Health education for the visually impaired – academic experience supported by nursing classifications

Educação em saúde à pessoa com deficiência visual – experiência de acadêmicos apoiada nas classificações de enfermagem

Educación en salud para deficientes visuales – experiencia académica sustentada en clasificaciones de enfermeira

Ligya Lucia Weber dos Santos[1], Iel Marciano de Moraes Filho[2], Ricardo Costa da Silva[3], Raiara Caetano[4], Taynara Maria Estevam da Silva[5], Francidalma Soares Sousa Carvalho Filha[6]

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REVISA

1. Paulista University. Brasília, Distrito Federal, Brazil. https://orcid.org/0000-0002-4184-4205

2. Paulista University. Brasília, Distrito Federal, Brazil. https://orcid.org/0000-0002-0798-3949

3. Federal University of Goiás, Goiânia, Goiás, Brazil. https://orcid.org/0000-0002-1355-5262

4. Paulista University. Brasília, Distrito Federal, Brazil. https://orcid.org/0000-0002-0297-9895

5. Paulista University. Brasília, Distrito Federal, Brazil. https://orcid.org/0000-0001-7340-3757

6. State University of Maranhão. Balsas, Maranhão, Brazil. https://orcid.org/0000-0001-5197-4671

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RESUMO

Objetivo: apresentar relato de experiência do uso da intervenção de enfermagem na Educação em Saúde à pessoa com deficiência visual que apresenta autogestão ineficaz da saúde. **Método**: estudo descritivo-reflexivo, a partir do relato de experiência desenvolvido em ambulatório especializado no atendimento a doenças crônicas de uma cidade na região central do Brasil. Os dados foram obtidos por meio da Consulta de Enfermagem, conduzida pelos alunos de enfermagem e submetidas à análise pelo método de raciocínio clínico diagnóstico Outcome-Present State Test, integrando Diagnóstico, Resultado e Intervenções de Enfermagem baseados no Processo de Enfermagem e no uso das Taxonomias (NANDA, NIC, NOC) a um homem, de 56 anos, com deficiência visual por etiologia traumática, portador de Hipertensão Arterial (HA) e com níveis de glicose no sangue aumentados. **Resultados**: o relato dividiu-se em três vertentes para melhor compreensão: o cenário, a experiência, o detalhamento do caso e a intervenção. **Conclusão:** foi possível compreender os aspectos legais acerca dos direitos da pessoa com deficiência visual, no que tange a disponibilização de materiais em formatos adequados para o entendimento integral do conteúdo, e fomentar o raciocínio clínico de estudantes de enfermagem para intervenções custo-efetivas, através de tecnologias leves, que podem ser aplicadas em contextos similares.
Descritores: Pessoas com Deficiência; Letramento em Saúde; Cegueira; Diagnósticos de Enfermagem.

ABSTRACT

Objective: to present an experience report on the use of nursing intervention in Health Education for visually impaired people who present ineffective health self-management. **Method:** a descriptive-reflective study, based on the experience report developed in an outpatient clinic specialized in the care of chronic diseases in a city in the central region of Brazil. Data were obtained through the Nursing Consultation, conducted by nursing students and submitted to analysis using the Outcome-Present State Test diagnostic clinical reasoning method, integrating Nursing Diagnosis, Outcome and Interventions based on the Nursing Process and the use of Taxonomies (NANDA, NIC, NOC) to a 56-year-old man with visual impairment due to traumatic etiology, with Arterial Hypertension (AH) and increased blood glucose levels. **Results:** the report was divided into three aspects for better understanding: the scenario, the experience, the details of the case and the intervention. **Conclusion:** it was possible to understand the legal aspects about the rights of the visually impaired person, regarding the availability of materials in suitable formats for the full understanding of the content, and to foster the clinical reasoning of nursing students for cost-effective interventions, through of lightweight technologies, which can be applied in similar contexts.
Descriptors: Disabled Persons; Health Literacy; Blindness; Nursing Diagnosis.

