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NEUROGENIC DYSFUNCTION OF THE LOWER URINARY TRACT: CONSTRUCTION AND VALIDATION OF AN INSTRUMENT FOR NURSING CONSULTATION

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ABSTRACT

Objective: To construct and validate the content of a data collection instrument for the nursing consultation of people with neurogenic lower urinary tract dysfunction in outpatient follow-up. Methods: This is a methodological study composed of two stages: elaboration of the instrument and content validation. Through the search for scientific evidence found in the literature, an instrument for admission consultation was developed. The content was validated in August 2021 by experts through independent reviews. Results: After the evaluation performed, some modifications were necessary for better adaptation and final presentation of the instrument developed. In the content analysis, 62 items with mean content validity reason below 0.78 were identified, which were excluded from the instrument. The final instrument had 160 items organized into three parts. Conclusion: The instrument represents a guide for the nursing consultation and for future investigations, contributing to the improvement of the quality of care, through the systematization of care and a comprehensive approach to care for this clientele.

DESCRIPTORS: Urinary bladder, neurogenic. Nursing. Nursing care. Nursing process. Validation study. Enterostomal therapy.

DISFUNÇÃO NEUROGÊNICA DO TRATO URINÁRIO INFERIOR: CONSTRUÇÃO E VALIDAÇÃO DE INSTRUMENTO PARA CONSULTA DE ENFERMAGEM

RESUMO

Objetivo: Construir e validar conteúdo de instrumento de coleta de dados para a consulta de enfermagem à pessoa com disfunção neurogênica do trato urinário inferior em seguimento ambulatorial. **Métodos:** Trata-se de um estudo metodológico composto de duas etapas: elaboração do instrumento e validação do conteúdo. Por meio da busca de evidências científicas encontradas na literatura, foi elaborado um instrumento para consulta de admissão. O conteúdo foi validado, no mês de agosto de 2021, por nove especialistas, mediante revisões independentes. **Resultados:** Após a avaliação realizada, algumas modificações foram necessárias para melhor adequação e apresentação final do instrumento desenvolvido. Na análise de conteúdo, foram identificados 62 itens com razão de validade de conteúdo médio abaixo de 0,78, sendo estes excluídos do instrumento, que ficou na sua versão final com 160 itens, organizados em três partes. **Conclusão:** O instrumento representa um norteador para a consulta de enfermagem e para futuras pesquisas, contribuindo

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na melhoria da qualidade da assistência, pela sistematização da assistência e por uma abordagem integral de cuidados a essa clientela.

DESCRITORES: Bexiga urinária neurogênica. Enfermagem. Cuidados de enfermagem. Processo de enfermagem. Estudos de validação. Estomaterapia.

DISFUNCIÓN NEUROGÉNICA DEL TRACTO URINARIO INFERIOR: CONSTRUCCIÓN Y VALIDACIÓN DE UN INSTRUMENTO PARA LA CONSULTA DE ENFERMERÍA

RESUMEN

Objetivo: Construir y validar el contenido de un instrumento de recolección de datos para la consulta de enfermería de personas con Disfunción Neurogénica del Tracto Urinario Inferior en seguimiento ambulatorio. **Métodos:** Se trata de un estudio metodológico compuesto por dos etapas: elaboración del instrumento y validación de contenido. A través de la búsqueda de evidencia científica encontrada en la literatura, se elaboró un instrumento de consulta de admisión. El contenido fue validado en agosto de 2021 por expertos a través de revisiones independientes. **Resultados:** Luego de la evaluación realizada, fueron necesarias algunas modificaciones para una mejor adaptación y presentación final del instrumento desarrollado. En el análisis de contenido fueron identificados 62 ítems con RCV-Mean inferior a 0,78, que fueron excluidos del instrumento. El instrumento final tenía 160 ítems organizados en tres partes. **Conclusión:** El instrumento representa una guía para la consulta de enfermería y para futuras investigaciones, contribuyendo para la mejora de la calidad de la atención, a través de la sistematización de la atención y el abordaje integral de la atención a esta clientela.

DESCRIPTORES: Vejiga urinaria neurogénica. Enfermería. Atención de enfermería. Proceso de enfermeria. Estudio de validación. Estomaterapia.

INTRODUCTION

Neurogenic lower urinary tract dysfunction (NLUTD), also known as neurogenic bladder, refers to dysfunction of the urinary bladder and sphincter complex because of lesions of the central or peripheral nervous system[1]. Bladder dysfunction due to neurological diseases affects 400 million people worldwide. Among the neurological diseases are: spinal cord injuries, myelomeningocele, traumatic brain injury, brain tumor, stroke, cerebral palsy, multiple sclerosis, disc disease, Parkinson's disease and other diseases that course with long-term neuropathies such as pernicious anemia, tabes dorsalis and diabetes[2].

