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NOTE PREVIEW ARTICLE

TRANSCULTURAL ADAPTATION AND VALIDATION OF THE INSTRUMENT PITTAETOOL FOR BRAZIL

ADAPTAÇÃO TRANSCULTURAL E VALIDAÇÃO DO INSTRUMENTO PITTAETOOL PARA O BRASIL

ADAPTACIÓN TRANSCULTURAL Y VALIDACIÓN DEL INSTRUMENTO PITTAETOOL PARA BRASIL

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ABSTRACT

Objective: to carry out the cross-cultural adaptation and validation of the instrument The Pittsburg Adverse Events Detection and Classification Tool - PittAETool for Brazilian culture. **Method:** quantitative study, methodological type, which will be performed with interventionist physicians and nurses from an aeromedical service in the southern region of Brazil. In the process of cross-cultural adaptation, the Translation Protocol proposed by the World Health Organization will be applied. At the validation stage, the psychometric properties of PittAETool will be evaluated by Cronbach's alpha. All expected ethical precepts will be obeyed, as recommended by Resolution No. 466/2012 of the National Health Council. **Expected results:** the PittAETool instrument is expected to be effective in identifying and classifying adverse events in aero-medical services in Brazil. **Descritores:** Patient Safety; Emergency Medical Services; Air Ambulances; Validation Studies; Psychometrics; Nursing.

RESUMO

Objetivo: realizar a adaptação transcultural e validação do instrumento *The Pittsburg Adverse Events Detection and Classification Tool - PittAETool* para a cultura brasileira. **Método:** estudo quantitativo, tipo metodológico, que será realizado com médicos e enfermeiros intervencionistas de um serviço aeromédico da região Sul do Brasil. No processo de adaptação transcultural, será aplicado o Protocolo de Tradução proposto pela Organização Mundial da Saúde. Na etapa da validação, realizar-se-á avaliação das propriedades psicométricas do *PittAETool* por meio do alfa de Cronbach. Todos os preceitos éticos serão obedecidos, conforme recomenda a Resolução nº 466/2012 do Conselho Nacional de Saúde. **Resultados esperados:** espera-se que o instrumento *PittAETool* seja efetivo para identificar e classificar eventos adversos em serviços aeromédicos do Brasil. **Descritores:** Segurança do Paciente; Serviços Médicos de Emergência; Resgate Aéreo; Estudos de Validação; Psicometria; Enfermagem.

RESUMEN

Objetivo: realizar la adaptación transcultural y validación del instrumento *The Pittsburg Adverse Events Detection and Classification Tool - PittAETool* para la cultura brasileña. **Método:** estudio cuantitativo, tipo metodológico, que será realizado con médicos y enfermeros intervencionistas de un servicio aeromédico de la región Sur de Brasil. En el proceso de adaptación transcultural, se aplicará el Protocolo de Traducción propuesto por la Organización Mundial de la Salud. En la etapa de la validación, se realizará evaluación de las propiedades psicométricas del *PittAETool* por medio del alfa de Cronbach. Todos los preceptos éticos serán obedecidos, conforme recomienda la resolución nº 466/2012 del Consejo Nacional de Salud. **Resultados esperados:** se espera que el instrumento *PittAETool*, sea efectivo para identificar y clasificar eventos adversos en servicios aeromédicos de Brasil. **Descritores:** Seguridad del Paciente; Servicios Médicos de Urgencia; Ambulancias Aéreas; Estudios de Validación; Psicometría; Enfermería.

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INTRODUCTION

National and international health care organizations have been focused on stimulating safe practices aimed at reducing risks of harm during the care of patients at all levels of care. According to this practice, patient safety, perceived as a component of health care quality, has been considered a highly relevant issue among researchers, managers, health professionals, and even patients / users who level of effectiveness and efficiency.¹⁻²

In addition to attempting to qualify care and alleviate health care expenditures, the search for safety in all care sectors arose because of the vulnerability of the patient as a subject of health actions.³ In addition, the need to practice skilled and safe care can be perceived as a reflection of the lack of involvement of professionals in the establishment of protocols and continuous training.³

The emotional state of health professionals, therefore, can be understood as a relevant factor predisposing to the occurrence of adverse events (AE) in the care field, since the daily demotivation of the professional involved in the execution of care compromises the management of care and the quality of care.³

According to the World Health Organization (WHO), millions of patients suffer disabling injury-related injuries from health care professionals annually and it is estimated that one in ten patients will experience some form of adverse event in hospital settings in developed countries.⁴ Against this background, it is noted that the prevention of the occurrence of AEs related to the human factor presents a great challenge for the improvement of the quality of health care.⁴⁻⁵

