AS CIDADES DE HOJE: DESAFIOS AOS ENFERMEIROS ESPECIALISTAS EM ENFERMAGEM DE REABILITAÇÃO PARA A INCLUSÃO

LAS CIUDADES DE HOY: DESAFIOS PARA LOS ENFERMEROS DE REHABILITACIÓN PARA LA INCLUSIÓN

TODAY'S CITIES: CHALLENGES FOR REHABILITATION NURSES FOR INCLUSION

DOI 10.33194/rper.2020.v3.n2.1.5766 | Submitted 11/04/2020 | Approved 15/12/2020

Ana Isabel Ribeiro da Silva Pereira[1]; Maria Manuela Martins[1]; Rute Salomé Ribeiro da Silva Pereira[2]; Bárbara Pereira Gomes[1]; João Santos[3]; Paulo Alexandre Matos Cunha[4,5]

1 - Escola Superior de Enfermagem do Porto; 2 - Instituto de Ciências Biomédicas Abel Salazar;
3 - Faculdade de Arquitetura da Universidade do Porto; 4 - Universidade Lusíada Porto;
5 - Faculdade de Direito da Universidade de Coimbra

RESUMO

As barreiras arquitetónicas provocam inacessibilidade do meio, contribuindo para a limitação da funcionalidade e criação de incapacidade.

Objetivos: Analisar as condições da acessibilidade na via pública face às necessidades das pessoas com mobilidade condicionada e compreender até que ponto os ambientes externos ao edificado contribuem para a inclusão social das pessoas com mobilidade condicionada.

Metodologia: Estudo quantitativo, observacional, descritivo, transversal, a partir de uma amostra não probabilística por escolha racional – 31 ruas (62 percursos pedonais), com recurso a uma grelha de avaliação ad hoc[(1)].

Resultados: Dos percursos pedonais avaliados, 75,8% permitem o acesso e permanência de uma pessoa em cadeira de rodas, bem como o alcance frontal e lateral aos objetos dispostos na via, no entanto 22,6% dos percursos não são acessíveis.

Conclusão: Apesar da legislação e políticas de acessibilidade vigentes continuam a subsistir barreiras arquitetónicas na via pública que influenciam diretamente a independência das pessoas com mobilidade condicionada, o que sugere que o enfermeiro de reabilitação deve desenvolver um trabalho efetivo junto dos municípios.

Palavras-chave: limitação da mobilidade, acessibilidade arquitetónica, enfermagem de reabilitação

RESUMEN

Las barreras arquitectónicas provocan la inaccesibilidad del medio ambiente, contribuyendo a la limitación de la funcionalidad y la creación de discapacidad.

Objetivos: Analizar las condiciones de accesibilidad en vías públicas en vista de las necesidades de las personas con movilidad reducida; comprender en qué medida los entornos externos del edificio contribuyen a la inclusión social de las personas con movilidad reducida;

Metodología: Estudio cuantitativo, observacional, descriptivo, transversal de una muestra no probabilística por elección racional - 31 calles (62 senderos peatonales) con cuadrícula de evaluación ad hoc (Decreto-Ley 163/2006) [(1)].

Resultados: el 75.8% de los senderos peatonales evaluados permiten el acceso y permanencia de una persona en silla de ruedas y el alcance frontal y lateral a los objetos, sin embargo, el 22.6% de los caminos no son accesibles.

Conclusión: A pesar de las políticas de accesibilidad las barreras arquitectónicas continúan en el camino, influyendo la independencia de las personas con movilidad reducida, sugiriendo que los enfermeros de rehabilitación deben desarrollar un trabajo con los municipios.

Palabras clave: limitación de la movilidad; accesibilidad arquitectónica; enfermería de rehabilitación

ABSTRACT

The architectural barriers on public highway cause inaccessibility, contributing to the limitation of functionality and generating disability.

Objectives: to analyze the conditions of accessibility on public highways in view of the needs of people with disabilities and to understand how external environments contribute to the social inclusion of people with disabilities;

Methodology: Quantitative, observational, descriptive, cross-sectional study from a non-probabilistic sample by rational choice - 31 roads (62 pedestrian paths), using an ad hoc evaluation grid (Decree-Law 163/2006)[1].

