

# Hospital emergency suitability protocol: translation and adaptation to the Brazilian culture



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Protocolo de adecuación de urgencias hospitalarias:  
tradução e adaptação para a cultura brasileira

Protocolo de adecuación de urgencias hospitalarias:  
traducción y adaptación a la cultura brasileña

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## ABSTRACT

**Objective:** Translate and culturally adapt the Hospital Emergency Suitability Protocol (HESP) to Brazilian Portuguese.

**Method:** Methodological study, developed from 2019 to 2021, in an emergency hospital, and which followed the stages of translation, synthesis of translations, back-translation, review by an expert committee, pre-test and submission to the authors of the protocol. The sample included four translators, five experts, who assessed conceptual, semantic, cultural, and idiomatic equivalence, 21 nurses and nine physicians, who participated in the pre-test. Content Validity Index (CVI), Cronbach's alpha and Kendall's coefficient of concordance were used.

**Results:** The final version of the adaptation presented Content Validity Index that ranged from 0.40 to 1.0. The internal consistency, according to Cronbach's alpha coefficient, showed Semantic Equivalence ( $\alpha=0.815$ ), Idiomatic Equivalence ( $\alpha=0.924$ ), Experiential Equivalence ( $\alpha=0.682$ ), Conceptual Equivalence ( $\alpha=0.71$ ), which presented acceptable values, except for the experiential equivalence. Kendall W's coefficient ( $W=0.14$  to  $0.58$ ) revealed good reliability.

**Conclusion:** The translation and cultural adaptation process of the HESP originated an instrument applicable to the Brazilian context.

**Keywords:** Emergencies. Triage. Protocols. Translating. Validation study.

## RESUMO

**Objetivo:** Traduzir e adaptar culturalmente o Protocolo de Adecuación de Urgencias Hospitalarias (PAUH) para o português do Brasil.

**Método:** Estudo metodológico, desenvolvido no período de 2019 a 2021, em hospital de urgência, e que seguiu as etapas de tradução, síntese das traduções, retrotradução, revisão por comitê de experts, pré-teste e submissão aos autores do protocolo. A amostra incluiu quatro tradutores, cinco experts, que avaliaram equivalência conceitual, semântica, cultural e idiomática, 21 enfermeiros e nove médicos, que participaram do pré-teste. Utilizou-se Índice de Validez de Conteúdo (IVC), alfa de Cronbach e concordância de Kendall.

**Resultados:** A versão final da adaptação apresentou IVC que variou de 0,40 a 1,0. A consistência interna evidenciou Equivalência Semântica ( $\alpha=0.815$ ), Equivalência Idiomática ( $\alpha=0.924$ ) e Equivalência Conceitual ( $\alpha=0.71$ ), com valores aceitáveis. A concordância de Kendall revelou boa confiabilidade ( $W=0,14$ -0,58).

**Conclusão:** O processo de tradução e adaptação cultural do PAUH originou instrumento aplicável ao contexto brasileiro.

**Palavras-chave:** Urgências. Triagem. Protocolos. Tradução. Estudo de validação.

## RESUMEN

**Objetivo:** Traducir y adaptar culturalmente el Protocolo de Adecuación de Urgencias Hospitalarias al portugués brasileño.

**Método:** Estudio metodológico, desarrollado de 2019 a 2021, en un hospital de emergencia, y que siguió los pasos de traducción, síntesis de traducciones, retrotraducción, revisión por un comité de experts, pre-test y envío a los autores del protocolo. La muestra estuvo compuesta por cuatro traductores, cinco expertos, que evaluaron la equivalencia conceptual, semántica, cultural e idiomática, 21 enfermeros y nueve médicos, que participaron en el pre-test. Se utilizaron el índice de validez de contenido (IVC), el alfa de Cronbach y la concordancia de Kendall.

**Resultados:** La versión final de la adaptación presentada El Índice de Validez de Contenido (IVC) qué osciló en 0,40 y 1,0. La consistencia interna, según el coeficiente alfa de Cronbach, mostró Equivalencia Semántica ( $\alpha=0.815$ ), Equivalencia Idiomática ( $\alpha=0.924$ ), Equivalencia Experimental ( $\alpha=0.682$ ), Equivalencia Conceptual = 0,712, que presentó valores aceptables, excepto la equivalencia experimental. El acuerdo de Kendall ( $W=0,14$  a 0,58) reveló una buena fiabilidad.

**Conclusión:** El proceso de traducción y adaptación del protocolo al contexto brasileño dio lugar a un instrumento aplicable a Brasil.