As for the therapeutic and care approach for these patients, there are protocols and/or manuals that establish guidelines and recommendations to be followed by the health team to ensure the best health care for this clientele[1-5].

This health care includes pharmacological and nonpharmacological treatments that must be performed by a multiprofessional team that includes physician, physiotherapist, psychologist, and nurse. The evaluation of the clinical history, the physical examination, and the request for laboratory and imaging tests are fundamental, including the urodynamic study, as well as behavioral actions, with the implementation of the voiding diary and educational activities for patients, family, and caregivers about the pathology and clinical management[5].

The main objective of the treatment of patients with NLUTD is the preservation of renal function, but other aspects must be evaluated: the person's adaptation to the new life condition and the identification of experienced changes. The specific care and effective actions must be periodically monitored by the health team, especially by the nurse, through the nursing consultation[6].

Nursing care is essential for the rehabilitation of these patients. Through guidelines and specific techniques on bladder reeducation, which will guide the skills that foster the defense of autonomy, freedom, and promotion of self-care of the individual, the prevention of damage and risks of complications and the promotion and well-being of the patient are sought[7].

In this context, nursing must improve its knowledge and propose new care alternatives through its own methodology based on the nursing process. According to Resolution 358/2009, of the Brazilian Federal Council of Nursing, the nursing process must be carried out systematically and deliberately in all environments where professional nursing care occurs. It is called nursing consultation in outpatient health service settings8 and is divided into interrelated steps, described as follows:

- Nursing data collection (or nursing history);
- Nursing diagnosis;
- Nursing planning;
- Implementation;
- Nursing assessment.

It should have theoretical support for the guidance of these steps and serve as a basis for the evaluation of the nursing outcomes achieved[8].

The nursing consultation in an outpatient setting shows an important technological strategy of care and resolution, besides offering numerous advantages in assistance by contributing to the prevention of preventable situations in all phases of human development. It is worth mentioning that it has legal support, being private of the nurse and performed in a systematized way[9]. When thinking about the first stage of the consultation, the construction of an instrument allows a directed collection of information, paying attention to the peculiarities presented, minimizing the possibility of subjective judgments[10]. It contributes to the professional-patient/family/caregiver interaction and transforms everyone into active agents in the treatment, providing complete data both from the point of view of quantity and quality[11].

Given this reality, the importance of a scientifically based instrument for data collection becomes evident, considering the individualities exhibited by patients with NLUTD, and to support the elaboration of the nursing care plan as completely as possible, according to the reality of the assisted clientele.

OBJECTIVE

To construct and validate the content of a data collection instrument for the nursing consultation with the person with NLUTD in outpatient follow-up.

METHODS

Ethical Aspects

The present study is linked to a wide-ranging project entitled "Systematization of Nursing Care in the Perspective of Technological Innovation in the Health Units of the Rio de Janeiro State University (UERJ): Clinical Research," submitted to the Research Ethics Committee of the Pedro Ernesto University Hospital via Plataforma Brasil, Certificate of Ethics Appreciation Submission No. 16427419300005259, and approved on July 8, 2019, under Opinion No. 3,443,800. The project is from the Department of Medical Surgical Nursing, responsible, within the lato sensu postgraduation of the College of Nursing, for the residency programs in Clinical Nursing and in Adolescent Health Nursing.

Type of study

This is a methodological study consisting of two stages: instrument development and content validation, conducted from 2020 to 2021.

Methodological Procedures

Step 1: Instrument development

To construct the instrument, the following question guided the literature review: What is the evidence in the literature on nursing care for patients with NLUTD?

The search occurred in February 2021 in the following databases: Latin American and Caribbean Literature on Health Sciences (Lilacs) and National Library of Medicine (PubMed). The descriptors used indexed in the Health Sciences Descriptors (DeCS), in different combinations using the AND operator, were: "Bexiga Urinária Neurogênica," "Enfermagem," "Cuidados de Enfermagem," "Processo de Enfermagem," "Estudos de validação" and "Estomaterapia." By Medical Subject Headings (MeSH), they were: "Urinary Bladder Neurogenic," "Nursing," "Nursing Care," "Nursing Process," "Validation Studies" and "Stomatherapy." Grey literature was accessed in Google Scholar and on associations' websites to search for guidelines and books addressing the topic. The inclusion criteria established were: publication less than five years, in Portuguese and English languages, and addressing data that subsidize the development of the nursing consultation instrument. The exclusion criteria involved: repeated documents found in more than one database and that did not meet the research objective.

The final result of the search, in both databases, was 463 documents in total. After applying the refinement criteria, 28 documents met the purpose and objective of this study, 19 original articles, 2 books, and 7 online documents (protocols, resolutions, and/or guidelines).