Results: 75.8% of the pedestrian paths evaluated allow access and permanence of a person in a wheelchair, as well as the frontal and lateral reach to objects placed on the road, however 22.6% of the paths are not accessible.

Conclusion: although the current legislation and accessibility policies, there are still architectural barriers on public highways that rehabilitation nurse directly influence the independence of disabled people, which suggests that should develop effective work with municipalities.

Keywords: mobility limitation; architectural accessibility; rehabilitation nursing

INTRODUCTION

The rehabilitation nurse "empowers the person with disabilities, activity limitation and/or participation restriction for the reintegration and exercise of citizenship"[2]. Through its knowledge of legislation and technical standards promoting integration, civic participation; community awareness capacity for inclusive practices; identification and guidance for the elimination of architectural barriers and the issuance of technical-scientific opinions, this promotes mobility, accessibility and social participation, which leads us to analyze accessibility on public highways, a place that all citizens with reduced mobility cross.

The 2011 Census reveals that "about 17.8% (prevalence rate) of the population aged 5 years-old and over declared having great difficulty, or not being able to perform, at least, one of the 6 daily activities (seeing, listening, walking, memory/concentration, bathing/dressing, understanding/making oneself understood)"[3], which conditions mobility.

According to the Decree-Law 163/2006, which defines the regime of accessibility to buildings and establishments that receive public, public roads and residential buildings, people with reduced mobility are "people in wheelchairs, people unable to walk or travel long distances, people with sensory difficulties, such as blind or deaf people, and even those who, due to their life course, are transiently conditioned, such as pregnant women, children and the elders"[1].

Consulting the Census, in the municipality of Vila Nova de Famalicão, where this study was carried out, it is known that there are 133,832 people. Out of these, 1,128 are unable to walk/climb steps and 9,557 have great difficulty performing the action; 1,723 are unable to shower and/or dress themselves and 3,470 have great difficulty; 237 cannot see and 9,700 have great difficulty; 220 cannot hear and 5,185 have great difficulty, data that point to the need for rehabilitation nurses in this territorial area. In the parish of Vila Nova de Famalicão live 8,478 people. Out of these, 43 are unable to walk/climb steps and 390 have great difficulty performing the action; 67 are unable to shower and/or dress themselves and 165 have great difficulty; 22 cannot see and 449 have great difficulty; 9 cannot hear and 227 have great difficulty in performing the action[3]. In view of the data, it is important to understand the conditions of the highway in terms of accessibility, as the area analyzed is the center of the city, with the highest probability of being frequented by citizens.

In everyday life, people with reduced mobility are confronted with architectural barriers. They prevent active civic participation; influence their development, their participation in the community and consequently their social integration. It is essential that any environment meets all the necessary conditions for the total integration of any individual in an accessible environment without any type of difficulty. If public spaces continue to exist with architectural barriers that prevent people with mobility impairments from using them, we cannot talk about an inclusive society, since there is legislation that regulates accessibility conditions, but these are not verified[4].

Cities, in order to be accessible, must allow everyone to move equally, without any kind of participatory restriction. Although the legislation on accessibility is still quite recent, the state, by duty, is called upon to respond to the inaccessibility of the environment. Municipalities also play an active role in "promoting, implementing and monitoring the fundamental rights of all citizens in terms of urban planning, accessibility and mobility"[5].

Decree-Law 163/2006 stipulated a maximum period of 10 years for the adaptation of facilities, buildings, establishments, public facilities and the use of public roads. In October 2017, a new amendment to the Decree-Law was published, which included the creation of a Commission for the Promotion of Accessibilities, with the objective of carrying out a diagnosis of the current situation of accessibility in buildings, facilities and spaces of the central, local administration and public institutes that review the nature of personalized services and public funds. In this sense, it would be expected that in February 2017 there would no longer be architectural barriers in places of public use. Thus, it is imperative to understand whether or not the country's buildings meet accessibility standards.

By understanding the extent of the problem of inclusion and being a condition of the dimension of architectural accessibility, this study is limited exclusively to the analysis of architectural barriers in cities.

