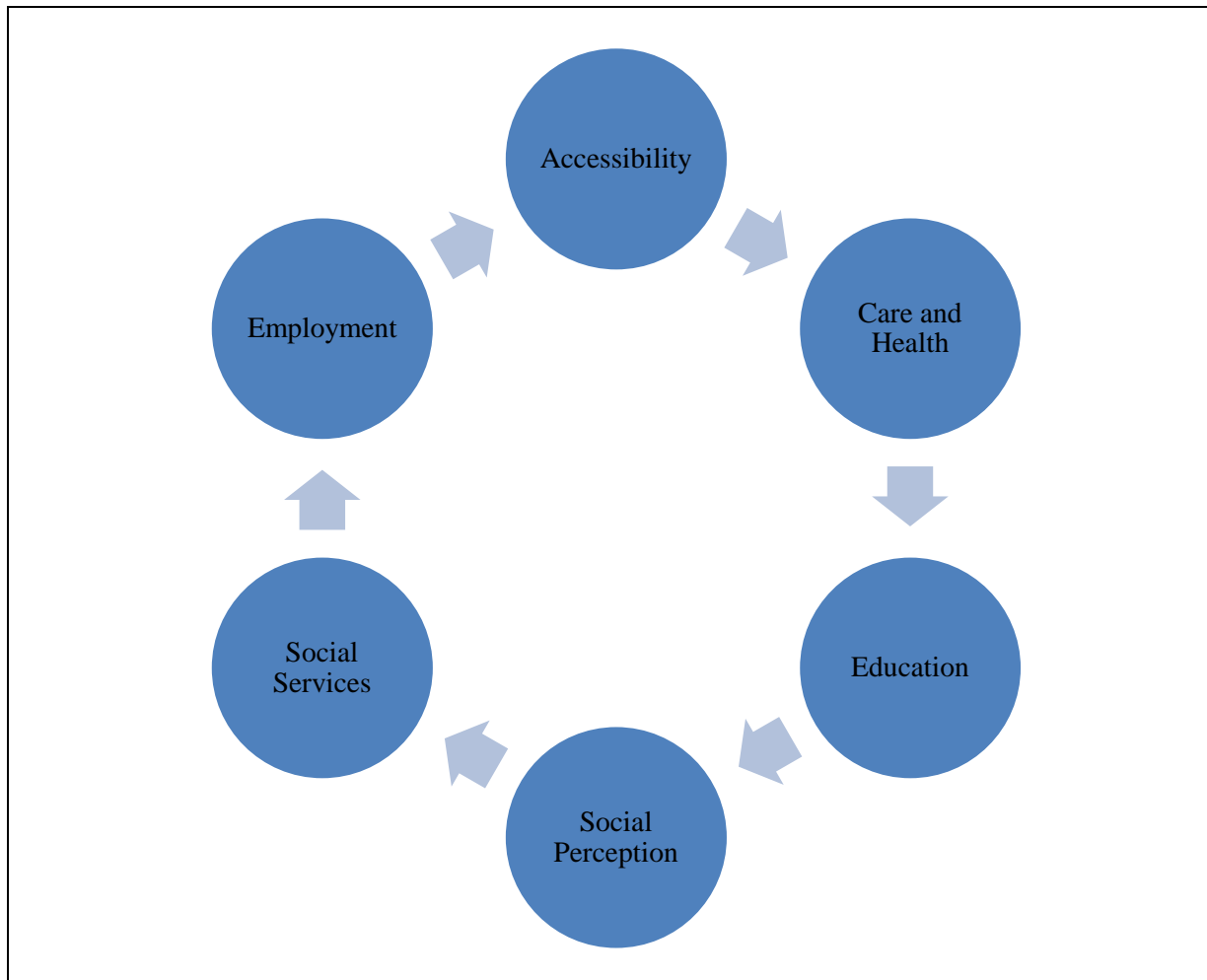
The policy of WHO about disability depends on inclusion of people with disability and reaffirms the human rights of people with disability is an inalienable, integral, and indivisible part of all human rights and fundamental freedoms (World Health Organization, 2021).





## Problems Faced by Disabled People in Turkiye

Disabled individuals face some problems in all areas of life and therefore cannot fully adapt to social life. According to the research conducted in non-governmental organizations in Turkey, studying with disabilities, disabled individuals stated that the main problems faced by the disabled are exclusion, discrimination and concerns about the future, accessibility, employment, education, social perception, and care services (Babaoğlu, 2015). There are some recent studies conducted in Turkiye supporting the finding that the main problems faced by disabled people are, accessibility, care and health, education, social perception, social services and employment (Ay, 2018; Babaoğlu, 2018; Burcu, 2017; Metin, 2017). These main problems are shown in Figure 5.



**Figure 5.** Main problems faced by disabled people in Turkiye

In the “Research on Problems and Expectations of the Disabled” conducted in Turkiye in 2010, aimed to determine the problems and expectations of disabled individuals in daily life and to create effective policies in this area. The study group consisted of 280014 disabled individuals living in Turkiye. According to the results of this research, their expectations from public institutions and organizations are aid and support (85.7%), improvement of health services (77%), improvement and expansion of care services (40.4%), employment opportunities (28.7%) and educational opportunities (25.6%). Also they answered the question of whether physical environmental regulations are suitable for people with disabilities as; 66.9% of them consider that sidewalks, walk ways and crosswalks are not appropriate for their disabilities. According to physical environmental arrangements of their inhabited places, 66.3% of



registered disabled individuals have emphasized that inhabited buildings are not appropriate for their disabilities. 59.5% of them have emphasized that shops, markets, stores and restaurants are not appropriate for their disabilities. 58.4% of them have emphasized that public buildings are not appropriate for their disabilities. 55.4% of them have emphasized that post offices and banks, etc. are not appropriate for their disabilities. According to the same research, 69.1% of disabled individuals stated that they could not use public transportation on their own, 89.6% of them said that they could not go out without an accompanist, and 12.9% stated that public transportation vehicles were not suitable for their disability (Turkish Statistical Institute TÜİK, 2011).