In Brazil, regarding hospitalization expenses of patients suffering from some form of AE, it is estimated that these may reach an increase of 200% when compared to hospitalizations of individuals who did not suffer damage to health due to care incidents.⁶ In addition, a study reveals an average increase of 28 days in hospitalization time, increasing expenditures to the health system.⁷

In order to expand actions to promote patient safety in Brazilian territory, MS established the National Patient Safety Program (PNSP), through Administrative

Rule MS / GM No. 529, of April 1, contribute to the qualification of care in all health facilities.⁸

Recognizing the interference of the structure and processes in the care dynamics, attention is paid to the need for safety-related investigations and identification of possible threats to the patient in all care sectors, including mobile Prehospital Care (PHC). This is because, in addition to common threats to patient safety arising from emergency care, environmental factors specific to mobile PHC can contribute to increased exposure to risks such as hostile environment and other adversities at the place of care (sun, rain, heat, cold etc.), peculiar in the daily life of the professional inserted in this service.⁵

In considering the emergency care scenario, considering that prehospital care is aimed at the implementation of fast and safe interventions, it is understood that concern about patient safety permeates all levels of care, including mobile PHC.⁹⁻¹⁰

The Pittsburgh Adverse Events Detection and Classification Tool (PittAETool),¹⁰ is an important tool for determining the safety of the patient in the PHC, in the year 2014, by researchers at the University of Pittsburgh, Pennsylvania. allows the detection and classification of adverse events in emergency medical service.

In a recent study conducted in Sweden,¹¹ the use of PittAETool identified adverse events occurring in prehospital mobile care, and this resulted in the implementation of actions aimed at avoiding the occurrence of future AEs and qualified the mobile service to the urgencies of that country through adaptations in the permanent education program, support in the decisions of the team leader, modernization of equipment, optimization of working hours, incentives to the culture of patient safety, among others.

In Brazil, until the year 2013, the aeromedical service was carried out only by private companies, health care providers and fire brigades. From then on, with the implementation of the National Policy on Emergency Care (NPEC), the Unified Health System (UHS) also began to offer urgent medical care through the Emergency Mobile Assistance Service (EMAS) mobile network of the emergency service network.¹²

As an example of the reality experienced in the mobile PHC of Sweden, it is considered that knowing the adverse events

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and apprehending the possible causes that predispose them to occur in the mobile service to the urgencies of Brazil, will allow the managers, coordinators and leaders of this service to implement actions that promote patient safety and the qualification of HPA at the national level. However, validated instruments that allow detecting AEs specifically in the mobile PHC environment are still non-existent in Brazilian territory.

OBJECTIVE

• To carry out the cross-cultural adaptation and validation of the instrument The Pittsburg Adverse Events Detection and Classification Tool - PittAETool for Brazilian culture.

METHOD

This is a research proposal presented to the Graduate Program in Nursing - Level - Doctorate, State University of Maringá (UEM), Paraná. It will be a methodological study, which will include the process of translation, cross-cultural adaptation of the instrument and testing.

The author's permission to use PittAETool was e-mailed to Professor and Physician Daniel Patterson of the University of Pittsburgh, Pennsylvania, USA, who is one of the authors who describes the construction and validation of the instrument and awarded the researcher the permission for the cross-cultural adaptation and validation of PittAETool to be performed in Brazilian culture.

The Pittsburgh Instruments Acceptance Detection and Classification Tool - PittAETool is a tool developed by six physicians and four interventional nurses working on medical emergency service helicopters in the Northeastern United States. This instrument makes it possible to detect and classify adverse events in the attendances carried out in the helicopters of the emergency medical services of that country through the review and analysis of medical records.¹⁰

The structure of PittAETool is composed of four categories, named by the authors as: Step 1 - Triggers / script of the tool; Step 2 - Description of the event (adverse); Step 3 - Allocation of the cause of the adverse event e; Step 4 - Adverse Event Severity.¹⁰

Step 1 - Triggers / tool script - observation and detailed investigation of each of the 11 items that integrate the

trigger / script, which are divided into four groups: documentation, professional and patient actions, patient conditions, intervention and medication;

Step 2 - Description of the event: description of the possible EA with the use of three to five words in the script (Step 1);

Step 3 - Assignment of a cause to the adverse event: it allows to identify the probable cause of the AD. This stage consists of five categories: patient actions, professional actions, medical or vehicle equipment, scene factors and indeterminate mapping;

Step 4 - Adverse event severity: EA identification and severity rating. It is formed by three categories: absent adverse event, present adverse event, with potential for injury, and, present adverse event, with identified damage.