We are thus faced with three challenges for specialist nurses in rehabilitation nursing, the first one is to suggest the elimination of architectural barriers in the area of influence of people with reduced mobility, by clinically monitoring these people, particularly new cases, which are in this framework; the second challenge is the need to create and to develop

awareness campaigns for the population in general, particularly in schools, for the respect and support whenever necessary for people with reduced mobility and, finally, the training of people with reduced mobility in the real scenario to identify the needs and help to overcome them[6].

In this context, in order to analyze the conditions of accessibility according to the legislation in force, the following research question arises: do the conditions of public roads facilitate the accessibility of people with reduced mobility?

This study aims to respond to the following objectives: to analyze the conditions of accessibility on public roads in view of the needs of people with reduced mobility, and to understand to what extent the external environments to the building contribute to the social inclusion of people with reduced mobility.

In this context, the present study aims to contribute to a society that is more sensitive to the inclusion of people with impaired mobility, as it is intended to make public road problems visible to people with reduced mobility.

METHODOLOGY

We used a cross-sectional descriptive, observational, quantitative methodology. The study was developed in the municipality of Vila Nova de Famalicão, belonging to the district of Braga, namely the parish of Vila Nova de Famalicão. The target population is formed by the 116 roads belonging to that parish. Due to the impossibility of evaluating all the roads, a non-probabilistic sampling by rational choice was used to determine the sample, since the selection was determined between the researcher and representatives of the city council, thus obtaining the more centralized roads and closer to public services. This resulted in a total of 31 roads, being evaluated both sides, which corresponds to 26.7% of the possibilities of analysis.

The data collection method used was the ad hoc evaluation grid, which consists of a grid for observing the accessibility of public roads, based on the legislation in force in Portugal, namely on Decree-Law 163/2006 of 8 August, with the following variables: pedestrian paths; ramped stairs; ramps; surface pedestrian crossings; uneven pedestrian crossings; other spaces for circulation and permanence of pedestrians; spaces for car parking; bus stops.

Rovira-Beleta & Folch's (2007)[7] for the operacionalization of each variable, based on the perspective and knowledge of nursing for ambulation: not accessible; accessible with help; accessible with difficulty; accessible without difficulty and not applicable. The variable "dimensional characteristics of the public road" was also assessed.

For the field approach, a guided visit to the main accesses was carried out by representatives of the chamber, and for the data collection, the 31 roads, totaling 15km208m, were carried out on foot, and the necessary measurements were made for each category evaluated, with a measuring tape.

The ethical principles were complied with through a favorable opinion from the Escola Superior de Enfermagem do Porto Ethics Committee, and several meetings were also held with representatives of the Vila Nova de Famalicão city council, with the aim of explaining the organization of the work and determine the roads to be evaluated for the investigation. As the investigation does not directly involve people, but the public road, the name of the roads was replaced by codes, in order to ensure confidentiality, however, a descriptive sheet of each road was delivered to the municipality.

The data were statistically treated using the IBM SPSS software program, version 20.0, and through descriptive statistics (calculation of absolute and relative frequencies; measures of central tendency (mean and median) and the calculation of measures of dispersion, through the minimum and maximum values and standard deviation).

RESULTS

The length variation of the dimensions of the public road was a minimum of 78m and a maximum of 700m, with the average of the dimensions of the roads being 250,13m. However, the dispersion is large, since the standard deviation is equal to 157,205.

"Urbanized areas must be served by a network of pedestrian paths, designated as accessible, that provide safe and comfortable access for people with reduced mobility to all relevant points of their active structure"[1], satisfying the criteria of the respective sections.

Of the pedestrian paths analyzed, 75,8% allow the access and permanence of a person in a wheelchair, as well as the frontal and lateral reach to objects arranged on the road; however 22,6% of the paths do not allow this. As for obstruction on one or more sides, 85,5% of the paths are considered accessible without difficulty, and 12,9% are not accessible.

A person in a wheelchair is able to make a change of direction without having to move in 37,1% of the paths, but not in 61,3%. When displacement is required, 58,1% of the routes allow it, but 40,3% do not.

Protruding objects must meet requirements regarding their projection on walls; on pillars/columns and other objects. In 3,2% of the routes, other protruding objects were observed, which did not meet the stipulated requirements, being considered not accessible.