RESUMEN

Objetivo: presentar un relato de experiencia sobre el uso de la intervención de enfermería en Educación en Salud para personas con discapacidad visual que presentan autogestión de salud ineficaz. **Método:** estudio descriptivo-reflexivo, basado en el relato de experiencia desarrollado en un ambulatorio especializado en la atención de enfermedades crónicas en una ciudad de la región central de Brasil. Los datos fueron obtenidos a través de la Consulta de Enfermería, realizada por estudiantes de enfermería y sometidos a análisis utilizando el método de razonamiento clínico diagnóstico Outcome-Present State Test, integrando Diagnósticos, Resultados e Intervenciones de Enfermería con base en el Proceso de Enfermería y el uso de Taxonomías (NANDA, NIC, NOC) a un varón de 56 años con discapacidad visual de etiología traumática, con Hipertensión Arterial (HA) y niveles elevados de glucosa en sangre. **Resultados:** el informe se dividió en tres aspectos para una mejor comprensión: el escenario, la experiencia, los detalles del caso y la intervención. **Conclusión:** fue posible comprender los aspectos legales sobre los derechos de la persona con discapacidad visual, en cuanto a la disponibilidad de materiales en formatos adecuados para la comprensión integral del contenido, y fomentar el razonamiento clínico de los estudiantes de enfermería para intervenciones costo-efectivas, a través de tecnologías ligeras, que se pueden aplicar en contextos similares.
Descriptores: Personas con Discapacidad; Alfabetización en Salud; Ceguera; Diagnóstico de Enfermería.
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ORIGINAL

Introduction

The Brazilian Association of Technical Standards (ABNT)[1] defines accessibility, through the Brazilian Standard (NBR) 9050, as the possibility and condition of reach, perception and understanding for the safe and autonomy use of buildings, spaces, furniture, urban equipment and elements. In addition, this standard defines the term accessible as space, building, furniture, urban equipment or element that can be reached, triggered, used and experienced by any person, including those with reduced mobility. Therefore, the term accessible implies both physical and communication accessibility. From these definitions, four main elements can be abstracted related to the conditions of: 1) buildings; 2) transportation; 3) equipment and furniture; and 4) communications systems.[2]

Thus, in this spectrum, communication presents itself as a process of social interaction through symbols and messaging systems, an activity inherent to human nature that implies the interaction and the common position of messages with meanings to influence, in some way, the behavior of others and the organization and development of social systems. Therefore, communication is considered as a human process of language interaction, it is a sociocultural fact.[3] Nevertheless, effective communication is a relevant factor in supporting people living with some type of disability.

Moreover, according to data from the Brazilian Institute of Geography and Statistics (IBGE), there are about 45.6 million Brazilians with some type of disability, representing almost 1/4 of the population of Brazil. Among these, 23.9% had visual impairment, representing the highest prevalence in the population, with approximately 35.7 million people.[4]

By the way, the Brazilian Federal Constitution explains, in article 196, that health is the right of all and the duty of the State, guaranteed through social and economic policies aimed at reducing the risk of disease and other injuries and universal and equal access to actions and services for its promotion, protection and recovery.[5]

Therefore, the impassability, accentuated in the blind, causes difficulties related to the exposure of their needs due to the lack of accessibility, mobility and communication. In general, most of them live in homes and cities with no conditions to welcome them. These people suffer the consequences of the indifference of government entities and society. Such entities do not strive to support them or to eliminate the physical barriers and attitudes that prevent their integration.[6]

Moreover, it is essential that health professionals recognize plurality and contribute to the advancement of equality, as well as equity in access to information and develop health education activities that address all people. In this context, visual person deficiency, for example, cannot be an obstacle to welcoming and comprehensive access to health[7], and it is up to workers to develop skills and methods to perform care according to the guidelines of the Unified Health System (SUS): universality, integrality and equity, seeking to understand the assisted person holistically and paying attention to their individual needs and not just worrying about providing a service.[8]

To this do so, learning and teaching processes must be adequate and dynamic, often requiring innovative methods. Educational technologies are

useful and important tools to be used in teaching that surround the work of professionals from various areas, such as nurses.

Thus, the construction of educational technologies, for dynamic and active learning, is of fundamental importance to respond to the current demands of nursing. Therefore, nurses can create and apply technologies in their professional practice, because these are a form of effective communication, which bring engagement and support.[9]

Nevertheless, in the area of health care, it is essential to assume that patients are lay on the subject, so communication should be done in a simple, precise and objective way, considering the living conditions, schooling and their literacy in health. The United States Department of Health and Human Services defines health literacy as the degree of ability each individual has to find, understand, and use information and services for decision-making and development of actions for their own health and other health..[10-11]

In this perspective, when health literacy is insufficient, hospitalization rates and adverse effects of therapies and medications increase, as well as the prevalence of chronic diseases and lower treatment adhering to the indicated treatment. Dissarte, health promotion and disease prevention are directly related to health literacy, that is, the ability to acquire and make use of information in favor of oneself and their well-being.[12]

Thus, the aim of this article was to present an experience report of the use of the nursing intervention Health Education to people with visual impairment who present ineffective self-management of health.