Through the search for scientific evidence found in the literature, it was decided to construct a patient admission instrument entitled "Instrument for Nursing Consultation for Individuals with NLUTD in Outpatient Follow-up (INCINLUTD-OFU), based on the assumption that the first nursing consultation should be comprehensive and requires a more comprehensive care planning effective and able to promote self-care in the specific demands of these patients. The instrument was organized in three parts:

- Patient identification data;
- Items organized based on the 12 domains proposed by the taxonomy of NANDA International, 2018–2020 edition, with domain 13—Growth and Development—being removed because it did not contemplate the study objective;
- Recording the nursing actions or interventions performed and expected/achieved outcomes.

NANDA-I domains facilitate the dissemination and use of standardized terminology for nursing and highlight problems and situations, making the consultation tool objective and clear[12]. They also bring greater precision and detail in care planning, serving as a basis for selecting interventions, aiming at better quality and continuity in nursing care for people in the rehabilitation process[13].

The focus was the adult user diagnosed with NLUTD and its particularities, but it is understood that the initial assessment should include all clinical findings of this patient, not limited only to urinary complaints. This stage of the construction of the instrument was carried out in April 2021.

Step 2: Validation of the instrument and selection of the evaluators

In the second stage, there was the evaluation of the presentation and items of the instrument by expert reviewers directly involved in teaching and/or clinical nursing care to people with NLUTD and the systematization of nursing care (SNC) and/or instrument validation. The reviews were done by means of independent reviews in August 2021. To participate in this stage, expert reviewers with at least two years of professional experience and recognized performance in care practice or research in the areas pertinent to the study were invited. Reviewers were first selected through a search on the Lattes Platform of the National Council for Scientific and Technological Development (CNPq) website, and asked to recommend other professionals, always based on the established criteria.

A priori, an invitation was sent via e-mail containing a brief explanation of the research, the stages of development, and the criteria that should be evaluated. After the acceptance to participate in the research, the informed consent form (ICF), the built instrument, and a script with instructions for the evaluation of each item of the instrument were sent, as well as a link to the online Google Forms questionnaire with questions for the characterization of these reviewers.

Collecting and organizing data

For the characterization of the judges, an online Google Forms questionnaire was created, which contained variables related to identification, education, and professional experience, prepared by the authors. To evaluate the instrument, a script was created with the following assessment criteria: clarity, pertinence, and relevance. Clarity consists in analyzing the language used in the items, considering the characteristics of the respondent population, i.e., appropriate language for the target population. Practical pertinence includes assessing whether each item is in fact important and representative for the instrument. Theoretical relevance is the analysis of the degree of association between the item and the theory. The items constructed represent behaviorally the construct of interest[14,15].

The specialists analyzed if the content was correct and adequate to what was proposed, by means of the answers: *yes* or *no*. At the end of the evaluation of each item of the instrument, there was an open space for observations and/or suggestions.

Return was recommended within 30 days after review and opinion. The invitation letter was sent to 25 expert reviewers. Of these, 16 agreed to participate in the research, but only 9 fully evaluated the instrument.

Data Analysis

For the quantitative analysis of content validity, the expert reviewers evaluated the adequacy or not of the clarity, pertinence and relevance of each item of the instrument. When the specialist chose *yes*, the item received the code 1. When the specialist chose *no*, the item received the code 0. These data were analyzed using the content validity ratio (CVR), also known as Lawshe's content validity ratio, used to validate questionnaires, measure results of health care instruments or to guide clinical decision making[16,17].

The data were tabulated and analyzed using Microsoft Office Excel 2010, using simple descriptive statistics to characterize the participants and survey the evidence of content validity (CVR calculation).

RESULTS

The nine judges who participated in the content validation of the instrument were nurses, all female, aged between 41 and 50 years. Regarding their degrees, five have Master's degree, three are PhDs and two are specialists. As for their area of work, four of them worked in specialized clinics/ambulatory, three in public universities, and two in general hospitals and polyclinics. All participants apply the nursing process in their professional practice.

With regard to nursing care to people with NLUTD, all participants have worked with this clientele and have expertise of more than five years of work. Among the participants, six teach or have taught courses involving SNC, comprising a period of five years. Regarding the development of research on the theme, six have already developed studies on NLUTD and seven on SNC.

After the evaluation performed by reviewers specialized in the area, some changes were necessary for a better adaptation and final presentation of the instrument developed. In the content analysis, 62 items with a mean CVR below 0.78 were identified, and these were excluded from the instrument.

The initial instrument was composed of 215 items, organized in three parts. The first part contained 17 items, called identification data. In the judges' evaluation, only one item was excluded from the instrument. The judges' recommendations were accepted, and in place of this item, two items were included: "Who works in the household" and "Income."

The second part of the instrument covered 12 domains. The judges evaluated each item of each domain. Of the 36 items that make up domain 1, Health Promotion, eight items were excluded. In the evidence of clarity content, four items were identified with unsatisfactory CVR, and it was suggested that these items should be reviewed regarding the language used, not being excluded because they presented satisfactory pertinence and relevance. In item 4, the request to include the question "Which one?" was met. It was also requested the inclusion of two more items in this domain: "Do you have allergies?" and "Have you had previous surgeries? How many?"

