

Internal structure of Family Health Units: access for people with disabilities

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Abstract *This study aimed at evaluating the internal structure of Family Health Units in relation to the access of people with physical and/or sensory disabilities. It is a descriptive, exploratory, population-based research, held in Family Health Units of the municipality of João Pessoa, Paraíba, Brazil. For the collection of data, a checklist based on Technical Standard 9050 was used. For the analysis, the descriptive and exploratory analysis of the data and the Chi-square test were applied. As a result, of the 90 buildings evaluated, only 47.8% have a wheelchair ramp, of these 30.0% have maximum slope and 32.2% have anti-slip flooring. In 28.9% access happens through a staircase without handrail and in 6.7% through a staircase with handrail, 6.7% of these with anti-slip flooring. And only 17.8% of sliding doors have lowered tracks. We concluded that it must be recognized that public policies and institutions do not correspond to the need of these people, and it is necessary to reformulate this form of care and reorganize health services.*

Key words *Access to Health Services, People with disabilities, Primary Health Care*

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Introduction

Access to health care in Brazil has undergone expansion in recent years, mainly in primary care, like in Family Health Units (USF). For a large part of the population, it is one of the important advances in the implementation of the Brazilian Unified Health System (SUS), which has as its doctrinal principles universality, equity and integrity. However, major challenges still persist to ensure universal and equitable access to health services, especially for people with disabilities (PwD)¹.

Disability is described as the loss or abnormality of a structure or psychological, physiological or anatomical function that can generate an inability or difficulty in the performance of an activity within the standard considered normal for human beings². In Brazil, approximately 23.9% of the total population has some kind of disability. This percentage corresponds, on average, to 45.6 million people, and the Northeast is the region responsible for concentrating the largest number of people with disabilities³.

However, despite the great representativeness of these individuals in the Brazilian population, there are still many obstacles to the strengthening of their participation as citizens⁴. The difficulties of moving in light of the inadequacy of public spaces and buildings are known as architectural barriers, which prevent the exercise of the most basic human right of every citizen – to move freely. Some examples can be mentioned, such as: lack of ramps and handrails, high steps, inadequate floorings and doors, among others. These architectural barriers are present in primary care health services, as found in a research conducted in 41 municipalities in Brazil, with buildings adapted and inadequate to the needs of users with disabilities⁵.

In this sense, Brazilian Standard (NBR) 9050 by the Brazilian Association of Technical Standards (ABNT)⁶ regulated the right to accessibility of PwD. Therefore, accessibility involves the possibilities of the individual moving around with safety, which depends on both mobility and on the physical environment. It should be stressed, however, that even with the current legislation, the process of adherence to standards of accessibility to public places has been keeping a slow pace seeing even the most recent buildings designed to house public agencies, such as the USF, still are targets of complaints from users because they do not guarantee free access, almost always

a result of the use of inappropriately adapted buildings⁷.

However, primary health care (PHC) is an important field to the development of health care practices for these people, especially because of the fact that this population is more exposed to comorbidities associated with their disability, resulting in greater need for use of these services for the maintenance of their physical and mental integrity^{8,9}. And, being the USF the first gateway to the public health system, it is possibly the first instance where the PwD will receive care¹⁰.

Thus, recognizing that it is necessary to provide better conditions requires developing sensitivity, acknowledging that disability goes beyond what is implied or visible. In general, PwD are weakened in light of the conditions and situations of daily life, and often because of lack of knowledge of their rights. From this point of view, for the process of inclusion, it should be guaranteed to those individuals the fulfillment of the standards that guarantee free access to health services, and the development of health education activities, which promote motivation, encouragement, so that these individuals feel the desire to participate effectively, with commitment to society and to their own selves¹¹.

In light of the above, the need to investigate the problems faced by physical and/or sensory PwD with respect to access to health services is evidenced, thus this study raised the following guiding question: What is the current situation of the physical structure of the USF in relation to access of physical and/or sensory PwD?

