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An assessment of adaptation of Cracow's cultural institutions to the needs of wheelchair users

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Abstract

Introduction: Adequate adaptation of establishments to the needs of various groups of users is important both because of users' physical ability to enter and move around a certain place, and also because it allows these users to participate in social life. It is the competence of occupational therapists to design ergonomic environmental space for various people, including those with motor system dysfunctions.

Material and methods: The study was conducted in randomly chosen culture and entertainment establishments of Cracow. The studied establishments were art houses, libraries, museums and pubs. The study tool was our own questionnaire for assessment of accessibility of the establishments for wheelchair users.

Results: We assessed the accessibility of the entrance. In this criterion, museums had the best results, and pubs had poorest results. In changes of the level inside the establishment, libraries and cinemas were best, and museums were poorest. In toilet assessment, museums had best results, and pubs and libraries had poorest results. In most of the establishments, toilets were not accessible for people in wheelchairs.

Conclusions: The mean level of adaptation of the studied culture and entertainment establishments in Cracow shows that they are only partially accessible. The type of establishment was related to the its accessibility level. Museums proved to have best accessibility, and pubs had the poorest accessibility. The location of the establishments (the district) impacted the architectural barriers.

Keywords: architectural barriers, people with disabilities, occupation therapy, cultural institutions

Introduction

Adequate adaptation of establishments to the needs of various groups of users is important both because of users' physical ability to enter and move around a certain place, and also because it allows these users to participate in social life. People with motor impairment report that they encounter difficulties when they wish to meet their friends, to see an interesting exhibition in a museum or to go to the cinema. Some of these difficulties may be narrow halls, some stairs that need to be climbed, or toilets that have not been adapted. Motor impairment often makes a person feel imprisoned in their own home or dependent on other people,

which results in frustration and in limitations in social life participation [1,2]. People with motor impairment report that even specially designed adaptations fail to meet their needs. This is because some of such adaptations are isolated from the space for other people, and this makes meetings with able bodied acquaintances or friends difficult. Additionally, most people with motor impairment feel stigmatized if entrance to a certain establishment, though accessibl=e for people with motor impairment, yet only at certain hours, or if the adapted space is separated from the space accessible for all other users [3].

Nowadays we can observe an increase in the awareness of the society and authorities on relevant adaptations for wheelchair users, both at private buildings and in public space. New buildings are often designed to meet the needs of people with disabilities; there are ramps that meet the norms, lifts of adequate sizes or toilets with maneuvering space. Still, it does happen that some of the architects are not aware on how architectural barriers impact the functioning of people with motor impairments [4]. Additionally, most public buildings are the so called "old building type" – it is difficult to introduce even a minimum of adaptations there, and often even minor adaptations are impossible to introduce because of the general technical state of the building or because of the opinion of the conservator-restorer of cultural heritage. Undoubtedly, accessibility of establishments influences participation of people in wheelchairs, particularly in social life, culture and entertainment. The holistic approach to people explains how important it is for the wellbeing of people in wheelchairs [5].

Nowadays, occupational therapy is not restricted to art therapy, social therapy or ergotherapy. It also supports clients in many aspects of their functioning, as "…occupational therapy is one of the forms of physical therapy, whose aim is to enable the subject to regain health, well-being and life satisfaction through participation in various types of activities…" [6,7]. This shows how wide is the range of occupational therapists' activities. It also explains why it is them who should influence the adaptation of public places to the needs of people with motor impairment [3,8]. Occupational therapists may explain to directors or owners of certain public establishments what adaptations are necessary, and what they should consist of. Still, some studies report that not all such interventions bring the hoped for results. In fact, they have most positive effects in places which employ people who have direct contacts with persons with motor impairment. Such contact allows for better understanding the needs of the impaired. This examples illustrates that occupational therapists may impact a place's accessibility in a limited way – still, even the slightest changes are important [9]. If occupational therapists could have their say on space adaptations for people with disabilities during the process of public space design, a large number of architectural barriers may possibly have been avoided. Considering the needs of people with motor impairment at the phase of design would prevent future amendments or alterations – this would be better both for establishment owners and for people with disabilities [10,11].