**Palabras clave:** Urgencias Médicas. Triaje. Protocolos. Traducción. Estudio de validación.

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## INTRODUCTION

Emergency services function as a reorganizing strategy of care in cases of imminent risk to life, which requires immediate and effective professional attention. Users seek urgent care by spontaneous demand or referral from health professionals in order to solve their problems related to health and well-being. As a consequence of this often disorderly search, there is overcrowding in this service<sup>(1)</sup>.

Emergency units have a decisive role in the care, as they are considered complex sectors. Thus, they have undeniable relevance in morbidity and mortality indicators, and for this reason they are studied in several countries. It should be noted that non-urgent care is one whose degree of severity of the medical problem is low, however, it results in the patient's search for the emergency service<sup>(2)</sup>.

In order to better direct this care and characterize the use of the emergency service as appropriate or inappropriate, researchers in Spain, in 1999, developed the Hospital Emergency Suitability Protocol (HESP). This protocol emerged from a conceptual framework, which included the clinical severity of the patient, the intensity of the services provided and some situations that would justify the suitability of spontaneous visits as dimensions<sup>(3)</sup>.

The patient's clinical severity refers to the lack of stability of the physiological systems (pulse, pressure, temperature, electrolyte balance, blood gases) and to the sudden loss of functionality of some organ or system (including fractures, hemiplegia, etc.). The intensity of services provided includes treatments, diagnostic tests, need for prolonged observation or admission - and their usual immediate availability in primary care<sup>(3)</sup>.

In relation to the situations that justify the adequacy of spontaneous visits, examples of clear cases of urgency are presented, such as being the victim of an accident; present a condition known to the patient and which usually requires hospitalization; the patient has been guided by a qualified health professional to go to the emergency room if he/she presents the symptom; needs initial health care quickly and the hospital is the nearest unit<sup>(3)</sup>.

In the current scenario, the importance of using instruments that assess the suitability and relevance of care in emergency services is reaffirmed. Thus, it is highlighted that the HESP has been used in different audiences, from adults to the elderly, with satisfactory experiences in reducing the number of hospitalizations<sup>(4)</sup>.

In this sense, the use of instruments that assess the suitability and relevance of care in emergency services is relevant, as it can contribute to the diagnosis of situations and promotion of educational interventions in the community,

with a view to sensitizing health professionals and society about this issue. In addition, one can also collaborate for the emergence of public policies that seek to correct the causes that lead the population to seek emergency services in an inadequate way.

Thus, the objective of this study was to translate and culturally adapt the Hospital Emergency Suitability Protocol (HESP) into Brazilian Portuguese.

## METHOD

Methodological study of translation and adaptation of HESP into Brazilian Portuguese. The HESP was created in the Spanish language to identify whether the search for urgent care by the patient is appropriate or inappropriate.

The protocol consists by 75 items in total, 31 items addressing dimensions 1.1 to 5.9 that deal with clinical severity, the remaining 41 items talk about the causes of inappropriate use of hospital emergencies 1 to 9, the protocol also addresses ten background information explaining the instrument and contemplates five dimensions in which it corresponds to patients referred by a qualified health professional or by spontaneous demand<sup>(3)</sup>.

According to the HESP criteria, the search is considered urgent if it meets at least one of the five criteria, namely: severity criteria, treatment criteria, diagnostic intensity, other criteria and applicable criteria. The severity criteria is organized into 8 items (1.1 to 1.8), which refer to changes in hemodynamic instability patterns. The treatment criteria consists of 4 items (2.1 to 2.4), which refer to cases of drug administration, oxygen therapy, immobilization and surgical procedures<sup>(3)</sup>.

Furthermore, the diagnostic intensity address 4 items (3.1 to 3.4), which adopt parameters associated with vital signs, radiological, laboratory and cardiac exams. While other criteria consider 4 items (from 4.1 to 4.9) and concerns the observation time in the hospital unit, inter-hospital transfer and deaths. The criteria applicable only to patients who come spontaneously include 6 items (5.1 to 5.9), which are defined by numerous causes that lead the patient to seek the service voluntarily, which encompass: accidents on public and work roads, pain chest, dyspnea and abdominal pain<sup>(3)</sup>.

Some items were complemented by experts, in order to attribute the causes of inadequacy based on the subjective assessment of the health professional, understood as excessive delay in another care device 2.1 to 2.9, failure in continued care 3.1 to 3.9, the patient does not know how use the care device 4.1 to 4.9, greater trust in the hospital or distrust in the primary care device 5.1 to 5.9. comfort and problems of the patient around him 6.1 to 6.9 and other items 9<sup>(3)</sup>. The HESP will be fully described in the result section.