In this sense, this research is relevant, since it will entail a critical sociocultural and not just biological view to encourage positive changes in behavior in light of the issues relevant to the field of rehabilitation and social integration of the PwD. Thus, considering the aspects addressed until here, this study had as objective evaluating the internal structure of the USF in relation to the access of physical and/or sensory PwD.

Method

This is a descriptive exploratory research with quantitative approach, conducted in Family Health Units of the municipality of João Pessoa, Paraíba, Brazil. This municipality has an estimated population of 780,738 inhabitants and an area of 211,475 km²¹². The choice of the location is justified by the fact of it being the first reference

of the community in the access to information and to health services.

The universe of study encompassed all the buildings that make up the USF of the city of João Pessoa, thus the study uses population sampling. This municipality is divided into five Sanitary Districts, with a total of 181 USF, of which 60 are individual, 11 have two teams, nine have three, and 18 have four, totaling 98 buildings. Therefore, the sample of the study consisted of 90 buildings that make up the USF. Eight were excluded due to the impossibility of physical access, as well as risks of damages to the researcher because of the lack of security.

The survey was conducted from March to May, 2014. Initially, a previous contact was made with those responsible for each health district, seeking the approval for the conducting of the study. The data were collected by the researcher, through a checklist instrument based on NBR 9050 of the ABNT⁶. The data were collected through the technique of systematic observation and measurements were carried out with the use of a measuring tape scaled in centimeters to measure the height and width of the architectural conditions in the interiors of the USF.

For the analysis of the data the Statistical Package for the Social Sciences software (SPSS) version 20.0 was used. To achieve the proposed objectives, it was necessary to apply two statistic techniques: descriptive and exploratory analysis of the data.

For the conducting of this research, the basic principles of Bioethics were considered, in postulates of the 466/12 Resolution of the National Health Council¹³. Because the research does not involve human beings the approval of the Ethics Committee was not needed, only the consent

of the Secretary of Health of the Municipality in which the research was performed.

Results

The 90 buildings that were part of this study make up the USF of the city of João Pessoa, divided into five districts that delimit all of the territorial extension, which organize a network of care and provide to the population access to primary services, as well as specialized services and hospital assistance. District III had the largest number, with 25 buildings (27.7%); then District I, with 24 (26.7%); District II, with 15 (16.7%); District IV, with 14 (15.6%), and District V, with only 12 (13.3%).

Table 1 shows the conditions of access to the interior of the buildings of the USF, with emphasis on stairs, ramps, circulation areas, types of doors and floorings. According to the results access happens through stairs without handrail (28.9%); stairs with handrail (6.7%) and via wheelchair ramp, in only 47.8% of the USF. As for the doors, 72.2% have clear width of 80 cm; in the USF that use swing-doors, only 5.6% are equipped with vertical windows; of the ones with sliding doors, only 17.8% have lowered rails; 63.3% have flooring with regular, stable and firm surface, and 62.2%, area of circulation of at least 1.20 m.

Regarding ramps found in the USF, Table 2 shows that 30.0% have maximum slope to minimize the efforts of the PwD; 32.2% have anti-slip flooring, and only 2.2% have differentiated floor finish at the beginning and at the end of the ramp to guide the visual PwD.

According to Table 3, which deals with the characteristics of access through fixed stairs, only

Table 1. Distribution of Family Health Units in accordance with the access to the inside of the building. João Pessoa, PB, Brazil, 2014.

Item	Categories			
	Yes		No	
	n	%	n	%
Stairs without handrail	26	28.9	64	71.1
Stairs with handrail	6	6.7	84	93.3
Through ramps	43	47.8	47	52.2
Have doors with clear width of 80 cm	65	72.2	25	27.8
Swing-doors with vertical windows	5	5.6	85	94.4
Sliding doors with lowered rails	16	17.8	74	82.2
Flooring with regular, stable and firm surface	57	63.3	33	36.7
Area of circulation with at least 1.20 m	56	62.2	34	37.8

10.0% of steps have minimum width of 25 cm; 12.2%, maximum width of 32 cm, minimum height of 16 cm and maximum of 18 cm; 7.8% have isolated step with allowed height between 15 cm and 18 cm; 6.7% have anti-slip flooring, and only 1.1%, visual signaling at the edge of the floor, in contrasting color with the floor finish, measuring between 0.02 and 0.03 m of width.