Material and methods

We conducted the study in sixteen culture and entertainment establishments of Cracow (4 establishments of each category). We used wheelchair user accessibility assessment form of our own design.

The categories of studied establishments were: art house, library, museum and pub. We divided Cracow into four main districts, i.e. Srodmiescie, Krowodrza, Podgorze and Nowa Huta. We studied one establishment of each category in every district. This allowed us to compare the districts in regard if accessibility for wheelchair users. The establishments were randomly chosen, and the only criterion they had to meet was that of location. An establishment was chosen in a simple random sample, e.g. a cinema was randomly chosen from the list of all cinemas in a given district etc.

To conduct the study, we designed a form which focused on the most important elements of accessibility of all establishments.

We divided the form into the following parts:

1. Main entrance – the most important aspect of the main entrance was door width – between 90 to 110 cm, as well as the stairs at the entrance. If there was a single stair, we measured its height to determine if a wheelchair user can climb it on their own. A single stair could be up to 7 cm high.
2. Establishment entrance – as described above.
3. Moving around a certain establishment (changing floor levels, and corridors) – we checked if it was necessary to change floor levels, and if it was, we checked if there was an accessible lift or ramp. A ramp was considered adequate if it had handrails on both sides on 75 cm and on 90 cm above the floor, prolonged by a minimum of 30 cm at the beginning and the end of the ramp. The maximum ramp inclination was 15%, yet it could be lower, depending on the difference of levels and on the ramp location inside or outside of the building. The adequate width of the ramp was approximately 120 cm. In this part of the questionnaire, we also assessed adequate width of the halls. We established that 150 cm width on the whole length of a hall was adequate to provide maneuvering space.

4. Toilet – we checked if the establishment had a toilet at all, and, if it did, then how was it adapted to the needs of wheelchair users. An accessible toilet needs to have maneuvering space of a minimum diameter of 150 cm, handrails approximately 80–85 cm above the floor next to the toilet and next to the washbasin. The washbasin should be placed 80 cm above the floor, and it needs space underneath. The sanitation bowl should be installed 45–50 cm above the floor.

The criteria for wheelchair user accessibility assessment were the following:

1) Main entrance

[2 points] – fully accessible – no stairs

[1 point] – partially accessible – no more than a single stair of maximum height of 7 cm

[0 points] – inaccessible – a single stair higher than 7 cm, or more stairs

2) Entrance to the establishment

[2 points] – fully accessible – no stairs

[1 point] – partially accessible – no more than a single stair of maximum height of 7 cm

[0 points] – inaccessible – a single stair higher than 7 cm or more stairs

3) Moving around the establishment

Change of floors:

[4 points] – no change of floor levels – no stairs within the establishment

[3 points] – change of floor levels possible – and adequate lift or an adequate ramp available if there are stairs within the establishment

[2 point] – change of floor levels partially possible – and inadequate lift or an inadequate ramp available if there are stairs within the establishment

[1 point] – change of floor levels difficult – a single stair of a maximum height of 7 cm, no lift or ramp available

[0 points] – change of floors impossible – a single stair higher than 7 cm or more stair, no lift or ramp available

Halls:

[2 points] – adequate hall width – width in accordance with the norm

[1 point] – partially adequate hall width – width not in accordance with the norm, yet a wheelchair user can move there

[0 point] – inadequate hall width – moving impossible for a wheelchair user

4) Toilet:

[3 points] – accessible – sanitation bowl and washbasin installed on adequate height, equipped with handrails, maneuvering space of a minimum diameter of 150 cm.

[2 point] – partially accessible – maneuvering space of a minimum diameter of 150 cm; handrails, sanitation bowl or washbasin permissible on non-adequate height

[1 point] – not adapted – no handrails, no maneuvering space, sanitation bowl and washbasin at inadequate height

[0 point] – no toilet

Each establishment could score a maximum of thirteen points. We determined the level of accessibility on basis of the following scoring:

- 0–4 points – inaccessible establishment
- 5–9 points – partially accessible establishment
- 10–13 points – accessible establishment

Results

The first variable we assessed was the accessibility of main entrance. The same number of establishments, i.e. seven establishments each, had fully accessible or inaccessible entrances. Two remaining establishments had a single step of a maximum height of 7 cm at their main entrances, or partially accessible entrances (table 1).

