

Quality of Life of the Disabled in Tehran

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ABSTRACT

Aims The quality of life for the disabled is one of the biggest challenges in today's societies. This study aimed to investigate the quality of life, determine the effective criteria, and provide operational solutions to improve the right of people with disabilities in Tehran.

Instrument & Methods This combined-exploratory research with the qualitative-quantitative method was carried out on disabled people in Tehran from 2021 to 2022. In the qualitative phase, the pathology of improving the right of people with disabilities in the city was investigated using a phenomenological approach through a semi-structured interview. The experts and disabled population were selected by snowball and available sampling, respectively (n=27). The quantitative phase was performed by survey method using a researcher-made questionnaire. Cluster sampling was performed in five areas of Tehran. The number of samples was estimated to be 384 using Cochran's formula. The reliability and validity of the questionnaire were confirmed using face validity and Cronbach's alpha, respectively. Data were analyzed using a one-sample t-test by SPSS 20 software.

Findings A total of 335 primary codes and 52 secondary codes were extracted from all interviews. These 52 secondary codes were subjected to 18 sub-themes and finally, five main themes, including improvement of urban spaces for the people with disabilities; participation of the people with disabilities in urban spaces; allocation of the right to people with disabilities; adaptation of public transportation for people with disabilities; and education and information as fulfilling the rights of people with disabilities were extracted.

Conclusion It is necessary to pay attention to the factors affecting the quality of life of people with disabilities in various socio-cultural, economic, and physical-structural dimensions of Tehran in urban management and design.

Keywords Disabled Persons; Iran; Quality of Life; Urbanization

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Introduction

The twentieth century has witnessed the rapid and unprecedented urbanization of the world's population. The world's urban population has grown from 13% in 1900 to 30% in 1950, and it is estimated that by 2050, 68% of the world's population will live in cities. This trend reflects urban population growth, which increased from 220 million in 1900 to 732 million in 1950. By 2030, 4.9 billion of the world's population will be urbanized with an annual growth rate of 1.8 [1].

Urban spaces are the bedrock of citizens' lives and activities that connect with people and people's living environment. According to the characteristics of individuals and age groups, gender and social should provide a safe, healthy, stable, and attractive environment and respond appropriately to the different needs of all community groups [2]. As the bedrock of human life, cities have a fundamental role in creating satisfaction, shaping the human lifestyle, and determining the quality of life [3]. In general, quality of life is one of the words that does not have a clear and uniform definition. Although people instinctively understand its meaning easily, this concept is different [4]. Felce and Perry [5] emphasized that quality of life is a multifaceted and ambiguous concept used at various levels, from local community assessment to specific assessment of individual and group situations. Romani *et al.* provided a set of reasons to answer why there are no universally accepted definitions of quality of life. This set includes psychological processes, the value of judgment, and the impact of human perception on the individual's life in the local community. Hence, due to the lack of a single operational definition of quality of life, other related terms, such as well-being, living status, the standard of living, life satisfaction, and satisfaction, have emerged [6]. In general, quality of life is related to human needs. Therefore, although the quality of life is a multidimensional concept, it should be considered a whole. Improving the quality of life can be achieved through equal opportunities and facilities to achieve education and employment, the balance between provincial regions, equitable distribution of income, increasing the provision of basic needs of the people, maintaining and promoting the health of the community, making access to health services by gender, ethnicity, social groups, and geographical areas, and to stabilizing the process of providing resources and equitable participation of people in providing health [7].

Quality of life for people with disabilities is one of the biggest challenges in today's society. Since the early 1970s, the international community, and the United Nations, have been expanding their support for people with disabilities. According to statistics, there are currently 600 million people in the world with disabilities due to various physical,

psychological, and social reasons, of whom 80% live in third world countries, and one-third of them are children. Also, one out of every ten children born is born with a disability. In general, disabilities can be classified into two types, physical and mental, including other cases. In Iran, disability is one of the areas in which there is much disagreement, and the exact number of disabled people is not available. However, according to statistics recently announced by the President of the Association for the Defense of the Rights of the Disabled, there are currently about three million severe and moderate disabled people (including about 10 million people with mild disabilities) [8].

Assessing public spaces according to the needs of disabled people and veterans and planning in this regard is a necessity of any society. Many studies have been done in this field, including those by Shaterian *et al.* [9], Ghazanfarpour *et al.* [10], Khosravi Tappeh *et al.* [11], Rahim Sarvar *et al.* [2] addressed the adaptation of Iranian urban spaces for disabled people and Kamali *et al.* [12], Shahendeh [13] and Niazi *et al.* [14] examined the quality of life of people with disabilities [15]. Feliz studied the access of people with disabilities in urban spaces in Ankara. He stated that the limited access of the people with disabilities to the services provided in urban spaces was due to architectural barriers caused by the designed environment. Verseckienė *et al.*, in a study entitled "Urban public transport accessibility for people with movement disorders: the case study of Vilnius" stated that unfortunately, public transportation does not address the needs of people with mobility disorders [16].

