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ELABORATION AND LOCAL VALIDATION OF ENTRUSTABLE PROFESSIONAL ACTIVITIES IN PALLIATIVE CARE FOR RESIDENT DOCTORS

ABSTRACT

The use of reliable professional activities (EPAs) can help identify which competences each resident doctor should develop during their training in palliative care (PC). The aim of this study was to elaborate and locally validate the titles of the PC EPAs in a teaching hospital in the north-east of Brazil. Of the 25 experts invited, 20 took part in the survey. The initial list of EPA titles was based on a free translation of a list of EPAs from the American Academy of Hospice and Palliative Medicine. The modified e-Delphi method was used for validation. A quantitative Likert 1-4 scale on the importance of each EPA, analyzed using the content validity index (CVI), was used, followed by a validated qualitative 0-5 scale called Quality of EPA (QUEPA) and an open field for suggestions for each EPA. The EPA was approved if the CVI was > 0.8, and of good quality if the average QUEPA score was > 4. The records in the open fields were assessed qualitatively. It was possible to draw up and validate a list of 19 titles of PC EPAs for medical residents, which could help in the training and the assessment of these professionals.

Keywords: Medical Education; Curriculum; Palliative Care; Entrustable Professional Activities; Palliative Medicine.

1 INTRODUCTION

An essential component of medical training is the transfer of responsibility to the student. This transfer, known as the attribution decision, takes place as the supervising doctor realizes that the student has the necessary skills to carry out a certain activity, with acceptable risks, under less and less intense supervision. The decreasing level of supervision, therefore, reflects the empowerment of the profession by the student and the confidence in their professionalism by the supervisor and may reflect the objective to be achieved in each training period. (TEN CATE, 2019)

In the training of medical professionals, strategies for planning and evaluating professional training have been based on the competency-based medical curriculum (CBMC), which involves knowledge, skills and attitudes. In Brazil, the 2014 National Curriculum Directives (DCN) call for the implementation of medical curricula based on the best evidence and their planning taking the CBMC into account. (Bra-

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sil, 2001; 2014)

However, there are gaps between the CBMC and clinical practice with the patient. The speed of technological acquisition in the health sector and the opening of new medical schools, including in Brazil, have led to the implementation of fragmented CBMCs, which are far removed from real-life variables. One strategy to complement the CBMC is to apply the concept of the so-called Entrustable Professional Activities (EPAs). (BRACCIALLI et al., 2012; MARTY et al., 2021; TEN CATE, 2005)

The concept of EPAs was created in 2005 and defines a profession in an operational way. They constitute a list of tasks that each clinical department, clinical ward or healthcare worker needs to fulfill. The application of the EPAs in the medical curriculum requires (1) the identification of the EPAs, (2) the full description of the EPAs and (3) a description of the ways in which the EPAs are assessed. The full description of each EPA should include the following sub-items: 1. title; 2. specifications and limitations; 3. potential risks in the event of failure; 4. most relevant areas of competence; 5. knowledge, skills, attitudes and experience required; 6. sources of information for reliability; 7. level of supervision expected for each stage of training; 8. expiry date if not practiced. (HAINES et al., 2018; TEN CATE, 2014; 2019)

In the last five years, various medical education programmes and those of other health professions have incorporated the use of EPAs. Specialization programmes in Psychiatry, Paediatrics, Pathology, Internal Medicine, Family and Community Medicine, Anaesthesiology, Nephrology, Geriatrics, Gynaecology and Obstetrics, Orthopaedics, Emergency Medicine, Palliative Medicine and other areas have documented EPA initiatives. (CHENG et al, 2017; LANDZAAT et al., 2017; FEHR et al., 2017; GAROFALO et al., 2018; HART et al., 2019; LARRABEE et al, 2019; MOLL-KHOSRAWI et al., 2020; PINILLA et al., 2021; SCHMELTER et al., 2018; TANAKA et al., 2021; WATSON et al., 2021; WHITE et al., 2021)