Abrupt level changes should be avoided and, if they exist, they should be treated appropriately for their height[1]. Thus, 82,3% of the routes meet the requirements, while 16,1% do not, as they are not accessible.

Regarding the condition of the floor, most of the routes have a condition of the floor (79%) and reflectance (96,8%) that are easily accessible. The slope of the floors was evaluated in the direction of

travel and in the transverse direction. Thus, in the direction of the route, 83,9% is accessible without difficulty and in the transverse direction, 87,1% is considered accessible.

As for the plant elements, 48,4% of the tree limbs of the pedestrian paths are accessible without difficulty and the spaces on the ground are also accessible without difficulty on 79% of the paths. Areas adjacent to the paths are accessible without difficukty in 54,8%, accessible with help in 3,2% and another 3,2% not accessible.

Of the 62 pedestrian paths evaluated, 80,6% are accessible without difficulty in relation to the existence of signs and 16,1% are not accessible. The signage is legible on 80,6% of the paths. One of the routes had works, which were correctly identified, and therefore considered accessible without difficulty - 3,2%.

Regarding compliance with accessibility conditions for ramps, the law states that they must have the lowest possible slope and also comply with certain parameters[1]. Of the 3 existing ramps on the evaluated paths, 2 of them are accessible in terms of slope, width, dimensions of the horizontal resting platform and existence of handrails, while the other is not. Regarding the tactile signaling, none of the ramps has this characteristic.

Regarding surface pedestrian crossings, these are essential for the continuity of pedestrian paths[8]. The 79 crossings observed have the highest percentage in the indicator accessible without difficulty; however a considerable percentage in very relevant dimensions is not accessible or when it is, it is with difficulty or help. 59,5% of pedestrian crossings have the curb height accessible without difficulty, 11,4% accessible with difficulty, 3,8% accessible with help and 25,3% not accessible. In the slope of the direction of the passage, 69,6% are accessible without difficulty, 2,5% accessible with difficulty, 1,3% accessible with help and 26,6% not accessible. In the slope towards the sidewalk, 70,9% are accessible without difficulty, 2,5% accessible with difficulty, 1,3% accessible with help and 25,3% not accessible. Regarding the slope of the floor, 88,6% are not applicable and 11,4% are considered accessible without difficulty. Regarding the width of the central dividers, 15,1% are considered accessible without difficulty, 2,5% not accessible, 82,3% correspond to not applicable, since they did not have central dividers. Since none of them have traffic lights, all crossings are inaccessible in this dimension for the visually impaired, since there is no audible signal, not promoting safety when crossing. A large percentage of the crossings do not have an intersection zone with central dividers, hence the width was evaluated as not applicable.

In many situations it is not possible to define accessible routes that connect all the fundamental spaces of the built environment, dictating that access by car is the only way to guarantee the same[8]. Thus, it is essential that there are, in a distributed way, reserved places for people with reduced mobility.

Of the paths evaluated, in 12,9% there is the number of reserved places provided for by law, while in 75,8% this condition is not met.

Regarding the useful width, 32% respect the stipulated measures, with 68% corresponding to the percentage of places that are not accessible. 64% of the places have the stipulated useful length, while 36% are not compliant. Regarding the existence of the side strip, 8% have this feature; however 92% do not, and are not accessible. As for the location and entry/exit location of vehicles, 92% are considered accessible without difficulty and 8% are not accessible. Regarding the limits, 88% are considered accessible without difficulty, while 12% are not accessible. 76% of the places have horizontal signage and 24% do not. 96% have vertical signage and 4% do not.

Regarding bus stops, most do not have obstacles that could make the space inaccessible, as well as an adjacent area for boarding that is also free of obstacles (78,9% accessible without difficulty). The connection between the boarding area and the pedestrian areas is also accessible for the most part.

About the existing legible information, in 52,6%, that is, in 10 of the stops there is no type of information, and in 47,4%, that is, 9 stops the information is. Of the 5 stops with shelter, all of them comply the stipulation for an accessible shelter and of the 14 with an information board, in 71,4% the board does not obstruct the sidewalk, however in 28,4% it does.