According to the statistics of the Welfare Organization, there were about one million and five hundred thousand disabled people in Iran in 2011. According to the Iranian Statistics Portal, the number of disabled individuals in Tehran is about 108,000. Also, according to statistics, 110 daily and 3,300 people per month are added to the number of these people in the country, whose annual figure is about 40,000.

In this regard, and considering the obstacles and lack of facilities to promote the citizenship rights of the people with disabilities, building an equal society in the use of services and eliminating inequality at the city level is one of the important goals of urban management. With more than 100,000 disabled individuals, Tehran city lacks adequate facilities in public places and even the private sector. Therefore, it requires a comprehensive look to open the door to solving the problems of disabled individuals and people with disability by finding problems and providing solutions in this regard in a practical way. This study aimed to investigate the quality of life of disabled individuals and extract the components affecting it and present operational solutions to promote the

Instrument and Methods

This qualitative-quantitative study was conducted on disabled individuals in Tehran from January 2012 to May 1400 using the phenomenological qualitative method [17].

Qualitative stage

In this stage, a group of elites and experts in law, sociology, and urban management related to the rights of the disabled individuals and the disabled individuals in Tehran (especially the physically disabled and the blind individuals) participated. Snowball sampling (13 people) was used to sample the elites and experts, and available sampling (14 people) was used to select disabled individuals until data saturation.

The research tool at this stage was a semi-structured interview. The researcher spent about two months in Tehran researching the research subject. Without making any changes in the environment, only collected data on lived experience and its various dimensions among the disabled individuals. For this purpose, open-ended and semi-open-ended questions include "Do people with disabilities have the same rights as healthy people?", "What are the social infrastructures necessary to increase the quality of life of people with disabilities?", "What are the strategies to increase the quality of life of people with disabilities in Tehran?", etc., were used. Qualitative data analysis was performed manually after conducting the interviews, and the initial questionnaire was designed with 162 questions in 12 dimensions. This questionnaire was initially presented to a group of 15 experts. Based on their opinion on the content of the questions, 21 questions were removed, and amendments were made to another 47 questions. At this stage, 12 dimensions were reduced to 10 dimensions. In the next step, using a group of 40 pilots with similar characteristics to the target group, the Content Validity Index (CVI) and the Content Validity Ratio (CVR) were calculated for 141 questions. Six questions did not meet the required value and were removed. The final questionnaire had ten dimensions and 135 questions (The questionnaire is reserved by IJWPH).

Quantitative stage

The quantitative method was a survey that included all disabled individuals in Tehran. Due to the extent and dispersion of the disabled individuals in Tehran, two-stage cluster sampling was used. At first, Tehran was divided into five clusters or zones of west, east, center, south, and north. Then, two rehabilitation centers for disabled individuals (one public and one private) were selected from each zone. Due to the lack of statistics on the number of

disabled people in different regions of Tehran and the lack of stable statistics, samples were selected equally from each cluster. The number of samples was calculated to be 384 people based on Cochran's formula at an error level of 5%, but considering the probability of attrition, 400 samples were selected. The data collection tool was a researcher-made questionnaire with two sections of demographic information (gender, age, number of children, marital status, level of education, employment status, monthly income, and type of disability) and satisfaction with the way of providing services to the disabled individuals in 10 dimensions of educational services (9 items), welfare services (12 items), quality of life (39 items), sports and cultural services (8 items), health services (22 items), insurance services (5 items), job services (10 items), family services (10 items), public service (10 items) and leisure (10 items). The scoring of items was considered based on a 5-point Likert scale from very high or very good (5 points) to very low or very inappropriate (1 point). The reliability of the instrument was calculated using Cronbach's alpha of 0.75.

After obtaining the necessary permits and registering the research in the ethics committee of the Islamic Azad University, the researcher referred to each center and proceeded to sample after presenting the referrals and coordinating with the center's officials. Sampling was done randomly in each center. After explaining the research objectives to the disabled individuals, the questionnaire was delivered to them after signing a written consent, and they were given time to respond. In cases where the disabled individual could not complete the questionnaire without assistance for any reason, the questionnaire was completed by the researcher. Sampling was continued until reaching 20 correct and usable items in each center, and finally, 400 questionnaires were included in the study.

Data analysis was performed using a one-sample t-test (to measure the desirability of research variables) and chi-square (to describe the intensity of the relationship between variables) by SPSS 20 statistical software.

Findings

Qualitative stage

The mean age of 27 participants was 41.5 ± 9.3 years. Twenty-one participants were male, and 18 were married. Three hundred thirty-five primary codes and 52 secondary codes were extracted from the full interviews.

These 52 secondary codes were subjected to 18 sub-themes, and finally, five main themes (improving urban spaces for disabled individuals; participation of the disabled individuals in urban spaces; allocation of the right to disabled individuals; adaptation of public transportation for the disabled

individuals; and education and information as the realization of the rights of persons with disabilities) were extracted.