We assessed establishment entrance, too. In most of the studied establishments, this entrance was fully accessible. Museum had best results in this criterion, while pubs had the poorest results (table 2).

The study assessed accessibility in the scope of changing floor levels within the establishment. In 11 studied cases, there were no stairs within the establishments. In 2 establishments, there were differences in floor levels, but the place was adapted – there was an

Tab.1. Main entrance assessment results in different types of establishments

	Museum		Library		Cinema		Pub		Total	
	N	%	N	%	N	%	N	%	N	%
Fully accessible entrance	2	12.5	2	12.5	2	12.5	1	6.25	7	43.75
Partially accessible entrance	1	6.25	0	0	0	0	1	6.25	2	12.5
Inaccessible entrance	1	6.25	2	12.5	2	12.5	2	12.5	7	43.75

Tab. 2. Establishment entrance assessment results in different types of establishments

	Museum		Library		Cinema		Pub		Total	
	N	%	N	%	N	%	N	%	N	%
Fully accessible entrance	4	25	2	12.5	2	12.5	1	6.25	9	56.25
Partially accessible entrance	0	0	1	6.25	1	6.25	0	0	2	12.5
Inaccessible entrance	0	0	1	6.25	1	6.25	3	18.75	5	31.25

Tab. 3. Change of floor levels assessment results in different types of establishments

	Museum		Library		Cinema		Pub		Total	
	N	%	N	%	N	%	N	%	N	%
No stairs within establishment	1	6.25	4	25	4	25	2	12.5	11	68.75
There is a change of floor levels within the establishment, yet an adequate lift or ramp is available	2	12.5	0	0	0	0	0	0	2	12.5
The change of floors is impossible because of stairs	1	6.25	0	0	0	0	2	12.5	3	18.75

adequate lift or ramp. In the remaining 3 establishments it was impossible for a wheelchair user to change the level because of stairs. In this criterion, libraries and cinemas had best results, while museums had poorest results (table 3).

The study assessed hall width (table 4). In the greatest number of establishments the halls were not adequately wide. Wheelchair users were able to use these halls, yet it could be uncomfortable at times or could lead to having one's hands scratched. In two studied establishments, it was impossible to use all the halls in a wheelchair, yet it was possible to access the most important places in the establishments, i.e. the bar or the service of library users. The establishments in which there were no difficulties with the hall width were two museums, two art houses and one pub.

The last element of the assessment was the toilet (table 5). In great majority of establishments, the toilet was inaccessible for wheelchair users. Here, museums had best results, and pubs and libraries had poorest results.

Study results showed very big differences between accessibility levels of individual establishments – both among districts, and among types of establishments (table 6). The arithmetic mean of all the studied establishments was 7.94 points, which denotes partial accessibility. Establishments in Krowodrza scored the greatest number of points. Their results were much better than

Tab. 4. Hall width assessment results in different types of establishments

	Museum		Library		Cinema		Pub		Total	
	N	%	N	%	N	%	N	%	N	%
Adequate hall width	2	12.5	0	0	2	12.5	1	6.25	5	31.25
Inadequate hall width, yet it can be used in a wheelchair	2	12.5	3	18.75	2	12.5	2	12.5	9	56.25
Inadequate hall width	0	0	1	6.25	0	0	1	6.25	2	12.5

Tab. 5. Toilet assessment results in different types of establishments

	Museum		Library		Cinema		Pub		Total	
	N	%	N	%	N	%	N	%	N	%
Adapted toilet	3	18.75	0	0	0	0	0	0	3	18.75
Partially adapted toilet	0	0	0	0	1	6.25	0	0	1	6
Non-adapted toilet	1	6.25	4	25	3	18.75	4	25	12	75

the scores from Srodmiescie, which scored poorest. The remaining districts had comparable mean scores.