DISCUSSION

The research carried out was based on the understanding of accessibility conditions on public roads and how the environments outside the building contribute to the social inclusion of people with impaired mobility, in view of the role of the rehabilitation nurse as a key to improving accessibility on the public road for these people.

The existing architectural inaccessibility in cities contributes to the fact that the person in a wheelchair has greater difficulty in locomotion and freedom of movement, as well as feelings of exclusion and social isolation[9].

A study, which aimed to analyze itineraries in the city of Cascais[10], taking into account the process of political implementation, also evaluated pedestrian paths, according to the accessibility classification of Rovira-Beleta & Folch (2007)[7], being concomitant with some results of the present study, namely the fact that the width, the condition of the floor and the slope are mostly accessible.

Regarding the maneuvering areas, the study by Fernandes (2014)[11] also evaluated this dimension as mostly not accessible, since in the observed sections it is only possible to make 90º changes of direction and "T"changes of direction.

Another study called "Accessibility to the Campus of the Cidade Universitária da Universidade de Lisboa, by the

Comunidade Académica Com Mobilidade Condicionada: Assessment and Improvement Proposal" by Simões, Costa, Rocha, Abrantes & Guimarães (2016)[12] identified the existence of barriers , narrow sidewalks and sidewalks that were not lowered did not meet the prerequisites, that is, they had a very irregular floor and poor maintenance of the sidewalk, with loose stones on the pavement, facts observed in our investigation. The same study also observed numerous protruding objects, namely garbage bins, garden benches, cut tree trunks and the lack of sound signaling when crossing crosswalks. Although in a small percentage, these phenomena are also visible in the pedestrian paths observed in the present study.

As for the existence of signs and their legibility, the pedestrian paths are mostly accessible, but it is necessary to reflect on the fact that the visually impaired cannot access this signage. The work of Simões, Costa, Rocha, Abrantes & Guimarães (2016)[12] presents as a solution the placement of signs in Braille or reference points, as well as applications for mobile phones that help to identify and locate public services.

Regarding surface pedestrian crossings, the data observed in our study are similar to the data observed by Teixeira (2010)[10]. Curb height and slope are mostly not accessible or accessible with help or difficulty. In the present investigation, obstacles in pedestrian crossings were not considered for evaluation, however they existed in some of them, with 7,9% of the paths observed by Teixeira (2010)[10] having obstacles that jeopardize accessibility.

Teixeira (2010)[10] also observed that the existing ramps on the routes do not meet the accessibility requirements, being classified as not accessible, as they do not have handrails and have an unfavorable slope, as in the present study. Pagliuca, Freitag, Aragão & Almeida (2007)[13], in a study with the objective of researching the physical barriers encountered by people with disabilities in four hospitals in a given area, found that in 3 of them, the ramps also did not have handrails. Pinto and Pires (2015)[14] analyzed school accessibility, evaluating 3 passages, in which only one had the lowered curb and another had the slope of the pavement in the direction of the crossing and in the direction of the curb within the intended parameters. It should be noted that none of the observed ramps have traffic lights or sound signals, making them inaccessible to visually impaired people. Apolo (2010)[15], in his study that aimed to analyze the mobility of people with disabilities in 3 urban areas of Lisbon, also detected the lack of lowered sidewalks next to pedestrian crossings or, in certain cases, when there is, be poorly executed. That is, also the height of the curb is inaccessible.

Also in the aforementioned study, the lack of parking spaces reserved for the disabled was observed and the only existing ones were found in the underground car parks and in the shopping center park, all of which were paid. This fact corroborates the present study, where most paths do not have a sufficient number of reserved seats, making it difficult for people with impaired mobility to access services on the roads, necessary for the integrity of citizenship.

With regard to bus stops, also in the study by Teixeira (2010)[10], most bus stops are accessible, data that corroborate those obtained in the present study.

In the study by Pereira, Martins, M Schoeller, Gomes, Laredo- Aguilera, Ribeiro & Cunha (2018)[16], whose objective is to understand the responses of local authorities to abolish architectural barriers for people with impaired mobility, the opinion of the parish council presidents on compliance with the legal provisions of Decree-Law 163/2006 is concomitant with the present study in the following dimensions: flooring of sidewalks with a stable, durable and firm surface (38,1%); front/side access to the shelter is ≥0.80 m wide and does not present obstacles (42,9%).

