

# Behavioral therapy in elderly women with urinary incontinence: Content validation of a protocol

*Terapia comportamental em mulheres idosas com incontinência  
urinária: validação de conteúdo de um protocolo*

*Terapia conductual en mujeres ancianas con incontinencia  
urinaria: validación de contenido de un protocolo*

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## ABSTRACT

**Objective:** To develop and validate the content of a behavioral therapy protocol aiming at improving urinary incontinence in elderly women.

**Method:** This is a methodological study to develop and validate the content of a protocol to be applied with elderly women with urinary incontinence. It was conducted in two phases: 1) development of the protocol based on a literature review, NANDA-I and NIC; 2) content validation through evaluation of the protocol by experts in a focus group.

**Results:** Five experts participated in the validation of the protocol. The analysis occurred over six days in November 2023. The items evaluated were: 1) Education about urinary incontinence; 2) Assessment of behavior using the voiding diary; 3) Identification of urinary loss using the pad test; 4) Proprioception; 5) Assessment of pelvic floor muscle strength; 6) Perineal exercises. Data analysis followed three stages: pre-analysis, material exploration, and data treatment and interpretation, using thematic content analysis by frequency. Out of the six items, four received total agreement.

**Final considerations:** The protocol is applicable by nurses. The content and presentation of the protocol are considered valid for the implementation in the treatment of urinary incontinence in elderly women.

**Descriptors:** Urinary incontinence; Older people; Clinical protocols; Rehabilitation nursing; Clinical nursing research.

## RESUMO

**Objetivo:** Elaborar e validar o conteúdo de um protocolo de terapia comportamental para melhorar a incontinência urinária de mulheres idosas.

**Método:** Trata-se de um estudo metodológico para a elaboração e validação do conteúdo de um protocolo a ser aplicado com mulheres idosas com incontinência urinária. Foi realizado em duas fases: 1) elaboração do protocolo a partir de revisão de literatura, NANDA-I e NIC; 2) validação de conteúdo, por meio da avaliação do protocolo por especialistas, em grupo focal.

**Resultados:** Na validação do protocolo participaram cinco especialistas. A análise do protocolo ocorreu aos seis dias de novembro de 2023. Os itens avaliados foram: 1) Educação sobre incontinência urinária; 2) Avaliação de comportamento pelo diário miccional; 3) Identificação da perda urinária pelo teste do absorvente; 4) Propriocepção; 5) Avaliação da força dos músculos do assoalho pélvico; 6) Exercícios perineais. A análise dos dados seguiu três etapas: pré-análise; exploração do material; tratamento e interpretação dos dados, recorrendo-se à técnica de análise de conteúdo temática por frequência. Assim, dos seis itens, quatro receberam concordância total.

**Considerações finais:** O protocolo é aplicável por enfermeiros. Consideram-se conteúdo e apresentação do protocolo válidos para a implementação da intervenção no tratamento da incontinência urinária em mulheres idosas.

**Descritores:** Incontinência urinária; Idoso; Protocolos clínicos; Enfermagem em reabilitação; Pesquisa em enfermagem clínica.

## RESUMEN

**Objetivo:** Desarrollar y validar el contenido de un protocolo de terapia conductual para la incontinencia urinaria en mujeres adultas mayores, así como identificar en la literatura evidencia sobre el tratamiento de intervención no farmacológica para la incontinencia urinaria en esta población.

**Método:** Se trata de un estudio metodológico con enfoque cualitativo. Se diseñó un protocolo de terapia conductual para mejorar la incontinencia urinaria en mujeres de edad avanzada. Para elaborar y validar el contenido de este protocolo, se decidió dividir el

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proceso en dos fases: 1) elaboración del protocolo; 2) validación de contenido con evaluación del protocolo por expertos, a través de un grupo focal.

**Resultados:** En la validación del protocolo participaron cinco expertos, edad promedio  $45,2 \pm 4,3$  años, tres fisioterapeutas, una enfermera y un médico. Los ítems evaluados fueron: 1) Educación sobre la incontinencia urinaria; 2) Evaluación de la conducta mediante el diario miccional; 3) Identificación de la pérdida urinaria mediante la prueba de la compresión; 4) propiocepción; 5) Evaluación de la fuerza de los músculos del suelo pélvico; 6) Ejercicios perineales.

**Consideraciones finales:** Se reformuló el protocolo para incorporar consideraciones de expertos. El contenido y presentación del protocolo se consideran válidos para implementar la intervención en el tratamiento de la incontinencia urinaria en mujeres adultas mayores.

**Descriptores:** Incontinencia urinaria; Anciano; Protocolos clínicos; Enfermería en rehabilitación; Investigación en enfermería clínica.

## ■ INTRODUCTION

Among the dysfunctions that affect the elderly population, one of the most common is urinary incontinence (UI). While it is present in other age groups, it is particularly prevalent among elderly women. When signs and symptoms are underdiagnosed, the condition can worsen, since healthcare professionals are unaware of what may be compromising the health of these elderly women <sup>(1)</sup>.

The concept of UI presented by the International Continence Society (ICS) was adopted for the study, considering UI as any involuntary loss of urine. According to the ICS, UI has symptoms that are different from the natural sensation of bladder fullness, since, in UI, the bladder fills earlier or even later, and is considered persistent or uncontrolled, when compared to the natural sensation of urinating <sup>(2)</sup>.

In the elderly population, UI is a multifactorial etiology resulting from the interaction of specific changes in aging with lesions of the nervous and urinary systems, as well as with other comorbidities or with the use of certain medications and changes in functionality and cognition. This condition can restrict the elderly person from socializing and expose them to embarrassing situations <sup>(3,4)</sup>.

