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Validity of Public Parks for Children with Disabilities – Parents' Perspective*

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Abstract. Childhood is an important development phase for any person and there are many studies performed which have shown how important the outdoor play and related activities can be during this stage. However, having a disability is yet another major issue that affects both children and adults. Due to the social concept of disability which sees the person suffering from a particular disability as a deviation from being normal, it results in exclusion of the individual from society. In children, particularly those suffering from disabilities, public playgrounds can provide multiple opportunities for physical development, mental growth as well as for becoming a more inclusive part of the society. However, for this to happen, it is necessary that the playground facilities that are available are so designed that they can be enjoyed by the children with disabilities as well. The report is intended to provide an overview of the advantages of public parks for children with disabilities from the perspective of parents.

Keywords: Public Parks, Children with Disability, Parents' Perspective, Quality of life.

Introduction

Disabled children do not participate in physical activities like normally developing children (Carlon, Taylor, Dodd, & Shields, 2013; Frey, Stanish, & Temple, 2008). Active participation in different physical activities improves body composition (LeMura & Maziekas, 2002), psychological well-being (Trost, 2005; Wilkinson, 1983) and enhance social engagement (Jobling, 2001). Moreover, children with disabilities gain some therapeutic benefits from active participation in physical activities (Damiano, 2006). It has been seen that children with disabilities have irregular gross motor development, poor coordination and cardiovascular fitness (Horvat, Pitetti, & Croce, 1997). These functions could be improved by active participation in physical activities. One of the studies shows that parents have a strong influence on the children's active

participation in physical activities (Columna, Rocco Dillon, Norris, Dolphin, & McCabe, 2017).

It may be noted that there are complex and multifactorial problems which render active participation of children with disability in physical activities difficult (Heah, Case, McGuire, & Law, 2007). The major barriers associated with this lower participation in physical activity include lack of knowledge, fear, negative parental behavior, inadequate facilities, lack of transport, and unavailability of programs (Shields, Synnot, & Barr, 2011). Nevertheless, there are some facilitators which comprehensively improve participation of children with disability in physical activities, these include skill practice, family support, accessible facilities, skilled management staff and proper information circulation (Shields et al., 2011). A study revealed that families play a crucial role in supporting children with disabilities to participate in physical activities (Shields & Synnot, 2016). The barriers and facilitators may differ according to children's views and parental views. It has been found that personal factors are more crucial for children with disability; whereas for parents social, familial and programs are the major factors (Shields et al., 2011). In recent years, researchers have reported a positive association between the active participation of children with disabilities in natural environments and their mental health (Thompson, Coon, Boddy, Stein, Whear, Barton, & Depledge, 2011). A longitudinal study shows that greenery has a positive impact on mental health (Gubbels, Kremers, Droomers, Hoefnagels, Stronks, Hosman, & de Vries, 2016). A study shows that limited availability of resources is the major barrier to active participation in physical activities (Poppen, Sinclair, Hirano, Lindstrom, & Unruh, 2016).

According to a study, nature facilitates the development of children in terms of emotional, intellectual, physical, social and spiritual well-being (Maller, 2009). Another study reported that regular engagement with natural settings such as public parks improves the concentration and cognitive abilities of children with disabilities (McCurdy, Winterbottom, Mehta, & Roberts, 2010). When children actively participate in a natural environment, it improves their health and social skills. Hood (2007) suggests that engagement with outdoor places like public parks contributes to personal growth in term of the trust, health, skill development and self-esteem of people with special needs (Hood & Carruthers, 2007). It not only helps the physical and mental well-being of such children but also boosts their spiritual and social development, as mentioned by (Zoerink,2002), who found that natural environmental settings enable people with disabilities to experience psychological, spiritual, aesthetic, as well as educational, outcomes which enhance the quality of their lives and which also support them.

In addition, much research has been conducted to define the meaning of 'playing' for children and it has found that it has multiple definitions. According to one such definition, playing is described as any activity which is selected freely by a child, directed at a personal level, is motivated intrinsically, and which provides both physical and mental engagement for the child (Ludvigsen & Mills, 2005).