The study site included an emergency hospital, a reference in trauma care<sup>(5)</sup>, as it has characteristics equivalent to the sample used to formulate the original protocol. This hospital is located in the city of Teresina, Piauí, Brazil, which has an estimated population of 814,230 inhabitants and about 14 hospitals<sup>(6)</sup>.

### **Translation and adaptation process**

The study was initiated after formal authorization from the original authors of the protocol. The translation and adaptation process used a recommendation that advocates six stages: translation, synthesis of translations, back-translation, review by an expert committee, pre-test and submission of the version to the authors of the protocol, for clarity and ease of application<sup>(7)</sup>.

The first stage took place from March to May 2020 and consisted of the initial translation of the HESP, which was conducted by two independent Brazilian translators, bilingual, mastering the Spanish language, proven by proficiency test, and who had Brazilian Portuguese as their native language, the language into which the instrument was translated. Prior contact with the translators was by email.

To ensure the effective translation, one of the translators was informed about the objectives of the study ("clinical" translator) and the other translator was not informed about the concepts or purposes for which the instrument is intended, in addition, he was a layman in the area of the assessed study ("naive" translator)<sup>(7)</sup>. Two translations were performed from the original language (Spanish) to Brazilian Portuguese. These could be compared for discrepancies or ambiguities, in order to seek a version with a reliable definition of each item in the original version.

The second stage took place from May to July 2020 and the consultation of participants took place through an invitation via email and google forms. At this stage, the synthesis of the translations was performed, which constituted the consolidation of the two translations. A third person, Brazilian, with knowledge of the Spanish language, was added to the team to resolve the discrepancies. The versions of the first translator (T1) and the second (T2) were consolidated, which resulted in the synthesis version (T12).

After obtaining the synthesis version, the third stage began, which occurred in August 2020 and the participants were contacted via e-mail. This phase consisted of the back-translation of the T12 version from Portuguese to the instrument's original language, Spanish, in order to ensure that each item in the target language version accurately reflected the content of the items in the original version<sup>(7)</sup>. The back-translation was performed by two translators, one

from Guatemala and one from Spain, who lived in these countries, with extensive knowledge of Portuguese, being that the first back-translator was fluent in Spanish, certified by proficiency exam, and the second, proven by a diploma in a foreign language - Portuguese. From this, versions RT1 and RT2 were obtained<sup>(7)</sup>.

In the fourth stage, which took place from August to September 2020, an expert committee was created, consulted by google forms and which conducted a careful assessment to maintain the conceptual, semantic, cultural, and idiomatic equivalences. The committee was composed of five researchers selected according to literature recommendations<sup>(7)</sup>. The members of the committee met, at least, one of the inclusion criteria: having a PhD in nursing or related field or specialist; have experience in emergency, and/or also in translation research and instrument adaptation; or have a proficiency in Spanish. Compliance with these criteria was verified by consulting online curricula registered on the Lattes Platform of the National Council for Scientific and Technological Development. It was adopted as an exclusion criterion the failure to complete the form and assessment instrument. A researcher with expertise in the method, three researchers on the topic of urgency, who had clinical or practical experience in the topic, and a translator participated. Among the participants, the first four had a doctorate and only the translator was a specialist. An invitation was sent to ten researchers and the first five who agreed to participate in the study were selected, with two participants living in the Southeast region for about four years. During this stage, the experts did not include any member of the research team.

For the presentation of the HESP, the experts received, through google forms: a) invitation letter; b) Informed Consent Form (ICF); c) expert characterization form, which contained ten questions; d) instrument for equivalence analysis; e) original version of HESP; f) the two translations; g) synthesis of translations; h) and the two back-translations. The period of consultation with specialists averaged ten days. The Spanish version and the synthesis of the translations were assessed by the experts, who registered on the equivalence scale, according to the numbering: 0 - Undefined, -1 non-equivalent and 1 equivalent<sup>(8)</sup>. After assessment, all discrepancies were resolved and resulted in the Brazilian pre-final version of the HESP, which was applied in the pre-test<sup>(3)</sup>.

In the fifth stage of the study, conducted between September and November 2020, the pre-test was performed, in which the pre-final version of the HESP was used by health professionals (nurses and physicians). For sample definition, the literature recommended to be constituted by 30 to 40 people<sup>(7)</sup>. The sample consisted of 30 professionals, recruited through non-probabilistic sampling, for convenience, and

considered as inclusion criteria: be graduated in medicine or nursing; be in professional practice for at least six months; and be on duty at the emergency care units of the emergency hospital. Those on vacation or on leave during the data collection period were excluded from the study.

Access to health professionals was through visits to the emergency hospital, at the time of shifts, and according to their availability, they were approached by the researcher in a private room. The protocol's assessment was registered in the printed paper form, in the pre-final version there was space to register doubts, comments and suggestions from professionals regarding the document. The average application time was 30 minutes.