UI has a high prevalence in the elderly population (from 25 to 45%), being 50% in the female population. However, it remains underdiagnosed and undertreated, since 25 to 61% seek treatment. The prevalence distribution of UI subtypes in the female population is consistent, with stress UI (SUI) ranging from 10 to 39%, mixed UI (MUI) ranging from 7.5 to 25% and isolated urgency UI (UUI) being the least frequent, with a prevalence of 1 to 7% <sup>(4)</sup>.

Nursing addresses urinary tract dysfunctions by establishing UI diagnoses from the NANDA International Nursing Diagnosis Classification (NANDA-I) that are part of Domain 3: Elimination and exchange, Class 1 (Urinary function)<sup>(5)</sup> known to trigger relevant changes that have been considered public health problems, namely: SUI, UUI, Mixed urinary incontinence (MUI) and Urinary incontinence associated with disability; as well as risk diagnosis: Risk for urgency urinary incontinence <sup>(5-7)</sup>.

It is worth noting that the risk factors for UI are similar across the types (SUI, UUI and MUI), with modifiable factors being: obesity, constipation, caffeine, smoking, physical exercise, vaginal atrophy, sexual activity, hormone replacement and low estrogen and non-modifiable factors being: age, parity, menopause, gynecological surgery, chronic diseases, and hereditary factors <sup>(5)</sup>.

Given the nursing diagnoses, the role of nurses is relevant from the assessment of elderly women with UI to the interventions, care plan, implementation of care and assessment conducted in practice. This process includes the methodological stages that assist nurses in both clinical practice and nursing research to treat UI in elderly women.

In Primary Health Care (PHC), actions, both individual and collective, aimed at promoting health and preventing diseases, for the treatment and rehabilitation of elderly people are developed <sup>(8)</sup>. For actions and interventions to become tools capable of providing the best nursing care, it is suggested the development and validation of protocols, which are consists of systematic recommendations that follow a rigorous methodological approach for their development <sup>(7)</sup>.

Care protocols are considered valuable tools for care, grounded on evidence-based practice to optimize health and nursing care. There are several ways to validate a protocol, such as the involvement of experienced professionals and/or participants in the protocol, or even more rigorous validation with expert judges. Even so, following methodological rigor, it is important to review the material, and subsequently validate and train teams <sup>(7)</sup>.

Therefore, having a care protocol for directing assistance to women with UI in PHC is vital essential, since it can contribute to both clinical and technical-scientific practice, since the protocol represents an innovative tool that can be used in the routine of nurses in PHC. The protocol can also contribute to the provision of nursing care aimed at preventing complications related to UI and the treatment of elderly women with UI. A validated protocol that is capable of evaluating and treating UI in elderly women in PHC for the care and assistance of health professionals facilitates its applicability.

The protocol can not only optimize the work of the professional through its content, but also improve care for the elderly woman and even for the professional. The benefits for the elderly woman are limited to the treatment and improvement of UI; the improvement of lifestyle and QoL; and the change in healthy behaviors through educational content.

For nursing professionals, the validated protocol offers several advantages during consultations such as a quick, simple and standardized process to complete; the ease in the professional's work in following systematic guidance material for the elderly woman with UI; the establishment of a bond between the professional and the elderly woman, which encourages her to talk about how much the problem interferes in her life, as well as to allowing understanding to share essential information for effective intervention; the development of health interventions that evaluate phenomena related to UI; and the autonomy of the professional, especially the nurse, in carrying out diagnoses and interventions that meet the needs of the elderly women, guiding their practice and enabling decision-making<sup>(9)</sup>.

Since UI can be prevented and treated at low cost with PFME and these exercises are considered first-line treatment, the aim is to structure an intervention protocol that can be applied by healthcare professionals, particularly nurses.

According to the Nursing Interventions Classification (NIC), there are 565 interventions in the seventh edition and five interventions for UI can be listed: urinary elimination control (0590); pessary management (0630); UI care (0610); pelvic muscle exercises (0560); and bladder training (0570)<sup>(10)</sup>.

Therefore, of the five nursing interventions recommended by the NIC listed for UI, four were selected to be worked on, excluding a suggested intervention aimed at invasive therapies (pessary management) because it did not meet the objective of the study.

Thus, this study aims to answer the following questions: What is the best non-pharmacological approach to intervene in the UI of elderly women to improve their quality of life? What structure and content should be included in a valid intervention protocol for UI in elderly women?

Therefore, the study aims to develop and validate the content of a behavioral therapy protocol to improve urinary incontinence in elderly women.

## ■ METHOD

This methodological study is designed to develop and validate the content of a physical and behavioral intervention protocol for the treatment of UI in elderly women that should be applied by a trained nurse.

The research project was assessed and approved by the Research Ethics Committee of the *Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo* (CEP-EERP-USP), under approval number CAAE 28414620,9,0000,5393, in compliance with the Guidelines and Regulatory Standards for Research involving Human Beings, Resolution of the National Health Council (CNS) 466/12<sup>(11)</sup>.

The protocol development and validation process is divided into two phases: i) development of the physical and behavioral intervention protocol for treating UI in elderly women; ii) content validation, through evaluation of the protocol by expert judges.

Initially, the research was grounded in literature reviews, the NANDA-I Nursing Diagnosis Classification, the Nursing Intervention Classification (NIC) and in studies already conducted with elderly women with UI. Subsequently, to develop the protocol, we aimed to understand the need to develop a validated systematic physical and behavioral intervention instrument for treating UI in elderly women, applied by a nurse trained to conduct all stages of the protocol<sup>(12, 13)</sup>.