Childhood can be understood primarily as a development and learning phase in the life of a person, where crucial skills, both social and otherwise, are developed. Public parks and playgrounds have been found to be highly important for the development of such skills for various reasons. Firstly, many studies have conclusively demonstrated that access to playgrounds or parks has a positive correlation with the amount of physical activity of the child (Blanck, Allen, Bashir, Gordon, Goodman, Merriam, & Rutt, 2012). It has also been found to be positively associated with the mental development of the child, as physical activity is often associated with improved mental health (Sherer, 2003). People who have remained active are found to suffer less from mental conditions like stress, depression, and mental breakdown. From a developmental perspective as well, parks and public playgrounds have been found to be very advantageous. They provide a hands-on learning opportunity for children and can even teach them how to be more social and creative by providing opportunities in which they can learn how to solve problems practically (Association, 2003).

In addition to that, social exclusion and lack of opportunities for physical exercise have often been associated with the development of many unhealthy habits, like sitting at home and watching television and developing mental complexes etc. (Aitchison, 2003). Disabled children have also been found to have a tendency to stay close to their parents most of the time, thus developing an aversion to the possibility of making friends. Parks and playgrounds attempt to provide a solution to this issue by at least providing them with an avenue where they can engage themselves with nature, getting out of their normal comfort zone of being inside their home and with their parents and instead be more physically active. Moreover, these public spaces also provide them with a chance of meeting and interacting with new people, besides their parents, and become more social.

These findings have been further validated by UNICEF and WHO, where they have stated that for all children alike, playing has been found to have therapeutic benefits (Soltani, Abbas, & Awang, 2012). This activity acts as a catalyst for every child's physical development, teaching the child to be more aware of his or her physical surroundings and handle him or herself according to the physical factors that it presents (Soltani et al., 2012). Some of the crucial qualities that playing has been found to inculcate in children (both abled and disabled) are environmental analysis, identification of risks, and even organizational skills to a certain extent.

While almost all of the research and studies conducted have shown a positive correlation between the availability of public parks and the physical and mental development of children, both abled and disabled, it has also been found that merely having access to a public playground is not enough for disabled children to overcome their exclusion and other emotional barriers. In order for the disabled child to be able to take full advantage of the development benefits of the parks, it is necessary for the facilities which these public playgrounds offer to be accessible for disabled children and make them feel welcome. In cases where these facilities are designed only for children without disabilities to access, it can result in the creation of further complexes in the minds of the disabled children,

making them feel strong emotions like embarrassment, shame and fear. Owing to this dilemma, the risk of exclusion can worsen.

Research Aim

The study was conducted on the theme of investigating the current understanding of the advantages of public parks for children with disabilities. The research is also intended to analyze the contribution of the external environment, including local parks, on the quality of the family life of children with disabilities. For this, the behavior patterns of children with disabilities will be analyzed in the local parks and the perspective of parents regarding the benefits accrued from such children utilizing the forest preserved areas, public parks, and conservation areas, will be considered.

Methodology

For the purpose of the given research, a survey interview was organized that was reviewed by a focus group of seven members as a pilot study. After being pilot tested, the final survey instrument was composed of the following four parts: the benefits of engaging with the external environment, the usage of outdoor spaces and its advantages, using local park programs and its benefits, and demographic information. The first part was to understand the general perception about beneficial effects of engaging in external environment such as recreational field.

The second part was the basis for further investigation, where the participants (parents of the children with disability) were invited to answer some of the yes/no questions, as follows:

1) Is there any park near your home?
2) Is there any forest preserve district near your home?
3) Is there any conservation district near your home?

The third part includes the main question, which is one of the key aims of the given research. These questions form the response questions and some of the options include: “frequently”, which means about once a week; “occasionally”, that means around once a month; and “never.” For this part, the questions that were asked of the participants will include:

1) How often did your child visit public parks, forest preserve districts, or conservation districts, over the past few years?

Finally, some open-ended questions were asked which help us gain a better insight of the parents’ perspective. These questions are as follows:

1) How did your child use the aforementioned areas?
2) Think of and list the advantages of children utilizing these areas (physical, mental, etc.).

The given survey instrument was sent to over 5,000 households via e-mail or social media websites. The parents of the children with an average age of 17

years selected by purposive sampling. This population included parents who have children with a disability and/or have time issues; hence, they were able to participate online. The majority of children who were assessed were around 38 percent in K-5 and over 25 percent between 10 and 12. The research was conducted in five cities in Saudi Arabia. Moreover, the children were those with one or more of the following disabilities: autism, physical disabilities, mental retardation, emotional or behavioral disorders, sensory impairments, or multiple disabilities.