Improving urban spaces for disabled individuals

This theme consisted of four sub-themes.

Pathology of passages for disabled individuals:

The most important problems of highway and non-highway passages from the point of view of the disabled individuals were categorized into two classes of instrumental harms (lack of escalators in the pedestrian bridge, steep slope, lack of signboards, lack of audible warning at intersections, lack of proper architecture for crossing the underpass, unevenness of the passages due to frequent digging of passages, lack of adapted routes for entry of disabled individuals and exit from the street, obstacles in sidewalks and insecurity) and human harms (lack of accompanying disabled people in highways at certain distances, movement of motorcyclists in passages, lack of access to van services, and crowdedness and population-related traffic).

Regarding the issues and problems of the disabled individuals about the existing urban passages, the most important issue mentioned was the unevenness of the passages, which was partly related to the breakdown of the roads and partly was related to the obstacles faced by disabled individuals.

"On the sidewalks, when we move, we do not see anywhere, suddenly our feet go into the hole, or our head hits a tree. Also, passages are not the only issues. It seems that nowhere in the city is meant for us" (Participant 12).

In other cases, obstacles, bumps, and the movement of motorcyclists on sidewalks were mentioned the most, followed by the existence of obstacles, movement of motorcyclists, and unevenness of the passages.

"For example, suppose that the municipality or the water or gas department is repairing or rebuilding a place. These parts should be covered so that the blind person can notice this part while walking. For us (disabled people of the Welfare Organization), it has happened so that while walking, we think that it is the same until the end, then suddenly you see that they are building apart because of a well or because of construction of a house, but there is no cover. When this person faces this part, he/she does not know where should go and what should do; maybe the municipality is doing the right thing, but this is not all-encompassing. One part is doing the right thing, and the other part is doing its job independently without protection or anything." (Participant 20)

Pathology of constructs for disabled individuals:

The inefficiency of public and urban spaces for the disabled individuals, in addition to the passages, is very important in the context of public buildings, offices, universities, etc. These include the lack of religious facilities for prayer and the proper prayer

hall for the disabled individuals, the high height of communication gates, inadequate entrance and exit of the building, lack of sloping surfaces or very steep slope, lack of adequate sanitation for the disabled individuals, lack of suitable parking space on the side of the street for disabled individuals, lack and absence of disabled individuals' companions in buildings and public places, non-observance of the use of handrails on stairs and steps, lack of elevators for the disabled individuals, lack of adequate seats for disabled individuals in banks, clinics, and so on.

The issue of the presence and participation of the disabled individuals in urban spaces is not limited to their issues and problems but also is one of the most important issues in this area is the improvement of urban roads for disabled individuals, which seems to have failed to solve their problems to be present in society. Many disabled people were not aware of the existence of existing passages. The few disabled people were not satisfied with the quality of the existing passages, and especially they were highly dissatisfied with the standardization and integration of urban spaces.

"The improved boulevard is not much different for us from other streets, and I prefer to use other routes to go where I want ... In our routes, inappropriate mosaics are used, most of the routes are interrupted, and in the middle of the road, our special route is no longer, the sidewalks are often uneven, ..." (Participant 3)

Existence of obstacles in the passage path: In the leveled paths, there are many obstacles in certain passages for disabled people, such as newspaper kiosks and shopkeepers' goods, tree branches, car parks, etc.

"Regarding the constructions that are being built in Tehran, the scaffolding was 50 meters high, and suddenly the bricks fell from above, and the municipality should follow up on this issue. These constructions throw their equipment out and on the sidewalks, which blocks our safe path, often the height of the scaffolding is such that my head hits the scaffolding ..." (Participant 8)

Consequences of not improving the roads for disabled people:

As mentioned, the consequences of not paying attention to disabled people in urban spaces are numerous, and even with the improvement of urban spaces in some areas, these programs have been associated with consequences. Some of these consequences are inappropriate urban improvement plans for the disabled people or dissatisfaction with the relevant institutions, reduced social trust in relevant institutions, no priority for the disabled people, and non-observance of the rights of the disabled people by other citizens.

"Nothing is made for the blind and disabled people in Tehran at all ... Imagine a wheelchair suddenly facing a stream in front of it ... They do not even remove these obstacles. I ran 10 km in a wheelchair along the Rhine in Germany without feeling stressed or scared."

You compare the management here with Germany. Our situation is awful" (Participant 15)

"Personally, whenever I come to an intersection, I do not trust the mosaic and the unique path at all, and I recognize my path based on the sound of the car. The safest place for us as blind people is in my room ... You see how many people are killed in accidents in Iran every year; nowhere in this city is secure that I want to move safely. I think the municipality has more important things to do ... with this management style and with this process, it will not work for blind people" (Participant 12).