Table 4 shows the characteristics of the handrails of the USF. As previously emphasized, only 16.7% of the USF have handrails, all with rigid material and fixed firmly. However, only 10.0% are installed on both sides; 13.4% are at a height of 92 cm from the floor; 15.6%, 4 cm from the wall; 7.8% extend at least 30 cm before the beginning and ending, without interfering in the circulation area or harming the flow; none of the handrails offered signaling through a ring with contrasting texture to the surface of the handrail installed 1 m before the ends and signaled in Braille, nor had ends with bent finish.

Table 2. Distribution of Family Health Units according to the characteristics of the ramp. João Pessoa, PB, Brazil, 2014.

Item	Categories			
	Yes		No	
	n	%	n	%
Maximum slope (2%)	27	30.0	63	70.0
Anti-slip flooring	29	32.2	61	67.7
Differentiated floor finish at the beginning and end	2	2.2	88	97.8

Table 3. Distribution of Family Health Units in accordance with the characteristics of the step. João Pessoa, PB, Brazil, 2014.

Item	Categories			
	Yes		No	
	n	%	n	%
Minimum width of 25 cm	9	10.0	81	90.0
Maximum width of 32 cm	11	12.2	79	87.8
Minimum height of 16 cm	11	12.2	79	87.8
Maximum height of 18 cm	11	12.2	79	87.8
Isolated steps with height between 15 cm and 18 cm	7	7.8	83	92.2
Anti-slip flooring	6	6.7	84	93.3
Visual signaling at the edge	1	1.1	89	98.9

Discussion

A society can be less exclusionary when it recognizes human diversity and the specific needs of the various social segments, ensuring them opportunities of access to goods and services that they need². We verified in this study that there are still many obstacles to ensuring this access, having as reference the right to health.

Like any other population group, the PwD need access to health. According to the National Health Policy of the Person with Disability, both primary care and medium and high complexity services should promote a wide coverage in the care to these individuals, with improvement of the management, of the dissemination of information and a dynamic view of their state of health. In addition, the training and continuing

Table 4. Distribution of Family Health Units in accordance with the characteristics of the handrail. João Pessoa, PB, Brazil, 2014.

Item	Categories			
	Yes		No	
	n	%	n	%
Rigid material	15	16.7	75	83.3
Firmly fixed	15	16.7	75	83.3
Installed on both sides	9	10.0	81	90.0
Height of 92 cm from the floor	12	13.4	78	86.6
4 cm away from the wall	14	15.6	76	84.4
Extends for at least 30 cm	7	7.8	83	92.2
Signaled through ring and in Braille	0	0.0	90	100.0
Bent finish	0	0.0	90	100.0

education of health teams, in all areas of care that encompasses professionals from different levels, should be based on the guidelines of the Unified Health System (SUS) and in the poles of permanent education in health¹⁴.

Thus, it is emphasized the importance of making health units accessible through the fulfillment of the architectural standardization of the NBR 9050⁶, which defines accessibility as the possibility and the condition of reaching, realizing and understanding how to use with safety and autonomy the buildings, space, furniture, urban equipment and elements.

Regarding the conditions of access to the interior of buildings, not all people can freely exercise the right to come and go, because, despite all the USF having one story structure, at 28.9%, this is done through staircase without handrail, and only 6.7% with handrail. Thus, the physical and/or sensory PwD and even those with some sort of limitation, almost always, are unable to gain access to these services. In addition, less than half - 47.8% - use ramps. The lack of ramps and handrails was a problem found in the USF and in other researches^{5,15,16}, contrary to what determine the standards in which the locations of public use and private community use should be adapted, in order to promote the greatest accessibility possible to individuals.