Results

Table 1: Demographic Characteristics

Variables	Frequency	Percentage
Gender of Children		
Male	2300	46%
Female	2700	54%
Age of Children with disability		
8-10	1100	22%
11-14	3300	66%
Over 14	600	12%

The data analyzed different variables using descriptive statistics. Table 1 shows the demographic characteristics of the participants. It was found that majority of children were female (54%). Among these participants 66% were in the age range of (11-14).

Table 2: Descriptive Characteristics of Disabilities

City	Autism		Visual impairment		Hearing impairment		Physical disability		Intellectual disability		Total
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	
Riyadh	300	20.0	200	13.3	200	13.3	300	20.0	500	33.3	1500
Jeddah	300	21.4	150	10.7	150	10.7	300	21.4	500	35.7	1400
Tabuk	150	21.4	50	7.1	50	7.1	150	21.4	300	42.8	700
Abha	100	16.7	50	8.3	50	8.3	100	16.7	300	50.0	600
Dammam	150	18.7	50	6.2	50	6.2	150	18.7	400	50.0	800
Total	1000	20.0	500	10.0	500	10.0	1000	20.0	2000	40.0	5000

Table 2 shows the descriptive characteristics of the disabilities of the children in five different cities of Saudi Arabia. In each city the most common disability was intellectual (Riyadh 33.3%, Jeddah 35.7%, Tabuk 42.8%, Abha 50% and Dammam 50%). Intellectual disability was the most prevalent, at 40%, among the children in the total study population.

Table 3: Frequency of Visiting Recreational Fields and Parks

City	Daily		Never		In the holidays		Weekly		More than 4 times		Total
	N	*%*	*N*	*%*	*N*		*N*	*%*	*N*	*%*	*N*
Riyadh	0	0	650	35.7	400	26.7	250	16.7	200	13.3	1500
Jeddah	0	0	500	35.7	500	35.7	300	21.4	100	7.1	1400
Tabuk	0	0	490	70.0	100	14.3	60	8.6	50	7.1	700
Abha	0	0	530	88.3	50	8.3	10	1.7	10	1.7	600
Dammam	0	0	470	58.7	100	12.5	130	16.2	100	12.5	800
Total	0	0	2640	52.8	1150	23.0	750	15.0	460	9.2	5000

Table 3 shows the frequency of visiting recreational fields and parks. It was found that in Riyadh 43.3% never visit any recreational fields or parks. In Tabuk and Abha the percentage of parents is very high 70.0% and 88.3%; whereas in Dammam 58.7% and in Jeddah 35.7% reported their children never visited any recreational fields or parks.

Table 4: Descriptive Statistics

Variables		Frequency	Percentage	Mean	Std. Deviation
Is the child's disability affecting extracurricular or playing activities?	*Yes*	4903	98.1	0.02	0.138
	No	97	1.9		
Is there a barrier in accessing playgrounds or parks?	*Yes*	4971	99.4	0.01	0.076
	No	29	0.6		
Are there barriers for parents/ caregivers?	*Yes*	4600	92.0	0.08	0.271
	No	400	8.0		
Is there any specific need in park equipment to support children with disabilities?	*Yes*	5000	100.0	0.00	0.000
	No	0	0		
Are access aids (ramps, ropes, hand rails) are provided in the park for children with disabilities?	*Yes*	171	3.4	0.97	0.182
	No	4829	96.6		
Do you think the recreational activities in the parks enable your child to develop skills?	*Yes*	213	95.7	0.96	0.202
	No	4787	4.3		
Are play opportunities equally accessible to all children?	*Yes*	136	2.7	0.97	0.163
	No	4864	97.3		
Play items easily accessible to children with disability?	*Yes*	91	1.8	0.98	0.134
	No	4909	98.2		
Is there accessibility of integrated play items?	*Yes*	5000	100.0	0.00	0.000
	No	0	0		
Do the parks and recreational grounds have a positive impact on children with disability?	*Yes*	5000	100.0	0.00	0.000
	No	0	0		

Table 5 shows the descriptive statistics of each variable. 98.1% of parents reported that their child's disability affected their active participation in extracurricular activities. 99.4% reported that their child faced barriers in accessing playgrounds or parks. 92% of parents reported that they also faced barriers to accessing playgrounds or parks. All parents (100%) reported that parks required specific equipment to support their children with disabilities. 96.6% reported that no access aids (ramps, ropes, hand rails) were provided to their children with disabilities in the park. 95.7% reported that current facilities available in the park did not provide the opportunity for development of skills in their children with intellectual disabilities. Similarly 97.3% reported disparity of opportunity to access play equipment for children with intellectual disabilities. 98.2% reported difficulty in accessing play items. However, all 100% of the parents reported the positive impact of recreational parks and grounds on their children with intellectual disabilities.