### **Barrier-Free Cities in the Context of Accessibility**

The social exclusion of people with disabilities from public spaces starts with the blocking of their accessibility. Accessibility can be seen as one of the most concrete indicators of including disabled people who are a part of society. Therefore, the concept of accessibility for people with disabilities among disadvantaged groups is of particular importance. Because environmental designs that ignore the existence of disabled people in society and do not respond to their needs. Accessibility has a wide area in terms of its subject, which concerns many disciplines and sub-divisions of these disciplines. In this context, accessibility covers many items such as architectural structures, the design of the systems, the necessary elements for these structures, the location of the team and equipment that created them, the color of the structure, ease of use, the existing ones in other structures, compatibility with the elements, etc. Although the physical environment is a priority, accessibility, which means reaching economic, socio-cultural activities, benefiting from the services offered in these areas, and being able to contribute to social life, is the most important factor for the use of every right in every area of life.

Spatial features that exists in society is mostly designed for non-disabled individuals. Therefore, this situation leads to the restriction of the independent movement of the disabled, their inability to use their rights and freedoms, and to live together with the society. According to the studies on disabled individuals in the literature are generally state that disabled individuals face many difficulties in accessing the needs that exist in daily life, such as health, education, employment, social and cultural activities, information and communication, technology systems, products and services, etc. (Ay, 2018; Babaoğlu, 2018; Burcu, 2017; Metin, 2017; Turkish Statistical Institute TÜİK, 2011). In this regard, the obstacles for individuals without disabilities, constitute an inability for disabled individuals to use their rights. In other words, for accessibility, disability policies of states should remove the barriers to the access of persons with disabilities to basic rights and services (Çağlar, 2012: 543). It is possible to adapt people with disabilities to social life with physical environmental arrangements. For example, the spaces could be designed with wide doors and appropriate inclined ramps could be built for an orthopedically handicapped individual; appropriate sound signs and urban relief applications could be added for the visually impaired and many simple arrangements that can be diversified within other disability groups. Furthermore, by the full and effective participation of all individuals in all kinds of services and activities enable disabled individuals benefit from information and technology, meet their health needs, facilitate daily life, and contribute to personal development.

Another key concept for accessibility is “universal design”. It emphasizes an environmental design approach consistent with the principles of accessibility, non-discrimination for the disabled, freedom and equality (Hahn, 1986; Evans, 2009). The Center for Universal Design conducted a research and project funded by the U.S. Department of Education’s National Institute on Disability and Rehabilitation Research between the years 1994 - 1997. At the result, a set of universal design guidelines were developed. Accordingly, Principles of Universal Design are: equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, size and space for approach and use (Follette Story, 2001). Also, under the leadership of the World Foundation for the Disabled, the





"Universal Standards Guide for the Disabled" has been published in order to enable disabled people to lead their lives independently, to provide equal access with equal opportunities and to ensure the full and effective participation of disabled people in every stage of life. In the guide, the standards are the accessible environment (such as pedestrian and sidewalks, ramps, stairs, disabled parking space, etc.), accessible building standards, and public transportation services (World Disabled Foundation and World Disabled Association, 2011: 7-15). In Figure 1, there is an example from The Zero Project, an initiative of the Essl Foundation, which focuses on the rights of persons with disabilities globally. Ávila is a city in Spain that won the "access city award" in 2011 (Akgün, 2022).



**Figure 1.** Ávila (Spain), access city award winner in 2011

When disability legislation in Türkiye is scanned, especially physical access has been seen that legal measures to solve the problems of access are handled more heavily than other access problems. The Law on the Disabled No. 5378, with its temporary articles, includes official structures belonging to public institutions and organizations, roads, pavements, pedestrian crossings, open and closed areas, sports fields and similar social and cultural infrastructure areas, and all kinds of public services provided by real and legal persons. It is obligatory for the building to be made suitable for the accessibility of the disabled within 7 years from the entry into force of the Law (Provisional Article 2).

It is the basic right of people to make the necessary demands for the transformation of the city they live in into an unhindered city form, and meeting these demands is among the main responsibility areas of the management mechanisms. Countries carry out various practices to create barrier-free cities within the framework of different political arrangements they have realized. In this context, Türkiye is among the countries that implement policies to build their cities without obstacles. There are also relevant legislation and laws in terms of barrier-free urban practices in Türkiye (Akgün, 2022).

In addition to the central policies implemented in the context of solving the problems faced by the disabled, responsibility for disability as an important policy actor in local governments. The main social function of local governments is to meet the basic needs of local people. For this reason, local governments, especially municipalities, are institutions that have the opportunity to determine and solve the social problems of the disabled people. Considering that the majority of the country's population live in municipal areas, it is understood that the majority of the disabled live in these areas. Also, municipalities, as local social policy actors, should directly deal with the social problems of the disabled (Kesgin, 2014: 4; Seyyar, 2008).