From domain 2, Nutrition, composed of 15 items, six items were excluded. Item 12, for presenting satisfactory pertinence and relevance, was not excluded, even having an unsatisfactory CVR for clarity. The suggestion of including the question "How many liters of water per day" and the word "others" in item 17 was accepted.

Composed of 30 items, domain 3, Elimination and Exchange, had five items excluded. Item 1, storage symptoms, had the suggestion of separating the topic into: "types of incontinence" and "storage symptoms." It was suggested in item 9 to include "number of protectors per day." In item 13, the judges deemed pertinent to place the existing catheter options, caliber sizes and if the catheter is disposable.

In item 14, "daily volume" was requested to change to "volume per urination." In item 18, "history of urinary complications" was changed to "has presented urinary complications in the last months." In item 21 it was suggested to insert the Bristol scale; however, the image of the scale will be made available in A4 format, not placed on the instrument. In item 22, "frequency of voiding" was changed to "how many times a day or week." It was suggested to review all the terminologies of this domain and adapt them to the most recent report of the International Continence Society3. Another suggestion of the experts on this domain was to insert open questions related to self-care in the technique of clean intermittent bladder catheterization: "How is it performed? Where do you perform it? Do you have difficulties? Do you need help? Do you have any doubts?" Thus, the judges' suggestion was accepted and the items were included.

From domain 4, Activity/Rest, composed of 35 items, eight items were removed. From domain 5, Perception/Cognition, with 18 items, eight items were excluded. Domain 6, Total Self-Perception, contains four items, from which one was excluded. From domain 7, Roles and Relationships, with eight items, three items were excluded. Domain 8, Sexuality, composed of seven items, had one item deleted. From domain 9, Coping/Tolerance to Stress, which contains 14 items, eight items were excluded.

Domain 10, Principles of Life, composed of eight items, had all its items excluded by request of the judges, since, in the opinion of most, the questions have already been contemplated in other domains. In domain 11, Safety/Protection, with 12 items, three items were excluded and the suggestion of including the nursing diagnosis: "Risk of allergic reaction to latex" was accepted. In domain 12, Comfort, which contains eight items, one item was excluded.

The third part was composed of the items: nursing actions or interventions and expected/achieved results, which obtained an average CVR according to what was allowed; however, it was suggested that "Expected/achieved results" be changed to "Expected outcomes." All suggestions for inclusion and changes in items with acceptable CVR were considered, taking into account the magnitude of the contributions of experts in the area with doctoral and master's degrees and the vast expertise in the area of the theme of the study.

After the judges' evaluation, the final instrument, presented in Appendix 1, had 160 items organized in three parts:

- Patient identification data;
- Items organized based on the 11 domains proposed by NANDA International taxonomy, with respective nursing diagnoses;
- Nursing actions or interventions and expected outcomes.

DISCUSSION

Elaborating and validating an instrument for the nursing consultation of patients with NLUTD is of great importance in clinical and scientific nursing practice, as it facilitates clinical reasoning and decision making when faced with the problems

presented by the assisted clientele, as well as contributing to the application of standardized terminologies, helping in the communication process among professionals, providing autonomy, technical support, and backing to the nurse, being considered a relevant and resolutive technological strategy in the care process.

Methodological studies for the construction and validation of instruments have the interest of substantiating theory by means of the scientific support of the pertinent literature. In methodological research, investigations are performed on the methods of obtaining, organizing and analyzing data, dealing with the development, validation and evaluation of research instruments and techniques[18].

The INCINLUTD-OFU instrument proposes a comprehensive data collection, generating subsidies for the establishment of diagnoses, expected outcomes, and nursing interventions. The use of specific instruments for the development of nursing process facilitates and conducts nurses' clinical reasoning with the purpose of guiding health professionals' decisions regarding appropriate care in specific clinical circumstances[19,20].

Validating can mean making a clinical situation legitimate for nursing professionals, favoring the advancement of knowledge about a phenomenon, and conducting practice based on scientific knowledge[21]. In the validation process of the INCINLUTD-OFU, it was found that most raters agreed on the clarity, pertinence, and relevance of the items, through satisfactory CVR, according to the minimum CVR values of ≥ 0.78, which measures the agreement of the judges regarding the representativeness of the items in relation to the study content.

The content validation is performed by the judgment of judges who are experts on the subject, and the qualification of the experts is what supports the analysis of the instrument and gives credibility to the validation, demonstrating that the choices of items adequately represent the content they intend to measure[22].