"With this situation of the passages, I often prefer to stay at home, unless I have a particular job, for example, I want to go to university ... My family did not guarantee that I ask them to take me out every day; I could not even ask them for help anymore ... The city has no security for us, and that is why I prefer to stay home" (Participant 22)

Participation of disabled people in urban spaces

One of the main issues related to improving urban spaces for disabled people was their participation in both public urban spaces and their participation in the improvement of these spaces for this social group, which had four sub-themes. This participatory paradigm seeks to broadly decentralize power and management at the macro level and a shift from an authoritarian perspective to a participatory perspective.

The right to participate: According to the participation paradigm, the most appropriate solution to solve problems related to sidewalks for the physically and physically disabled people is to involve such people in all urban improvement programs (preparation phase, during implementation, and after implementation). Certainly, no one knows as much as the disabled themselves about their needs and the shortcomings of urban spaces.

"Before the current municipality, it was impossible to employ disabled people in various deputy departments of Tehran municipality. We have always been told that the municipality and the political decision-making centers of the city are places for the employment of healthy people, not people with disabilities. In Tehran also infrastructures are designed for citizens with disabilities, but by healthy people and not with the intervention of the disabled individuals" (Participant 10)

However, what was obtained through interviews with many disabled people indicated that no counseling or consultations were held with these individuals, and even most of them are unaware of the existence of many programs to improve and upgrade the facilities for the disabled people in the neighborhoods of their area of residence.

"Many urban actions and activities, such as landscaping parks, geometric modification of roads, etc. for the disabled people, which is done by the

municipality are first designed and implemented by engineers and contractors, and then disabled people are asked to use them, and this leads to the structure being imposed on the disabled individuals, and it is better to use the project stakeholders in the design and implementation process" (Participant 11)

One of the good events that have happened to disabled people in recent years and have made the disabled people happy has been the definition of disability counseling jobs for the deputies and the general staff of Tehran Municipality.

"Until a few years ago, we could only make requests through the charities we had in charities and Welfare organizations. Fortunately, this year we were given a career line that, regardless of the financial issue, is a chance for disabled people, and we can follow our demands in the city" (Participant 26)

Distrust: One of the consequences of non-participation is distrust of the organizations in charge of improving urban spaces. Interestingly, the organizational trust may even, in some cases, have nothing to do with existing realities. In other words, an organization in charge of an urban improvement field may have produced suitable spaces for disabled people in accordance with existing standards. But due to distrust and even ignorance and lack of information and participation, it can be distrusted by disabled people.

"If these passages are built principled to be used by a blind person, it has a great effect on increasing trust, and it is mentally comfortable for him to be able to do his personal affair or go to work independently, she knows that it is safe and this is very important for the blind. That is, when a blind person or other disabled people feels safe, it is easier for them to go for their daily affair or social work, such as going to the pool or going to clinics, or they tend to go there more." (Participant 24)

The same is true for institutional trust in organizations and institutions that veterans and the disabled deal with more than any other institution. The interviews showed that disabled people try to maintain their health by not trusting these spaces and the institutions in charge of them.

"Apparently, there are so many organizations and trustees for veterans and the disabled. The Municipality, the Welfare organization, and the martyr foundation did nothing for the pedestrians. In our neighborhood (Shahr-e-Ara), when we cross the sidewalk, there is no hole, tomorrow there is a hole" (Participant 5)

Lack of awareness: Many people with disabilities are unaware of urban management measures to improve the environment for people with disabilities. On the other hand, many people with disabilities believe that experts and city officials are unfamiliar with the capabilities and abilities of people with disabilities.

"Municipal managers and experts and many

institutions in charge of the disabled people have done nothing for us and are trying to exclude us from the community ..." (Participant 9)

The awareness of the disabled people means knowing the duties of the government and the Municipality for the disabled people and trying to fulfill their rights and perform their obligations. On the other hand, the government and especially the urban management must have a correct knowledge of the abilities and disabilities of disabled people.

"Once I had a meeting with one of the city managers, and he thought that because I am a disabled person. As a result, I could not do anything, and he looked at me more sympathetically, and when I told him about my abilities, he just realized that I am not incapable, but his knowledge was very limited" (Participant 13)

Place attachment: Many disabled people have a special attachment to their neighborhood, but some are dissatisfied with their home, place, and neighborhood.

"The house I live in is very small, and I do not feel comfortable in it. Although, thank God, I have a roof over my head, but it is very difficult for me. Our neighborhood is also in the worn fabric of the city and is very unsuitable for me to move. The type of the people in this area has also changed, and I cannot communicate with them" (Participant 6)

Allocating space to the disabled people

One of the most important topics in the interview with disabled people and veterans was the issue of allocating space in the city for them. This theme consisted of three sub-themes.

Vitality: Vitality is characterized by the components of feeling safe, the possibility of fun and adventure, and the existence of communication facilities in the city for disabled people. After interviewing the respondents with disabilities in social and urban vitality, it became clear that urban vitality is not very favorable for disabled people and their demands are not considered and applied.