Based on this analysis, it appears that only a part of the population is able to use the paths with some safety, since for this it is necessary that the person has agility, balance, cognition, coordination, endurance, the five senses preserved and the ability to sensory processing[17]. This demonstrates the need for nurses who are specialists in rehabilitation nursing to rethink the importance of their intervention to alert the authorities who decide on accessibility, especially because people have needs and live in these spaces.

CONCLUSION

Accessibility conditions influence directly the modus operandi of all people, especially people with impaired mobility, and it is extremely important to understand how portuguese legislation is being implemented in terms of public accessibility.

The analyzed pathways are strategic roads and main arteries of the city. Of the 62 pedestrian paths, 14 do not allow access and permanence of a person in a wheelchair. This means that a quarter of the pedestrian paths inhibit the active social participation of people with impaired mobility. Thus, these results prove that the fulfillment of Decree-Law 163/2006 is still far from being achieved. However, it is worth noting that, after data collection was completed, one of the pedestrian paths started work on the sidewalk.

The results show that, of the analyzed paths, 10 present abrupt level changes along the track, which are not compensated by a ramp, making them inaccessible.

The surface pedestrian crossings, essential for the continuity of pedestrian paths, have inaccessible characteristics in a large percentage, namely the height of the curb, the inclination towards the crossing and the sidewalk, as well as the fact that none of them have traffic lights.

Practically half of the evaluated routes do not have parking spaces reserved for people with reduced mobility and the small percentage that does not meet fundamental criteria, such as useful width and the existence of a side lane.

In this sense, it is concluded that the observed paths present numerous architectural barriers, making mobility and accessibility difficult.

This fact leads us to affirm that the city needs an intervention for people with impaired mobility to have a friendly city.

The quantitative methodology worked as a fundamental element in obtaining the data, simplifying the understanding of their analysis.

The sample size does not allow generalizing the results, since it is representative of only one municipality, which suggests that further studies are needed in other municipalities to better understand the phenomenon. This topic is still very little studied in Portugal, with little evidence from other studies. It would be interesting to replicate this investigation in other municipalities, in order to obtain a larger sample and thus identify the architectural barriers existing in other municipalities in order to later proceed with their elimination.

The specialist nurse in rehabilitation nursing can be a link between the community context, the municipalities and people with impaired mobility, allowing the identification and guidance for the abolition of architectural barriers, as these compromise the participation and social inclusion of the person with impaired mobility in the community.