For the selection of expert judges on the subject, the criteria proposed by Ferring were used: being a master, having a doctorate, being an expert, having publications that involve the subject, having clinical experience, publishing and researching on the subject, with a minimum score of 5 points and a maximum of 10 points, and the higher the score, the greater the strength of evidence of the evaluation[23]. This is one of the most widely used models in research, according to the literature[24]. In this study, 80% of the selected experts scored 10 points. Nine judges participated in the validation process, which is within the recommended number of five to ten experts when the sample is highly qualified[25,26].

In the experts' evaluation, it was suggested to remove 62 items organized by the domains proposed by NANDA that presented unsatisfactory CVR. It is noteworthy that the items from domain 10 were removed entirely because they had already been contemplated in other domains. After the judges' evaluation, some items were removed and changed, and new ones were inserted. Of the inserted items, some focused on the prevention of complications, health education and self-care of patients with NLUTD who undergo clean intermittent catheterization.

NLUTD often results in high postvoiding residue and bladder distension. For this reason, it requires catheterization for periodic complete bladder emptying, with clean intermittent catheterization being the first-choice technique to be used, in order to prevent urinary tract infection, trauma and loss of renal function[27].

The procedure of adapting items in validation studies with the judges' suggestions is a fundamental step to make the instrument more effective and integral, with scientific rigor, aiming at improving the material for the intended audience[28].

CONCLUSION

The study, addressing the necessary steps for preparation and execution, allowed the construction and content validation of the INCINLUTD-OFU. The agreement between the judges reached values considered adequate. Through the general analysis, it was possible to evaluate the pertinence, clarity, and relevance of all the items of the instrument. It is worth mentioning, as a limitation of the study, the difficulty in finding studies for the construction of a data collection instrument to be used in nursing consultations with the population with INCINLUTD-OFU. It is believed that the INCINLUTD-OFU will allow us to evaluate the needs of this clientele, enabling the planning of individualized interventions, but it is likely that, during the application in the nursing consultations, other demands for adjustments will appear. In this sense, studies on the application of the instrument are suggested.

AUTHORS' CONTRIBUTION

Substantive scientific and intellectual contributions to the study: Pontes LG, Mello LF and Silva FH; **Conception and design:** Pontes LG, Mello LF and Silva FH; **Data collection, analysis and interpretation:** Pontes LG, Mello LF and Silva FH; **Manuscript preparation:** Pontes LG, Mello LF and Silva FH; **Critical revision:** Pontes LG, Mello LF, Silva FH, Nunes AS, Ferrão CTGB and Peres EM; **Final approval:** Pontes LG, Mello LF, Silva FH, Nunes AS, Ferrão CTGB and Peres EM.

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Appendix 1. Instrument for nursing consultation for individuals with neurogenic lower urinary tract dysfunction in outpatient follow-up

IDENTIFICATION		
Name:	**Social name:**	
Medical record no:	**Date of birth: / /**	**Age:**
Address:	**Birthplace:**	
Contact phone:	**Email:**	
Gender:	**Race** ( ) White ( ) Black ( ) Yellow ( ) Brown ( ) Indian	
Education: ( ) Illiterate ( ) Elementary School ( ) High School ( ) Higher Education		
Civil status: ( ) single ( ) married ( ) divorced ( ) widower ( ) stable union		
People you live with: ( ) Husband/wife ( ) Children/husband or wife ( ) Children ( ) Alone ( ) Others Who?		
Religion:	**Profession/occupation:**	
Income:	**Who works at home?**	
Medical diagnosis:		

DOMAIN 1: HEALTH PROMOTION		
Reason for consultation:		
Main/current complaint?		
Time of onset of these signs/symptoms:		
What did you do when you noticed these symptoms?		
Neurological condition/injury: ( ) no ( ) yes	**Which one(s)?**	
Performed previous surgeries: ( ) yes ( ) no	**Which one(s)?**	**Number of times?**
Previous personal conditions: ( ) SAH ( ) Diabetes mellitus ( ) Cardiopathies ( ) Ca ( ) Others.		**Which one(s)?**
Use of medications: ( ) no ( ) yes	**What is(are) the name(s)?**	**Dosage and frequency?**
Have allergies? ( ) yes ( ) no	**Which one(s)?**	
Do you make use of integrative and complementary practices: ( ) no ( ) yes Which one(s)?		
Vaccination status: ( ) complete ( ) incomplete ( ) does not know		
Smoking: ( ) no ( ) yes	**Cigarettes/day:**	**How long have you been using?**
If you quit smoking, how long ago did you quit?		
Alcohol consumption: ( ) no ( ) yes	**Type of drink:**	**Frequency:**
If you stopped drinking: How long ago?	**For how long did you drink?**	
Use of other drugs: ( ) no ( ) yes	**Which one(s) do you use?**	**Frequency:**
If you stopped using: How long ago did you stop?	**Which one(s) did you use?**	**For how long did you use it?**
Physical exercise: ( ) no ( ) yes		
Housing conditions: ( ) urban area ( ) rural ( ) house ( ) apartment ( ) basic sanitation ( ) without basic sanitation		
Financial support: ( ) can afford medical treatment ( ) have a health insurance plan ( ) rely on help from family members ( ) uses exclusively hospitals with SUS insurance		
Family history: ( ) SAH ( ) Diabetes mellitus ( ) Cardiopathies ( ) Ca ( ) Others		
Nursing diagnoses: ( ) Risk-prone health behavior ( ) Ineffective health control ( ) Willingness for improved health management ( ) Ineffective health maintenance ( ) Ineffective protection ( ) Sedentary lifestyle		