"Our city has no urban attraction for disabled people. As a person with a physical disability, I may not be able to walk long distances, and if I walk, I have to admit that I may need toilets that are not on the streets at this distance. I may collide with pedestrians and fall to the ground, and eventually, no one will pay attention to my physical condition, and I will not be safe. If I do not want to walk, my expenses will increase, and I will decrease. If I can go to a fun place in the city, it's not clear what will happen to me" (Participant 2)

The lack of communication facilities in the city and its high cost for the disabled people, who do not have a high income and cannot be managed without social support, is not very acceptable, and there are many weaknesses.

"Because I am visually impaired and a blind person, sometimes I have trouble using technology, as well as the Internet and registration, etc. I must do this in

cafes or with the help of others. Of course, we use audiobooks and audio reports, but we cannot use the rest of the applications, such as my Tehran application or Snap, and even banking applications, etc." (Participant 27)

Also, several weaknesses in controlling and applying security for the disabled people in the passages, crossings, etc., in their city are eroding, and there is a high need for control and upgrading.

"I'm very stressed when I'm going out, and I'm worried that maybe my route has not changed. Walking on stairs, tables, bridges can cause problems. Sometimes the hole and the uneven surface cause us to fall to the ground and get injured. The abnormal situation of peddlers, shopkeepers and urban furniture in urban spaces and sidewalks is a crisis for us; for example, we cross the sidewalk and a peddler or shopkeeper has provided his goods on the ground" (Participant 22)

Ownership: Disabled people reported several weaknesses, saw themselves downstream, and did not consider urban opportunities in agreement with their needs. Therefore, disabled people in the city are more of a service-receiving class than service providers. Families of disabled people also have to incur expenses to meet the needs of their children and disabled members.

"Ownership is difficult for us because we do not have stable employment and because we do not have the opportunity to earn a regular income. Maybe we can finally buy a small house with low facilities for living, and in the end, we do not have many possibilities of being an owner" (Participant 16)

In addition to the fact that there is no possibility of being an owner, the possibility of user ownership is also weak for this group; for example, providing a place in the city where space and functional facilities are dedicated for disabled people and their user ownership be defined has not received much attention in Tehran, and this has made the disabled people feel unimportant in Tehran.

"I have been working part-time for several years, and although I am about 40 years old, I have not even been able to rent a house for myself and live in my father's house, and I am very ashamed of this situation" (Participant 8)

Physical contribution: Having a physical contribution means having some facilities and access for disabled citizens, which is also important to allocate space to oneself.

"People with disabilities have no place in this world, but this does not mean that we are ungrateful. For example, some days we go to parks and restaurants, but we cannot go to certain places, such as stadiums, etc." (Participant 7)

"Once I wanted to go to a stadium with my older brother to watch a wrestling match. Although people helped me a lot to get in position and watch the match, I later decided to watch other matches

on TV" (Participant 14)

"For us as a woman and the disabled person, not much public space is available, and we cannot use it and have to stay home longer" (Participant 23)

Adaptation of public transportation for the disabled people

One of the measures of urban management in recent years has been to pay attention to the use of public transport by disabled people. Since the number of public vehicles should be in proportion to the number of people in the city, and since the number of disabled people in Tehran based on the census is somewhat certain, it should be noted that the number of vehicles for the disabled people and their possibility for traveling to get in and get off them is not very satisfactory for disabled people. This theme had three sub-themes.

"Tehran now has a population of more than 100,000 people with disabilities. About 90 vans have been designed for this population, which travel during the day on the routes that the passengers are getting in or getting off. Officially, 60 are working, and 30 are in the repair garage. However, it should be noted that less than 10,000 people in Tehran are members of the care system for disabled people, and this number is very small for the population of disabled people" (Participant 10)

Rail lines: Metro in Tehran is not optimized for disabled people, and there are few lines and stations that disabled people can use. Lack of elevators, lack of flat electric stairs, and proper elevators for disabled people are some of the most important problems of metro stations in Tehran.

"All subway lines at the entrances and exits and external transportation terminals were inefficient for the disabled people. I have not been able to enter the subway so far because it has many stairs and no elevator and it is in the middle of the street, and I cannot cross the street" (Participant 15)

Bus lines and BRT: It can be said that disabled people are more satisfied with these BRT systems than other bus lines. Because the stairs passing through the station, the steep entrance and exit to the station, and the appropriate stairs have been considered, the buses' entrance is relatively suitable for disabled people. However, like the metro, some stations are not adapted, and in addition, the number of passengers at the stations is relatively high.

"Large crowds sometimes prevent us from using buses. During peak times, i.e., mornings and afternoons, I do not use buses or BRT at all" (Participant 11)

Taxi: It can almost be said that using a taxi is not very economical for disabled people and they do not welcome it. For this reason, taxis are not considered public transport for disabled people. In addition to the cost of renting a taxi, getting a taxi for disabled people also has side costs. Moving a wheelchair or cane, slow movement, getting in and getting off,

difficulty in making the deaf and blind, and physically disabled people informed have caused some side costs. This has made people with disabilities less receptive to using a taxi.