In the sixth stage, conducted in December 2020, all documents and reports of the procedures performed in the study were sent by email to the authors of the instrument, with a view to obtaining approval of the HESP translation and cultural adaptation process for use in Brazil. All instruments, including versions T1, T2, T12, RT1 and RT2 and the original version can be accessed in the project available on the Open Science Framework (OSF) platform <https://doi.org/10.17605/OSF.IO/PFM9W>.

In the cultural adaptation, the results of the qualitative assessment and the agreement between the experts were presented in a descriptive way. The quantitative analysis took place from the Content Validity Index (CVI). Items were considered valid when they reached a percentage of agreement among experts of 80% or higher, whose value provides satisfactory evidence for content validity<sup>(9)</sup>.

It was used the Cronbach's alpha coefficient in the reliability analysis (internal consistency) and the value  $\alpha \geq 0.70$  was considered as the minimum acceptable for reliability, so that the maximum expected value is 0.90. Alpha values between 0.80 and 0.90 are preferred<sup>(10)</sup>.

In face validation, the data resulting from the pre-test were analyzed using Kendall's coefficient of concordance (W) in which the significance level adopted for use was 5%. This coefficient is a measure of non-parametric correlation and indicates the degree of agreement of assessments of ordinal variables of the same sample, from different evaluators. When this coefficient assumes values above 0.30, acceptable levels of association are considered<sup>(11)</sup>.

All participants, experts, nurses and physicians were informed about the objective of the study and signed two copies of the ICF. In the end, the first copy was held by the researcher and the second by the participant. The experts signed the ICF through google forms and received

a completed copy of the document, while nurses and physicians, in printed form, returned signed. The study was approved by the Research Ethics Committee, under protocol CAAE 28558620.4.0000.5214 and opinion No.4,218,774.

## ■ RESULTS

### Stage 1 – Translation

In the initial translation stage, the HESP instrument was translated from Spanish to Portuguese by two translators. Two Brazilian letterologist translators participated in this process. The first, who had a postgraduate degree in Brazilian translation, was aware of the objectives of the study, brought contributions about the lexicon of words used and made the reading of the translated HESP instrument cohesive and concise. The second was not informed about the construct addressed by the instrument. It should be noted that 36 items had divergences during the translation.

The translators were female and had advanced proficiency in the languages. The two translated versions (T1 and T2) showed some differences. It was observed that the version produced by the "naïve" translator (T2) was more literal and formal than the translation by the "clinical" translator (T1). Experiences in translating texts in the health field and familiarity with the terms of the protocol may have contributed to T2 having such characteristics, although the translator had not been informed of the study objectives.

### Stage 2 – Synthesis of translations

At this stage, the translated versions, generated independently by the two translators T1 and T2, were synthesized into a single version (T12), added to the mediation of a third person, Brazilian, with mastery of Spanish.

The disagreements in translations totaled eleven and were resolved after agreement between the translators, it was possible to establish the definitive synthesis version of the instrument in Portuguese (T12), in order to maintain the meaning of the original instrument and in order to consider the population to which the instrument is targeted, as well as applicability in the Brazilian context. The synthesis of the translations proved to be coherent, obtained a translation aimed at the target population and maintained the equivalence between the meanings of the words in the original and translated versions.

### Stage 3 – Back-translation

Two independent back-translated versions were obtained: RT1 and RT2. The two back-translations showed to be correlated with the original version of the protocol, which made the synthesis version semantically representative of the original. In this phase, back-translator 1 diverged from the instrument in only one criteria, while back-translator 2 in four items.

### Stage 4 – Expert Committee Review

The expert committee was composed by: four female professionals (80%), one male (20%), with ages ranging from 30 to 51 years old, four with a PhD degree (80%) and one with a specialization (20%). Regarding academic professional experience, three had current experience in teaching and research (60%), one in teaching and management (20%) and one in teaching and tertiary care (20%). As for care experience in emergency services, three had current or retrograde experience (60%) and two had no experience in emergency care (40%). Regarding teaching experience involving urgency, four responded positively (80%) and one reported not having it (20%).

Among the experts, the five members of the committee responded that they had experience with translation and adaptation of instruments (100%). Regarding the publication of a scientific article in the emergency field, four reported having it (80%) and one denied (20%). As for the publication of a scientific article on translation and adaptation of instruments, three said they had it (60%) and two reported that they did not have it (40%).