DOMAIN 2: NUTRITION		
How many meals a day do you eat?		
How do you describe your appetite: ( ) sustained ( ) increased ( ) decreased		
How many liters of water do you drink a day?	**Do you drink other liquids frequently:** ( ) yes ( ) no	
Make frequent use of: caffeine ( ) yes ( ) no ( ) black tea ( ) carbonated drinks ( ) spicy food ( ) chocolate ( ) citrus fruit ( ) soft drinks. Others:		
Skin turgor: ( ) present ( ) decreased	**Edema:** ( ) no ( ) yes Location:	
Anthropometric data: Height: Weight:	**BMI:** ( ) UW (< 18.5) / ( ) N (18.5 – 24.9) / ( ) OW (25 – 29.9)	
Nursing diagnostics: ( ) Unbalanced nutrition less than body needs ( ) Obesity ( ) Deficient fluid volume ( ) Deficient liquid volume rate ( ) Risk for electrolyte imbalance		

continue...

Appendix 1. Continuation...

DOMAIN 3: ELIMINATION AND EXCHANGE	
Storage symptoms: ( ) Increased urinary frequency ( ) Nocturia ( ) Urgency ( ) Urinary incontinence ( ) Stress urinary incontinence ( ) Urgent urinary incontinence ( ) Mixed urinary incontinence ( ) Enuresis ( ) Primary enuresis ( ) Acquired enuresis ( ) Continuous (urinary) incontinence ( ) Urinary incontinence due to cognitive impairment ( ) Urinary incontinence due to mobility difficulties ( ) Urinary incontinence from sexual activity	
Emptying symptoms: ( ) Weak stream ( ) Split or scattered urinary stream ( ) Intermittent stream ( ) Hesitation ( ) Effort to urinate ( ) Terminal dripping	
Postmicturition symptoms: ( ) Feeling of incomplete emptying ( ) Postmicturition loss	
Bladder sensation: ( ) Normal, feel when the urge to urinate comes ( ) Absent ( ) Increased bladder sensation, complaint that the urge to urinate while filling the bladder occurs earlier or is more persistent than previously experienced ( ) Reduced bladder sensation ( ) Awareness of nonspecific bladder sensations	
Other situational types of urinary incontinence: ( ) Giggle incontinence ( ) Incontinence associated with epileptic seizures ( ) Sphincteric denervation of the cauda equina ( ) Lesions of the Onuf's nucleus in multiple system atrophy (NEW)	
Pain on urination: ( ) Mild ( ) Moderate ( ) Intense	**Pain scale:** **Burn:** ( ) no ( ) yes
Abnormal sensations: ( ) Tingling ( ) Burning ( ) Shock	**Bladder distension:** ( ) no ( ) yes
Loss of urine on effort: ( ) Deny ( ) Mild ( ) Moderate ( ) Severe	**Type:** ( ) Drip ( ) Stream
Use of protection: ( ) no ( ) yes Which one(s)? ( ) Pad ( ) Diaper ( ) Liner ( ) Leg collector ( ) Penis clamp **How many per day?**	
Do you use a catheter: ( ) no ( ) yes **For how long?**	**Type:** ( ) Delayed catheterization ( ) Intermittent catheterization (IC) ( ) Clean IC (CIC) ( ) Aseptic IC (make use of gloves) ( ) Sterile IC ( ) IC, contactless technique
Caliber: ( ) 8Fr ( ) 10Fr ( ) 12Fr **Others:**	**Material:** ( ) PVC/conventional silicone ( ) Hydrophilic coating ( ) Prelubricated PVC
Daily volume of urine drained:	**Color and appearance of the urine?**
How many times a day do you perform the catheterization?	**Do you perform the procedure yourself?** ( ) no ( ) yes
Is the catheter discarded? ( ) no ( ) yes	**Did you have any training?** ( ) no ( ) yes Where?
Have doubts when performing the procedure? ( ) no ( ) yes	**Do you understand the importance of the technique for your health?** ( ) no ( ) yes
Have you had urinary complications in the last few months? ( ) no ( ) yes Which one(s)?	
Nursing diagnostics: ( ) Impaired urinary elimination ( ) Urinary incontinence: [ ] stress [ ] urge [ ] functional [ ] overflow [ ] reflex ( ) Risk for urge urinary incontinence ( ) Urinary retention	
How many times per day do you evacuate?	**And per week?**
Bristol scale: ( ) type 1 ( ) type 2 ( ) type 3 ( ) type 4 ( ) type 5( ) type 6 ( ) type 7	
Presence of blood in the stool: ( ) no ( ) yes	**Pain when evacuating:** ( ) no ( ) yes **Abdominal pain:** ( ) no ( ) yes
Hemorrhoids: ( ) no ( ) yes	**Abdominal distention:** ( ) no ( ) yes
Nursing diagnosis: ( ) Constipation ( ) Diarrhea ( ) Risk for constipation ( ) Intestinal incontinence ( ) Dysfunctional gastrointestinal motility ( ) Risk for dysfunctional gastrointestinal motility	