Method

Descriptive-reflective study, based on the experience report, developed in an outpatient clinic specialized in the care of chronic diseases in a city in central Brazil. The motivation was based on the insertion of the theme "Literacy in Health" in the theoretical and practical meetings of the discipline of Supervised Internship I of undergraduate nursing students, during the months of April to June 2022, with the objective of reflecting and consolidating the experiences of the student's formative period.

The study subject is a 56-year-old man with visual impairment due to traumatic etiology, with hypertension (AH) and with increased blood glucose levels, with clinical evidence of nursing ineffective self-management of health due primarily to Inadequate Health Literacy. The data were obtained from the Nursing Consultation conducted by nursing students and submitted to analysis by the OPT (Outcome-Present State-Test) clinical reasoning method[13], integrating Nursing Diagnosis, Outcome and Interventions, based on the Nursing Process (PE)[14] and on the use of Taxonomies: Classification of Nursing Diagnoses of NANDA International (NANDA-I)[15], Classification of Nursing Interventions (NIC)[16] and Classification of Nursing Outcomes (NOC).[17]

This experience report commended all the determinations contained in resolutions No. 466/2012 and N°510/2016 of the National Health Council, having been approved by the Research Ethics Committee (CEP), under the number of the Certificate of Presentation for Ethical Appreciation (CAAE): 07551112.7.2.7.0000.5554 and opinion no. 153.158.[18-19]

Results and Discussion

The report was organized descriptively and at consecutive times to better understand the scenario, these being: the scenario, the experience, the detailing of the case, theoretical basis and intervention.

The scenario

The Basic Health Unit (UBS) that was the scene of care develops follow-up to patients living with chronic noncommunicable diseases (NCDs), and multiprofessional care is developed by nurses, physicians and nursing technicians, who understand health education as one of the priority goals for comprehensive care. However, when it comes to the care of patients with disabilities, such as visual, there is an increase in complexity and customization for the implementation of orientation and teaching measures in health.

Thus, in view of the arrival of users with such demands, there was an increase in the difficulties on the part of health professionals in developing the necessary interventions. Nevertheless, brister of 22.3% of the population of the administrative region manifests some difficulty or great difficulty to see.[20]

People assisted by the UBS, located in a peripheral administrative region of a large city in central Brazil, have precarious employment and income conditions, declare themselves as black or brown, generally have low schooling and are mostly women, according to data from the District Household Sample Survey.[20] Such sociodemographic conditions may reinforce limitations in the self-management of chronic conditions, making area residents as potential populations at risk.[15]

At the same time, non-treatment regimen may also be observed as a consequence of ineffective self-management of health. According to the World Health Organization (WHO)[21], non-treatment in the long term is around 50% for the general population. The factors related to non-adtake are linked to the individual characteristics of the patient (forgetfulness, beliefs, knowledge and inadequate skills in the management of symptoms and treatment of the disease), the disease itself (whether asymptomatic or not), the medications used (polypharmacy, occurrence of adverse events), patient-health service interaction, among others.[22]

Regarding the latter factor, the difficulties of reception, accessibility and communication experienced in health services between visually impaired people and professionals, can potentially become an atheudinal disorder, the way in which the patient is seen and treated, resulting in lack of interest and safety in relation to care and, consequently, isolation or distancing from social interactions.[23]

The experience

Nurses play a prominent role in the care of people with chronic conditions at different levels of health care, and to this end, they apply a specific work method of the profession that supports the theoretical foundations and scientific knowledge of nursing practice (PE). In this sense, for ethical-legal support of the practice, resolution no. 358 of the Federal Nursing Council (COFEN) provides for

the Systematization of Nursing Care (SAE) and the implementation of the EP, which dictates that the EP should be carried out, in a deliberate and systematic manner, in all public or private environments, in which professional nursing care occurs.[24]

The EP enables decision-making based on clinical data oriented from theoretical references of nursing, structuring the method of thinking and making of the profession, besides allowing the implementation of cost-effective nursing interventions, the evaluation of results sensitive to nursing interventions and the occurrence of positive outcomes from the resolution of undesirable human responses.[24] In this sense, the EP is structured in five sequential, interrelated and recurrent stages:

1. Nursing History: with the purpose of obtaining information about the person, family or human community and about their responses at a given moment of the health and disease process;
2. Nursing Diagnosis: defined as the process of interpretation and grouping of data collected in the first stage, which culminates in the decision-making on the nursing diagnostic concepts that constitutes the basis for the selection of actions or interventions with which the expected results are aimed; Planejamento de Enfermagem: momento em que ocorre a determinação dos resultados que se esperam alcançar e das ações ou intervenções de enfermagem que serão realizadas;
3. Implementation: when the actions or interventions determined in the previous stage occur;
4. Nursing Evaluation: when changes in responses are verified to determine whether nursing actions or interventions have achieved the expected result, and verification of the need for changes or adaptations.[24]

Therefore, for effective resolution of the clinical case in question, the support of the nursing classifications was used: NANDA Internacional (NANDA-I)[15], NIC[16] and NOC.[17]

Case detailing

The patient D.S.A, 56 years old, male, attended the UBS after suffering fainting in his residence. During data collection, the patient reported fatigue, sweating and tremors, in addition to severe headache, dizziness, angina and algia in the posterior cervical region. Reports having systemic arterial hypertension (AH) and having increased glucose rate (pre-diabetic). It makes continuous use of losartan potassium with hydrochlorothiazide 50 mg (1compressed in the morning) and metformin 500 mg (1 tablet in the evening). It refers to inadequate diet, with high content of carbohydrates, sodium and lipids, adequate liquid intake. Refers to appropriate eliminations. Questioned, the patient declared that he took the drug at the right time, in the morning and evening, but that the packaging was out of the box, so he could not read the Braille with the name, because the cleaning lady messed with his medications (SIC).

Physical examination was found that the patient was conscious and oriented in time and space, with a slight picture of confusion in relation to the therapeutic regimen, communicative, and with impaired ambulation, requiring help by cane. Hydrated and blushing mucous membranes. Skull and face with

no abnormalities. Eupneic. He presented flat thorax, symmetrical and preserved thoracic expansion, skin with pale appearance, cold and sticky to the touch, with sweating. Clear pulmonary sound, no adventitious noises. Respiratory Rate: 22 inspiratory movements per minute. Cardiac auscultation presented normophonetic rhythmic sounds and heart rate of 105 beats per minute. Upper and lower limbs without evidence of injury. Height: 172 cm; weight: 86 kg; and Body Mass Index of 29.1 kg/m2 – evidence of overweight. Blood pressure 155x110 mmHg. Capillary glycemia of 65 mg/dl. Axillary temperature of 36.9°C.

The hypothesis indicated at the time of the nursing consultation, based on the patient's report and the data obtained, is that there was a double ingestion of metformin, without the ingestion of losartan, causing a general feeling of malaise, with great tiredness and difficulty breathing and elevation of blood pressure. Chart 1 shows the indication of the use of the aforementioned drugs and the risk of overdose to the user regarding the therapeutic regimen.

Table 1 - Indication of use and risks related to overdose (Brazil, 2022)