The characteristics, needs, tools and materials that will contribute to personal development, educational life of disabled individuals differ from other individuals due to their situation. For example; the books that the visually impaired individual can read should be written using Braille alphabet,

elevators and ramps should be available in educational institutions for an orthopedically handicapped person. However, considering that today the social state understanding is dominant and social policy studies are increasing, many regulations have been put into practice for the disabled, but many problems facing these groups have still not disappeared. When it comes to accessibility in Turkey, the first thing to consider is only ramps or toilets, and regulations are made in this direction. However, the ramps and toilets in question are only two of the thousands of issues that need to be investigated in order to ensure full accessibility in the existing structure (Özgül, 2014: 64).

In recent years, there are some studies focusing on the barrier-free cities in Türkiye. For example, Çakır Sümer (2015) aimed to determine Malatya city center in terms of "barrier-free city" concept. The researcher concluded that, despite some positive progress, many buildings and services in the city are not accessible for the disabled. In Figure 2, there is an example from the entrance of Grand Bazaar and New Mosque which have stairs that are not accessible for the disabled.



**Figure 2.** Entrance of Grand Bazaar and New Mosque in Malatya (Çakır Sümer, 2015: 151)

Şat and Göver (2017) conducted a study in order to find out the accessibility responsibilities for municipalities for people with disabilities, in Çorum city center within the "The Barrier Map Project" by "Action Research" method. As a result, it has been determined that there is a need to increase the expert staff of Çorum Municipality for unhindered access, to expand their scope, and also to focus on empathy studies for the planner and implementer personnel as well as technical knowledge.

Eliöz, Demir, and Akbuğa (2018: 363) conducted a study in order to rank the disabled-friendly provinces in Türkiye according to the current situation of the disabled under the titles of health, economy, education and quality of life. The results have demonstrated that the disabled people living in the provinces in western regions are in a more advantageous position while disabled people living in Eastern and Southeastern Anatolia regions are more disadvantaged in the context of the determined criteria. In another study conducted by Berkün (2019) in the city center of Zonguldak, similar issues were revealed regarding the inadequacy of the city in terms of accessibility. According to the field research findings, it is seen that the disabled people of Zonguldak suffer from pedestrian pavements, residences and access to public buildings, especially roads.

In a recent study conducted in Türkiye by Uludağ Güler and Çakı (2021) thirty metropolitan municipalities' services for disabled citizens, based on their websites are searched. According to the results of a comparative analysis in accordance with the social municipalism approach, the services provided by the municipalities were classified. However, it was determined that there was no equal distribution among them, there are different applications specific to the municipalities. In a qualitative research, Hurlak Çam and Bilgili (2022) aimed to determine the usability of urban rights by disabled citizens during the Covid-19. The data was collected through interviews with 20 people from different disability groups, living in Ankara. As a result, it is not possible for disabled people to socialize even a little bit in metropolitan cities, especially during the Covid-19.



## CONCLUSION AND SUGGESTIONS

Isolation of persons with disabilities by physical and social structures is now accepted as a violation of human rights. Both the international conventions signed by Türkiye and national laws and regulations try to eliminate the factors in the physical and social environment faced by disabled people that prevent them from accessing and using services. Conversely, there are some factors that limit accessibility, especially in cities. Odabaş Uslu and Güneş (2017) listed these factors as unsuitable floor coverings - uneven or slippery surfaces, infrastructure works without security measures, very high or very narrow sidewalks, unsuitable ramps, improper intersections (safe pedestrian crossings), lack of signs and warning signs, unlit streets, urban furniture that is not suitable for use (telephone booths, benches, etc.), transportation systems and vehicles that cannot serve due to the lack of audible and visual stimuli.

The problem has become larger and more complex than the provision of stepless stations for the disabled, low floor buses, low curbs and ambient factors such as lighting, audio and visual information and wayfinding. The structure of the existing environment prevents people with disabilities from exercising their equal citizenship rights. There are many policies and legal regulations aimed at reducing the problems faced by people with disabilities in the world and in Türkiye. However, the main problem in facilitating the life of the disabled in Turkey and meeting the principles in the UN Convention is not the legal regulations, but the lack of education on the subject, the inability to internalize the situation and the lack of supervision. According to Çağlar (2012) opening various channels where disabled people can seek their rights and report their complaints in simple ways, taking into account the difficulties in using legal remedies, are also essential. Furthermore, the understanding that perceive the arrangements to be made for the disabled as a procedure that must be followed in the architectural project is a problem. This problem can be solved by supervision in the short term and by educating the society about disability in the long term (Mülayim and Pala Azsöz, 2020). Similarly, Erten and Aktel (2020) stated that long-term planning is needed for barrier-free cities which is one of the most important rights of disabled people.

Some suggestions can be concluded based on the results of research conducted about barrier-free cities. In Türkiye, both international and national legal regulations about the rights of disabled people exist which can be seen as concrete indicators of significant progress regarding the rights of the disabled (Gültekin & Sezer, 2017). However, there are some deficiencies in practice that should be corrected. Thus, basing on the results of related studies, a policy approach should be constituted with all stakeholders in the city, including the people with disabilities.