"I always have trouble getting into a taxi because I have a physical disability, and it takes longer to get in a taxi, and other drivers and passengers get tired and bored. Sometimes I need to get in a wheelchair and go out and also lifting and moving have financial and mental consequences. Because I have to ask for help from others, and it is not clear whether anyone will help or not?" (Participant 21)

Education and information to provide the rights of people with disabilities

This theme consists of four sub-themes.

Safe use of urban spaces: To encourage disabled people to be more present in society, they should be informed about safe ways to use urban spaces and even increase their institutional trust.

"At the moment, no specific organization provides information. The person must attend the meetings himself and raise the issue under any pretext. No! There is no special place. This should be done by the Welfare Organization, which unfortunately does not provide any information ... Iran Sepid newspaper and the stations in the city are very important places for information" (Participant 17)

Education and information: It is not only related to the construction or improvement of projects related to disabled people. For example, imagine that in one of the neighborhoods of Tehran, a project for urban improvement has been designed for all citizens. This project requires excavation and major changes in the urban environment. People with disabilities navigate and move according to their mental image of the city map. These mental pathways are especially important for the blind and the disabled people. If information is not provided or alternative routes are not designed for disabled people, it can disrupt their entire lives.

"When I cross the city, the map of that route is already in my mind. I have already memorized distances, obstacles, stairs, ditches, and everything, and I know how to move. But every day in the neighborhood changes and my whole mind map falls apart, and it takes a long time to draw a new routing in my mind. I do not know, and I have been injured many times in these routes."

Digging sidewalks and sidewalks can be a very important and dangerous issue, especially for the blind.

"One of the most important problems for blind people is that when we cross a path for a while, that path is a safe path for us, and we know all the obstacles, holes and turns of the path; but sometimes, for example, water and sewage or telecommunications cross the sidewalk without any information, and this is very dangerous for us" (Participant 16)

Traffic and traffic problems: The issue of insecurity during traffic is also one of the issues

mentioned, but the use of these passages and roads requires training and information, and the use of traffic junctions requires a constant review of relevant matters, and disabled people should be continuously trained locally on functional sites, such as sidewalks, streets, intersections, and red lights.

"Sometimes, especially in the mornings and evenings, there is so much traffic that it is very difficult for us to get around. That's why I prefer to go out at ten o'clock and come back early in the afternoon" (Participant 19)

Quantitative stage

The mean age of the respondents was 27.00 ± 6.87 years, and 231 cases (57.8%) were male, and 187 cases (46.8%) were married (Table 1).

Table 1) Demographic characteristics of the studied samples (n=400)

Factor	Number	Percentage
Gender		
Female	169	42.2
Male	231	57.8
Marital status		
Married	187	46.8
Single	163	40.8
Divorced	19	4.8
Widow	31	7.8
Education		
Illiterate	16	4.0
Primary	107	26.8
Secondary	146	36.5
Associated degree	44	11.0
Bachelor's degree	50	12.05
Master's degree and higher	37	9.2
Occupation		
Employed	114	28.5
Part-time	49	12.2
Unemployed	237	59.2
Type of disability		
Congenital disability	127	31.8
Accidental disability	40	10.0
Physical disability	72	18.0
Mental disability	161	40.2

It should be noted that first, the scores of each variable were standardized as a percentage of income, and then a score of 50 was considered the theoretical average. There was a significant difference between the studied variables and the theoretical average. The quality of life of the disabled people in Tehran was not at the desired level ($p > 0.001$; Table 2).

The direct effect of service variables within the family and sports and cultural services was not statistically significant due to the small effect size; however, the effects of health services, insurance services, educational services, job satisfaction, welfare services, public services, and leisure time on

the quality of life of the disabled people were significant. The least and most direct effects were observed for sports-cultural services and leisure time, respectively (Table 3).

Table 2) Sample t-test results for satisfaction with service provided to the disabled people in Tehran

Factor	t	Mean \pm SD	Mean difference
Educational services	-6.57	18.03 \pm 2.40	-0.11
Welfare services	-6.70	31.60 \pm 4.80	-10.20
Sports and cultural services	12.34	27.38 \pm 4.20	-6.62
Health services	-9.42	82.89 \pm 6.90	-13.14
Insurance services	-5.56	18.54 \pm 1.90	-9.87
Satisfaction with job services	-12.67	21.94 \pm 2.80	-9.63
Services within the family	-8.80	25.75 \pm 3.10	-10.82
Public services	-12.37	25.38 \pm 2.90	-12.84
Leisure time	-13.78	19.46 \pm 2.60	-16.21
Quality of life	-8.57	96.43 \pm 8.80	-8.32