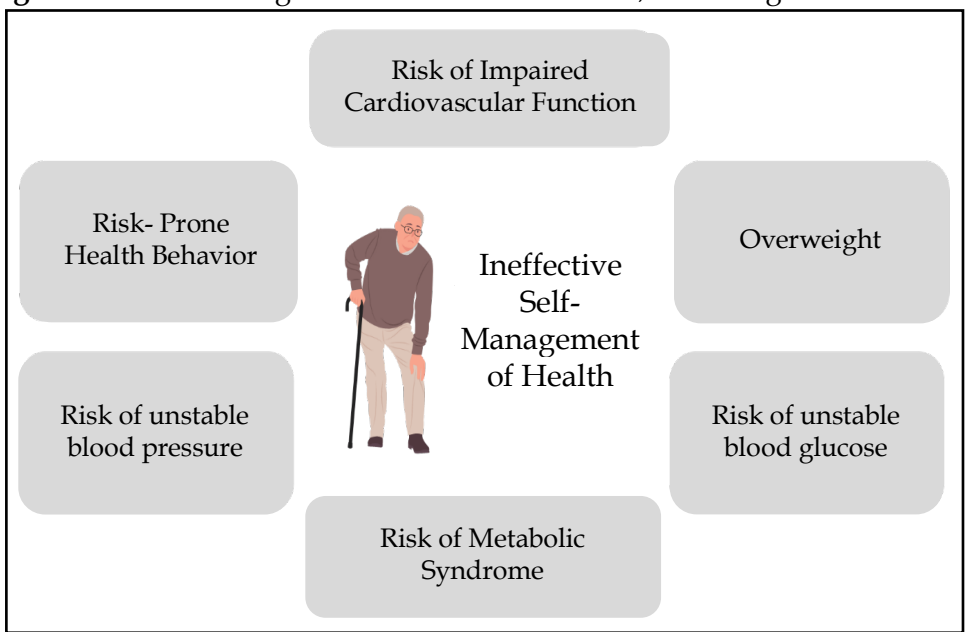
Name of the medicine:	**Losartan Potassium + Hydrochlorothiazide**
Indication of use:	In patients with high blood pressure and thickening of the left ventricle walls (left ventricle hypertrophy), losartan, often in combination with hydrochlorothiazide, reduces the risk of stroke and heart attack (myocardial infarction) and helps patients live longer. The recommended starting dose is 500 mg once a day for breakfast. This dose can be gradually increased, at medical discretion, aiming at maintaining plasma glucose levels and/or HbA1C within the normal range. Regular control of blood glucose and risk factors is recommended to assess whether treatment remains necessary.
Overdose:	The overdose of Losartana Potassium + Hydrochlorothiazide can lead to hypotension, whose symptoms are: low energy level, decreased strength, weakness, dizziness, fainting, cold sweat, excessive thirst, chicardia, blurred vision, cold skin, panting and mental confusion. Aquicardia: shortness of breath, dizziness, sudden weakness, chest vibration, stunning and fainting.
Name of the medicine:	**Metformin Hydrochloride**
Indication of use:	As an antidiabetic agent, associated with the diet, for the treatment of: Type 2 diabetes mellitus, not dependent on insulin (diabetes of maturity, diabetes of the obese, diabetes in adults of normal weight), alone or complementing the action of other antidiabetics (such as sulphonylureas); Type 1 diabetes mellitus, dependent on insulin, as a complement to insulin therapy in cases of unstable or insulin-resistant diabetes; Prevention of type 2 diabetes mellitus in overweight patients (BMI ≥ 24 kg/m2; 22 kg/m2 among Asians) with prediabetes (IGT and/or IFG and/or HbA1c increased) and at least one additional risk factor (such as hypertension, age over 40 years, dyslipidemia, family history of diabetes or history of gestational diabetes) for development of diabetes mellitus type 2 evident and in which intensive lifestyle modification (diet and regular physical exercises) alone did not provide adequate glycemic control.

Overdose:	Overdose of metformin hydrochloride can lead to lactic acidosis and consequently coma. Symptoms are: vomiting, abdominal pain, muscle cramps, general feeling of malaise, with great tiredness and difficulty breathing. Metformin hydrochloride alone does not cause hypoglycaemia, however, if you take metformin hydrochloride together with other medicines for the treatment of diabetes that may cause hypoglycaemia (such as sulphonylureas, insulin, meglitinides), there is a risk of developing hypoglycaemia. Symptoms: weakness, dizziness, sweating, aquicardia, vision disorders or concentration difficulties.

Source: (EMS S/A; 2013[25]; EMS S/A; 2013[26]).

After careful reading of the medicine leaflets, it was found that the general feeling of malaise with great tiredness and difficulty breathing and elevated blood pressure was caused due to the overdose of the drug Metformin Hydrochloride and the non-ingestion of Losartana Potassium + Hydrochlorothiazide. Soon an individualized care plan was operationalized. Considering the information collected during anamnesis and physical examination, different nursing diagnoses of NANDA-I[15] could be listed to the case, as shown in Figure 1, following the clinical-diagnostic reasoning proposed by the OPT model.[13]

Figure 1 - Possible diagnoses identified in the case, according to the OPT model.



Therefore, considering the nursing diagnosis Ineffective Self-Management of Health[15] as the priority, since, when solving it, all other diagnoses are solved in sequence, the care plan was established together with the NIC[16] and NOC nursing classifications[17]. Thus, the main objective was to solve the related factor that predisposes to a greater degree the occurrence of this diagnosis, which is inadequate Health Literacy. The details of the plan are present in Chart 2.

Table 2- NANDA Diagnosis, NOC and NIC.