The physical and behavioral intervention should initially take place over 12 weeks, in accordance with the most prevalent time period found in studies conducted in systematic reviews<sup>(12, 13)</sup> and also aligned with the guidelines of the main American organizations that are consistent with other international groups (Best Practice Advocacy Centre of New Zealand and The National Institute for Health and Care Excellence [NICE])<sup>(14)</sup>. After, these elderly women undergo follow-up after one year of the intervention.

The protocol developed includes the following items: Education about UI; Behavior assessment using a voiding diary; Identification of urinary loss using the pad test; Proprioception; Assessment of PFM strength (PFMS); and Perineal exercises.

Thus, the physical and behavioral intervention protocol for the treatment of UI in elderly Brazilian women was submitted to evaluation by judges through a focus group to validate it through consensus.

To develop the protocol, a focus group of experts/judges was formed, intentionally selected by the researchers based on predetermined criteria, that is, they should have experience with the topic (holding an academic doctorate and/or over five years of clinical experience in urology, gynecology, or UI in nursing, medicine, and/or physical therapy; working in care, teaching, and/or evidence-based research) and be willing to participate in the meeting to evaluate the material. The group included a urologist, a nurse, three physical therapists, the main researcher (nurse), and the mediator (nurse)<sup>(15)</sup>.

Thus, the mentioned criteria were prioritized in selecting judges for the protocol, even experts from categories other than nursing, since the aim was to validate the protocol regarding technical-scientific knowledge and not just practical knowledge. Thus, multidisciplinary knowledge was considered to ensure the protocol was broadly structured.

Using a purposeful sampling structure, several recruitment strategies were adopted to find the target population for the study. The strategies were carried out through targeted emails collected in searches on the Lattes platform which included researchers in the field identified through published articles and defended theses<sup>(15)</sup>.

This email to the volunteers included an invitation to participate, a link to the meeting via Google Meet for Education software, and a link to fill out a Google Forms survey for volunteers to indicate consent (to be signed and returned before the focus group).

The consent form was titled "Evaluation of a protocol for the treatment of Urinary Incontinence in Elderly Women," which initially presented the research, the main researcher and the advisor, as well as the objectives of the protocol. The emails were collected using this same form and, shortly after, the invitation was extended to voluntary participation as an expert (judge) in the validation process with presentation of the informed consent form (ICF). Upon selecting agreement, the form directed the judge to the next section; if "no" was selected, the form closed.

Fourteen judges were invited to participate in the focus group, however, the majority (nine) stated that they were unable to attend on the proposed dates. Thus, five judges from different locations participated (Fortaleza/CE, Manaus/AM, Niterói/RJ, Ribeirão Preto/SP and Rio de Janeiro/RJ) and evaluated all items corresponding to the protocol.

The judges analyzed the protocol on November 6, 2023, considering relevance, consistency, clarity, objectivity, simplicity, feasibility, currency, unambiguous vocabulary, and precision<sup>(15)</sup>.

The protocol was reformulated based on the following criteria: suggestions with more than 20% disagreement and/or irrelevance pointed out by the judges/experts, as well as corroboration with the literature through evidence extracted from the theoretical framework. However, all suggestions were considered and included in the protocol.

At the end of the focus group, the transcription, data analysis, categorization, and summarization phase began for the later construction of the protocol domains and facets<sup>(15)</sup>.

The virtual focus group was conducted by two facilitators, the main researcher and a secondary facilitator or mediator, using the Google Meet for Education software. To begin the focus group, all participants were asked to consent to

audio recording, ensuring complete confidentiality of the material obtained. The focus group lasted 116 minutes and 14 seconds, which complied with the recommended time of approximately 150 minutes. The period was sufficient for presentations by the facilitators, a PowerPoint presentation of the protocol, and considerations by the experts concurrently with the protocol presentation, allowing judges to analyze, make suggestions, and express their opinions with options between "agree" or "disagree" and "relevant" or "irrelevant" for each item under discussion, with 31 questions on the form.

The target population for the application of the intervention protocol should be elderly women (aged 60 years or older) who present UI after being characterization using the International Consultation on Incontinence Questionnaire – Short Form (ICIQ-SF), who will be treated individually, according to the selection criteria.

The inclusion criteria are: women aged 60 years or older; characterized with the profile of elderly women with UI by questions 3 and 4 of the ICIQ-SF, with question 3 related to the frequency of urinary loss and question 4 related to the amount of urinary loss; with preserved functional performance, assessed by the "timed up and go" test; with available telephone contact.

The exclusion criteria include: cognitive impairments, based on the Mini Mental State Examination (MMSE); active urinary or vaginal infection in the last three months, self-reported; recent urological surgery, less than three months ago, self-reported; uterine prolapse stage two or higher in the Pelvic Organ Prolapse Quantification System (POP-Q) classification system, that is, greater than one (1) cm below the hymen upon exertion (visible prolapse in the vaginal introitus)<sup>(16)</sup>; pelvic or urogenital cancer; heart disease that limits activities (grades 3 and 4)<sup>(17)</sup> with surgical intervention for UI; with recent therapeutic interventions for UI (three months before the study); using drugs (alpha-adrenergic antagonists, diuretics, sedatives and angiotensin-converting enzyme inhibitors); with muscle strength  $\leq 1$  on the Modified Oxford scale, as elderly women with this result do not have contractions to perform the intervention protocol.

## Stages for implementing the protocol

The non-pharmacological intervention consists of implementing the physical and behavioral intervention protocol, which is divided into four steps, lasting three months (12 weeks) as shown in Figure 1.