Table 3) The final effect of quality of life variables of the disabled people in Tehran in the standard model based on the Chi-square test

Output	Direct effect	Standard deviation	C.R	p-value
Health services	0.166	1.35	3.818	0.001
Insurance services	0.154	1.051	3.519	0.001
Educational services	0.214	1.09	4.38	0.001
Satisfaction with job services	0.156	1.089	3.596	0.001
Services within the family	0.226	0.113	3.203	0.1
Sports and cultural services	0.99	1.059	2.227	0.23
Welfare services	0.219	1.032	5.056	0.001
Public services	0.159	0.69	3.662	0.001
Leisure time	0.251	0.124	3.945	0.001

Degree of freedom=399 and $p < 0.05$ for all variables

The results of qualitative assessment of semi-structured interviews regarding the pathology of the right allocation to disabled people in the city were obtained in five areas, including the improvement of urban spaces for disabled people, the participation of disabled people in urban spaces, right allocation to disabled people, the adaptation of public transportation for disabled people, and education and information. By adopting a participatory approach, the values and priorities of minority groups in determining the most important harms and ways to eliminate them were formed. Considering the effective factors mentioned in the pathology of the right allocation to disabled people in the city, the strategies for improving the right to the city are presented as a model in Figure 1.

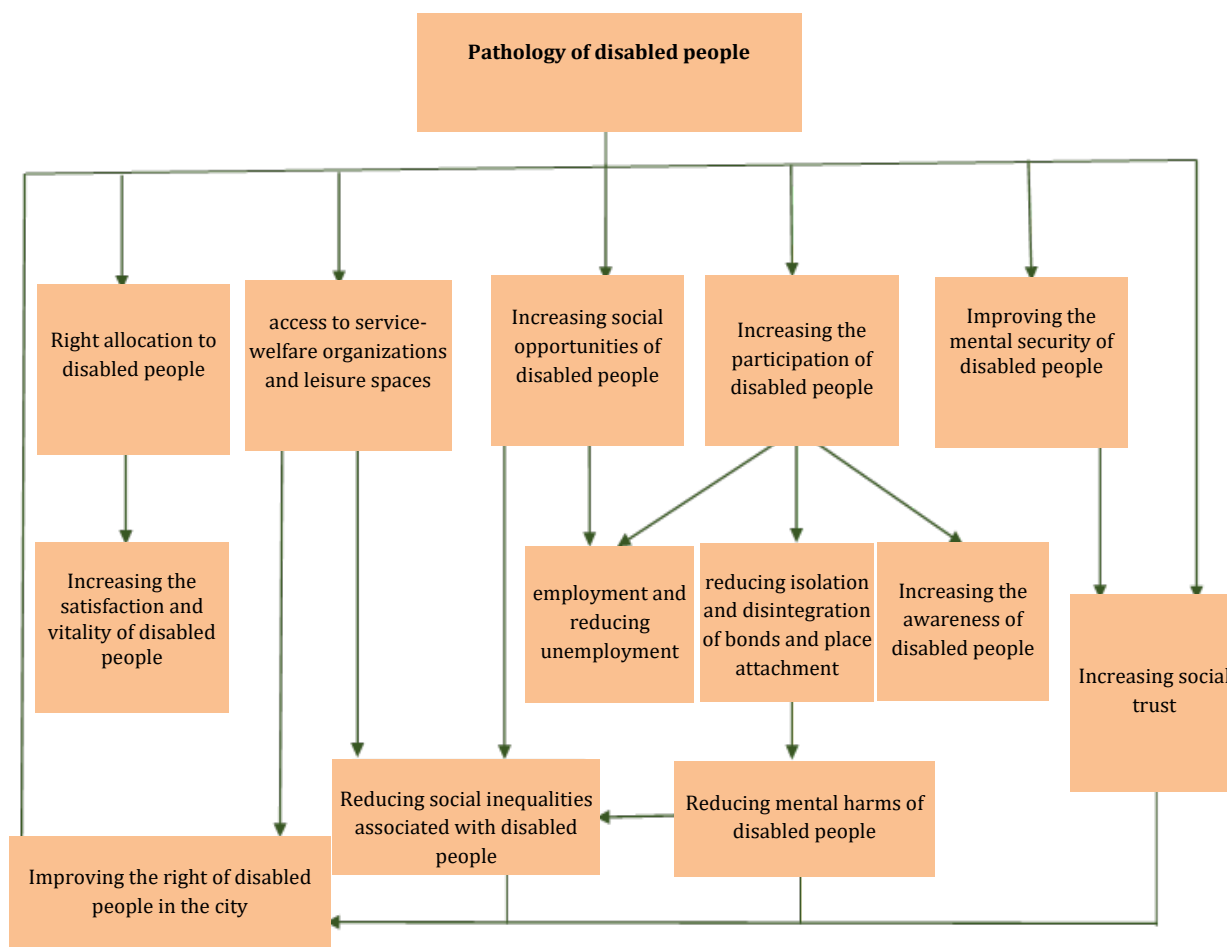


Figure 1) Chart of effective dimensions in promoting the right of disabled people in Tehran