In undergraduate medical programmes, EPAs have become a reality in countries such as the United States, Canada and the Netherlands, as well as in some Latin American countries. (DIEGUEZ et al., 2019; GUTIÉRREZ-BARRETO et al., 2018; LOMIS et al., 2017; MOLOUGHNEY et al., 2017; OBESO et al., 2017; TOUCHIE et al., 2017)

Although the use of EPAs is a worldwide trend in the development of undergraduate and specialized medical curricula, there are still few validated EPAs in Brazil. As described in the literature, there are EPAs for Gynaecology and Obstetrics residency, which are the only ones validated nationally, as well as a list of EPAs for Pneumology residency validated locally in Belo Horizonte-MG. (CNE-RM, 2022; ROSA, 2020)

Specifically in Palliative Care (PC), an area of activity that has twelve specialities as possible prerequisites (Anaesthesiology, Head and Neck Surgery, Surgical Cancerology, Internal Medicine, Geriatrics, Mastology, Family and Community Medicine, Intensive Care Medicine, Neurology, Nephrology, Clinical Cancerology and Paediatrics), and whose rotation is included in some medical residency programmes (mainly Internal Medicine, Geriatrics and Family and Community Medicine), it is difficult to differentiate the learning objectives of each resident in practice, despite the existence of competency matrices approved by the National Medical Residency Committee. (Brasil, 2021; 2022; PSU/RESMED/CE, 2024)

Considering the different needs of each resident in each period, drawing up a curriculum in the form of EPAs for PC could be a strategy for everyone to understand what should be learnt by each resident, with what level of supervision and with effective feedback. The term PC was selected for this work instead of Palliative Medicine to allow for later expansion of EPAs to multiprofessional residents.

Therefore, the aim of this research was to draw up and locally validate a list of titles for

PC EPAs for resident doctors training in PC services in the state of Ceará - Brazil, using the modified e-Delphi method in a group of experts.

2 METHOD

This is a development and validation study, divided into three steps, the first of which was the preparation of prior material and the invitation to experts. The second step was drawing up the list of PC EPAs titles for resident doctors using a focal group, and the third step was validating the list using the modified e-Delphi method in rounds. These steps are detailed in Figure 1. (TAYLOR et al., 2021).

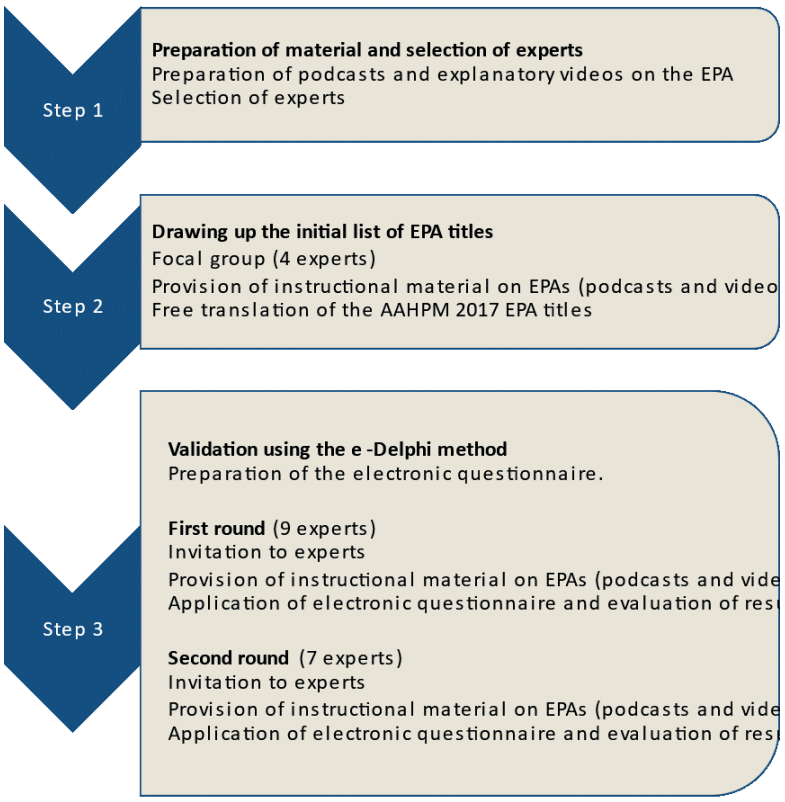
Drawing up the list of EPA titles

To draw up the list of EPA titles, the focal group method was used with four doctors who were experts in Palliative Medicine. This qualification was proven by their having completed a specialization course in PC or their area of expertise in Palliative Medicine registered with the Regional Council of Medicine. In addition, all the invited experts work as medical residency preceptors in local PC services.