**Stage 1:** Initially, elderly women enrolled in the FHU who aged 60 years or older and characterized as having UI by questions 3 and 4 of the ICIQ-SF, which assess the frequency and amount of urinary loss in the last four weeks, must be

identified. They should be informed on the evaluation of the eligibility criteria, participation and availability for the protocol activities <sup>(18)</sup>.

**Stage 2:** Elderly women characterized as having UI, with functional performance assessed by the “timed up and go” test and with available telephone contact will be invited to participate in the protocol. A cognitive assessment will be performed using the MMSE in order to exclude elderly women who present cognitive deficits <sup>(19)</sup>. Next, elderly women who meet the selection criteria will attend a lecture to be held at the US lasting approximately 30 minutes, given by a trained nurse, aimed at providing information on UI, the pathophysiological, curative and preventive aspects, and teaching and guiding on the proper contraction of the PFM, to avoid contraction of the posterior accessory muscles during PFME.

Next, the elderly women will be informed about the objectives, methods, expected benefits and minimum risks during the lecture and then invited to voluntarily participate in the protocol. After ensuring their privacy and freedom of decision, they will be able to participate in the subsequent stages.

The Pro-Elderly Data Collection Instrument will be applied to characterize the sociodemographic, economic and clinical characteristics of the elderly women (Appendices A, B, C, D and E). The items on the questionnaires will be read by the nurse for the study participants to answer. The King's Health Questionnaire - KHQ and the Gaudenz-Fragebogen will then be applied, the first with the aim of measuring the initial HRQoL of elderly women with UI before carrying out the intervention protocol and the second to classify the type of UI.

**Stage 3:** Elderly women will schedule their first consultation at the end of the lecture and, from the scheduled meetings, over three months, they will participate in the following activities: Education; Behavior assessment through a voiding diary; Identification of urinary loss using the pad test; Proprioception; Strength assessment; and Perineal exercises.

During these three months, the protocol will be divided into: information about UI; lifestyle guidance; provision of a schedule for the month; guidance and provision of the voiding diary; provision of two graduated cups; performance of a pad test; assessment of proprioception; and assessment of PFMS (using a pneumatic perineometer).

Elderly women will also receive guidance on assessing the evolution of their individual condition, on performing PFM strengthening exercises and on assessing urinary control.

**Stage 4:** After three months of intervention, in the last meeting, an assessment of the PFM will be conducted to compare the strength of these muscles before and after the

intervention protocol. To assess the intensity and pressure of voluntary PFM contraction, a Quark Medical Perina Clinical pneumatic biofeedback perineometer will be used. The KHQ will be applied again to compare the QoL of elderly women with UI before and after the intervention protocol, in addition to the voiding diary and the pad test.

The perineometer can determine the action potentials of PFM contractions, as well as identifying the proprioception of these muscles, measuring PFM and performing controlled active re-education that requires the cooperation of the elderly woman. It is an intuitive handling device that can contribute to complementing the assessments and treatment of PFM dysfunctions by visually demonstrating the intensity of the contraction for the nurse and the elderly woman <sup>(20)</sup>.

Thus, the protocol includes two monthly consultations, three phone calls and three meetings to perform pelvic floor muscle exercises (PFM) during the first three months, following the supervised protocol. According to data from the systematic review <sup>(12)</sup>, detailed education and frequent consultations are recommended during a training program for UI, in addition to demonstrating significant improvements in UI with a supervised program.

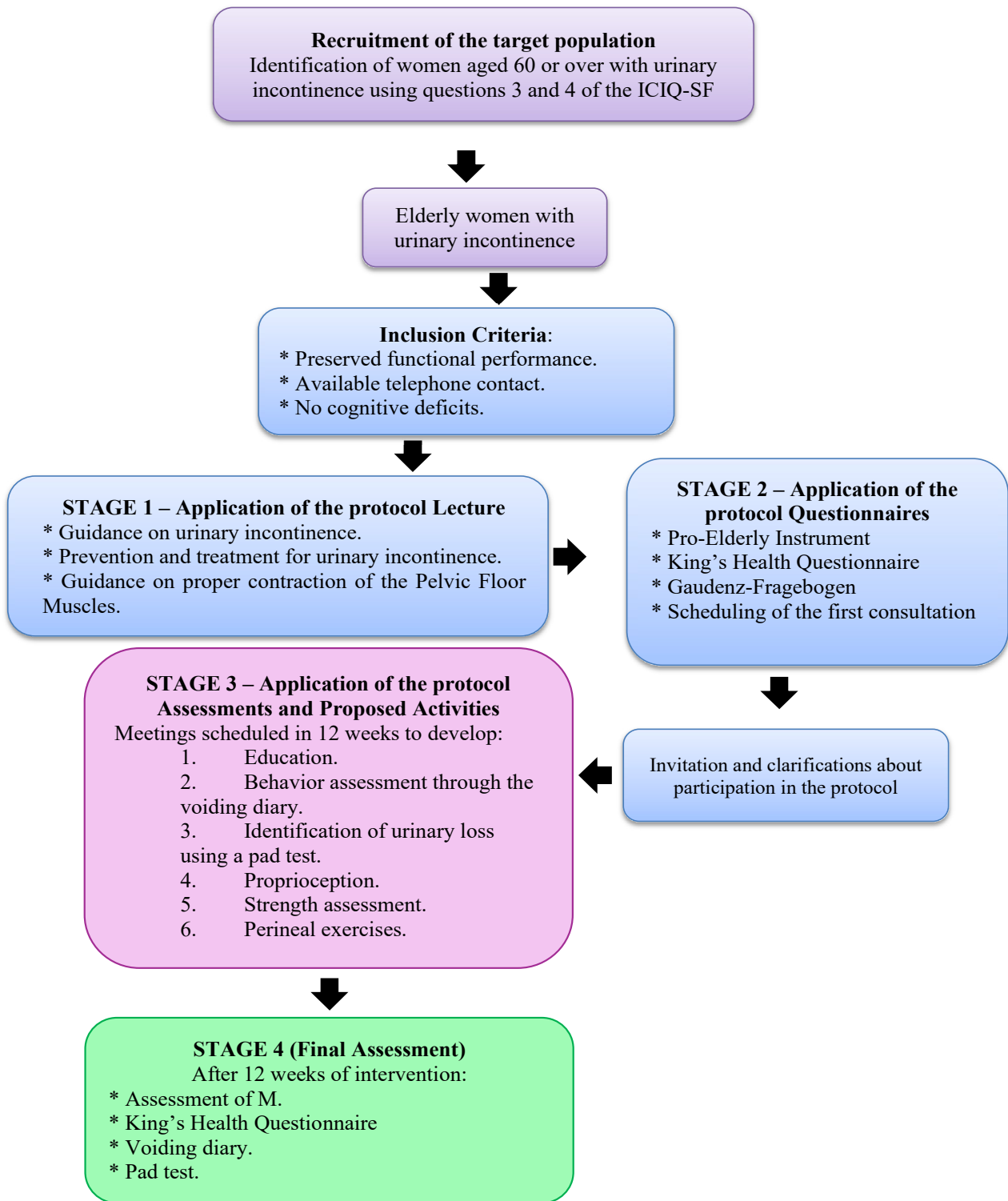
The researcher will be responsible for clinical validation and will train and qualify the responsible nurse in each Health Unit. Moreover, the feasibility of acquiring the perineometer for the municipality will be demonstrated, to be used in the Units, as the cost-benefit of the equipment outweighs the disadvantages caused by UI, which often result in expensive surgeries for elderly women.