Discussion

This study aimed to investigate the quality of life, extract the components that affect it, and provide operational solutions to promote the right of disabled people in Tehran. Recognizing and measuring the quality of life in Tehran, which is influenced by factors, such as the actions of urban management and other public and private organizations, is a very vital issue and can be a ground for drawing the roadmap of urban management and other responsible organizations to be aware of the current situation and take action to achieve the desired situation. To this end, urban policies always try to achieve this goal with the help of intra-organization and inter-organization strategies, policies, and programs in interaction with other organizations affecting urban development to provide a livable urban environment. In addition to urban development programs and plans, public and private organizations and institutions somehow related to the urban community and its residents have affected citizens' quality of life.

According to the findings of this article, the quality of life of disabled people was not at an appropriate level, and there was a significant gap between the

quality of life of these people and healthy people in society due to a lack of attention to the needs of this group. The results of this study are consistent with the findings of Bakhtiari *et al.* [18], Khodayarian *et al.* [19], and Niazi *et al.* [14].

One of the most important limitations and barriers for disabled people is the lack of public space to attend. The inefficiency of public and urban spaces is of considerable importance for disabled people in passages, public buildings, offices, universities, etc. The studied disabled people mentioned the lack of religious facilities for prayer and the appropriate prayer hall for disabled people, the high height of the communication gates, inadequate entrances and exits of the building, lack of suitable parking space on the side of the street for the disabled people, lack of companions in the buildings and public facilities, lack of elevators for disabled people, and lack of good seats in banks and clinics. The findings of this study emphasize the exclusion of disabled people from the city, which is the most important indicator in improving the lives of disabled people. On the other hand, this finding questions the general nature of Tehran and shows that in Tehran, little attention has been paid to those with physical disabilities;

therefore, the development and planning of public space requires a serious rethinking of how it is managed and produced. These results are consistent with Golestani *et al.* [20] and Ghazanfarpour *et al.* [10]. Providing educational services for disabled people in Tehran is at a low level. Also, the role of education in economic prosperity, the improvement of human relations, the improvement of the quality of social welfare, and the creation of civilization is evident. In the case of optimal efficiency, education can be considered a guaranteed factor for the future success of the disabled people community in various sectors. The results of this study in this regard are consistent with the findings of Shaterian *et al.* [9]. Quality of education, access to it, and elimination of deprivations and educational restrictions can be considered indicators for measuring the quality of life of disabled people community and based on development plans. Long-term goals, the necessary infrastructures for training these people to integrate into urban society should be considered.

Findings also indicated dissatisfaction with health, welfare, and insurance services. Those with disabilities face significant barriers to accessing health facilities and care. Although various measures have been taken to improve access to health care for this vulnerable population, the findings showed no effective consequences. On the other hand, the main obstacles to health services include the high cost of these services and limited human resources, the low level of financial support, and logistical challenges. This hinders the success of health welfare schemes that aim to facilitate access to health care for people with disabilities.

Disabled people were not satisfied with their specific sports and cultural services, as well as the way they spent their leisure time in Tehran. Opportunities to participate in leisure and recreational activities for disabled people can be regarded as an increase in the physical share of urban spaces used for recreation and adventure for this group. Despite some plans, such as improving green spaces, parks, and stadiums in Tehran, many other recreational-sports facilities have not been adapted for disabled people.

Basically, the development of any country depends on the maximum use of human resources, capabilities, and talents of each individual in society. Developing countries comprise more than two-thirds of disabled people, and Iran is one of them [21]. Each person's activity to develop the country requires their presence in various areas of society. The disabled person should have opportunities to strengthen her motivation to work in society. These facilities can include urban facilities or include mental and emotional support. The gap between disabled people and progress must be narrowed day by day so that their potential can be used to improve the country and, on the other hand, their rights as a citizen can be secured.

It seems more appropriate to change the views of urban management and improve attitudes towards disabled people, instead of designing a special park or residential area or health service for disabled people, to design a city from the initiation, in which all people, including disabled people, the disabled, the elderly and the healthy, can use the facilities available in the city fairly and equitably and have access to all urban facilities and equipment to find equal opportunities for others to develop their talents, abilities, and aspirations. Certainly, taking such an approach in a consequential process will be in the interest of society and its better and more worthy management. This will not be achieved unless fair and supportive laws and regulations are enacted before careful and scientific planning and study, and conscious attention is paid to the needs, wants, and most importantly, to the human dignity of disabled people.

Conclusion

Disabled people in Tehran experience significant inequality in many aspects of their lives, including education services, health services, public services, job satisfaction, welfare services, and public or private services. It is necessary to pay attention to the factors affecting the quality of life of disabled people in various socio-cultural, economic, and physical-structural dimensions in urban management and design.

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