## References

- Akgün, S. (2022). Dünya ve Türkiye örnekleriyle engelsiz kent uygulamaları / Applications of unobstructed cities with the samples of Turkey and World. Unpublished Master Thesis. Niğde Ömer Halisdemir University, Niğde.
- Ataman, A. (2019). Özel eğitime muhtaç olmanın nedenleri, anlamı ve amaçları. Ayşegül Ataman (Ed.) In *Temel eğitim öğretmenleri için kaynaştırma uygulamaları ve özel eğitim* (p. 3-24) Ankara: Vize.
- Ay, H. (2018). Engellilere Yönelik Yerel Yönetim Hizmetleri: Bursa Büyükşehir Belediyesi Örneği. Unpublished Master Thesis. Uşak University, Uşak.
- Babaoğlu, C. (2015). *Türkiye’de Engelli Politikaları Ve Sivil Toplum Örgütlerinin Kentsel Engelli Politikalarına Etkisi: Ankara Örneği*, Unpublished Doctoral Thesis. Hacettepe University, Ankara.
- Babaoğlu, C. (2018). Türkiye’de Anakentlerde Engellilere Yönelik Hizmetler Ve Sorun Alanları, *Tesam Akademi Dergisi*, 5 (1), 77-108.
- Berkün, S. (2019). Toplumsal yaşama katılım için erişilebilir kentler: Zonguldak örneği. *Uluslararası Sosyal Bilimler Akademik Araştırmalar Dergisi*, 3(3), 43-52.
- Birleşmiş Milletler Engellilerin Haklarına İlişkin Sözleşme Kapsamında Engelli Hakları Ulusal Göstergeleri (2016). <https://www.aile.gov.tr/media/5599/engellilerin-haklarına-iliskin-sozlesme-kapsamında-engelli-hakları-ulusal-gostergeleri-kitabi-turkce.pdf>. (Erişim Tarihi: 05/02/2022).
- Burcu, E. (2017), Türkiye’de Engelli Bireylerin Dezavantajlı Konumlarına Engellilik Sosyolojisinin Eleştirel Tavıryla Bakmak, *Toplum ve Demokrasi*, 11(24), 107-125
- Constitution of the Republic of Turkey (1982). [https://www.anayasa.gov.tr/media/7258/anayasa\\_eng.pdf](https://www.anayasa.gov.tr/media/7258/anayasa_eng.pdf)
- Coombs, N. (1990). Disability and technology: A historical and social perspective. ERIC Clearinghouse.
- Çağlar, S. (2012). Engellilerin erişebilirlik hakkı ve Türkiye’de erişebilirlikleri. *Ankara Üniversitesi Hukuk Fakültesi Dergisi* 61: 541-598.
- Çakır-Sümer, G. (2015). Engelsiz şehir kavramı açısından Malatya. *Yönetim ve Ekonomi*, 22(1), 139-157.
- Çetin, B. I. (2016). Antik Çağ’dan Sanayi Devrimi’ne Batı Dünyasında Engellilik Tarihi. *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 19 (36), 167-184. DOI: 10.31795/baunsobed.662225
- Degener, T. (2016). Disability in a Human Rights Context. *Laws*. 5(3):35. <https://doi.org/10.3390/laws5030035>
- Disability Policy in Turkey. <https://www.aile.gov.tr/media/42409/disability-policy-in-turkey.pdf>
- Eliöz, M., Demir, A. Z. ve Akbuğa, E. (2018). Engelli dostu iller sıralaması çalışması. *Akademik Sosyal Araştırmalar Dergisi*, (50), 348-365.
- Erten, Ş. ve Aktel, M. (2020). Engellilerin erişebilirlik hakkı: Engelsiz kent yaklaşımı çerçevesinde bir değerlendirme. Süleyman Demirel Üniversitesi, *Vizyoner*, 11 (28), 898-912. DOI: 10.21076/vizyoner.691690
- Evans, G. (2009). Accessibility, urban design and the whole journey environment. *Built Environment*, 35(3), 366-385.
- Follette Story, M. (2001). Principles of universal design. In: WFE Preiser, EOstro (eds) *Universal Design Handbook*. New York: McGraw-Hill.
- Gülbahar, S. (2017). *An investigation on life center unit's design criteria in inclusive education environments: A case study on SERÇEV Accessible Vocational High School*. Unpublished Master Thesis. İstanbul Technical University, İstanbul.
- Gültekin, T. & Sezer, S. (2017). Engelli ailelerinin yaşadıkları sosyal ve ekonomik sorunlar. *Aydın İktisat Fakültesi Dergisi*, 2, 81-100.