BIBLIOGRAPHIC REFERENCES

1. DECRETO-LEI n.º 163/2006. D.R. I Série. No 152 (2006-08-08). pp. 5670-5689
2. ORDEM DOS ENFERMEIROS – Regulamento dos Padrões de Qualidade dos Cuidados Especializados em Enfermagem de Reabilitação – Regulamento aprovado na Assembleia Geral Extraordinária de 22 de Outubro de 2011; [Consult. 18 out. 2017]. Disponível na Internet: <URL: http://www.ordemenfermeiros.pt/colegios/documents/pqceereabilitacao.pdf>
3. INE. Censos 2011 Resultados Definitivos - Portugal. (2012)
4. PEREIRA, R. (2018). "Autarquias Inclusivas? O/a enfermeiro/a de Reabilitação na Eliminação de barreiras Arquitetónicas". Escola Superior de Enfermagem do Porto, Porto. Disponível em: <https://comum.rcaap.pt/bitstream/10400.26/23040/1/DISSERTA%C3%87%C3%83O %20DEFINITIVA.pdf>;
5. BORDALO, Ana. Urbanismo e inclusão - a perspetiva da acessibilidade e mobilidade para todos. Malha Urbana. 2012. Disponível na Internet: <URL: http://recil.grupolusofona.pt/bitstream/handle/10437/2990/2192.pdf?sequence=>
6. PEREIRA, A. (2019). "Uma Cidade Amigável para as Pessoas Com Mobilidade Condicionada". Escola Superior de Enfermagem do Porto, Porto. Disponível em < https://comum.rcaap.pt/bitstream/10400.26/29468/1/DISSERTA%c3%87%c3%83O%20DE%20MESTRADO%20ANA%20PEREIRA%20ESEP%20EP4212.pdf>
7. ROVIRA-BELETA, Enrique e FOLCH, Ana. Descripción de La Guía. Guía de la Barcelona acessible. 2007. [Consult. 18 out. 2017]. Disponível na Internet: <URL: http://www.vienaeditorial.com/barcelonaaccesible/index.htm>
8. TELES, P. Loures Acessível - Manual de Orientações Técnicas Acessibilidade e Mobilidade. (2014). ISBN 978-972-9142-49-9. [Consult. 7 nov. 2017]. Disponível na Internet: <URL: http://loures.bloco.org/sites/default/files/manual_tecnico_acessibilidade_e_mobilidade.pdf>
9. CARVALHO, ZM Figueiredo., FONTENELE MORAES, P de O., AGOSTINHO ROLIM, G., DE ALMEIDA, PC. (2008) A acessibilidade em cadeira de rodas nas clínicas e consultórios de neurologia e neurocirurgia de Fortaleza - Brasil. Enfermería Global. 14, 2008
10. TEIXEIRA, D. (2010). Igualdade de Oportunidades: Um Olhar Sobre as Barreiras Arquitetónicas à Acessibilidade. Universidade Técnica de Lisboa - Instituto Superior de Ciências Sociais e Políticas, Lisboa. [Consult. 18 out. 2017]. Disponível na Internet: <URL: http://hdl.handle.net/10400.5/3018>
11. FERNANDES, T. (2014). Conformidade do espaço urbano para pessoas com mobilidade reduzida. Universidade do Minho – Escola de Engenharia, Minho. [Consult. 7 nov. 2017]. Disponível na Internet: <URL: http://hdl.handle.net/1822/36430>
12. SIMÕES, J.M., COSTA, E.M., ROCHA, J., ABRANTES P., GUIMARÃES, P. (2015/2016). Acessibilidade ao campus da cidade universitária da universidade de Lisboa, pela comunidade académica com mobilidade condicionada: Avaliação e proposta de melhoria. Seminário em Planeamento e Gestão
13. PAGLIUCA, Lorita Marlena Freitag; ARAGAO, Antônia Eliana de Araújo e ALMEIDA, Paulo César. Acessibilidade e deficiência física: identificação de barreiras arquitetónicas em áreas internas de hospitais de Sobral, Ceará. Rev. esc. enferm. USP [online]. 2007, vol.41, n.4, pp.581-588. ISSN 0080-6234. [Consult. 18 out. 2017]. Disponível na Internet: <URL: http://dx.doi.org/10.1590/S0080-62342007000400007>
14. PINTO S., PIRES M. R. (2015). Acessibilidade escolar: o caso da Escola Secundária Pinheiro e Rosa em Faro. Instituto Politécnico de Leiria. Leiria. Cconsult. 7 nov. 2017]. Disponível na Internet: <URL: http://hdl.handle.net/10400.1/10107>
15. APOLO, A.P.V.V. (2010). Análise da Mobilidade de Pessoas com Deficiência – Estudo de Caso. Instituto Superior de Engenharia de Lisboa, Lisboa. [Consult. 18 out. 2017]. Disponível na Internet: <URL: http://hdl.handle.net/10400.21/245>
16. PEREIRA, R.; MARTINS, M SCHOELLER S.D., Gomes, B.P., LAREDO-AGUILERA, J. A., RIBEIRO, I., CUNHA, P. (2018). As autarquias e a promoção da acessibilidade arquitetónica. Revista de Enfermagem. Referência. 2018:29-38. [Consult. 12 set. 2018]. Disponível na Internet: <URL: https://doi.org/10.12707/RIV18022>
17. SIMÃO, J.M.P. (2015). Mobilidade e acessibilidade no centro de Cascais. Universidade Lusíada de Lisboa, Lisboa. [Consult. 12 set. 2018]. Disponível na Internet: <URL: <http://repositorio.ulusiada.pt/bitstream/11067/2235/1/mia_jorge_simao_dissertacao.pdf>