Table 6: Test of Homogeneity of Variance

Variables	Levene Statistics	Sum of Squares	Df	F	Sig.
Does the child's disability affect extracurricular or playing activities?	2.335	0.003	1	0.577	0.127
Is there a barrier in accessing playgrounds or parks?	2.715	0.053	1	0.717	0.099
Are there barriers for parents/ caregivers?	0000	0.000	1	0.000	0.000
Is there any specific need in park equipment to support children with disabilities?	8.651	0.076	1	2.291	0.003
Are access aids (ramps, ropes, hand rails) provided in the park for children with disabilities?	7.963	0.086	1	2.120	0.005
Do the recreational activities in the park help the child develop skills?	8.436	0.059	1	2.216	0.004
Are play opportunities equally accessible to all children?	1.401	0.006	1	0.345	0.237
Are play items easily accessible to children with disability?	0000	0.000	1	0.000	0.000
Is there accessibility of integrated play items	0000	0.000	1	0.000	0.000
Do the parks and recreational grounds have a positive impact on children with disability?	0000	0.000	1	0.000	0.000

Table 6 shows the Levene statistics of ANOVA test to determine whether parents perspective differ regarding access to playgrounds for the children with intellectual disabilities. It was found that there is a significant difference between barriers for parents/caregivers and easy access of playgrounds for the children

with intellectual disabilities at 0.000 ($p<0.05$). Similarly there are other variables which are significantly different at ($p<0.05$) as shown in Table 5.

Discussion

The aim of this scoping research was to investigate the parents' perspective on the impact of recreational parks and playgrounds on children with disabilities in different cities of Saudi Arabia. The literature review revealed various barriers which limit the active participation of children with physical and mental disabilities in recreational parks and playgrounds.

The findings of this scoping research reveal that there are a number of factors that are significantly associated with the limited participation of children with disabilities and access to play items in the recreational parks. In the present study, samples from five different cities reveal that intellectual disabilities are the most common disability among the children of Saudi Arabia, accounting for 33.3% in Riyadh, 35.7% in Jeddah, 42.8% in Tabuk, and 50.0% each in Abha and Dammam. Moreover, these findings illustrate a very high percentage of intellectual disabilities in Saudi children. These findings are consistent with a previous study which shows that there are 62% of students with intellectual disabilities in regular schools and remaining 38% are in special schools (Alnahdi, 2014).

Table 1 shows the demographic characteristics of these children. The majority of children were female (54%), which shows that female children are more prone to mental and physical disabilities. Among the children with disabilities, 66% were in the range of 11-14 years age. The country profile of WHO shows that females face several invisible barriers which worsen their disability and they are unable to benefit from vocational rehabilitation centers (WHO, 2011). Our findings also reported similar results with a large number of female children with disabilities.

It has been shown that in Riyadh over one-third (35.7%) of parents never took their child to recreational fields or parks. Similarly, in Jeddah, 35.7% never took their children to parks and the same number took their children to recreational fields and parks in holidays only. In Tabuk, majority of parents 70.0% reported that they never visited any recreational fields or parks. Likewise, in Abha 88.3%, and in Dammam 58.7% of parents never took their children with disabilities to recreational fields or parks. These statistics show several underlying issues which prevent parents from taking their children to parks. One study shows that in Canada, Ontario, parents take their children to the parks 1-6 times per week, with an average of 2.5 times per week. Parents reported several reasons, such as water attractions, cleanliness and swings, which attract them (Tucker, Gilliland, & Irwin, 2007). Another study reported that parents are worried about their child's development coordination disorder (Segal, Mandich, Polatajko, & Cook, 2002). This study also shows that physical activity is an important aspect of social life, and that disability in children reduces their participation in physical activities. Several studies have shown that parents are concerned about the physical or recreational activity of their children with disabilities and want to enhance their participation. However, in the present study, no such concern was

shown and parents did not take their child to parks for recreational activity. One of the studies revealed that this attitude of parents may be correlated with the social stigma of the unique character of their child which distinguishes them from rest of the society (Joachim & Acorn, 2016). Therefore, it is also possible these social stigmas inhibit parents from taking their child to parks for healthy physical activity.