- Hahn, H. (1986). Disability and the urban environment: A perspective on Los Angeles. *Environment and Planning D: Society and Space*, (4), 273-288.
- Hırlak Çam, F. & Bilgili, A. (2022). Engelsiz Kent Olma Yolunda Covid-19 Engeli. *İdealkent Bölgesel Çalışmalar*, 14 (special issue) 603-623 . DOI: 10.31198/idealkent.1084928
- Kesgin, B. (2014). Engellilere Yönelik Yerel Sosyal Politikalar, *Çağdaş Yerel Yönetimler*, 23 (4), 1-15.
- Koca, C. (2010). *Engelsiz şehir planlaması bildirme raporu*. Dünya Engelliler Vakfı, İstanbul.
- Kumar, D.; Subudhi, C. (2015). Reappraising Disability in India Model, Magnitude and Measurement. *Journal of Disability Studies*, 1(1), 23-30.
- Lang, R. (2009). The United Nations Convention on the right and dignities for persons with disability: A panacea for ending disability discrimination? *European Journal of Disability*, 3, 266–285.
- Metin, B. (2017). Engellilere Yönelik Sosyal Politikalarda Yerel Yönetimlerin Rolü: Keçiören Belediyesi Örneği. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 19 (1), s. 320-344.
- Mülayim, A., Pala Azsöz, G. (2020). Tekerlekli Sandalye Kullanan Engellilerin Sosyal Hayata Katılımında En Büyük Engel; Yapılı Çevrede Yaşanan Problemler ve Çözüm Önerileri. *Sosyal Politika Çalışmaları Dergisi*, “Erişilebilirlik” Özel Sayısı Cilt 2, 357-382. DOI: 10.21560/spcd.vi.821013
- Odabaş-Uslu, A. and Güneş, M. (2017). Engelsiz kentler- "herkes için erişilebilir kentler". *Uluslararası Peyzaj Mimarlığı Araştırma Dergisi*, 1(2), 30-36.
- Özgül, H. (2014). Tanım, Kapsam ve Geliştirilen Politikalar Düzleminde Türkiye’de Erişilebilirlik., K. Çayır, M. Soran, M. Ergün (Editörler) Engellilik ve Ayrımcılık: Eğitimciler için Temel Metinler ve Örnek Dersler içinde (60-79). İstanbul: Karekök Akademi.
- Prince, M.J. (2021). Drawing hidden figures of disability: Youth and adults with disabilities in Canada. *Evidence and Policy*;17: (2):227–41.
- Republic of Turkey Ministry of Family and Social Policy. *Disability Policy in Turkey*. Series, L. (2020). Disability and Human Rights. In B. Watson & S. Vehmas (Eds.), *Routledge handbook of disability studies* (2nd ed., pp. 72–88). Routledge.
- Seyyar, A. ((2008). Sosyal Siyaset Ekseninde Yerel Özürlüler Politikası (Özürlü Dostu Yerel Sosyal Politikalar), *Yerel Siyaset Dergisi*, 27, 80-85.
- Şat, N., Göver, T. (2017). Accessibility Responsibilities for Municipalities for People With Disabilities: The Barrier Map Project of Çorum City Center, *Hitit University Journal of Social Sciences Institute*, 10 (1), 521-542.
- Temiz, T. N. (2022). Engelli Bireylerin Sağlık Hizmetlerine Erişimi. G. E. Çiftçi and G. Boduroğlu (Eds.) In *Engellilik ve Yaşam* (p.279-311) Ankara: Orion.
- Turkish Statistical Institute, TÜİK (2011). *Özürlülerin Sorun ve Beklentileri Araştırması 2010*. Ankara. Yayın No: 3636.
- Uludağ Güler, Ç., Çakı, N. (2021). Büyükşehir Belediyelerinin Engellilere Yönelik Hizmetlerinin İçerik Analizi Yöntemi ile Değerlendirilmesi, *Turkish Journal of Geographical Sciences*, 19(1), 92-127, doi: 10.33688/aucbd.847546
- United Nations (1975). *Declaration on the Rights of Disabled Persons*. <https://www.ohchr.org/EN/ProfessionalInterest/Pages/RightsOfDisabledPersons.aspx>.
- United Nations (2014). News Center <https://news.un.org/en/audio/2014/05/588692>
- United Nations Standard Rules on Equalization of Opportunities for Persons with Disabilities. <https://www.un.org/development/desa/disabilities/standard-rules-on-the-equalization-of-opportunities-forpersons-with-disabilities.html>.
- WHO, World Report on Disability (2011). <https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-andRehabilitation/world-report-on-disability>
- World Health Organization. (2021). *WHO policy on disability*. Geneva: Licence: CC BY-NC-SA 3.0 IGO.



## GENİŞ ÖZET

Bireylerin zihinsel, fiziksel, davranışsal veya duyu organlarındaki yetersizlik nedeniyle çevreyle etkileşimde karşılaştığı problemler engel olarak tanımlanabilir (Ataman, 2019). Dünya Sağlık Örgütü'nün hazırladığı Dünya Engellilik Raporu'na göre, dünya nüfusunun yaklaşık %15'i bir tür engel ile yaşamakta ve ayrıca 110 milyon insan günlük hayatında, sağlık, eğitim, istihdam, ulaşım ve bilgi hizmetlerine erişimde önemli güçlüklerle karşılaşmaktadır (WHO, 2011). Buradan hareketle toplumun görmezden gelinemeyecek bir kesimini oluşturan engelli bireylerin topluma uyum sağlamada, günlük ihtiyaçlarını karşılamada sorunlar yaşadıkları ve desteğe ihtiyaç duydukları söylenebilir.

Engellilikle ilgili farklı bakış açılarına sahip bazı modeller bulunmaktadır. Bu modeller engelliliği farklı yaklaşımlarla, çeşitli şekillerde tanımlamaktadır. Degener (2016) 1960'lardan bu yana birçok farklı engellilik modeli ortaya çıktığını belirtmiştir. Literatürde birçok model bulunmasına karşın bu çalışmada odaklanılan üç temel model olarak tıbbi (medikal), sosyal ve insan hakları modeline yer verilecektir.

**Tıbbi (Medikal) Model:** 20. yüzyılın başlarında kabul gören bu modele “biyomedikal model” de denilmektedir. Engelliliği tıp uzmanları tarafından iyileştirilmesi gereken kişisel bir sorun olarak gören (Seri, 2020) bu model, engelli kişinin durumundan dolayı farklı işlevleri yerine getirememesini, yetersiz kalmasını vurgulamaktadır. Yani, engelli bireylerin sınırlılıklarına odaklanır (Kumar ve Subudhi, 2015).

**Sosyal Model:** Bu modelin temeli, 1960'lı ve 1970'li yıllarda engelli bireylerin organize gruplar halinde engelliliğe yönelik tutumlarının ve toplumun bakış açısının sorgulanmasıyla oluşturulmuştur (Temiz, 2022). Tıbbi modeli eleştirerek ortaya çıkan sosyal model, sosyo-yapısal engellere ve kısıtlamalara odaklanmaktadır. Bu model, çevresel ortamlar veya diğer insanların olumsuz tutumları gibi engelli bireyleri kısıtlayan durumları engel olarak tanımlar. Sosyal modele göre engelli bireylerin sorunlarının çözülebilmesi için toplum ve çevrenin değişmesi gerekmektedir.