Initially, these professionals were prepared through previous materials. One of them was a podcast recorded about EPAs, on the free Anchor® application, and made available on the Spotify® platform, with a link registered as an educational product in the EduCapes repository (http://educapes.capes.gov.br/handle/capes/699904). The other material made available was an explanatory video on EPAs, produced using the PowToon® application and made available on the YouTube® platform, with a link also registered as an educational product in the EduCapes repository (http://educapes.capes.gov.br/handle/capes/701418).

At the time of the focal group, the professionals also attended a dialogue presentation on EPAs, with the presence of two lecturers specializing in medical education, in order to level out the knowledge acquired remotely and asynchronously through the previous materials (podcast and video). Next, a free translation of the titles of the EPAs from the American Academy of Hospice and Palliative Medicine (AAHPM) was presented, which was analyzed individually and then collectively. This led to the initial list of EPA titles in PC for resident physicians. (LANDZAAT et al., 2017)

Figure 1. Steps in the elaboration and validation of the titles of the Entrustable Professional Activities in Palliative Care for resident doctors.



Note: EPAs (Entrustable Professional Activities); AAHPM (American Academy of Hospice and Palliative Medicine).

Source: prepared by the authors.

Validation of the list of APCs

In order to validate the list drawn up, 21 professionals who had not taken part in drawing up the initial list were initially invited, all of whom were also experts in Palliative Medicine, as proven by a specialized course in PC that had been completed or an area of practice in Palliative Medicine registered with the Regional Council of Medicine of Ceará. Of these, 16 experts (14 women and 2 men) completed the validation experiment.

Previously, they all began to access the materials on EPAs (Podcast and Video) made available as described above. After this stage of instruction on EPAs, a post-test was completed with questions on understanding the subject of EPAs and the work to be done.

Next, rounds of the modified e-Delphi method were carried out, using a questionnaire previously tested by the researchers to assess its applicability, the average time taken to complete it, the difficulty of understanding it, the clarity and objectivity of the items, so that it took no more than 30 minutes to complete. Two rounds of the e-Delphi method were required to validate the list of EPAs. The questionnaire used a general quantitative Likert 1-4 scale on the importance of each EPA, followed by a validated qualitative scale for evaluating EPAs called Quality of EPA (QUEPA) and an open field for suggestions. (POST et al., 2016)

Data analysis

The quantitative data was recorded on Google® spreadsheets. The importance of each EPA was assessed using a 4-point Likert scale, where 1 (not at all important), 2 (not very important), 3 (important) and 4 (very important). The Content Validity Index (CVI) was then calculated by placing the number of 3 (important) and 4 (very important) responses from the experts for a given item in the numerator and dividing it by the total number of responses obtained for the question. Concordances of at least 0.75 to 0.80 are the most used in similar studies. The EPA was considered approved if its importance assessment obtained a CVI > 0.8 and of good quality if the average QUEPA score was > 4 (0-5), this cut-off score having been used previously in another study. (BAGHUS et al., 2021; HAUER et al., 2013; POST et al., 2016; TAYLOR et al., 2021)

The records in the open fields were assessed qualitatively and grouped in the results according to their content. (LOMIS et al., 2017; MOLOUGHNEY et al., 2017; OBESO et al., 2017; ROSA, 2020; TOUCHIE et al., 2017)

Ethical aspects

The research was approved by the Research Ethics Committee of the Institution to which the lead researcher is affiliated (CAAE: 52320421.8.0000.5049). The research subjects participated voluntarily, with the Free and Informed Consent Form applied digitally, and were not identified in order to guarantee the confidentiality of their responses.

