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Iran investigating the Status of Parks as Leisure Centers in Relation to the Disabled (Case Study: District 3 of Isfahan Municipality)

Abstract

Disability is defined as a complication caused by a weakness or disorder in the sensory and motor system that causes disturbance in moving and communicating with the environment. In this research. More emphasis has been placed on the types of disabilities that cause disruptions and reduced mobility. For people with disabilities, if special facilities are not provided by urban management in urban spaces, communities will face high healthcare costs. Considering this background, this research aims to improve the quality of green spaces as leisure centers for the disabled, measuring the level of satisfaction of the disabled in district 3 of Isfahan municipality, with the facilities and services provided and the qualities related to the design of the space. Green and access routes to the green spaces of this area. The method used in this descriptive-analytical research and the data used were obtained from the study of documentary-library sources, field observation, and questionnaires. Finally, by completing the questionnaire among 300 disabled residents of district 3 of Isfahan municipality, it was found that there are basic weaknesses and deficiencies in all the studied areas and the average obtained for all the investigated indicators was less than 3. This means that the degree of satisfaction of disabled people with green space was equal to 2.784 and the quality of design of green spaces and access routes was equal to 2.4633. Finally, based on the findings of the research, suggestions were made to improve the quality and access of disabled people to green spaces.

Keywords: *accessibility, adaptation, park, disability, leisure time*

[a]Yeganeh Poostindooz*, [b]Ahmad Shahivandi

[a] *Department of Urban planning, Faculty of Architecture and Urban Planning, Isfahan university of art, Isfahan, Iran*

[b] *Department of Urban planning, Faculty of Geography and Urban Planning, University of Isfahan, Isfahan, Iran*

***Correspondence author:*
Email:
yeganehpoostindooz92@gmail.com

Introduction

People with disabilities can be considered as one of the social groups that are generally given less attention in the planning and design of urban spaces. The result of such a process is the reduction of the desire of disabled people to be present in urban spaces (specifically parks and green spaces which are the subject of this research) and since presence in these spaces plays an important role and function in the physical, mental and social health of people show this deprivation causes disruption in the general health of the disabled and confronts the society with healthcare costs. In this research, green spaces have been investigated as leisure centers for the elderly. In this regard, the basics and ideas related to three areas of leisure time, green spaces, and parks and disability have been discussed.

The importance and necessity of research

Recreational centers, parks, and urban gardens should be built in such a way that they can be used by physically disabled people. The division of the interior spaces of these places should be chosen in such a way that their internal fixed or movable objects do not create the slightest problem for the passage of the blind and wheelchairs.

A disabled person should be able to easily get to the recreation center and move around inside it without the help of others, this applies to all disabled people (from the blind to people with limb disabilities). To achieve this goal, they need a space that neither disturbs others nor creates problems for them. Unfortunately, like other social facilities (urban utilities), city parks are not able to host disabled people and do not provide them with enough benefits (Raisi Dehkordi, 243:1997).

Despite the high number of veterans and disabled people in Isfahan city, the need to adapt the roads and public spaces of the city according to the existing criteria and standards is inevitable. So that these sections of society, like other citizens, can live in their living environment, even as much as possible, independently and without dependence. Having said that, considering the problems and obstacles in the city of Isfahan, as well as the increase of disabled and physically disabled people due to unexpected incidents such as driving accidents, etc., it is necessary to think about solving the bottlenecks faced by the disabled and veterans in the roads and public and user centers. various, including leisure centers and recreation centers, and city parks, is inevitable.

Theoretical foundations of the research:

Park and green spaces:

Green space with its multiple properties has a great role in human life. Its multifaceted properties range from the production of oxygen and nitrogen to the property of killing harmful organisms with the production of phytoncides, from the absorption of harmful suspended particles and air pollutants to the property of modulating environmental conditions, from establishing an ecological balance in the environment to the property of modulating environmental conditions from establishing the ecological balance in the environment, from absorbing abnormal sound, from creating an environment of safety and comfort to recreation and

entertainment to the center of a gathering of people, etc., in fact, it evokes the field of diversity in the mind. On the other hand, the basis of the evolution of life is the resulting order and the green space, which is part of the complex of life (Hakmati, 2008). In short, the most important effects of green space in human life and urban environments can be stated as follows:

- Decreasing air pollution
- Reducing noise pollution
- Oxygen production and carbon dioxide absorption
- Use as a resort and a place to spend leisure time
- Creating mental and psychological peace for humans
- Energy storage by adjusting the ambient temperature (Jovanshir, 2001)

In the table 1 below, the most important indicators affecting the quality of urban green spaces (parks) as one of the most important leisure centers are provided.