DOMAIN 4: ACTIVITY/REST	
Sleep dissatisfaction: ( ) no ( ) yes	
Difficulty initiating sleep: ( ) no ( ) yes	**Difficulty maintaining sleep:** ( ) no ( ) yes
Nursing diagnostics: ( ) Insomnia ( ) Disturbed sleep pattern ( ) Sleep deprivation ( ) Readiness for enhanced sleep	
Mobility: ( ) Do not walk ( ) Walk ( ) Walk with help ( ) Need help to go up and down stairs ( ) Walk with the help of a cane ( ) Walk with the help of a walker ( ) Use the wheelchair alone ( ) Need help to use the wheelchair	
You have impaired ability to transfer between surfaces of different levels: ( ) no ( ) yes ( ) From bed to chair ( ) From chair to bed ( ) From bed to standing position ( ) From chair to standing position ( ) to hygienic chair ( ) or to toilet seat.	
Can keep the body in an upright position: ( ) no ( ) yes	**Difficulty turning:** ( ) no ( ) yes
Present movements: ( ) Uncoordinated ( ) Slow ( ) Spastic ( ) Reduced in amplitude ( ) Normal	
Presents pain due to immobility: ( ) no ( ) yes	
Nursing diagnostics: ( ) Transfer capability impaired ( ) Impaired walking ( ) Impaired getting up ( ) Impaired physical mobility ( ) Risk for disuse syndrome	

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Appendix 1. Continuation...

DOMAIN 4: ACTIVITY/REST
Respiratory pattern:( ) Bradypnea ( ) Dyspnea ( ) Tachypnea ( ) Discomfort on effort
Pulmonary auscultation: ( ) Vesicular murmurs **Adventitious sounds:** ( ) yes ( ) no. Which one(s)? **Ruídos adventícios:** ( ) Sim ( ) Não / Qual? / **Location:**
Pulmonary expandability: ( ) Preserved ( ) Reduced on the left ( ) Reduced on the right
CF = **Saturation =** **RF =**
Heart rate/pace: ( ) Normal ( ) Bradycardia ( ) Tachycardia
Absence or decrease in peripheral pulses: ( ) no ( ) yes **Which one(s)?**
Present pain in extremities: ( ) no ( ) yes **Cyanosis:** ( ) no ( ) yes. **Location?**
Nursing diagnostics: ( ) Decreased cardiac output ( ) Ineffective breathing pattern ( ) Ineffective peripheral tissue perfusion ( ) Activity intolerance ( ) Impaired spontaneous ventilation
Feeding: ( ) Independent ( ) Dependent
Impaired ability to: ( ) Swallowing food ( ) Eating a whole meal ( ) Bringing food to mouth ( ) Handling food in mouth ( ) Handling utensils
Bathing: ( ) Independent ( ) Dependent
Intimate hygiene: ( ) Independent ( ) Dependent
Impaired ability to: ( ) Reaching the toilet ( ) Rising from the toilet ( ) Sitting on the toilet ( ) Handling clothes to perform intimate hygiene ( ) Perform intimate hygiene
Nursing diagnostics: ( ) Feeding self-care deficit ( ) Bathing self-care deficit ( ) Intimate hygiene self-care deficit ( ) Dressing self-care deficit ( ) Willingness to improve self-care

DOMAIN 5: PERCEPTION/COGNITION
Orientation: ( ) Disoriented ( ) Oriented
Remote memory: ( ) Altered ( ) Unaltered **Recent memory:** ( ) Altered ( ) Unaltered
Thinking: ( ) Preserved ( ) Confused ( ) Slow ( ) Logical ( ) Delusional ( ) Distrustful
Humor: ( ) Depressed ( ) Happy ( ) Enthusiastic ( ) Anxious ( ) Aggressive ( ) Without changes
Persistent inability to:( ) Learn new information ( ) Perform a previously learned skill ( ) Maintain a new skill ( ) Recall information about facts or events ( ) Recall a familiar name, word, or object ( ) Remember if an action was performed ( ) Retain new information
Nursing diagnostics: ( ) Unilateral negligence ( ) Acute confusion ( ) Risk for confusion ( ) Chronic confusion ( ) Impaired memory
Visual deficit: ( ) Partial ( ) Total ( ) None
Difficulty in: ( ) Maintaining communication ( ) Using body expressions ( ) Using facial expressions ( ) Selective attention ( ) Understanding communication ( ) Expressing feelings verbally ( ) Speaking ( ) Forming sentences
Nursing diagnostics: ( ) Impaired verbal communication ( ) Acute confusion ( ) Impaired knowledge ( ) Poor emotional control ( ) Impaired memory ( ) Impaired verbal communication