Health services provide assistance for prevention, promotion, recovery and rehabilitation of health, in order to promote physical, psychological and social welfare to the individuals¹⁷, thereby enhancing their quality of life. However, the number of evidences that PwD face barriers when trying to access health services has been increasing, although there have been laws for a few years already that demand the full and equal access to care for this population, be it through ramps, parking lots, doors, bathrooms and even medical equipment. However, in practice, there are still many gaps. Previous researches had already emphasized the need for "more ramps" to improve accessibility, because the impossibility of entering a building is the reason why some patients with disabilities do not seek health services¹⁸.

A study in Colombia pointed out that, on average, 82.0% of the PwD would like health institutions, parks, avenues, roads and other public and private environments to be improved, as this would facilitate mobility for them to participate in activities and for the increase in the seeking for services, especially those related to health¹⁹.

In what concerns doors, 72.2% have clear width of 80 cm; in the USF with swing-doors,

5.6% are equipped with vertical windows. The window is intended to facilitate the visibility of people or objects that may be on the opposite side. This avoids common accidents such as collisions⁴. Of the ones with sliding doors, only 17.8% have lowered rails, i.e., at the same level as the floor surface. There are few USF offering this condition, which is an important factor, because it facilitates the entry and exit of the visual and physical PwD in the environments.

The data presented show that the USF are not located in buildings suitable for the needs of the entire population, especially those that have any form of disability. Many health services are installed in improvised buildings, which are available in the communities and do not have a specific structure to cater to all users and professionals who work there. For this reason, it is emphasized the importance of health professionals knowing the everyday life of these people and their families so they can contribute to the search of strategies to confront the problems that influence their social inclusion and to help them in the rehabilitation process, be it to preserve their functional capacity, or to compensate for the loss of a function or limitation. To do this, they must learn about the legislation that guarantees their rights in order to act for the benefit of these individuals and, consequently, facilitate their social life²⁰.

Regarding the flooring, it is emphasized the importance of regular, firm, stable and anti-slip surface under any condition, so that it does not cause trepidation in wheeled devices. However this research showed that 36.7% of the USF do not have this requirement, and 37.8% do not have circulation area of at least 1.20m. Regarding this last aspect mentioned, it is relevant to point out that the corridors should be dimensioned according to the flow of people, to ensure it is free of barriers or obstacles, and they should have minimum widths. It is also recommended to avoid the use of standardization in the floor surface that can cause a feeling of insecurity (e.g., prints that, due to the contrast of colors, can cause the impression of three-dimensionality)⁶.

To create favorable and welcoming environments that operate positively in the locomotion of the entire population, including all aspects and limitations, as well as programming and staff policies, other policies and procedures should be reviewed. For example, all health units must provide spacious corridors with all areas accessible, with enough space so people who need to use devices to move, like wheelchairs, walker, crutches, can do it without any difficulties¹⁸.

In light of the reflection now mentioned, within the guidelines of the National Health Policy of the Person with Disability, the training of human resources in health care to this clientele is a priority, because the way the PwD see reality, how they feel in relation to society, how they deal with daily issues of access to this service, at the moment they are well received, accepted and can make use of environments with total freedom, should be considered by the professionals who deal directly and daily with this society²¹.

Research has also shown that most of the ramps of the USF do not meet the standards recommended by the NBR 9050, because only 30.0% were built with maximum slope to minimize the efforts of the PwD; 32.2%, have anti-slip flooring, and 2.2%, differentiated floor finish at the beginning and at the end of the ramp to guide the visual PwD. Such a finding contrast with a study on Californian primary care, in which 98.8% of the ramps meet the standard of length, landing and width²². When it comes to differentiated floor finish, tactile paving consists of linear reliefs that have as function directing the path to be followed, therefore, it must be installed in a regular disposition in circulation areas in the absence or at the interruption of the raised edges, indicating the path to be taken in order to facilitate the access of these people to the health service²³.

In a study with visual PwD, one of participants did not turn up at consultations previously scheduled and was resistant to the monitoring of his/her state of health at the USF, because the service did not have adequate conditions for his/her access²⁴. This way, because of the impossibility of access to health services, the PwD can become more susceptible to diseases, as well as have their treatment delayed when they are already receiving it. Besides, due to their condition these people may have more need for access to health services than the population in general.