**İnsan Hakları Modeli:** Bu model, bütün insanların doğasında var olan onuru temel almaktadır (Degener, 2016). Bu model, 20. yüzyılın ikinci yarısında geliştirilmiştir. 1982 yılı Birleşmiş Milletler Genel Kurulu'na “Uluslararası Engelliler Yılı” olarak belirlenmiştir. Böylece Birleşmiş Milletler engelli insanlar için fırsat eşitliği haklarını vurgulamış, eşit ekonomik ve sosyal yaşam koşullarına sahip olmak için tam katılımın önündeki engellerin kaldırılması gerektiğinin altını çizmiştir.

Dünya Sağlık Örgütü'nün 1980 yılında yaptığı engel sınıflamasında tıbbi model kullanılmıştır. 2001 yılında ise Dünya Sağlık Örgütü engel sınıflamasını sosyal modele göre yeniden düzenlemiştir. Böylece engellilik bağlamında çevresel faktörlerin sınıflandırılmasının yanı sıra, toplumsal ve günlük yaşama katılım, tarafsızlık ve toplumun diğer üyeleriyle eşit muamele ilkesi getirilmiştir (WHO, 2001).

Uluslararası barış ve güvenliği amaçlayan en büyük uluslararası örgüt olan Birleşmiş Milletler, engelli bireylerin haklarına ilişkin yasal düzenlemeleri içeren ekonomik ve sosyal kalkınma programları geliştirmektedir. Bu kapsamdaki ilk adım eşitlik ilkesini vurgulayan 1948 yılında kabul edilen “İnsan Hakları Evrensel Bildirgesi”dir. Bunu 1975 yılında “Engelli Hakları Bildirgesi” ve 1982 yılında “Engelli Kişilere İlişkin Dünya Eylem Programı” takip etmiştir. 1994 yılında “Engelli Bireyler İçin Fırsat Eşitliğine İlişkin Standart Kurallar” belirlenmiştir. 2006 yılına gelindiğinde Birleşmiş Milletler tarafından “Engelli Kişilerin Haklarına Dair Uluslararası Sözleşme” oluşturulmuştur. Türkiye tarafından 30 Mart 2007 tarihinde kabul edilen bu sözleşmenin 1. Maddesinde, “Engelli kişiler, çeşitli engellerle karşılıklı etkileşimleri nedeniyle başkaları ile eşit olarak topluma tam ve etkin olarak katılmalarını engelleyebilecek uzun dönemli fiziksel, ruhsal, zihinsel veya duyu rahatsızlıkları bulunan kişilerdir” tanımı yer almaktadır (Engelli Kişilerin Haklarına Dair Uluslararası Sözleşme, 2007). Elli maddeden oluşan sözleşmede kişisel, sosyal ve siyasi birçok hak yer almaktadır. Bu sözleşme, engelliliğin, eşit temelde topluma tam ve aktif katılımı engelleyen davranışsal ve çevresel engellerle olan bozuklukların etkileşiminden kaynaklandığını beyan etmektedir. Ayrıca, bu sözleşmeyi imzalayan devletlerin ulusal yasalarını değiştirmesi, engelleri belirleyerek ortadan kaldırması gerekmektedir.

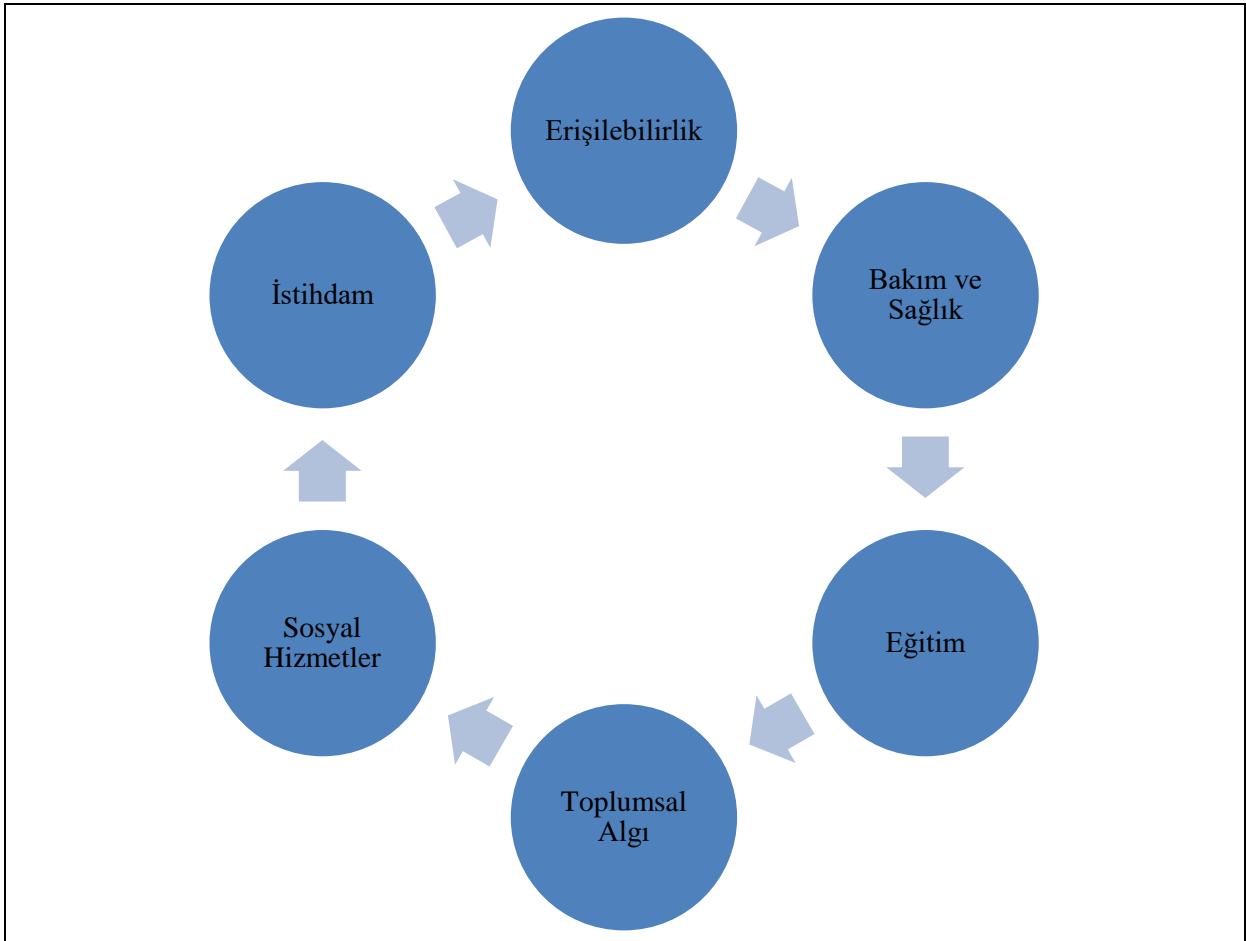
Türkiye’de engellilerin haklarına ilişkin uluslararası ve ulusal düzenlemeler mevcuttur. Türkiye’de