The changes made between the Spanish protocol and the Portuguese protocol were related to word modifications that are used in the Brazilian reality, these adjustments are relevant since the measurement methods used in the original context may not be suitable in a different context. It is noteworthy that the changes occurred sparingly throughout the protocol. Targeted substitutions of the words were made "abrupt" for "sudden", "insensitivity" for "loss of sensation", "blood gases" for "gasometry", "primary service" for "primary care", "fluids" for "liquids", "plaster placement" for "immobilization with plaster", "enters" for "hospitalized", "decease" for "death", "derived" for "referred", "doctor" for "qualified health

professional", "center" by "unit", "care device" by "care service", "zone" by "location", "bedside" by "family", "designated" by "answer", "location" by "address", "has" for "possess", "application" for "request", "surrounding" for "environment", "mental illness" for "intellectual deficit", "simulator" for "staging", "analytical" for "general", "emergency" for "urgency", "dry strip tests" for "blood glucose". The committee understood by concession that these terms are suitable for use in the hospital setting and easy to understand.

The expert judges chose to reformulate the presentation of item 1.7 by suppressing some words, which says: superficial wounds that only need suture are excluded, leaving only: "Active hemorrhage (hematemesis, epistaxis, melena, etc.)", item 3.3 except blood glucose in diabetics who attended for reasons unrelated to diabetes and blood glucose tests, was as follows: "Laboratory tests" and item 3.4, except for chronic heart disease that came for problems not related to heart disease, remained "Electrocardiogram". The committee defined that the removal of the terms does not affect the dimensions.

Table 1 shows the CVI scores obtained in the assessment by the expert committee. Most items obtained agreement above 80% among experts, which revealed semantic, idiomatic, and conceptual equivalence, according to the instrument versions. In the analysis of equivalences, the reliability data, obtained by calculating the Cronbach's alpha coefficient, except for cultural or Experiential equivalence, obtained a  $\geq 0.70$ . Except for the one that showed Experiential Equivalence  $\alpha=0.682$ .

### Stage 5 – Pre-test

The pre-test sample consisted of 30 health professionals, of which 21 (70%) were nurses, 21 (56.7%) were female, with a mean age of 33 years ( $sd=4.75$ ) and in the age group between 25 and 43 years old. Regarding training, 24 (80%) had the title of specialist, 13 (43.3%) had between six to ten years of professional experience and 16 (43.3%) reported having an income of three to ten minimum wages.

The levels of association between the participants' responses were considered high (Table 2). The assessment of the application of the protocol using the Kendall's W coefficient – face validity, showed the HESP as a reliable instrument to be used in the Brazilian context. Note that the value of  $N=30$ , Kendall's  $W=0.30$  is considered acceptable<sup>(11)</sup>.

**Table 1** – Description of the Content Validity Index and Cronbach's Alpha resulting from the analysis of semantic, idiomatic, cultural, and conceptual equivalences by the Hospital Emergency Suitability Protocol (HESP) by the expert committee. Teresina, Piauí, Brazil, 2021

Equivalences	CVI	Cronbach's Alpha
Semantic Equivalence – SE	0.93	0.815
Idiomatic Equivalence – IE	0.85	0.924
Cultural or Experiential Equivalence – EE	0.75	0.682
Conceptual Equivalence – CE	0.79	0.712

Source: Authors, 2021.

**Table 2** – Results of the Kendall's W concordance analysis of nurses and physicians participating in the pre-test. Teresina, Piauí, Brazil, 2021

HESP – item	W*	N	P-value
Severity criteria	0.21	09	0.058
Sudden loss of vision or hearing	0.29	09	0.061
Radiology of any type	<b>0.32</b>	<b>11</b>	<b>0.002</b>
Sudden loss of functional capacity of any part of the body	<b>0.31</b>	<b>17</b>	<b>0.002</b>
Monitoring vital signs or checking vital signs every 2 hours	<b>0.39</b>	<b>13</b>	<b>0.022</b>
Diagnostic Intensity Criteria	<b>0.37</b>	<b>15</b>	<b>0.003</b>
Immobilization with plaster (except bandage)	<b>0.32</b>	<b>17</b>	<b>0.031</b>
Active bleeding (hematemesis, epistaxis, melena, etc.).	<b>0.33</b>	<b>15</b>	<b>0.025</b>
Persistent fever (5 days) uncontrolled with treatment in primary care.	<b>0.36</b>	<b>15</b>	<b>0.002</b>
Treatment Criteria	<b>0.35</b>	<b>13</b>	<b>0.021</b>
Intervention / procedure performed in the operating room	<b>0.41</b>	<b>12</b>	<b>0.001</b>
Heart rate changes (<50/> 140 beats/minute) and arrhythmias	<b>0.38</b>	<b>13</b>	<b>0.011</b>
Changes in electrolytes or gasometry (do not consider in patients with chronic changes in these parameters: chronic renal failure, chronic respiratory failure, etc.).	<b>0.40</b>	<b>12</b>	<b>0.022</b>
Change in blood pressure (systolic:<90/>200 mmHg; diastolic: <60 />120 mmHg)	<b>0.41</b>	<b>12</b>	<b>0.025</b>
Intravenous administration of medication or liquids (except maintenance of previous intravenous access or drugs)	<b>0.39</b>	<b>15</b>	<b>0.012</b>