3 RESULTS

A total of 20 professionals took part in the drafting and validation process, 4 in the drafting and 16 in the validation. Of the latter, only one had any doubts about the process, which were resolved after telephone contact.

At the face-to-face drafting meeting, there was consensus on the removal of two EPA titles presented in the free translation, one on euthanasia, which is not permitted in our country, and the other on hospice management, which does not exist in the state where the research was carried out. It was also decided to merge the focus of two EPAs into one, creating the title *'Accessing the psychosocial and spiritual domains of patients and families and signaling demands to the multi-professional team'*. Also, by consensus, five new titles were added (1) '*Know puncture technique and use of hypodermoclysis*', (2) '*Conduct family conference*', (3) '*Manage the care of patients under follow-up*', (4) '*Participate in the palliative care outpatient clinic*' and (5) '*Understand management and indicators in palliative care*'. In the end, a total of 19 EPA titles were drawn up (Table 1).

In the validation phase, the first round of the e-Delphi me-

thod was carried out with the results obtained from 9 evaluators, who responded within 21 days of the invitation being sent electronically. The responses are analyzed in Table 2.

In the suggestions written in the open field of the questionnaire, no new EPAs were suggested by the experts in the first round. Regarding EPA 1, there was a comment about it perhaps not being a focal activity, as there are different types of pain and its management requires extensive knowledge of pharmacology, physiology, semiology, as well as psychosocial and spiritual aspects. There was also comment about the levels of supervision expected for each resident and, among the Palliative Medicine residents themselves, it was suggested that attention be paid to which residency was the right one. For EPA 2, there was a comment that it would be very important, in the description of the EPA, to include knowledge and skills about symptom assessment tools and the drugs to be used.

As for EPA 8, for the subsequent full description of the EPA, it was suggested to include knowledge about the natural history of diseases and the ethical and legal aspects that guide decision-making, as well as communication skills. To define the levels of supervision, one expert considered it extremely important that palliative extubation should only be carried out without supervision by palliative medicine residents, due to the complexity of the procedure. For EPAs 5 and 16, one expert suggested using the role-play technique as a teaching method. For EPA 6, the importance of individual feedback was emphasized.

After these analyses, the second round of the modified e-Delphi method was carried out with another 7 professionals, using the same questionnaire, without any changes. After 21 days, the results were analyzed (Table 2).

After the second round, in the suggestions written in the open field of the questionnaire, there were comments on EPA 12, on the importance of a full description of the EPA and on the need to know how local public and private PC services work. For EPAs 14 and 19, it was commented that personal aptitude can influence the performance of this activity. For EPAs 17 and 19, there was a suggestion to include knowledge about the management of public and private PC services.

These comments did not require any changes to the titles of the EPAs, and their content should be covered in the subsequent full description of each approved title. Furthermore, there were no suggestions for additional EPAs.

4 DISCUSSION

It was possible to draw up and validate the titles of the CP EPAs locally. There were 19 titles, slightly more than the pre-existing AAHPM list. (LANDZAAT et al., 2017)

It's worth noting that, after sending an explanatory video, slide show and podcast episode, the concepts of EPAs and how to prepare them were properly understood and it was possible to get help from lay CP experts on EPAs.

For example, the specific EPA on family conferencing was added, as it involved specific competences. EPAs related to management were also added, as there is usually a high volume of inter-consultations requested daily by the PC teams, among other practical issues, requiring administrative skills.