Nursing Diagnosis – NANDA						
INEFFECTIVE SELF-MANAGEMENT OF HEALTH Definition: "Unsatisfactory management of symptoms, treatment regimen, physical, psychosocial and spiritual consequences and lifestyle changes inherent in living with a chronic condition."[15]						
Expected Results – NOC						
Health Literacy Behavior						
Indicators	**1**	**2**	**3**	**4**	**5**	**Goal**
Identifies personal health needs		X				4 in 30 days
Verbaliza understand verbal information relevant to health			X			5 in 14 days
Verbaliza understand information about medicines			X			5 in 14 days
Verbaliza understand information about treatment			X			5 in 14 days
Recognizes patient responsibilities		X				5 in 7 days
Share questions		X				4 in 7 days
Shares concerns		X				4 in 7 days
Uses personal support system					X	Maintain
Nursing Intervention – NIC						
HEALTH EDUCATION Activities: - Identify internal or external factors that can improve or reduce motivation for healthy behavior. - Determine current knowledge about healthy health and behavior of the individual, family or target groups. - Identify characteristics of the target population that affect the selection of educational strategies. - Identify resources (e.g. personnel, space, equipment, financial, etc.) needed to conduct the program. - Emphasize immediate or short-term positive health benefits to be received by positive life behavior rather than long-term benefits or negative effects of non-acceptance. - Develop educational material written at an appropriate level of reading to the target audience. - Involve people, families and groups in planning and implementation in the life plan or modification of health behavior. - Use varied strategies and intervention points in the educational program - Develop and implement strategies to measure patients' results at regular intervals during and after the program.						

Source: (NANDA Diagnosis[15], NIC[16] e NOC[17]).

Theoretical Framework

In Brazil, the Consumer Protection Code (CDC) (Law No. 8,078/90) requires clear and appropriate information in Portuguese about the different products and services, describing the characteristics, composition, quality, price and risks they present27. However, according to a previous study conducted, it was found that a considerable proportion of people with visual impairment only receive information orally or with family members and acquaintances.[28]

It was concluded that when the transcription for braille was performed, directly from a printed package leaflet, maintaining all the structuring of titles, lines and warnings, these end up showing to be a major obstacle for patients with visual impairment, since they may suffer confusion in the differentiation of information because it is a running text with few resources to distinguish the sessions of the package leaflet.[28]

In this sense, Decree No. 5,296 of December 2, 2004 states, in Article 58 § 1, that "From six months of the edition of this Decree, the drug industry must make available, upon request, copies of the package leaflets of medicines in magnetic, Braille or in an enlarged source".[29]

In addition, it is important to highlight that, according to the standards of the National Health Surveillance Agency (ANVISA), drug packaging should cite, using the Braille system: the name of the commercial drug or its generic name, citing each active ingredient present. It also provides for the package leaflet in a differentiated format, which would be provided to the visually impaired person, in an appropriate configuration, to meet their needs. Can be made available in audio or text with conversion-to-audio file, printed in Braille or with enlarged font.[30]

Daily, the visually impaired person encounters barriers, such as the impossibility of finding the drug, to differentiate the packages, in addition to monitoring the schedules for medication administration, influencing the forgetfulness of one or more doses, in addition to the difficulty in maintaining the correct dose, especially in the case of drugs in liquid presentation.[31]

However, drugs, whether for free sale or restricted, can be threats, as to the risk of intoxications, serious adverse reactions or if used in a wrong way. The dose of the drug, the interval between it and the duration of treatment should be carefully observed, so administering a medication wrongly or incorrectly, due to some type of barrier that may be imposed on people with disabilities, because they do not know exactly what they are buying or using, may pose an even higher risk.[32]

Therefore, these packages can be transformed into accessible didactic-pedagogical resources, favoring pedagogical, digital and communicational accessibility, which, in turn, increases the understanding of concepts by making tactile perception help the learning process in the absence of vision.[33]

Thus, visually impaired people are subject to a set of factors that add complexity to access to community resources, health services and even the condition itself, enhancing the use of health services. Thus, the National Health Policy for Persons with Disabilities determines strategies and methods to qualify people with visual impairment, suiting the physical space, development and training of health professionals to practice from primary care in the Family Health Strategy to the tertiary level of care.[34]

In addition, the National Primary Care Policy (PNAB) establishes that Primary Health Care (PHC) has as its definition to make up a set of individual, family and collective health actions, involving promotion, prevention, protection, diagnosis, treatment, rehabilitation, harm reduction, palliative care and Health Surveillance. The actions are developed using integrated care practices and qualified management, involving a multidisciplinary team and directed to a defined territory and its population, thus assuming sanitary responsibility.[35]