engellilerin hakları Türkiye Cumhuriyeti Anayasası (1982), çeşitli kanunlar ve uluslararası sözleşmelerle güvence altına alınmış, engellilerin mevcut zor koşullarının iyileştirilmesi ve engelliler ile engelli olmayan kişiler arasındaki eşitsizliğin ortadan kaldırılmasına çalışılmıştır. Ayrıca Türkiye’de 1997 yılında çıkarılan 573 sayılı “Özel Eğitim Hakkında Kanun Hükmünde Kararname” ile özel gereksinimli birey, kaynaştırma, aile eğitimi ve katılımı, özel eğitim desteği, Bireyselleştirilmiş Eğitim Programı gibi terimler kullanılmaya başlanarak yasal düzenlemeler yapılmıştır. 2005 yılında düzenlenen 5378 sayılı “Engelliler Hakkında Kanun”da erişilebilirlik, “Binaların, açık alanların, ulaşım ve bilgilendirme hizmetleri ile bilgi ve iletişim teknolojisinin, engelliler tarafından güvenli ve bağımsız olarak ulaşılabilir ve kullanılabilir olması” olarak tanımlanmaktadır. Son olarak, “Erişilebilirlik İzleme ve Denetleme Yönetmeliği” 2013 yılında yayımlanmış ve 2016 yılında revize edilmiştir. Türkiye’deki engelli politikası ve uygulamalarına yön veren ilkeler, ayrımcılık yasağı, bağımsız yaşam, erişilebilirlik, fırsat eşitliği, tam katılım, toplumsal cinsiyet eşitliğidir (Türkiye Cumhuriyeti Aile ve Sosyal Politikalar Bakanlığı).

Türkiye’de engelli bireylerin haklarına ilişkin birçok yasal düzenleme yapılmasına karşın, engelli bireyler hayatın her alanında birtakım sorunlarla karşılaşmaktadır. Sivil toplum kuruluşlarında yapılan araştırmada engelli bireylerin karşılaştıkları temel sorunların dışlanma, ayrımcılık ve gelecek kaygısı, erişilebilirlik, istihdam, eğitim, toplumsal algı, bakım hizmetleri olduğu belirlenmiştir (Babaoğlu, 2015). Engelli bireylerin karşılaştıkları temel sorunların erişilebilirlik, bakım ve sağlık, eğitim, toplumsal algı, sosyal hizmetler ve istihdam olduğu bulgusunu destekleyen araştırmalar bulunmaktadır (Ay, 2018; Babaoğlu, 2018; Burcu, 2017; Metin, 2017). Bu temel sorunlar Şekil 1’de gösterilmektedir.



Şekil 1. Engelli bireylerin karşılaştığı temel sorunlar

2010 yılında Türkiye’de gerçekleştirilen “Engellilerin Sorunları ve Beklentileri Araştırması” kapsamında engelli bireylerin günlük yaşamdaki sorunları ve beklentileri belirlenerek bu alanda etkin



politikalar oluşturulması amaçlanmıştır. Çalışma grubunu Türkiye'de yaşayan, çeşitli engel gruplarından 280.014 engelli birey oluşturmuştur. Bu araştırma ile engelli bireylerin kamu kurum ve kuruluşlarından % 85,7'si sosyal yardım ve desteklerin artırılması, % 77'si sağlık hizmetlerinin iyileştirilmesi, % 40,4'ü bakım hizmetlerinin iyileştirilmesi ve yaygınlaştırılması, % 28,7'si iş bulma olanaklarının artırılması, % 25,6'sı eğitim olanaklarının artırılması şeklinde beklentileri olduğu sonucuna ulaşılmıştır. Fiziki çevre düzenlemelerinin engelliler için uygun olup olmadığı sorusuna cevap olarak; kaldırımların, yürüyüş yollarının ve yaya geçitlerinin engellerine uygun olmadığını düşünenlerin oranı %66,9'dur. Yaşadıkları yerlerin fiziki çevre düzenlemelerine göre engelli bireylerin %66,3'ü yaşadıkları binaların engellerine uygun olmadığını vurgulamışlardır. %59,5'i dükkân, market, mağaza ve restoranların, %58,4'ü kamu binalarının, % 55,4'ü ise postane, banka vb. yerlerin engellerine uygun olmadığını vurgulamıştır. Aynı araştırmaya göre engelli bireylerin %69,1'i toplu ulaşımı tek başına kullanamayacağını, %89,6'sı refakatçisiz dışarı çıkamayacağını ve %12,9'u toplu taşıma araçlarının uygun olmadığını belirtmiştir (Türkiye İstatistik Kurumu TÜİK, 2011).

Gerek Türkiye'nin de imzaladığı uluslararası sözleşmeler gerekse ulusal kanun ve düzenlemeler ile engelli bireylerin karşılaştığı fiziksel ve sosyal çevrede bulunan ve engellilerin hizmetlere ulaşarak kullanılmasına engel olan etmenlerin ortadan kaldırılmasına çalışılmaktadır. Buna karşın özellikle şehirlerde erişilebilirliği kısıtlayan yaya yolları, ulaşım sistemleri ve araçlar gibi etmenler bulunmaktadır (Odabaş Uslu ve Güneş, 2017). Erişilebilirliğin sağlanması için mekânların sahip olması gereken 5 temel bileşen bulunmaktadır. Bu bileşenler engelsiz ve yeterli genişlik, engelsiz ve yeterli alan, yükseklik, yüzey (döşeme) ve bildirişim (gerekli yönlendirme ve uyarı işaretleri)dir. (Koca, 2010). Bu noktada yerel yönetimlere de büyük sorumluluklar düşmektedir.

Son yıllarda Türkiye'de engelsiz şehirlere odaklanan bazı çalışmalar bulunmaktadır. Örneğin Çakır Sümer (2015) Malatya kent merkezini "engelsiz kent" kavramı açısından belirlemeyi amaçlamıştır. Araştırmacı, bazı olumlu gelişmelere rağmen şehirdeki birçok bina ve hizmetin engelliler için erişilebilir olmadığı sonucuna varmıştır. Şat ve Göver (2017) Çorum il merkezinde belediyenin engellilere yönelik erişilebilirlik sorumluluklarını ortaya çıkarmak amacıyla "Engel Haritası Projesi" kapsamında "Eylem Araştırması" yöntemiyle bir çalışma yapmışlardır. Sonuç olarak, Çorum Belediyesi'nin engelsiz erişim için uzman kadrosunun artırılması, kapsamının genişletilmesi, teknik bilginin yanı sıra planlayıcı ve uygulayıcı personel için de empati çalışmalarına ağırlık verilmesi gerektiği tespit edilmiştir. Eliöz, Demir ve Akbuğa (2018) Türkiye'deki engelli dostu iller çalışmasında sağlık, ekonomi, eğitim ve yaşam kalitesi başlıkları altında iller bazında engellilerin mevcut durumunu araştırmıştır. Belirlenen kriterlere göre batı bölgelerindeki illerde yaşayan engellilerin daha avantajlı, buna karşın Doğu ve Güneydoğu Anadolu bölgelerindeki illerde yaşayan engellilerin daha dezavantajlı konumda olduğu sonucuna ulaşmıştır. Berkün (2019) tarafından Zonguldak il merkezinde yapılan çalışmada ise şehrin erişilebilirlik açısından yetersizliğine ilişkin hususlar ortaya konmuştur. Yapılan alan araştırmasında, Zonguldak il merkezinde yaşayan engelli bireylerin başta yollar olmak üzere, kamu binaları, yaya kaldırımları ve konutlara erişim konusunda sorunlar yaşadığı sonucuna ulaşılmıştır. Uludağ Güler ve Çakı (2021) tarafından yakın zamanda yapılan bir çalışmada Türkiye'deki otuz büyükşehir belediyesinin web siteleri temel alınarak engelli vatandaşlara yönelik hizmetleri kapsamlı bir şekilde incelenmiştir. Sosyal belediyecilik anlayışına göre yapılan karşılaştırmalı analiz sonuçlarına göre belediyelerin sunduğu hizmetler sınıflandırılmış ancak her hizmeti her belediyenin vermediği belirlenmiştir. Nitel bir araştırmada Hırlak Çam ve Bilgili (2022), Covid-19 sürecinde kentsel hakların engelliler tarafından kullanılabilirliğini belirlemek amacıyla, Ankara'da yaşayan farklı engel gruplarından 20 kişi ile görüşmeler yapmış; bu süreçte engellilerin metropollerde sosyalleşmesinin mümkün olmadığı sonucuna ulaşmıştır.

Son 15-20 yılda Türkiye'de engellemele ilgili çalışmalar artmış ve sosyal politikalar üretilmiştir. Bu bağlamda engelli hakları konusunda önemli gelişmeler kaydedilmiştir (Gültekin ve Sezer, 2017). Ancak uygulamada düzeltilmesi gereken bazı eksiklikler bulunmaktadır. Bu nedenle, engelsiz şehirler için, engelli bireylerin katılımıyla tüm paydaşlarla birlikte bir politika yaklaşımı oluşturulması önerilmektedir.



## Ek bilgiler

**Çıkar Çatışması Bilgisi:** Çıkar çatışması yoktur.

**Destek Bilgisi:** Araştırma kapsamında hiçbir kişi veya kurumdan destek alınmamıştır.

**Etik Onay Bilgisi:** Bu araştırma canlılar üzerinde yürütülmediği için etik kurul onayı alınması gerekmemektedir. Mevcut araştırma süresince “Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesi” çerçevesinde hareket edilmiştir.