The authors of this instrument emphasize the breadth of approach of the same, since, in addition to allowing the detection and classification of AEs in the medical helicopter service, PittAETool can serve as a model for the construction of tools for the detection of AEs in other contexts, such as advanced medical emergency services.¹⁰

For the cross-cultural adaptation of PittAETool, the World Health Organization (WHO) Translation Protocol, also adopted as a methodological reference for studies conducted by researchers at Harvard Medical School, will consist of the following steps: translation of the instrument (for the desired language); evaluation of the version translated by a committee of experts, translation of the instrument back to the original language (back translation); pretests, cognitive interviews and; final version.¹³

For the validation procedure, the evaluation of psychometric properties will be carried out by means of validity (face, content and construct) and also reliability (internal consistency).¹⁴

The study will be developed in an Aeromedical Base of the Mobile Emergency Care Service - Samu 192, located in the State of Paraná. This service has been regionalized since August 2016, had the aeromedical service inaugurated in November of that same year, covers 30 municipalities, offers population coverage to approximately 800 thousand inhabitants and receives around 200 requests daily.

The Samu, which is the setting for this study, is composed of 217 professionals from different categories: a Medical Regulation Center; a central base; six decentralized bases; ten Basic Support Units (BSU); two Advanced Support Units (ASU) two Rapid Intervention Vehicles (RIV) and a helicopter for aeromedical service.

The field sampled for the PittAETool pre-test - Brazilian version will be the aero-medical service of said Samu, which is composed of 20 professionals: ten doctors, six nurses, two pilots and two mechanics. The said emergency air service is capable of transporting and rescuing individuals at risk of imminent death, attends daily from 7 to 7 pm; since its inauguration, at the end of November 2016, until the middle of May 2017, made 180 calls.

The population of this study will be made up specifically of medical professionals and nurses who have worked in the aero-medical service of said Samu for at least one year. It was decided to adopt as a study population the medical professionals and nurses of this air service, due to the constant presence and direct involvement of the same in the assistance and support to the life of the patients of high complexity that use the aeromedical service of Samu.

The selection of the participants for the pre-test stage will be done by sampling for convenience, after the completion of the service to each patient and return of the aircraft to the base of the Service. Participants will be approached in the workplace, according to availability and accessibility. Each professional may participate in this study only once.

The completion of the PittAETool - Brazilian version can be performed by the medical and Nursing professionals who work in the transport / care of the same patient, since the purpose of this stage of the study is not directed to the existence or absence of adverse events, but in the semantic, verbal comprehension and structural aspects of the translated instrument.

The sample of the study will be delimited according to the criteria of limitation of samples for cross-cultural adaptation of instruments of the World Health Organization, which recommends that the pre-test be applied to at least ten respondents, that is, each item of the instrument should be answered by at least ten participants.⁶

For the validation of the construct, following the literature,¹⁵ we intend to apply the final version of the translated instrument to five professionals with characteristics similar to those of the study sample and who did not participate in the pre-test stage. With this, it is hoped that each item of the instrument will be answered by at least five respondents.¹⁵

Samu professionals who are not part of the Aeromedical Service, who are not directly involved in the care, who work for a period of less than a year, refuse to participate in the study, those who refuse to sign the Free and Informed Consent Term - FICT.

To collect data will be used a sociodemographic and professional characterization of the respondents (to be elaborated by the researcher) and the Brazilian version of PittAETool.

Coding of each of the study and typing variables in the Microsoft Excel database will be performed. After validation, by double typing, the results will be exported to the Statistical Package for Social Sciences (SPSS) 20.0, in which the descriptive, validity and reliability analyzes of the instrument, will be carried out as indicated in the literature.^{14,16}

The project will be submitted to the Permanent Training and Training of Health Workers (CECAPS) in Maringá and to the Standing Committee on Ethics in Research Involving Human Beings (COPEP) of the State University of Maringá (UEM). All participants must sign the ICF, as recommended by Resolution No. 466/2012 of the National Health Council.¹⁷

EXPECTED RESULTS

It is hoped that the cross-cultural adaptation of PittAETool to Brazilian culture will make the instrument reliable and effective in identifying and classifying adverse events in Brazilian Aeronomy Services, favoring Patient Safety and quality of care.

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