A study conducted in India²⁵ with 839 people with disabilities and 1153 without disabilities, showed that people with disabilities have more need for access to health services compared to people without disabilities. Significant differences were also observed in relation to past hospitalization. In addition to that persons with disabilities were 4.6 times more likely of suffering from diabetes and 5.8 times more likely of suffering from depression.

It can be thus seen that the social relevance of disabilities extrapolates the sphere of health and affects society as a whole, since the PwD have the same needs of other people besides those pecu-

liar to their condition. In view of these circumstances, the way they interact with the world, conduct their daily activities and communicate is different and occurs according to their resourcefulness. In this context, the adaptation of individuals with disability happens through compensatory mechanisms in the orientation system²⁶.

Regarding fixed ladders, the minority of them have allowed height and width; only 6.7% have anti-slip flooring, and 1.1% visual signaling at the edge of the floor, in contrasting color with the floor finish, measuring between 0.02 and 0.03 m of width. Regarding the absence of warning and directional visual signals at the public walkway, it is relevant to report that they are essential for visual PwD to get around. Tactile warning signals have as main function to inform when to stop, change direction, the beginning and end of stairs and elevators, among others. For this, they must follow specifications regarding the direction and the location of installation²³.

Accessibility issues are not found only in health services. A survey conducted in a mall noted the lack of good visual signaling to find services of the area due to poor visibility and inadequate contrast of materials on the ground, specifically. The use of visual signals and spatial clues as indicators of changes in the environment was considered essential for the locomotion of the visual PwD²⁷.

In what concerns the handrails found in the USF, some features did not meet safety standards: only 10.0% are installed on both sides; 13.4% are at a height of 92 cm from the floor; 7.8% extend at least 30 cm before the beginning and the end; none have signaling through ring with contrasting texture to the surface of the handrail and they are not signaled in Braille. Other studies indicate equivalent results^{4-5,22}.

The handrail installed on both sides, with an extension of at least 30 cm at the beginning and end, is considered a supporting factor for people. The motor PwD, in particular, those who rely on crutches, have their freedom to walk preserved when wielding the handrail and transferring part of their weight to the fixed support. This procedure must be performed by the member opposite to the side that has the disability. For this reason, when placed only unilaterally, it does not answer the needs of this population⁴.

Architectural barriers are a worrisome factor for the insertion of the PwD in society. A study carried out in Porto Alegre states that the population organizes itself to raise funds in order to improve the conditions of accessibility. Howev-

er, due to lack of resources, many families stop working to take care of the PwD, which decreases family income and causes other social and economic problems²⁸.

The difficulties and limitations faced by the PwD are magnified in situations in which their accessibility is not guaranteed. This causes dependency for activities and affects the self-esteem and the intellectual, social and cultural development of the individuals.

It must be put in focus the impact and importance that public policies should have in the promotion of the various changes in the lives of these individuals, established by most recent Law of Inclusion of the Person with Disability – Statute of the Person with Disability, intended to ensure and promote, on equal terms, the exercise of fundamental rights and freedoms by the person with disability, aimed at her/his social inclusion and citizenship²⁹.

Access to health services is the process that can be reached for due to a deterioration of the health status, a diagnosis, or to prevent and promote health. Add to this the fact that these services are considered programs of local, community, regional, state or national level, intended to provide assistance to individuals for their physical, psychological and social well-being³⁰. However, the number of evidences that PwD face barriers when trying to access health services has been increasing, although, for a few years now, there are laws that demand full and equal access to care for this population, be it through ramps, parking lots, doors, bathrooms and even medical equipment. However, in practice, there are still many gaps³⁰.

It is necessary to understand that to promote universal access, it is critical that health units have appropriate environmental adaptations to the PwD, favoring their personal autonomy and independence, total or assisted.