The main physical structures of PHC are the Basic Health Units/Health Centers, which should always be located contiguous to the community, occupying a central role in ensuring access to quality health. When properly engendered, these health facilities contribute to the development of safe care processes and influence their results, bringing improvement of the quality of service delivery.[35]

Moreover, the PNAB, in its creation ordinance of No. 2,436, of September 21, 2017, ensures that, according to current regulations, adequate infrastructure and in good condition for the operation of the UBS must be ensured, which must have space, furniture and equipment, as well as accessibility for people with disabilities. To this end, there are components that act as modifiers and qualifiers that must cover all spaces, and these must be adapted for people with disabilities, respecting current regulations.[35]

However, the lack of elaboration, training and encouragement by managers, in order to provide health professionals to receive and provide adequate care to this population, can cause failures regarding development and communication skills with people with visual impairment. Thus, the care of health services to these patients tends to develop in a fragmented and unresolutive way, thus opposing the principles and guidelines established by the SUS.[36]

In this sense, it is of fundamental importance to use the contribution of permanent health education to implement reflections regarding the daily praxis experienced in the contribution to users. In this way, it is of fundamental importance to develop health literacy (SL) as a tool to emphasize the use of this information, and should be operationalized for the making of beneficial, efficient and resolutive decisions, aiming to mitigate decisions considered appropriate, but that do not suit the patient.[12]

Furthermore, SL is considered a conditioning factor for self-care, as well as for the effectiveness of the applied therapy, since, when it occurs improperly, it becomes a public health problem, as it negatively impacts the clinical outcome of patients and individuals in general. Therefore, it is necessary to segment those who need greater institutional support, promoting equal care and avoiding inadequate use of resources and services, high hospitalization rates, increased prevalence of chronic diseases and lower treatment adhering.[12]

From this perspective, adequate SL can bring positive changes in all stages of treatment, as it improves prognosis, avoiding the use of more complex care. There are classifications about SL that represent the individual's abilities to understand health issues and exercise greater control over them, such as: Functional (ability to read health-related pamphlets or read the label of a drug); Interactive (read and interpret information from the internet about health and discuss with the health professional while negotiating a treatment); Critical

(effective self-control, asks for help when needed and makes informed decisions).[37]

These concepts show that the important thing is not only to know if the individual dominates reading and writing, but what he is able to do with these skills, specifically in the health field, especially in the management of NCDs (increasingly prevalent as a cause of morbidity and mortality in Brazil). It is observed, therefore, that even people with good instructional level may have difficulties in understanding guidance on health care. SL limitations hinder health promotion and education and should be the focus of the attention of professionals in the area and managers.[37]

Therefore, the main difficulties were listed, which refer to self-care, especially with regard to the identification of the medications that make up the daily treatment, so that nursing professionals can contribute to reduce injuries related to the misuse of medication and the increase in treatment adhering to the treatment proposed by the medical and nursing team, in the situation in question, the visually impaired patient.

Based on the information in the case, a proposal was developed to assist in the identification of the drugs in use by the patient, as well as for those who assist him/her on a daily basis, in addition to the pharmacy employee, where the medications are dispensed. A prototype was developed, considering the difficulties presented in relation to its treatment.

Intervention

Using the concepts described above, the prototype of storage of medicines was carried out, which had the image, in enlarged size, of the medicine box and with the tactile feature of the sun and moon, representing, respectively, morning and night, in addition to braille, indicating the name of the drug and the time at which it should be consumed.

After structuring the data, it was possible to proceed with the preparation of the prototype, using as a basis the Vinyl Acetate (EVA) of black color and a mold in the shape of a bag, which was stapled, closing the sides and the bottom, creating two pockets, one front and one posterior. The images of the moon and the sun were cut, respectively in blue EVA and yellow EVA, and glued to the top right of each pocket, as well as a tablet of each medication, since both have different formats, assisting in the recognition of drugs.