Tab. 6. Studied establishments assessment

Studied area	No.	Studied establishment	Score	Mean score
Srodmiescie	1.	Art house	7	5.5
	2.	Pub	6	
	3.	Museum	4	
	4.	Library	5	
Krowodrza	5.	Art house	7	9.5
	6.	Pub	10	
	7.	Museum	11	
	8.	Library	10	
Podgorze	9.	Art house	11	8.25
	10.	Pub	3	
	11.	Museum	12	
	12.	Library	7	
Nowa Huta	13.	Art house	11	8.5
	14.	Pub	2	
	15.	Museum	12	
	16.	Library	9	

We compared the analyzed categories. Museums were most accessible establishments, as they had the highest mean score – 9.75 points; cinemas scored 9 points, libraries scored 7.75 points, and pubs, which scored lowest, had 5.25 points.

Finally, we conducted an overall analysis of accessibility of establishments for wheelchair users, to determine if the studied culture and entertainment establishments were accessible, partially accessible, or inaccessible. The results showed that there were 7 accessible establishments (44%), 6 partially accessible establishments, and only 3 inaccessible establishments (19%).

Discussion

The available literature, both Polish and international, lacks reports on accessibility assessments of culture and entertainment establishments for wheelchair users. Also, there are not tools available for assessment of the level of accessibility of such places.

In our study, we assessed the level of accessibility of culture and entertainment establishments in Cracow, the second most populous city in Poland and the country's main culture center. The city of Cracow, together with the whole Lesser Poland county, of which it is the capital, has at its disposal one of the biggest budgets in Poland. This should theoretically translate into city run investments, including an increase of accessibility of public buildings for people with motor impairments. In contrast, our study has shown that the level of accessibility of culture and entertainment establishments was at its best at an average level. In fact, each of the analyzed establishments had some architectural barriers, making it difficult for wheelchair users to function freely in the assessed building. It seems worrying that none of the assessed buildings were fully adapted to the needs of people with motor system dysfunctions – none of the buildings scored the maximum number of points.

We obtained interesting results when we analyzed the relationships between the assessed establishments and the districts they were located in. The district of Krowodrza had the highest mean result, while Srodmiescie, which has the biggest number of culture and entertainment establishments of the whole city of Cracow, scored lowest.

We found a relationship between the accessibility of the establishment and the type of culture and entertainment establishment. The study showed that museums are definitely best adapted for the needs of wheelchair users, and that pubs were least accessible. An attempt at explaining this situation may suggest that location of the establishment plays a role here – museums are usually located in widely accessible buildings, while Cracow's pubs are usually found in basements or in upper floors. In addition, the city's budget provides means for renovation or improving accessibility of city-owned buildings, which are often locations of state institutions. Pubs, in contrast, are usually privately owned, and their design is aimed at enhancing "the atmosphere" of the place, and not at increasing its availability.

The criteria for accessibility assessment of culture and entertainment establishments used in this study proved to work well. We observed, however, that in two of the establishments we might have found an additional part in the assessment sheet useful – namely, an assessment of reaching the main entrance. There, we found an obstacle in the form of cobbled streets, practically making it impossible to reach the place in a wheelchair.

One of the underlying assumptions of occupational therapy states that health and well-being can be achieved through engagement in activities and through regaining an ordinary life [12]. Participating in cultural events is an occupational area defined as leisure. For this participation to take place it is necessary for cultural establishments to be adapted to the needs of various groups of users, and, in particular, to the users with motor impairment, who are at the core of this study. Participation in cultural events allows people with disabilities to participate in "ordinary life", which is also

related with increased participation in social settings. In occupational therapy, in line with the idea of occupational justice, each human being should be able to develop on the basis of choices they make on activities they participate in which they believe to be the most valuable and useful for themselves, their families and communities [13]. Occupational justice translates into ensuring equal opportunities in various areas of life. It means that needs of people struggling with physical disabilities have to be notices and met – and, as our study has shown, this is not self-explanatory.

Summing up, it would be useful to conduct a similar study, involving a greater number of establishments, also in other cities of Poland. It would allow for determining precisely what is the accessibility of culture and entertainment establishments for wheelchair users.

Conclusions

1. The mean level of adaptation of the studied culture and entertainment establishments in Cracow informs of only partial accessibility.
2. The type of assessed establishment was related to its accessibility level. Museums had the best accessibility, and pubs had the poorest accessibility.
3. Location of the establishment (the district) impacted the architectural barriers.

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Conflicts of interest
The authors declare no conflict of interest.

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