Therefore, it is noted the necessity of the development of networks of care suited to the demand, linked to other areas of knowledge, to ensure accessibility to health services and establishments in an easy manner, in accordance with the standard techniques recommended. Thus, it should be recognized that all people with some kind of difficulty are entitled to the use the health services. In this sense, it is necessary to identify in these locations the necessary adjustments to ensure free accessibility without extras difficulties⁵.

Conclusion

The results exposed in this study showed that the USF of the city of João Pessoa, for the most part, do not dispose of the appropriate conditions of accessibility to physical and/or sensory PwD on what concerns internal structure. It is necessary to understand that to promote universal access, it is critical that health units have appropriate environmental adaptations to the PwD, favoring their personal autonomy and independence, total or assisted.

In this sense, specific interventions targeting this population group and the evaluation of public policies in effect, in order to implement all that is guaranteed by law would be a way to minimize the difficulties that arise from these disabilities and promote care in accordance with the principles of the SUS, i.e. in a full, universal and integral way for this population.

Brazil has one of the best legislations focused on the rights of the PwD. However, they still need to be better implemented and monitored so they can structure joint actions to prevent disabilities and facilitate accessibility, which will allow the true social inclusion of these people, allowing the full use of services and the satisfaction of health needs.

Collaborations

KP Martins participated in the conception and design, analysis and interpretation of data and writing of the article; TM Medeiros and TF Costa participated in the analysis and interpretation of data and writing of the article; MGM Fernandes and ISX França participated in the conception and design, and critical review of the article; KNFM Costa guided every step of the preparation of the article and offered a critical review. All the authors performed the approval of the version to be published.