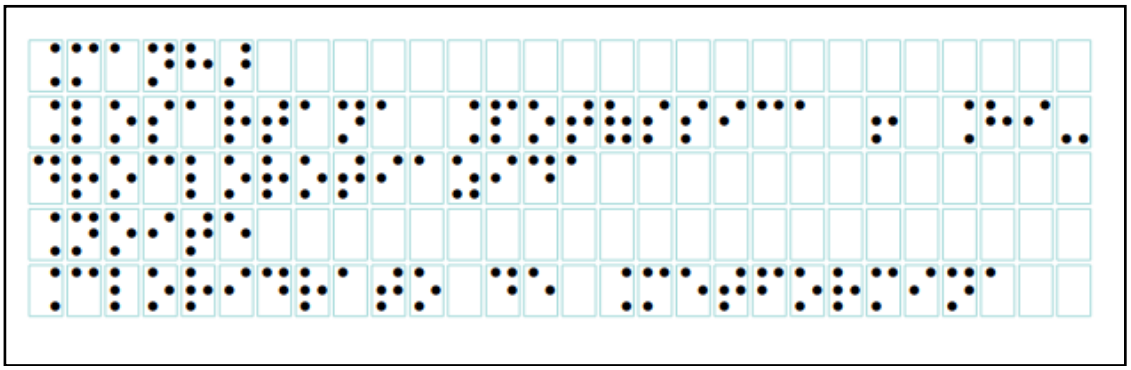
The images of the drug packaging were printed in enlarged size and glued, respecting the indication of morning/night use. The figure resulting from the translation into braille was filled by half spheres, allowing to add the necessary relief for braille reading. After the preparation, the drugs were cut out of their blisters and arranged in each pocket corresponding to the indication of the drug, according to Figure 2.

Figure 2 - Prototype made by students.

Readily, the Braille method is a writing system used for blind or low-vision people to read. The system emerged in the 19th century in France and was created by Louis Braille. Previously, the literacy method was used, which consisted of printing embossed letters, distinguishable by means of touch. Braille created a model that was based on the letters of the alphabet and numbers, allowing a total of 63 embossed combinations. This model arrived in Brazil in 1854 and is still used in the country, although it has undergone updates to adapt it to the Portuguese language.[38]

In this list, there are several sites, such as the domain used here: " https://www.atractor.pt/mat/matbr/matbraille.html"[39], which allow the "translation" to braille. In this case, we chose to print the material (figure 3) and half pearl necklace of Acrylonitrile Butadiene Styrene (ABS) of 3mm, transforming the printed paper into a tactile feature. The following image has in its translation the words: Morning - Losartan Potassica + Hydrochlorothiazide; Night - Metformin Hydrochloride.

Figure 3 - Translation into Braille of the name of the drugs and time of administration.



Source: Atractor, 2022

With these characteristics, using pictogram, written in Braille, image with visual identity and written in Portuguese, it was possible to reach all those involved in the present case, thus, it is expected that there will be no recurrence, consequently reducing the risk of misuse of medication. Therefore, it is essential to work intersectorally to obtain a positive prognosis. In view of this, the findings should be shared with the multidisciplinary team, in order to outline an integral, holistic, humanized and effective care to patients, their families and the support group.[40]

Conclusion

National legislation is slow ly moving so that people with disabilities, especially visuals, are included in completeness in society, establishing laws, norms and rules aimed at full integration, without limitations of access to goods and resources. In this context, nursing has a prominent role to reduce inequities and to advocate for special needs, providing comprehensive, ethical, humanized and resolutive care, based on specific theoretical foundations of the profession. Nurses work in the promotion and protection of human health and in the prevention of health problems, and the management of human responses is the path that solidifies nursing science.

From the nursing intervention applied to the case, it was possible to understand the legal aspects about the rights of people with visual impairment, regarding the availability of materials in appropriate formats for the full understanding of the content. Furthermore, it allowed the fostering of the clinical reasoning of nursing students for cost-effective interventions, through light technologies, which can be applied in similar contexts.

Health professionals have a fundamental participation in the inclusion and integration process, contributing to the maintenance of health, improvement of quality of life and independence of people with visual impairments. As future perspectives, we highlight the need for continuing education strategies to foster welcoming, technical knowledge for the development of strategies and humanization to extend care beyond the usual lines, promoting innovation in direct care.

The study was limited to the application to only one user, the low representativeness and possibility of generalization, little ability to evaluate the "causal weight" of the variables, high level of indetermination and a frequent lack of independence among the cases studied (idem), deserving the necessary care when seeking generalizations. However, it is of great use for future exploratory and comparative research.

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Correspondent Author
Ligya Lucia Weber dos Santos
Paulista University- Campus Brasília
SGAS, Square 913, n/n- Set B. ZIP: 70390130- Asa Sul. Brasília, Federal District, Brazil
ligya.weber@gmail.com