When the participating parents were asked different questions related to the problems faced by their children to access playgrounds or recreational parks, comprehensive responses were obtained. The great majority of parents (98.1%) reported that their child's disability affected their playing and extracurricular activities. These findings are in consonance with a study conducted in the United States which showed that children and adolescents with a chronic condition or disability have limited opportunities to participate in physical activities, leisure, recreation and competitions (Newacheck & Kim, 2005). Authorities have taken several steps to elevate the emotional and social well-being of children with disabilities. These steps include including parents of disabled children in recreational and physical fitness activities. Moreover, the Paralympics were started in 1960 to accommodate disabled children (Stanišić, Kocić, Aleksandrović, Stanković, & Radovanović, 2012). These findings suggest the importance of playing and recreational parks for the active physical participation of children with disabilities.

In the present study, 99.4% parents highlighted the issue that their child faced a barrier in accessing playgrounds or parks, and a similarly high percentage (92%) reported that there were several barriers even for the parents to access playgrounds or parks. These results demonstrate the difficulties which both the children with disabilities and their parents or caregivers face to accessing playgrounds or parks. A previous study has shown that the main barriers to accessing playgrounds or parks are either physical or social. The development of children with a disability requires a free playing and living environment without barriers. It is important for the families of children with disabilities to identify the barriers in order to promote their active participation in physical activities in playgrounds (Talay, Akpinar, & Belkayali, 2010).

96.6% of participants reported there were no specific access aids for children with disabilities in the parks. All the parents reported a dire need of specific equipment in the park to support children with disabilities. These findings suggest a significantly poor condition of parks in the cities of Saudi Arabia and highlight the shortcomings of the parks available for normal citizens generally and particularly for children with disabilities. The current findings are in contrast with the findings of western countries which showed that specific access aids are available for children with disabilities in the parks. In the present study, 97.3% of parents reported that their child with a disability faced difficulties in accessing play opportunities. This shows that the system of playgrounds needs to be changed and managed properly to provide equal and fair opportunities for play for all children, irrespective of their disabilities. 95.7% of parents believed that recreational activities in parks help the development of

different skills in their children with disabilities. Likewise, all parents agreed on the positive impact of parks on children with disabilities. These findings are in line with the previous studies that reported significant improvement in children with disabilities after active participation in recreational activities at recreational parks and playgrounds (Mowen & Baker, 2009). The current study also revealed that there is a significant association between the barriers for parents or caregivers and specific needs in the parks' equipment to facilitate children with disabilities 0.003 ($P<0.05$), limited availability of access aids such as ramps, ropes and hand rails 0.005 ($P<0.05$), and the perceived impact of recreational activities in parks on the development skills of the child 0.004 ($P<0.05$). These findings demonstrate a need for reform of the playgrounds and recreational parks to help children with disabilities. It also emphasizes the importance of playgrounds and recreational parks for children with disabilities, a topic which has been neglected in recent years in Saudi Arabia. The findings strongly demonstrate the positive outcomes of playgrounds and recreational parks for children with disabilities. The parents' perspective is very crucial in this regard and they have highlighted physical and social barriers as important factors to be improved to ensure the active participation of children with disabilities in playgrounds and parks. The findings of the present study will be used to inform the local administration of these cities to pay attention to the improvement of playgrounds and recreational parks to facilitate children with disabilities and their families. The three main stakeholders in this issue are local administration, children with disabilities, and their families. All these stakeholders can effectively participate in designing playgrounds to better accommodate children with disabilities. The present research provides a framework for future research on the design of playgrounds to provide fair and equal opportunities to children with or without disabilities to actively participate in physical activities.

Conclusion

The present study has investigated parents' perspectives about public parks and recreational fields for their children with disabilities. Public parks have been found to have a significant impact on the mental and physical well-being of children with intellectual disabilities. However, across five major cities of Saudi Arabia the majority of parents never took their child with a disability to a public park. The parents reported lack of proper support items for their children, unequal opportunities for play, poor management of parks, and lack of aids such as ramps for children with disability as the reasons for lower participation in public parks. Although the parents reported a positive impact of parks on their child with a disability, they highlighted some major issues which needed to be improved. The research data presented in this study will provide a baseline for local administrations to develop more public parks for children with disabilities. This will help to alleviate mental disorders and other impairments, improve overall health, and help children with the development of basic skills.

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