**Table 2** – Cont.

HESP – item	W*	N	P-value
Oxygen administration	<b>0.40</b>	<b>13</b>	<b>0.003</b>
Laboratory tests	<b>0.40</b>	<b>12</b>	<b>0.029</b>
Symptoms suggesting vital urgency: chest pain, dyspnea with rapid onset, indrawing, acute abdominal pain	<b>0.42</b>	<b>14</b>	<b>0.001</b>
Condition known to the patient and usually requiring hospitalization	<b>0.43</b>	<b>12</b>	<b>0.001</b>
Others in cases of patients referred by a qualified healthcare professional (specify)	<b>0.52</b>	<b>18</b>	<b>0.001</b>
Other Criteria	<b>0.50</b>	<b>12</b>	<b>0.001</b>
The patient dies at EHS	<b>0.52</b>	<b>14</b>	<b>0.001</b>
The patient was guided by a qualified health professional to go to the emergency room if he/she presents the symptom	<b>0.52</b>	<b>15</b>	<b>0.001</b>
The patient has been under observation for more than 12 hours in the hospital emergency service	<b>0.50</b>	<b>15</b>	<b>0.001</b>
The patient is admitted to the hospital or transferred to another hospital	<b>0.47</b>	<b>12</b>	<b>0.001</b>
Electrocardiogram	<b>0.47</b>	<b>12</b>	<b>0.002</b>
It results from an accident (traffic, work, in a public place, ...) and the patient should be evaluated	<b>0.44</b>	<b>12</b>	<b>0.011</b>
Criteria suitable only to patients who spontaneously seek care	<b>0.47</b>	<b>14</b>	<b>0.001</b>
Needs quickly initial health care and the hospital is the nearest unit	<b>0.45</b>	<b>14</b>	<b>0.001</b>
Others in cases of patients seeking care in the emergency department (specify)	<b>0.48</b>	<b>13</b>	<b>0.001</b>
Emergency hospital service	<b>0.47</b>	<b>15</b>	<b>0.001</b>
It is not an emergency situation. It does not require immediate care.	<b>0.48</b>	<b>15</b>	<b>0.001</b>
Patients referred by a qualified healthcare professional	<b>0.55</b>	<b>16</b>	<b>0.001</b>
The patient requires immediate care, but it can be resolved outside the hospital	<b>0.54</b>	<b>16</b>	<b>0.001</b>
Others (specify)	<b>0.54</b>	<b>15</b>	<b>0.001</b>
Forwarded by mistake	<b>0.56</b>	<b>15</b>	<b>0.001</b>
Forwarded from External Consultation to speed up diagnosis	<b>0.58</b>	<b>18</b>	<b>0.001</b>

**Table 2** – Cont.

HESP – item	W*	N	P-value
Excessive delay in another care service:	<b>0.57</b>	<b>17</b>	<b>0.001</b>
Patients on spontaneous demand	<b>0.57</b>	<b>17</b>	<b>0.001</b>
Surgical waiting list	<b>0.55</b>	<b>16</b>	<b>0.001</b>
Diagnostic tests requested in primary care or local specialist	<b>0.51</b>	<b>14</b>	<b>0.001</b>
Out-of-hospital consultation (delay between appointments)	<b>0.48</b>	<b>12</b>	<b>0.003</b>
Others: specify	<b>0.48</b>	<b>12</b>	<b>0.011</b>
Unable to contact the health unit	<b>0.41</b>	<b>10</b>	<b>0.001</b>
Delay in home visits from the emergency department	<b>0.39</b>	<b>9</b>	<b>0.023</b>
Diagnostic tests requested by the hospital	<b>0.38</b>	<b>11</b>	<b>0.021</b>
Expert consultation	<b>0.34</b>	<b>11</b>	<b>0.002</b>
Failure on continued service	<b>0.33</b>	<b>11</b>	<b>0.002</b>
The general practitioner consultation was completed	<b>0.33</b>	<b>10</b>	<b>0.011</b>
Waiting list for out-of-hospital consultations	<b>0.35</b>	<b>10</b>	<b>0.010</b>
Delay in home visits in primary care	<b>0.34</b>	<b>10</b>	<b>0.010</b>
Others: specify	0.27	7	0.088
Unable to contact the Emergency Department	0.29	7	0.067
Has a medical history at the hospital and believes that will be better attended	<b>0.37</b>	<b>9</b>	<b>0.023</b>
Consultation in primary care (prior consultation)	<b>0.35</b>	<b>9</b>	<b>0.015</b>
Others: specify	<b>0.36</b>	<b>9</b>	<b>0.011</b>
Greater trust in the hospital or distrust in the primary care service	<b>0.39</b>	<b>9</b>	<b>0.009</b>
Was seen at another emergency room, but "did not trust him".	<b>0.39</b>	<b>9</b>	<b>0.005</b>
The patient does not know how to use the general health service	<b>0.40</b>	<b>13</b>	<b>0.001</b>
Is not aware of the existence/location/phone of the emergency service	<b>0.39</b>	<b>13</b>	<b>0.033</b>
Sought care directly from the hospital emergency service	<b>0.39</b>	<b>12</b>	<b>0.026</b>
There is no family doctor to assist	<b>0.44</b>	<b>14</b>	<b>0.001</b>