Also using the e-Delphi method, a Scottish team prepared four EPAs on shared decision-making, the contents of which should be included in the future full description of EPAs 4 and 5 of this work. (BAGHUS et al., 2021)

A North American team used the e-Delphi method to develop and locally validate 30 Internal Medicine EPAs. In this study, the quality of the EPAs was also assessed by the residents themselves. One of these EPAs includes conducting a family meeting and another includes the institution of PC in its title. (HAUER et al., 2013)

In the Netherlands, a list of 45 EPA titles for anaesthesiologists was developed and nationally validated. There were three

Table 1. Initial list of Palliative Care Entrustable Professional Activities titles validated for medical residents

EPA 1	Carry out comprehensive pain assessment and management for patients with serious illnesses. *Realizar avaliação abrangente da dor e seu manejo para pacientes com doenças graves.*
EPA 2	Carry out a comprehensive assessment of non-pain symptoms and their management for patients with serious illnesses. *Realizar avaliação abrangente dos sintomas não-dor e seu manejo para pacientes com doenças graves.*
EPA 3	Recognise and take action in palliative care emergencies, including opioid intoxication, malignant intestinal obstruction, superior vena cava syndrome, medullary syndrome. *Reconhecer e tomar atitudes diante de emergências em cuidados paliativos, incluindo intoxicação por opioides, obstrução intestinal maligna, síndrome de veia cava superior, síndrome medular.*
EPA 4	Estimate and communicate prognosis for shared decision on therapeutic plan. *Estimar e comunicar prognóstico para decisão compartilhada do plano terapêutico.*
EPA 5	Establish care goals based on the patient's and/or family's values and specific medical circumstances. *Estabelecer metas de atendimento com base nos valores do paciente e/ou da família e em circunstâncias médicas específicas.*
EPA 6	Working in an interdisciplinary team in harmony. *Trabalhar em equipe interdisciplinar de forma harmônica.*
EPA 7	Preventing and mediating conflicts and discomfort over difficult medical decisions. *Prevenir e mediar conflitos e desconfortos em relação a decisões médicas difíceis.*
EPA 8	Managing the withdrawal of advanced life support therapies, including palliative extubation. *Gerenciar a retirada de terapias avançadas de suporte à vida, incluindo extubação paliativa.*
EPA 9	Caring for a dying patient and their family. *Cuidar de um paciente em vias de morte e de sua família.*
EPA 10	Accessing the psychosocial and spiritual domains of patients and their families and signaling demands to the multi-professional team. *Acessar os domínios psicossocial e espiritual dos pacientes e familiares e sinalizar demandas à equipe multiprofissional.*
EPA 11	Promoting self-care and resilience for themselves and others, requesting psychological support when necessary. *Promover o autocuidado e a resiliência para si e para os outros, solicitando apoio psicológico quando necessário.*
EPA 12	Facilitating the transition of care for patients being monitored. *Facilitar a transição de cuidados dos pacientes em acompanhamento.*
EPA 13	Provide guidance on palliative care. *Fornecer orientação em cuidados paliativos*
EPA 14	Promoting and teaching palliative care. *Promover e ensinar cuidados paliativos.*
EPA 15	Knowledge of puncture technique and use of hypodermoclysis. *Saber técnica de punção e uso de hipodermóclise.*
EPA 16	Conduct a family conference. *Conduzir conferência familiar.*
EPA 17	Managing the care of patients being monitored. *Gerenciar o atendimento aos pacientes em acompanhamento.*
EPA 18	Participate in the palliative care ambulatory. *Participar do ambulatório de cuidados paliativos.*
EPA 19	Understanding management and indicators in palliative care. *Compreender a gestão e os indicadores em cuidados paliativos.*

Note: EPA (Entrustable Professional Activity), Text in italics (Entrustable Professional Activity in Brazilian Portuguese). Source: prepared by the authors.

Table 2. Results of the first and second rounds of the modified e-Delphi method.