References

- Paim J, Travassos C, Almeida C, Bahia L, Macinko J. O sistema de saúde brasileiro: história, avanços e desafios. *The Lancet* 2011; Saúde no Brasil 1:11-31.
- Amaral FLJSA, Holanda CMA, Quirino MAB, Nascimento JPS, Neves RF, Ribeiro KS, Alves SB. Accessibility for people with disabilities or permanent mobility restrictions to the Unified Health System. *Cien Saude Colet* 2012; 17(7):1833-1840.
- Instituto Brasileiro de Geografia e Estatística (IBGE). *Censo Demográfico 2010. Características gerais da população, religião e pessoas com deficiência*. Rio de Janeiro: IBGE; 2012.
- Pagliuca LMF, Aragão AEA, Almeida PC. Accessibility and physical deficiency: identifying architectural barriers in internal areas of hospitals in Sobral, Ceará. *Rev Esc Enferm USP* 2007; 41(4):581-588.
- Siqueira FCV, Facchini LA, Silveira DS, Piccini RX, Thumé E, Tomasi E. Architectonic barriers for elderly and physically disabled people: an epidemiological study of the physical structure of health service units in seven Brazilian states. *Cien Saude Colet* 2009; 14(1):39-44.
- Brasil. Associação Brasileira de Normas Técnicas (ABNT). *NBR 9050: Acessibilidade de pessoas portadoras de deficiências e edificações, espaço, mobiliário e equipamento urbano*. Rio de Janeiro: ABNT; 2004.
- Nascimento VF. Acessibilidade de deficientes físicos em uma unidade de saúde da família. *Rev. Eletr. Gest. & Saúde* 2012; 3(3):1031-1044.
- Othero MB, Dalmaso ASW. Disabled people in primary healthcare: professionals' discourse and practice in a healthcare teaching center. *Interface (Botucatu)* 2009; 13(28):177-188.
- Castro SS, Lefevre F, Lefevre AMC, Cesar CLG. Accessibility to health services by persons with disabilities. *Rev Saude Publica* 2011; 45(1):99-105.
- Gironi JBR, Santos SMA. Deficiência física em idosos e acessibilidade na atenção básica em saúde: revisão integrativa da literatura. *Rev Gaúcha Enferm* 2011; 32(2):378-384.
- Aragão AEA, Pagliuca LMF, Macêdo KNE, Almeida PC. Sanitary installations, equipment and circulation areas in hospitals: adaptations for the physically disabled people. *Rev. Rene*. 2008; 9(1):36-44.
- Instituto Brasileiro de Geografia e Estatística (IBGE). *Censo Demográfico 2010. Diretoria de Pesquisas, Coordenação de População e Indicadores Sociais*. Rio de Janeiro: IBGE; 2014.
- Brasil. Ministério da Saúde (MS). Conselho Nacional de Saúde. Resolução nº 466, de 12 de Dezembro de 2012. *Diário Oficial da União* 2013; 13 dez.
- Castro SS, Paiva KM, César CL. Dificuldades na comunicação entre pessoas com deficiência auditiva e profissionais de saúde: uma questão de saúde pública. *Rev Soc Bras Fonoaudiol* 2012; 17(2):128-134.
- França ISX, Pagliuca LMF, Baptista RS, França EG, Coura AS, Souza JA. Symbolical violence in the access of disabled persons to basic health units. *Rev. bras. enferm.* 2010; 63(6):964-970.
- Gasparoto MC, Alpino AMS. Avaliação da acessibilidade domiciliar de crianças com deficiência física. *Rev. bras. educ. espec.* 2012; 18(2):337-354.
- Ruiz CPS, Ramirez CR, Miranda JPA, Camargo LVR, Urquijo YG, González NC. Barreras contextuales para la participación de las personas con discapacidad física. *Salud UIS* 2013; 45(1):41-51.
- Lagu T, Iezzoni LI, Lindenauer PK. The Axes of Access - Improving Care for Patients with Disabilities. *N Engl J Med*. 2014; 370:1847-51.
- Floyd MH, Zambrano JÁ, Antó AM, Jiménez CS, Solórzano CP, Díaz AL. Identificación de las barreras del entorno que afectan la inclusión social de las personas con discapacidad motriz de miembros inferiores. *Rev Salud Unimorte* 2012; 28(2):227-237.
- Leal DR, Mattos GD, Fontana RT. Worker with physical disability: weaknesses and disorders self referred. *Rev. bras. enferm.* 2013; 66(1):59-66.
- Sales AS, Oliveira RF, Araújo EM. Inclusion of persons with disabilities in a Reference Center for STD/AIDS of a town in Bahia, Brazil. *Rev. bras. enferm.* 2013; 66(2):208-214.
- Mudrick NR, Breslin ML, Liang M, Yee S. Physical accessibility in primary health care settings: Results from California on-site reviews. *Disabil Health J* 2012; 5(3):159-167.
- Silva JVP, Tosta QP, Otto HR, Lins ACS, Sampaio TMV. Accessibility of people with physical and visual impaired the Sport Park Itanhangá. *Motricidade* 2012; 8(S2):249-258.
- Souza ELV, Moura GN, Nascimento JC, Lima MA, Pagliuca LMF, Caetano JA. Nursing diagnoses based on the self-care theory in people with visual deficiency. *Rev Rene* 2012; 13(3):542-551.
- Gudlavalleti MVS, John N, Allagh K, Sagar J, Kamalakannan S, Ramachandra SS. Access to health care and employment status of people with disabilities in South India, the SIDE (South India Disability Evidence) study. *BMC Public Health* 2014; 14:1125.
- Pagliuca LMF, Regis CG, França ISX. Analysis of communication between blind people and Nursing students. *Rev. bras. enferm.* 2008; 61(3):296-301.
- Poldma T, Labbé D, Bertin S, Grosbois È, Barile M, Mazurik K, Desjardins M, Herbane H, Artis G. Understanding people's needs in a commercial public space: About accessibility and lived experience in social settings. *European Journal of Disability research* 2014; 8(3):206-216.
- Wagner LC, Lindemayer CK, Pacheco A, Silva LDA. Acessibilidade de pessoas com deficiência: o olhar de uma comunidade da periferia de Porto Alegre. *Rev. bras. cienc. mov.* 2010; 12(23):55-67.
- Brasil. Presidência da República, Subchefia para Assuntos Jurídicos. Lei nº 13.146 de 06 de julho de 2015. Institui a Lei Brasileira de Inclusão da Pessoa com deficiência (Estatuto da pessoa com deficiência). *Diário Oficial da União* 2015; 7 jul.

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