**Table 2** – Cont.

HESP – item	W*	N	P-value
Was seen by the family doctor, but "did not trust him"	<b>0.42</b>	<b>14</b>	<b>0.022</b>
Others (specify)	<b>0.42</b>	<b>13</b>	<b>0.002</b>
Does not know the address/phone number to contact family doctor	<b>0.41</b>	<b>13</b>	<b>0.001</b>
Comfort and problems of the patient or their environment	<b>0.41</b>	<b>13</b>	<b>0.017</b>
Request from a public authority: police, judge	0.28	8	0.102
Search for an assessment (general, radiological...)	<b>0.33</b>	<b>10</b>	<b>0.004</b>
Patient problems: intellectual/cognitive deficit, hypochondria, enactment	<b>0.33</b>	<b>10</b>	<b>0.002</b>
Patient lives near the hospital / Does not want to lose work hours / seeks quick service / more comfortable	<b>0.49</b>	<b>14</b>	<b>0.001</b>
Others: specify	<b>0.49</b>	<b>14</b>	<b>0.001</b>
The family wants to hospitalize the patient	<b>0.52</b>	<b>16</b>	<b>0.001</b>
Others: specify	<b>0.55</b>	<b>16</b>	<b>0.001</b>
Loss of consciousness, disorientation, coma, loss of sensitivity (sudden or very recent)	<b>0.47</b>	<b>13</b>	<b>0.002</b>

Source: Authors, 2021.

Legend: W\*– Kendall's concordance coefficient. Values in bold, statistical significance ( $p<0.05$ ).

## Stage 6 – Submission of the version to the authors of the protocol

After documents feedback of the methodological process and sending the final version of the HESP in Brazilian Portuguese to the authors of the original instrument, it was obtained approval and authorization for publication of the instrument.

## ■ DISCUSSION

The translation and adaptation of instruments such as the HESP, of international recognition, is relevant for nursing as a professional activity and health science, in addition to allowing exchange and correlation between common variables and different contextual realities. Furthermore, there is the advantage of providing a low-cost instrument to be used in emergency services, in order to early detect

less severe cases, in an attempt to reduce the overuse of the hospital network and contribute to the management of care.

Concepts about emergency and protocols that define urgent and non-urgent cases have different meanings and may be associated with different behaviors for people living in different social contexts<sup>(12)</sup>. Hospital suitability protocols emerge as a reference to classify patients by levels of complexity. They are essential to achieve acceptable clinical competence, protect patient safety and optimize outcomes in high-risk care situations<sup>(13)</sup>.

The HESP stands out for analyzing the construct from the perspective of establishing criteria aimed at the scope of hospital urgency. In addition, it presents itself in a specific, sensitive, reliable and capable way of identifying inappropriate visits to emergency services<sup>(7)</sup>. Thus, it became relevant to translate and culturally adapt this protocol, which could become the object of other studies aimed at comparing it with urgent and emergency protocols from other countries.

International studies have been developed using HESP, especially in Spain. Research conducted in Girona sought to analyze the evolution and characteristics of hospital emergencies for institutionalized elderly people and the hospitalizations generated by it, as well as the adequacy of both. The researchers concluded that the instrument proved to be effective in categorizing inappropriate urgencies in adults and the elderly<sup>(4)</sup>. Another Spanish study sought to investigate the interference of the COVID-19 pandemic in changing the pattern of care in the emergency department, and identified that, based on the application of the HESP, most care was considered suitable<sup>(14)</sup>.