	First round (N:9 experts)		Second round (N:7 experts)	
EPAs	**CVI**	**QUEPA (*Quality*)**	**CVI**	**QUEPA (*Quality*)**
EPA 1	1 (*approved*)	4,3 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 2	1 (*approved*)	4,2 (*good*)	1 (*approved*)	4,3 (*good*)
EPA 3	1 (*approved*)	4,2 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 4	1 (*approved*)	4,4 (*good*)	1 (*approved*)	4,6 (*good*)
EPA 5	1 (*approved*)	4,3 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 6	1 (*approved*)	4,4 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 7	1 (*approved*)	4,3 (*good*)	1 (*approved*)	4,6 (*good*)
EPA 8	1 (*approved*)	4,6 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 9	1 (*approved*)	4,4 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 10	1 (*approved*)	4,3 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 11	1 (*approved*)	4,3 (*good*)	1 (*approved*)	4,6 (*good*)
EPA 12	1 (*approved*)	4,6 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 13	1 (*approved*)	4,4 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 14	1 (*approved*)	4,4 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 15	0,88 (*approved*)	4,6 (*good*)	1 (*approved*)	4,6 (*good*)
EPA 16	1 (*approved*)	4,6 (*good*)	1 (*approved*)	4,4 (*good*)
EPA 17	1 (*approved*)	4,6 (*good*)	1 (*approved*)	4,3 (*good*)
EPA 18	1 (*approved*)	4,6 (*good*)	1 (*approved*)	4,1 (*good*)
EPA 19	1 (*approved*)	4,7 (*good*)	1 (*approved*)	4,1 (*good*)

Note: EPA (Entrustable Professional Activity); CVI (content validity index); QUEPA (validated qualitative scale for EPAs).
Source: prepared by the authors.

rounds of the e-Delphi method with 38 directors of anaesthesiology residency programmes, based on the current curriculum matrix. (WISMAN-ZWARTER et al., 2016)

In Brazil, a list of eleven EPAs for pulmonologists was recently drawn up in Belo Horizonte. This work involved a committee of eight experts, including a nurse, was based on the competency matrix of the Brazilian Society of Pneumology and Phthisiology and required a single round of the e-Delphi method. The experts transformed the competency matrix into learning objectives and domains, which guided the list of EPAs. (ROSA, 2020)

In 2022, the list of EPAs for Medical Residency Programmes in Gynaecology and Obstetrics was validated in Brazil: the only one validated at national level to date. These EPAs already include the following sub-items: 1. title; 2. specifications and limitations; 3. potential risks in the event of failure; 4. most relevant areas of competence; 5. knowledge, skills, attitudes and experien-

ce required. (CNE-RM, 2022)

A recent study carried out in Canada aimed to describe and evaluate the introduction of EPAs of PC in the development activity of palliative medicine lecturers. The concept of EPA was presented to the professional, followed by a facilitated discussion session. The lecturers were able to use the EPAs in direct observations, debriefings and student assessments and saw a significant improvement in students' attitudes and confidence levels in various domains of knowledge, skill and behavior over time. (KAWAGUCHI et al., 2024)

The study has some limitations. It was not possible to draw up a complete description of the EPAs, which will probably include a large part of the comments made by the experts in the open fields. The validation carried out was only local, for the state of Ceará.

The next steps should therefore be a complete description of the EPAs, including the Palliative Medicine competency matrix (approved in 2022), with peer review, followed by validation at national level with the participation of the National Academy of Palliative Care (ANCP), the residents themselves and non-medical experts. After national validation, it could be proposed that the EPAs be applied nationally to the curriculum of medical residents in a systematic way. (Brasil, 2022)

As one of the principles of PC is to involve a multidisciplinary team, it is also important to draw up and validate PC EPAs for non-medical residents who do internships in PC services. There are already several lists of EPAs for graduating non-medical health professionals, indicating that this curricular approach is a trend in the health area in general. (FRENZEL et al., 2021; JARRETT et al., 2018; MIRANDA et al., 2021; ZAINULDIN et al., 2021; KAWAGUCHI et al., 2024; WANG et al., 2021)

Despite these limitations, starting the curricular approach in the form of EPAs is an important stage in organizing and standardizing what should be expected of each resident. It allows expectations to be adjusted and what is necessary to become a good professional to be targeted.

5 CONCLUSIONS

Using the modified e-Delphi method, a list of 19 titles of PC EPAs for resident doctors from various specialities was drawn up and validated locally. This step is essential so that in the future other studies can carry out a full description of the validated EPAs, considering the experts' suggestions in the open fields and the current competency matrix. This work is an important step towards the educational organization of PC services in the state of Ceará, as well as being one of the first to validate EPAs for residents in Brazil.

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