The analysis of the information obtained from the focus group meeting for the validation of the intervention protocol followed three stages: pre-analysis; exploration of the material; and treatment and interpretation of the data, using thematic content analysis by frequency. During the data analysis process collected from the focus group, the information was categorized thematically <sup>(21)</sup>.

The organization of record units was adopted for the formation of categories generated after the content analysis of the focus group with experts, defined as items/concepts for the generation of the protocol.

The evaluation of the verbalizations of the questions was based on thematic content analysis <sup>(21)</sup>, proceeding to the thematic categorization of the data and validation of the categories by the researchers. The researchers separately performed the following steps on all the material obtained after the focus group meeting: floating reading; new readings to demarcate verbalization; identification of themes; and organization of the themes into thematic categories <sup>(21)</sup>.





**Figure 1** – Stages of implementation of the physical and behavioral intervention protocol for elderly women with UI.

## ■ RESULTS

Five judges/experts participated in the focus group, as shown in Table 1.

The oral and visual presentation by the researcher on the protocol included related to UI terminology and epidemiology. The role of nurses in the treatment of UI was emphasized, with interventions listed in the NIC to meet the diagnoses based on the NANDA-I UI problem. The types of UI addressed in the protocol were presented (SUI, UUI,

and MUI). The objective of the protocol was then presented (to develop and validate, with experts, a physical and behavioral intervention protocol for the treatment of urinary incontinence in elderly women).

The items of the protocol evaluated by the judges showed a pattern of agreement or disagreement for the validation of the protocol, as shown in Table 2.

The protocol items that presented a response pattern of relevant or irrelevant for the validation of the protocol were also evaluated by the judges and are shown in Table 3.

**Table 1** – Characterization of the judges/experts participating in the validation of the physical and behavioral intervention protocol for the treatment of UI in elderly women. Ribeirão Preto/SP, 2023.

| Variables                                   | N = 5          |
|---------------------------------------------|----------------|
| <b>Sex</b>                                  |                |
| Female                                      | 4              |
| Male                                        | 1              |
| <b>Marital status</b>                       |                |
| Single                                      | 1              |
| Married                                     | 4              |
| <b>Age (years) mean <math>\pm</math> SD</b> | 45.2 $\pm$ 4.3 |
| <b>City/State</b>                           |                |
| Rio de Janeiro/Rio de Janeiro               | 1              |
| Niterói/Rio de Janeiro                      | 1              |
| Fortaleza/Ceará                             | 1              |
| Ribeirão Preto/São Paulo                    | 1              |
| Manaus/Amazonas                             | 1              |
| <b>Academic background</b>                  |                |
| Nurse                                       | 1              |
| Physician                                   | 1              |
| Physical therapist                          | 3              |

**Table 1** – Cont.

| Variables                                                      | N = 5 |
|----------------------------------------------------------------|-------|
| <b>Years of Training</b>                                       |       |
| From 5 to <10 years                                            | 1     |
| From 10 to <20 years                                           | 2     |
| 20 years or more                                               | 2     |
| <b>Qualification</b>                                           |       |
| Postgraduate – Specialization                                  | 1     |
| Doctorate                                                      | 2     |
| Postdoctorate                                                  | 2     |
| <b>Training related to urinary incontinence</b>                |       |
| Yes                                                            | 5     |
| No                                                             | 0     |
| <b>Occupation</b>                                              |       |
| Nurse                                                          | 1     |
| Assistant Physician                                            | 1     |
| Physical therapist                                             | 2     |
| Physical therapist and technical manager                       | 1     |
| <b>Time of practice</b>                                        |       |
| From 5 to <10 years                                            | 1     |
| From 10 to <20 years                                           | 2     |
| 20 years or more                                               | 2     |
| <b>Professional experience related to urinary incontinence</b> |       |
| Yes                                                            | 5     |
| No                                                             | 0     |



**Table 1** – Cont.

| Variables                                                      | N = 5 |
|----------------------------------------------------------------|-------|
| <b>Area of professional experience in urinary incontinence</b> |       |
| Assistance                                                     | 5     |
| Research                                                       | 4     |
| University extension                                           | 2     |
| Other                                                          | 1     |

Source: Prepared by the authors, 2023.

**Table 2** – Items of the protocol evaluated by judges with responses of agreement or disagreement for the validation of the physical and behavioral intervention protocol for the treatment of UI in elderly women. Ribeirão Preto/SP, 2023.

| Items                                                                                                                                                                         | Judges' responses |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|
|                                                                                                                                                                               | Agree             | Disagree |
| Is a validated protocol for the assessment urinary incontinence useful for treating elderly women?                                                                            | 5                 | 0        |
| Is the title appropriate? <i>"Physical and behavioral intervention protocol for treating urinary incontinence in elderly women"</i> ?                                         | 5                 | 0        |
| Is the characterization of elderly women with urinary incontinence based on questions 3 and 4 of the "International Consultation on Incontinence Questionnaire - Short Form"? | 5                 | 0        |
| Is it appropriate to measure the quality of life of elderly women with urinary incontinence using the "King's Health Questionnaire"?                                          | 5                 | 0        |
| Is it appropriate to classify the type of urinary incontinence using the "Gaudenz-Fragebogen" questionnaire?                                                                  | 5                 | 0        |
| Is the 12-week intervention period appropriate?                                                                                                                               | 5                 | 0        |
| Is the item: "2 – Behavior assessment using a voiding diary" appropriate?                                                                                                     | 5                 | 0        |
| Is the item: "3 – Identification of urinary loss using the 1-hour pad test" appropriate?                                                                                      | 5                 | 0        |
| Is the item: "4 – Proprioception" using the Quark Medical perineometer ( <i>Perina Clínico</i> ) appropriate?                                                                 | 4                 | 1        |
| Is the item: "5 – Assessment of pelvic floor muscle strength" using the Quark Medical perineometer ( <i>Perina Clínico</i> ) appropriate?                                     | 3                 | 2        |
| Is the item: "6 – Perineal exercises" with pelvic floor muscle exercises appropriate?                                                                                         | 5                 | 0        |

Source: Prepared by the authors, 2023.

**Table 3** – Items of the protocol evaluated by judges with responses as relevant or irrelevant for validation of the physical and behavioral intervention protocol for the treatment of UI in elderly women. Ribeirão Preto/SP, 2023.

| Items                                                                                                                                  | Judges' responses |            |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------|
|                                                                                                                                        | Relevant          | Irrelevant |
| Is the lecture to be held at a Basic Health Unit with the objective of informing about urinary incontinence relevant?                  | 5                 | 0          |
| Is the item: "1 - Education about urinary incontinence" with detailed education for elderly women about urinary incontinence relevant? | 5                 | 0          |
| Is the schedule for "Month 1" relevant?                                                                                                | 5                 | 0          |
| Is the protocol for pelvic floor muscle exercises in the first month relevant?                                                         | 4                 | 1          |
| Is the schedule for "Month 2" relevant?                                                                                                | 5                 | 0          |
| Is the protocol for pelvic floor muscle exercises in the second month relevant?                                                        | 3                 | 1          |
| Is the schedule for "Month 3" relevant?                                                                                                | 5                 | 0          |
| Is the protocol for pelvic floor muscle exercises in the third month relevant?                                                         | 4                 | 1          |

Source: Prepared by the authors, 2023.

Initially, 13 thematic categories were identified, however, after adjustments in the analysis, they were grouped into seven final categories: 1) The protocol; 2) Inclusion criteria for elderly women; 3) Assessment of PFM; 4) Risk factors for UI; 5) PFME; 6) Voiding diary; 7) Pad-test.

A The development and validation of the protocol demonstrated to what extent each step and each item included corresponded to the entire theoretical and practical framework underlying the protocol, allowing for an assessment of how representative and relevant these steps and items are for the treatment of UI in elderly women.

The focus group with the judges allowed the improvement of the content proposed in the protocol, making it reliable and valid for the treatment of UI in elderly Brazilian women.

The suggestions/recommendations proposed by the judges (Chart 1) were analyzed and subsequently accepted.

Given the importance of the applicability of the physical and behavioral intervention protocol for the treatment of UI in elderly women, as well as for promoting urinary continence, the following protocol is presented for implementation in the clinical practice of nurses.

It is recommended that those interested in using this protocol contact the researcher in advance at the email address: samanthascruz@usp.br.

#### PHYSICAL AND BEHAVIORAL INTERVENTION PROTOCOL FOR THE TREATMENT OF UI IN ELDERLY WOMEN

Follow the steps according to Chart 2.

**Chart 1** – Summary of judges' suggestions/recommendations for the physical and behavioral intervention protocol for the treatment of UI in elderly women.

| Judges' Suggestions/Recommendations                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Add to the inclusion criteria: "timed up and go" test to assess functional performance                                                                                                                                                                                                    |
| Add to the exclusion criteria: Muscle strength $\leq 1$ on the Modified Oxford scale, as elderly women with this result do not have the contraction to perform the intervention protocol                                                                                                  |
| Perform proprioception before bidigital vaginal palpation                                                                                                                                                                                                                                 |
| For the assessment of pelvic floor muscle strength, include strength evaluation through digital vaginal palpation using the Modified Oxford Scale                                                                                                                                         |
| Include modifiable risk factors (obesity, constipation, caffeine, smoking, physical activity, vaginal atrophy, sexual activity, hormone replacement, low estrogen) and non-modifiable risk factors (age, parity, menopause, gynecological surgery, chronic diseases, hereditary factors). |
| Individualize the protocol                                                                                                                                                                                                                                                                |
| Add the pad test after performing the last pelvic floor muscle exercises for final comparison                                                                                                                                                                                             |

**Chart 2** – Physical and behavioral intervention protocol for the treatment of UI in elderly women. Ribeirão Preto/SP, 2023.

| 1) Characterize elderly women with urinary incontinence using the International Consultation on Incontinence Questionnaire - Short Form <sup>(22)</sup> .                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2) Assess functional performance using the "timed up and go" test.                                                                                                                                                                                                                                                                                                                                 |
| 3) Assess cognition using the Mini Mental State Examination <sup>(23)</sup> .                                                                                                                                                                                                                                                                                                                      |
| 4) Provide clarifications about the protocol.                                                                                                                                                                                                                                                                                                                                                      |
| 5) Conduct a 30-minute lecture for elderly women:<br>i) With urinary incontinence characterized by the International Consultation on Incontinence Questionnaire - Short Form.<br>ii) With preserved functional performance assessed by the "timed up and go" test.<br>iii) With available telephone contact (provide the date of the first consultation of the protocol at the end of the lecture) |
| 6) Obtain Agreement and signature on the informed consent form                                                                                                                                                                                                                                                                                                                                     |
| 7) Apply the Pro-Elderly data collection instrument (Appendices A, B, C, D and E).                                                                                                                                                                                                                                                                                                                 |
| 8) Apply the King's Health Questionnaire instrument <sup>(24)</sup> .                                                                                                                                                                                                                                                                                                                              |
| 9) Apply the Gaudenz-Fragebogen instrument <sup>(25)</sup> .                                                                                                                                                                                                                                                                                                                                       |

## 1) Characterize elderly women with urinary incontinence using the International Consultation on Incontinence Questionnaire - Short Form<sup>(22)</sup>.

10) Start consultations according to the following schedule:

- a) Month 1: first scheduled consultation (SCO1); first follow-up consultation (FCO1) with supervised initial pelvic floor muscle exercises (PFME0) ; three telephone calls (CAL1, CAL2, CAL3), with one call per week interspersed with the three meetings for pelvic floor muscle exercises (PFME1, PFME2 and PFME3) with a frequency of one meeting per week as follows: SCO1, FCO1+PFME0, CAL1, PFME1, CAL2, PFME2, CAL3 and PFME3.
- b) Month 2: second scheduled consultation (SCO2); second follow-up consultation (FCO2) with performance of the initial pelvic floor muscle exercises (PFME0) under supervision; three telephone calls (CAL1, CAL2 and CAL3), one call per week interspersed with the three meetings for pelvic floor muscle exercises (PFME1, PFME2 and PFME3) with a frequency of one meeting per week as follows: SCO2, FCO2+PFME0, CAL1, PFME1, CAL2, PFME2, CAL3 and PFME3.
- c) Month 3: third scheduled consultation (SCO3); third follow-up consultation (FCO3) with performance of the initial pelvic floor muscle exercises (PFME0) under supervision; three telephone calls (CAL1, CAL2 and CAL3), one call per week interspersed with three meetings for pelvic floor muscle exercises (PFME1, PFME2 and PFME3) with a frequency of one meeting per week as follows: SCO3, FCO3+PFME0, CAL1, PFME1, CAL2, PFME2, CAL3 and PFME3.

## DISCUSSION

The use of protocols in the health field that have been evaluated and validated in a multidisciplinary manner optimizes the objectivity of the phenomenon addressed. The participation of professionals from different health fields allows for consensus and the creation of an accurate protocol, avoiding biased measures, which results in more concise conclusions<sup>(9)</sup>.

Based on the above, the present study aims to provide a specific protocol for physical and behavioral intervention for the treatment of UI in elderly women. The protocol may also contribute to the provision of nursing care aimed at preventing complications related to UI and the treatment of elderly women with UI. It may also assist in the implementation of actions focused on preventing UI in PHC and, subsequently, at other levels of care, as well as improving the underreporting experienced at these care levels.

For the validation process of the protocol, a synchronous virtual focus group was used, as it enabled real-time interactions among participants through software that included chat rooms and instant messaging with videoconferencing<sup>(15, 26)</sup>. Virtual focus groups involve discussions using Internet-based communication and can be conducted asynchronously, synchronously, or using a mixed-methods approach<sup>(26)</sup>. They also allow participants (judges) to engage with each other through fluid discussion and full participation<sup>(27)</sup>.

It is worth noting that the validation of the protocol through a synchronous focus group using the Internet enabled the participation of professionals from other regions and with different backgrounds, even with a field of activity

related to UI, which resulted in a diverse sample, enhancing the richness of the collected data, and allowing authentic interactions without the formality of an in-person meeting<sup>(15)</sup>.

Thus, it is demonstrated that the protocol was deemed valid in terms of its ability to achieve the objectives for which it was proposed, meaning that the content of the protocol adequately reflects the physical and behavioral intervention for the treatment of UI in elderly women.

For this protocol validation process, the diversity in technical-scientific knowledge and the experiences of the judges proved to be advantageous, as it not only considered the multidisciplinary perspective of each judge, but it also collected knowledge on the topic related to UI in elderly women from various perspectives. It is worth noting that the validation of a protocol related to local reality and demand and that meets the health needs of elderly women is considered significant for the care provided by healthcare professionals<sup>(28)</sup>.

UI is then discussed within the scope of issues related to health problems in elderly women and one nursing intervention strategy is the promotion of self-care. Thus, nurses in their clinical practice ensures adequate guidance so that the elderly woman has freedom of choice regarding treatment. The comprehensive assessment of the elderly woman should also be considered to enable prevention measures and promotion of self-care practices for UI<sup>(29)</sup>.

Elderly women with UI should be advised by the nurse about the possibility of treating UI, recognizing the condition so that behavioral changes can occur through lifestyle changes, performance of PFME and support-education for self-care<sup>(29)</sup>.

The ideal intervention period for UI treatment was also validated by the judges with total agreement/relevance through the item: "Time of 12 weeks of physical and behavioral intervention for elderly women with UI". This intervention time for UI treatment in elderly women corroborates findings in the literature and, therefore, was maintained in the protocol<sup>(12, 30)</sup>.

The first line of generic recommendations and behavioral changes includes: weight loss, which decreases the rate of UI in obese women and prevents the development of UI; moderate physical exercise, which reduces the incidence of UI in adult and elderly women; reduction of smoking, which reduces the risk of more severe UI; reduction of water intake, particularly at night and for elderly people with associated comorbidities; reduction of caffeine intake to improve symptoms related to UUI and SUI; PFM exercises (PFME), which strengthen the set of muscles responsible for closing the urethral sphincter<sup>(4)</sup>.

Physical therapy focuses on performing PFME, as it supports the pelvic organs and helps close the urethral sphincter muscles, resulting in improved UI. Therefore, it is prescribed as a first-line treatment to increase strength, endurance and muscle coordination<sup>(31)</sup>.

PFME is considered a first-line treatment for UI in terms of increasing PFMS, increasing muscle resistance, and increasing muscle coordination. Studies and reviews have proven the effectiveness of PFME in treating UI in elderly women, making it the main point of the protocol<sup>(12, 13, 31)</sup>.

Thus, the protocol achieved face validity and content validity through the consensus of the judges, and after their suggestions were considered, it presented clarity and understanding regarding the items.

Regarding contributions to the health field, a validated protocol enables healthcare professionals to improve systematized health interventions, establishing the bond between the elderly woman and the nurse and treating UI in elderly women living in the community. It should be emphasized that the protocol aims to meet the specific needs of the elderly woman, considering their individualities and seeking to improve the aspects presented by each one.

The protocol can not only optimize the work of the professional through its content, but also improve the care provided to the elderly woman and even for nurses. The benefits for the elderly woman include the treatment and improvement of UI; improvement of lifestyle and QoL; and change of healthy behaviors through educational content. Regarding the professional, the advantages of using the validated protocol during the consultation are that it is quick, simple and standardized to complete; ease of following a systematic guide for elderly women with UI; the

establishment of a bond between the professional and the elderly woman, encouraging her to talk about how much the problem interferes in her life, and allowing for the sharing of essential information for intervention; the development of health interventions that assess the phenomena related to UI; and the autonomy of the professional, especially nurses, to perform diagnoses and interventions that meet the needs of the elderly woman, guiding their practice and enabling decision-making<sup>(9, 31)</sup>.

A validated protocol that is capable of evaluating and treating UI in elderly women in PHC level facilitates its applicability for healthcare professionals. Thus, the care and assistance provided has the potential to be structured, effective, efficient and participatory, involving elderly women throughout the care process<sup>(32)</sup>.

The treatment proposed in the protocol addresses non-pharmacological measures and expresses behavioral changes in lifestyle and physical therapy. These behavioral changes suggest a reduction in body fat, moderate physical exercise, reduced smoking, reduced caffeine intake, restricted water intake at night and urinary control. Physical therapy is focused on performing PFME. Thus, the protocol structured on physical and behavioral interventions results in the first-line therapy for treating UI in elderly women.

Limitations include the small number of judges participating in the focus group; however, given the heterogeneity and professional representativeness of the group with experience on the topic, the suggestions were considered very useful and appropriate. Regarding the clinical validation of the protocol, it should be noted as a limitation that only after implementing the protocol in a study with elderly women with UI will it be possible to ensure consistency and reliability for use in healthcare practice, including for other healthcare professionals.

## ■ CONCLUSION

The content of the physical and behavioral intervention protocol to assess and treat UI in elderly women was considered valid, and thus the objective of the study has been achieved.

For the nursing care practice, the protocol provides an important contribution, as it includes care for the nursing diagnoses of Domain 3 of NANDA-I related to SUI, UUI and MUI, as well as a large part of the physical and behavioral nursing interventions of the NIC, added to other current national and international scientific and technical evidence and adapted to the reality of elderly women with UI in PHC. This can help standardize nursing assistance and facilitate the evaluation of data and outcomes.

UI presents factors with profound effects on the QoL of elderly women, thus, it is expected that nurses and other healthcare professionals intervene with gerontological actions capable of increasing the QoL of these elderly women assisted in PHC.

It is important to emphasize that the validation process of the protocol through a synchronous internet-based focus group was a methodological procedure deemed appropriate and valid for the intended purpose.

The protocol is applicable by nurses and enables elderly women not only to receive treatment for UI but also to recognize self-care, continue home care, improve QoL, promote behavior change, and acknowledge the nurse as a source of support.

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## ■ Conflic of Interest

The authors declare that there is no conflict of interest.

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