In Brazil, experience in the use of an emergency protocol called Emergency Severity Index (ESI), in a high complexity hospital in São Paulo, pointed out that the implementation of a system that determines suitable or unsuitable care brings benefits, both for the professional and for the patient<sup>(15)</sup>.

In this study, the stages recommended in the literature were carefully followed, so that the instrument translated and adapted to the Brazilian context would result in a quality instrument. During the cultural adaptation process, some items needed to be modified. This situation occurred mainly in items that contained technical terms, whose translation could cause doubts in understanding.

In the process of translation and cultural adaptation, in addition to the use of grammatically correct terms, adjustments can be made to items and instructions for use. However, it is necessary to preserve the semantic, idiomatic, cultural and conceptual characteristics of the instrument<sup>(16)</sup>. Regarding the general aspects of the HESP, adjustments were made in order to preserve the original meaning. However, colloquial terms applied in Brazil were used.

After assessment by the committee members, the researchers in this study reviewed all the suggestions, considering the changes to the items, and a consensual version was produced.

In this study, the percentage of agreement of the expert committee showed satisfactory results. In a methodological research for the translation and cultural adaptation of an instrument to assess the perception of chronic disease severity, the committee consisted of five experts and the CVI showed results similar to those found in this investigation<sup>(17)</sup>. In this sense, it is observed that the discussion by the expert committee of all items in the protocol contributed to the agreement of the translation and, consequently, increased the potential of understanding the instrument by the target audience.

The assessment of the instrument by the expert committee allowed the participation of researchers from the

northeast and southeast of Brazil, which may differ from the southern region. Some items were considered by the committee as expressions little used in clinical practice. Regarding the disagreement on the cultural/experiential adaptation item, this result may have been due to the heterogeneity of the audience of judges, all from different regions belonging to the northeast and southeast of Brazil, as each region has its particularities in the use of colloquial language.

The instrument's pre-test showed good reliability and acceptable face validity, based on Kendall's W coefficient of concordance. Similarly, a study with 216 medical students in Germany found that the analyzed items had acceptable reliability, with Kendall's W values ranging from 0.30 to 0.79<sup>(11)</sup>. Considering that the target audience for the use of HESP is heterogeneous (physicians and nurses), this result supports the use of this protocol by these professionals in Brazil, since there was an agreement on the items by different evaluators who work in the emergency department.

Despite the different cultural realities between Spain and Brazil, similarities between the health systems of these countries can be pointed out, especially regarding the doctrinal principles and legal framework of the two health systems. Even so, there are important differences regarding social, economic, cultural aspects and nosological and epidemiological profiles of populations. In addition, one can mention differences in the decentralization of health, offers of basic and specialized consultations and training of professionals working in primary care<sup>(18)</sup>.

HESP was developed with a focus on adults and elderly. It is expected, therefore, that this instrument will be applied in the future to this same population, in Brazil. Thus, further research may contemplate specific protocols in other age groups. The results found in this study should permeate the elaboration of organizational practices in the emergency setting, especially for health professionals who routinely care for cases capable of being solved in primary care, favoring the dissemination of studies in the emergency area, due to the incipience of production, especially in Brazil.

When considering the continental characteristics of Brazil and cultural diversity, it is believed that it would be necessary to apply the HESP in different regions to analyze the psychometric values, which may be a limitation of the study. However, this does not invalidate the external validity of the study, since the public health system is the same, another fact is that the protocol is extensive and requires time for its application. Furthermore, this is a study on the translation and adaptation of emergency protocols, an area in which the incipience of research addressing the issue in the Brazilian context is remarkable.

## ■ CONCLUSION

The translation and adaptation process of the HESP originated an applicable instrument. The emergency protocol directly reflects on the line of care offered by health professionals to the patient. According to the proposed objectives and the results obtained, it can be inferred that the adapted version of the HESP attested to the semantic, idiomatic and conceptual equivalence, with the exception of cultural or experiential equivalence. The analysis obtained by the expert committee in relation to the original Spanish version strictly respected the stages recommended by the methodological framework, which allowed for a glimpse of the credibility and consistency of this study.

Based on the above, it is necessary to train and sensitize managers regarding the relevance of the instrument's applicability to modify inappropriate clinical behaviors, educational change in the population and proper use of the structure, especially when considering waiting for care. It is also suggested that other places conduct the translation and adaptation of the aforementioned protocol, in order to allow the comparison of results found in other countries and cultures. Furthermore, the research contributes to the advancement of knowledge in nursing and health, as it brings the possibility of using a specific instrument, which will help in the early detection of inadequate search for hospital urgent and emergency services, which will have an impact on necessary interventions and good practices of these institutions.

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