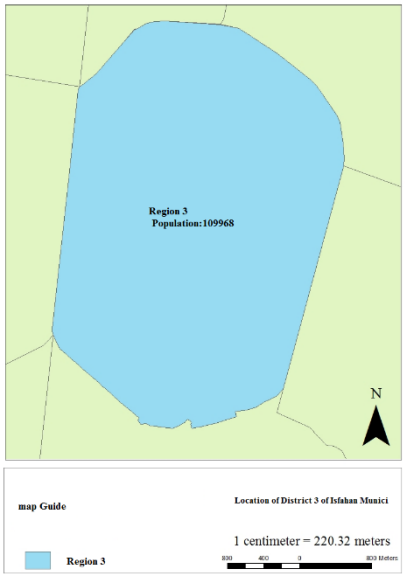
Table 1: Factors affecting the quality of urban green spaces (parks)

No	Indicator
1	The quality of sanitary services
2	There is a grocery store
3	Accessibility for the disabled
4	Animal areas
5	Children's play area
6	Flower work
7	Parking
8	Sidewalk
9	The existence of animals and beasts
10	Cleaning the environment
11	Furniture and chairs for relaxation
12	Safety
13	Proximity to residential areas
14	Silence and peace
15	Pedestrian and bicycle access
16	Natural sounds
17	Air quality
18	Freshness and vitality
19	Comfort
20	Quality of the trees

(References: Curcuruto & Fasdruba, 2011)

The studied area:

This research is geographically located in the three municipalities of Isfahan in the center of Isfahan city, and Shahid Rajaei Park is considered a case study.



Location of District 3 of Isfahan Munici

Population:109968

Free time:

Different and interesting categories of leisure activities have been created. For example, Fletcher and his colleagues have divided leisure activities into two structured and unstructured groups. Leung and Lee have divided leisure activities into two categories: people-oriented and place-oriented (Faizi, 24:2007).

Also, there is another division in the field of free time, which divides these activities into two active and passive parts; active leisure activities are the ultimate activity that involves the expenditure of physical and mental energy; like walking, playing football, playing chess, etc. The activities of leisure time are passive and final, where a person does not exert any mental or physical energy; like going to the cinema, watching TV, etc. (Newlinger, 1981). (In this research, active leisure activities are considered).

Recreational activities (in free time) can include: listening to music, playing on a sports team, playing a computer game, or going to the cinema. Doing these activities can increase vitality, self-confidence, and independence (especially among children and the disabled). Performing physical activities (in leisure time) can improve people's health and reduce the risk of long-term diseases.

According to health experts, recreation and recreational activities are one of the nine key factors for communicating with disabled children (Janssens et al, 2014).

The evidence shows that the level of physical activity has a similar effect on the health of disabled people (compared to healthy and non-disabled people). In this regard, researchers have identified factors affecting physical activity, these factors include the following :

• Degree of ability and disability (type and degree of health and disability)

• Environmental factors (cost, access, environmental construction, information, communication, and social support, etc).

• Individual factors (age, gender, mental-psychological pressures, mental illnesses, social neglect, etc. (Saebu, 2011)

Disability:

Disabled refers to a person who cannot use a part or parts of his body (as others use). Disabled people are divided into different categories as follows:

Wheelchair users: These people use wheelchairs due to their inability to walk.

Paralysis: People who cannot move their lower body (legs).

Severed spinal cord: People who cannot move their body from the neck down.

Groups with special needs: People who need special attention and equipment due to physical and mental problems.

Groups with learning problems: These people have special mental problems that affect their learning (Longman Advanced American Dictionary, 2007).

In the table 2 below, the general indicators of the design of urban spaces according to the specific needs of people with physical and mobility disabilities are mentioned, and the description of each of these indicators will be discussed in the following:

Table 2: Design indicators of urban spaces according to the needs of the disabled

No	Indicator
1	Adequate width of passages
2	Proper slope of roads
3	Suitable height and height changes
4	Materials used in the body and floor
5	The texture of the materials used in the body and floor
6	The color of the materials used in the body and floor
7	Movement obstacles and incidents
8	Suitable flooring
9	Use of special signs for the disabled
10	Appropriate distance and viewing angle
11	Islands and standard traffic barriers

(Reference: Daneshpour Abdi, 2006)

Theories related to leisure time:

In this part, two major theories in the field of leisure time are examined and presented. The mentioned theories are presented as follows:

Feminist approach:

The role of women in the family, especially the importance given to childbearing and raising children, puts obstacles in front of the equal participation of both sexes in leisure. The gender structure works in the framework of a system of internal and external limitations. From an internal point of view, the formation of women's identity regarding leisure is based on the importance and priority of physical appearance, and it is based on a kind of unequal right to enjoy leisure by them and men. From an external point of view, women's participation in leisure, compared to men of the same class, is limited due to the lack of time and money (Rojak, 2009: 111). Clarke and Kritcher (1985: 160) believe: women are expected (and they expect) to participate in those leisure activities that are defined in a time and place compatible with their established roles. In

the scope of feminist studies, leisure time is considered a place for patriarchy. Often, women themselves, by accepting the fact that men do "real work", spread the idea of patriarchy and give men the right to have free time (Dixi and Talbot, 1982).

In fact, research has shown that many women feel guilty about having free time and engaging in leisure activities. As a result, listening to the radio or watching TV should be accompanied by additional household chores such as ironing, washing, or knitting. The subjugation of women is done through ideas about doing housework and relationships related to taking care of children (Haywood et al., 2002: 365). Women participate in leisure in different ways, and the experience of women's leisure has a sensitive and critical position compared to men's leisure, but the gender structure is pervasive and gender inequalities can be seen in many expectations and overt and hidden dependencies related to women's leisure.

Pierre Bourdieu's theory:

Based on Bourdieu's point of view, spending leisure time can express lifestyle and special tastes that lead to distinguishing people from each other. In fact, one of the functions of leisure time is differentiation. Bourdieu uses a concept called taste to explain his theory. (Taste is a function of which one of its functions is to give people an understanding of their position in the social system (Cozer, 2017: 727). In a more precise sense, it should be said that consumption allows the representation of different lifestyles and different tastes, and finally, the lifestyles and tastes that are formed based on high capital lead to the consumption of goods that create social distinction. This logic of differentiation in consumption is the focus of Bourdieu's attention (Sutterton, 2001).

According to Bourdieu, the choices people make about leisure options are basically social, and people learn lifestyles and leisure activities, and according to social, economic, and cultural capital, the way they spend leisure time is different. In addition, since singles and married people, as well as different age groups in our society, have different lifestyles and the amount and type of their free time changes, therefore, marital status and age have been investigated as independent variables affecting free time. According to Bourdieu's theory, the following index is considered for each capital:

1- Socio-economic base and income for economic capital;

2- A person's place of residence is an indicator of social capital;

3-The level of education of the respondent, and the education of parents is an indicator of cultural capital; (Khwaja Nouri and Moghaddis, 2008, 141).

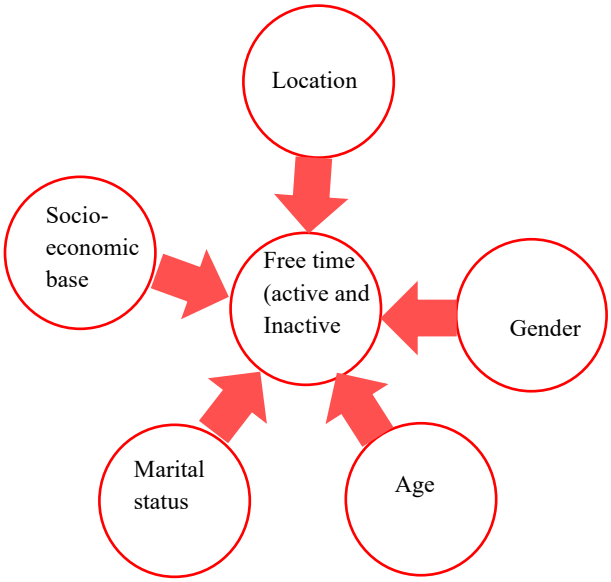


Figure 1: Conceptual model of leisure time

Laws and regulations related to the disabled

Considering the position, role, and importance of the structure and legal framework to meet the needs of special social groups (disabled), laws have been formulated to meet the needs of the disabled and divided into two categories: the Constitution of the Islamic Republic of Iran and the rules and regulations of urban planning and architecture for disabled people. physical-movement are divided.

The Constitution of the Islamic Republic of Iran includes Article 9 of the Third Principle of the Constitution: eliminating unfair discrimination and creating fair opportunities for

everyone in all material and spiritual fields (Constitution of the Islamic Republic of Iran, 1358).

The mentioned criteria in urban planning and architecture for physically mobility disabled people have been compiled in four chapters: optimal criteria for urban space design, an adaptation of roads, general criteria for designing public buildings, and recommended criteria for adapting the city environment for disabled people.

Designing urban spaces for the disabled

In general, urban spaces should be designed in such a way as to facilitate the safe and independent movement of all pedestrians (normal and unusual) in all the external environments of buildings. Therefore, the principles and recommendations from a set of different sources (in particular, the rules and regulations of urban planning and architecture for physically-mobility disabled people prepared by the Building and Housing Research Center in 1378) in the field of construction and design of public spaces according to the needs specially selected and presented for disabled people. These fields include characteristics of sidewalks, external surfaces of pedestrian crossings, the slope of crossings, warning directions, linear and trackable, the width of flooring, accumulation of snow and its removal, surface change, different ways of guiding people blind (low-sighted) in the direction and color of flooring.

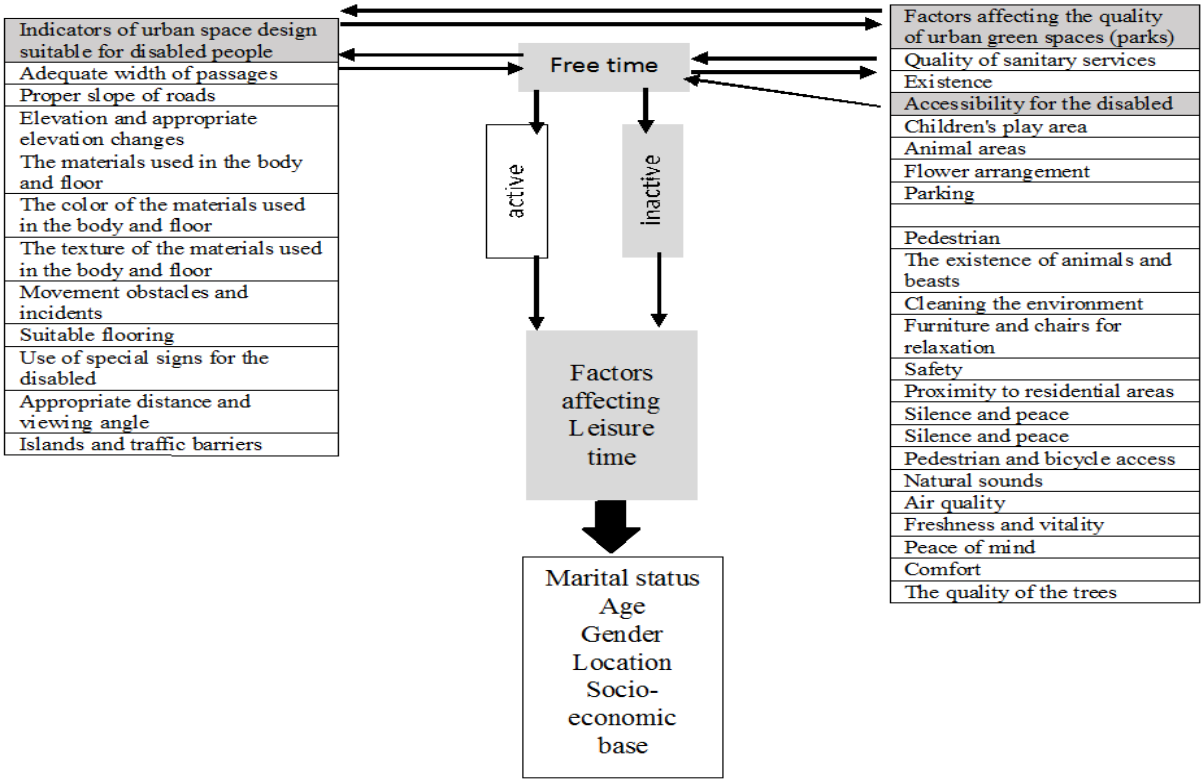


Figure 2: Conceptual model of the research

Research methodology:

In the current research, according to the title (Investigation of the status of parks as leisure centers concerning disabled people, a sample of study: Isfahan city), after studying the theoretical foundations and global experiences in the field of the quality of spaces, especially urban green spaces. for the use of the disabled), was extracted. Then, using the indicators and with the help of measurable parameters, a questionnaire was prepared to identify the main factors and existing weaknesses and it was completed among the research community (sample). The methodology of the current research is presented as follows:

• In this research, according to the nature and objectives considered, the descriptive-analytical method with a practical purpose is used.

• To collect information, two documentary methods and field study are used.

• In the documentary method, data are extracted from various library and documentary sources (scientific documents, books, domestic and foreign articles, internet sites, master theses, and research-related doctoral courses).

• Working techniques (documentary method) including surveying, checking different views and opinions, as well as existing documents and plans related to the subject and the area under study have been used.

• In order to analyze the obtained data, a collection of statistical software (such as spss software along with GIS software) has been used.

Statistical society

The statistical population of the present study includes all disabled people living in the 3rd district of Isfahan Municipality. The district of three municipalities of Isfahan is located in the center of Isfahan city. The population of this region is 108,825 people according to 2015 statistics. The number of disabled people living in this area is 1497 (in 2015). Therefore, the size of the statistical population of this research is equal to 1497 people.

Sampling method:

In this research, a multi-stage cluster sampling method has been used. This sampling method is generally used in large areas. In this method, community members are selected according to the hierarchy (from larger to smaller units) from various types of community units.

$$n = \frac{\frac{t^2 pq}{d^2}}{1 + \frac{1}{N}\left(\frac{t^2 pq}{d^2} - 1\right)}$$

In this formula:

P = 0.5: the probability of the presence of the attribute, q = 0.5: the probability of the absence of the attribute, t = 1.595: degree of certainty, d = 0.05: the probability of error

The statistical population considered for this research includes all disabled citizens living in district 3 of Isfahan city (we will try to complete the questionnaire with more disabled people). According to the studies and estimates, the population of this region is equal to 108825 people. The number of disabled people living in this area is 1497 (in 2013). By substituting the above values in Cochran's formula, the number of 305.9 people has been estimated as the sample size. A total of 300 questionnaires were completed among citizens living in this area. Estimating the sample volume, the sample size was calculated as follows:

$$305.9 = N = \frac{\frac{(1/96)^2(0.5)(0.5)}{0.5^2}}{1+\frac{1}{1497}\left(\frac{(1/95)^2(0.5)(0.5)}{0.5^2}-1\right)}$$

Method of collecting information

The method of collecting information includes observation, interview, questionnaire, and then through the analyzed software, in the next step, the findings obtained through observation and interviews are also analyzed based on the qualitative method. Of course, other qualitative information, which has immaterial aspects and cannot be transferred to maps, will be analyzed and evaluated among other qualitative information. It is worth mentioning. The measurement scale in the questionnaire of this research is the Likert scale. This scale measures indicators and items in certain states of the desired phenomenon, which have equal distances in terms of the measurement value.

Reliability measurement of research

In order to measure the reliability of the questionnaire of this research, the most appropriate method is Cronbach's alpha method, considering the use of the 5-point Likert spectrum. This method is done using a computer and SPSS software, the results of which are shown in the table below.

Table 3: Number of variables and Cronbach's alpha

Number of variables	Cronbach's alpha
33	0.612

This method is done using a computer and SPSS software, the results of which are shown in the table below. The results of Cronbach's alpha coefficient have been calculated. The reliability of the research based on Cronbach's alpha is equal to 0.612, which is positive and close to one. Therefore, the reliability of the data used in this research is appropriate and good. Therefore, in general, the validity and reliability of the questionnaire is are at a suitable level and it is reliable for field research.

Research data analysis:

In this section, general qualities and quantities related to Isfahan province were presented and the status of disability at different levels and different types was investigated. The important point of this section was the significant number and percentage of disabled people living in Isfahan city (compared to other cities and counties of the province). Then the data obtained from the research questionnaire was evaluated and processed. The number of people and their characteristics were discussed. Finally, the desired qualities in the field of spending leisure time in parks and green spaces were presented. The main point was the dissatisfaction of citizens with the quality of leisure in the park and the basic deficiencies in terms of the quality of design indicators of green spaces and parks in the studied sample (Area 3 of Isfahan Municipality).

Analysis of research data:

In this chapter, the assumptions raised in the first chapter were tested to challenge the validity of these assumptions, and

finally, the conclusions and suggestions of the research were presented.

The first hypothesis

It seems that the quality governing the design principles of Isfahan city parks is not suitable for the use of disabled people.

In order to measure the quality governing the design principles of parks in Isfahan city, the single-variable T-test has been used. Because the p-value in this test is less than 0.05, then the null hypothesis, which means that the mean is equal to 3, is rejected. In order to answer the question that the average of the community is smaller than 3 or larger than that, one should look at the value of the average difference. Since the average difference is -0.22 and this value is smaller than the number 3 and also the lower and upper limits are both negative, the quality of the principles governing the design of green spaces and parks in the city of Isfahan (area 3 of Isfahan municipality) for use of the disabled is below average and is not suitable for the use of the disabled.

Table 4: Measuring the quality governing the design principles of Isfahan city parks using the univariate T-test

Description	**TEST VALUE= 3**						
	T value	Community average	Degrees of freedom	Significance level	Mean difference	95% confidence level	
						Upper limit	Lower limit
Design index	-10.82	2.784	269.00	0.000	-0.22	-0.26	-0.18

In order to measure the quality governing the design principles of parks in Isfahan city, the single-variable T-test has been used. Because the p-value in this test is less than 0.05, then the null hypothesis, which means that the mean is equal to 3, is rejected. In order to answer the question that the average of the community is smaller than 3 or larger than that, one should look at the value of the average difference. Since the average difference is -0.22 and this value is smaller than the number 3 and also the lower and upper limits are both negative, the quality of the principles governing the design of green spaces and parks in the city of Isfahan (area 3 of Isfahan municipality) for use of the disabled is below average and is not suitable for the use of the disabled. Therefore, the hypothesis is confirmed.

The second hypothesis

It seems that the level of satisfaction of people with disabilities in the city of Isfahan with the design and access to urban parks is not favorable.

Description	**TEST VALUE= 3**						
	T value	Community average	Degrees of freedom	Significance level	Mean difference	95% confidence level	
						Upper limit	Lower limit
Design index	13.598-	2.4633	269.00	000.0	0.53667-	0.6143-	-0.459

To measure the level of satisfaction of people with disabilities in the city of Isfahan with the design and access to urban parks, a single-variable T-test was used. Because the p-value in this test is less than 0.05, then the null hypothesis, which means that the mean is equal to 3, is rejected. In order to answer the question that the average of the community is smaller than 3 or larger than that, one should look at the value of the average difference. Since the average difference is -0.53667 and this value is smaller than the number 3 and also the lower and upper limits are both negative, the satisfaction of disabled people in Isfahan city with the design and access to urban parks (region 3 Isfahan Municipality) is below average for the use of disabled people and does not meet the needs and demands of disabled people.

Table 5: Measuring the level of satisfaction of people with disabilities in the city of Isfahan with the design and access to city parks. Therefore, the hypothesis is confirmed.

Conclusions and suggestions:

Conclusion

By studying the condition of parks, green spaces, and traffic routes located in the 3rd district of Isfahan city, as leisure centers for the disabled, the present research reached several results, some of which can be mentioned as follows. The parks located in this area have a fundamental weakness in terms of access, design, amenities and sports services, urban facilities, and equipment suitable for the needs of disabled people. Disabled people's satisfaction with access routes and related qualities is low. A matter that requires the attention of urban management (municipality, road, and urban planning department, governorate, etc.). All in all, none of the reviewed qualities lacks qualities suitable for the needs of disabled and disabled people. But the most important observed weaknesses (which have obtained the lowest score) are examined as follows:

• Signs of acoustic and vibrational texture: This indicator is proposed in the context of the needs of people with vision and hearing problems. If you pay attention to this indicator and place it as a warning sign or guidance and orientation, it can provide little value to disabled people.
• Special sanitary service for the disabled, this indicator has also received the lowest score. The lack of location and installation of toilets is one of the important deterrents for disabled people to visit green spaces and parks. If the green spaces are equipped with special sanitary facilities for the disabled, it can be expected that the disabled will visit these spaces more.
• Bus stations and public transportation facilities, the high cost of a private car, and the unsuitability of vehicles such as taxis (along with the high cost) are the factors that lead people to use vehicles such as single-line buses. Meanwhile, the bus stations (along with the buses themselves) have an extremely unfavorable situation for the use of disabled people. If these facilities are adapted, an important obstacle will be removed from the disabled and their access to a large part of urban spaces will be provided.
• Elevators, underpasses, and overpasses, this is also important items in the transportation and movement of disabled people. In fact, city streets and highways separate disabled people from urban spaces like a barrier. The only way to break this barrier is to equip urban spaces with elevators, underpasses, and overpasses suitable for disabled people.
• Canopy, the lower ability of disabled people to move causes more need for them to rest and refresh their breath. In the cold and hot seasons, the lack of canopy and inappropriate and insufficient distribution is a very important factor that prevents the disabled from moving in urban spaces (pedestrians, parks, etc).
• Ambient noise (noise pollution), provision of lighting in green and public spaces, and visual olfactory qualities are also among the things that can encourage disabled people to use green spaces, public spaces, etc. as a suitable center for spending leisure time.

Suggestions

In this section, suggestions are made from the results of the research, which, if implemented, can reduce the problems of the disabled and, as a result, reduce the problems faced by society.
• Considering steep surfaces when there are inevitable differences in surface
• Establishment of sanitary services for the disabled in open, green, and other public spaces
• Equipping parks and green spaces with sports facilities that can be used for the disabled
• Placing furniture and benches on the sidewalk, park, and other public spaces for the elderly, disabled and disabled people to rest.
• Installation of elevators and elevators for the disabled in air bridges and transportation facilities (metro).
• Designing a taxi and bus station suitable for disabled people
• Designing and using buses with low entry heights for use by the disabled
• The flooring of sports spaces should be made of materials that do not cause the disabled to slip.
• Disabled people have problems moving on the sidewalks because of the high slope or low width or the materials used. Therefore, the sidewalks should be designed with the appropriate slope and width, and the materials used should not cause the wheelchair wheel to slip or get stuck.
• Preventing the creation of unnecessary level differences.
• Preventing the interference of rider and pedestrian movement
• Monitoring the activities of guilds and preventing shopkeepers and peddlers from encroaching on public space and blocking and limiting pedestrian traffic.
• Installation of warning signs according to the needs of different groups of disabled people (visual, hearing, mobility, etc).

Figure 3: Installation of warning signs on pedestrian crossings from the street

Reference: iranmedbank.info

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