DOMAIN 6: SELF-PERCEPTION
How you feel about your body image: ( ) Satisfied ( ) Dissatisfied
In relation to the body:( ) Absence of part ( ) Avoid looking ( ) Avoid touching ( ) Hide ( ) Fear of others' reaction ( ) Worry about the change ( ) Focus on the previous appearance ( ) Refusal to acknowledge the changes
Nursing diagnostics: ( ) Disorder in body image ( ) Hopelessness

DOMAIN 7: ROLES AND RELATIONSHIPS
Good communication among family members: ( ) no ( ) yes
Your opinions and/or decisions are respected and/or heeded: ( ) no ( ) yes
Presence of intrafamily conflict: ( ) no ( ) yes
Family and/or friends help you in this new phase: ( ) no ( ) yes
Nursing diagnostics: ( ) Caregiver role strain ( ) Ineffective role performance ( ) Dysfunctional family processes

continue...

Appendix 1. Continuation...

DOMAIN 8: SEXUALITY	
Have an active sex life: ( ) no ( ) yes	**Feel pleasure in sexual intercourse:** ( ) no ( ) yes
Feel pain during intercourse: ( ) no ( ) yes	
Use any contraceptive method: ( ) no ( ) yes	**Which one(s)?**
Nursing diagnostics: ( ) Sexual dysfunction ( ) Ineffective sexuality pattern	

DOMAIN 9: COPING/TOLERANCE TO STRESS
Knowledge about your health problem: ( ) Oriented ( ) Poorly oriented ( ) Prefer not to talk about it ( ) Prefer family members and friends to be guided
Present:( ) Low self-esteem ( ) Loss of identity ( ) Anger ( ) Loneliness ( ) Fear ( ) Distance
Nursing diagnosis: ( ) Anxiety ( ) Anxiety related to death ( ) Fear ( ) Feeling of helplessness ( ) Impaired resilience
Present lesion at or above the seventh thoracic vertebra (T7): ( ) no ( ) yes
If yes, present: ( ) Bradycardia ( ) Chills ( ) Chest pain ( ) Diaphoresis above the lesion ( ) Metallic taste in mouth ( ) Red spots on skin above the lesion ( ) Paleness below the lesion ( ) Paresthesia ( ) Tachycardia ( ) Blurred vision ( ) Diffuse pain in different areas of the head
Nursing diagnosis: ( ) relocation stress syndrome ( ) Autonomic dysreflexia ( ) Risk for autonomic dysreflexia

DOMAIN 11: SAFETY/PROTECTION	
Present alteration in skin integrity: ( ) no ( ) yes	**Location/type of injury:**
Have invasive device: ( ) no ( ) yes	**Which one(s)?**
Oral cavity/teeth:( ) Caries ( ) Absence ( ) Halitosis ( ) Pain ( ) Excessive plaque ( ) Excessive tartar ( ) Tooth fracture ( ) Malocclusion Others:	
Dental prosthesis: ( ) no ( ) yes	
Nursing diagnostics: ( ) Risk for infection ( ) Impaired skin integrity ( ) Impaired dentition ( ) Impaired oral mucous membrane ( ) Risk for injury ( ) Risk for allergic reaction to latex	
Temperature: Tax : ____ °C ___ ( ) Hyperthermia ( ) Hypothermia ( ) Tremors ( ) Paleness ( ) Piloerection ( ) Flushed skin ( ) Skin warm to touch ( ) Skin cold to touch ( ) Cyanosis of the nail bed	
Nursing diagnostics: ( ) Hyperthermia ( ) Hypothermia ( ) Risk for hypothermia ( ) Risk for hyperthermia ( ) Ineffective thermoregulation ( ) Risk for ineffective thermoregulation	

DOMAIN 12: COMFORT			
Report pain? ( ) no ( ) yes	**VAS pain scale: 1-10:** ( )	**What is the location of the pain?**	**For how long?**
Relieving factors:			
Worsening factors:			
Nursing diagnostics: ( ) Impaired comfort ( ) Acute pain ( ) Chronic pain			

NURSING ACTIONS OR INTERVENTIONS PERFORMED

EXPECTED/ACHIEVED RESULTS

Date: Signature and stamp: