

Original Article

Systematization of procedures for the implementation of alternative and extended communication in a general ICU

Sistematização dos procedimentos para a implementação da comunicação alternativa e ampliada em uma UTI geral

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Abstract

Objective: To describe the procedures before the intervention of occupational therapy with patients having communicative difficulties and hospitalized in an Intensive Care Unit (ICU). **Method:** Action research performed at an ICU of a reference hospital in the city of Rio de Janeiro, from June to December of 2018 in patients with restricted verbal communication, health professionals, and family members. We used the following instruments: 1) assessment form of the patient's clinical condition and biography; 2) registration of basic information at the bedside; 3) communication skills assessment protocol; 4) assessment of the patient's occupational profile supported by a set of Alternative and Extended Communication (AEC) boards; 5) patient satisfaction scale applied before and after the intervention. **Results:** Among the procedures, we highlight the actions before the entry of the professional in the unit and the outline of steps that were started with the active search; the preparation of the material and the necessary care; the use of the assessment protocol and communicative skills in the hospital context; occupational profile assessment; the offering and training of the basic AEC board kit; the assessment of patient satisfaction regarding their communicative ability; the registration in the medical record and guidance to family members and health professionals. **Conclusion:** The data showed that previous factors of the AEC should be considered and valued by the occupational therapist in favor of the management of communication of the patient with verbal restriction in the ICU.

Keywords: Occupational Therapy, Intensive Care Unit, Communication Aids for Disabled.

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Resumo

Objetivo: Descrever os procedimentos que antecederam a intervenção da terapia ocupacional em pacientes com dificuldades comunicativas internados em uma Unidade de Terapia Intensiva (UTI). **Método:** Pesquisa-ação realizada em uma UTI de um hospital de referência na cidade do Rio de Janeiro, no período de junho a dezembro de 2018, com pacientes com restrição de comunicação verbal, profissionais de saúde e familiares. Os instrumentos utilizados foram: 1) avaliação da condição clínica e a biografia do paciente; 2) registro sobre informações básicas à beira do leito; 3) protocolo de avaliação de habilidades comunicativas; 4) avaliação do perfil ocupacional do sujeito apoiada em um conjunto de pranchas de Comunicação Alternativa e Ampliada (CAA); e 5) escala de satisfação do paciente aplicada antes e após a intervenção. **Resultados:** Dentre os procedimentos, destacaram-se as ações que antecederam a entrada do profissional na unidade e o delineamento de etapas que foram iniciadas com a busca ativa; a preparação do material e os cuidados necessários; o uso do protocolo de avaliação e as habilidades comunicativas; a avaliação do perfil ocupacional; a oferta e o treino do kit básico de pranchas de CAA; a avaliação da satisfação do paciente em relação à sua habilidade comunicativa; o registro no prontuário e a orientação aos familiares e profissionais de saúde. **Conclusão:** Os dados mostraram que há uma série de procedimentos que antecedem a introdução da CAA e que devem ser consideradas e valorizadas pelo terapeuta ocupacional no favorecimento do gerenciamento da comunicação do paciente com restrição verbal em UTI.

Palavras-chave: Terapia Ocupacional, Unidades de Terapia Intensiva, Auxiliares de Comunicação para Pessoas com Deficiência.

1 Introduction

Patients admitted to the Intensive Care Unit (ICU) are serious or critical individuals requiring intensive care, continuous monitoring, the use of technological equipment, and a specialized multidisciplinary team (Brasil, 2018). They can easily have communication problems due to clinical characteristics such as delirium, fatigue and neurological disease (Happ, 2001) or related to treatment such as the use of sedative and mechanical ventilator (Happ et al., 2004). This mechanical ventilator factor has been gaining the attention of researchers as it represents an important communication barrier (Happ et al., 2011, 2015b; Flinterud & Andershed, 2015; Guttormson et al., 2015; Dithole et al., 2016; Martinho & Rodrigues, 2016).

During the ICU, the patients with communicative difficulties rated their experiences stay as very difficult or extremely difficult (Martinho & Rodrigues, 2016) and stressful (Flinterud & Andershed, 2015). They also felt frustrated, helpless, and without control, which affected their well-being, their safety, and comfort (Flinterud & Andershed, 2015; Guttormson et al., 2015).

This feeling of frustration is also shared by the family who feels unprepared for the new communicative restrictions of their relative (Broyles et al., 2012) and by the professionals who use the yes and no gestures as the main means of communication with the patient (Happ et al., 2011). A descriptive observational study in which the authors

analyzed the patient's communication exchanges to request assistance for the nursing staff showed that there was a failure in the interaction in all attempts of the patient. The study also found that the patient did not receive the required assistance and that one-third of pain-related communications were not understood (Happ et al., 2011).

Therefore, the communicative difficulties faced by the patient in the ICU could interfere in the implementation of guidelines discussed worldwide for the improvement of clinical practice in intensive care such as the Clinical Practice Guidelines for the treatment of pain, agitation and delirium in adult patients in the ICU, which originated the ABCDEF bundle model that helps health professionals to guide the treatment of the patient and the use of resources through evidence-based medicine, considering factors such as assessment, prevention, and treatment of pain; spontaneous awakening and breathing tests; choice of analgesia and sedation; assessment, prevention and treatment of delirium; early mobility and exercise; family involvement and empowerment. Such factors contribute to the recovery of patients, making them more interactive and aware (Marra et al., 2017).

International scientific evidence has shown positive results for the communication between health professionals, patients and their families using the Extended and Alternative Communication (AEC) to assist in the interaction and satisfaction and to minimize the impacts of patients' communicative difficulties (Radtke et al., 2011, 2012; Broyles et al., 2012; Happ et al., 2014, 2015a; Nilsen et al., 2014; Carruthers et al., 2017; Duffy et al., 2018), besides to have a significant improvement in communication about pain and other symptoms (Happ et al., 2014). The International Society for Augmentative and Alternative Communication (2016) defined AEC as an area with a set of tools and strategies to assist people with difficulties in verbal communication, production of meanings, and interaction.

The occupational therapists are among the AEC specialist professionals highlighted as they are qualified and active in the efficient use of AEC since their interventions are guided by assessments that include factors such as the performance of significant activities for the patient, communication skills, their values and beliefs, routine, roles and contexts (American Occupational Therapy Association, 2015).

The work of the occupational therapist in the ICU is guaranteed by national legislation (Brasil, 2010) and described both in the national literature (Bombarda et al., 2016; Barbosa & Reis, 2017; Okuma et al., 2017; Carmo et al., 2018; Santos, 2018) and the international literature (Celis et al., 2014; Moreno-Chaparro et al., 2017; Weinreich et al., 2017; Koester et al., 2018). However, in the best knowledge of the authors, most of this research carried out in the last five years highlighted themes such as delirium (Álvarez et al., 2016; Rains & Chee, 2017; Tobar et al., 2017) and early mobilization (Patel et al., 2014; Wahab et al., 2016; Fields et al., 2015; Corcoran et al., 2017; Jolley et al., 2017; Yataco et al., 2019). The research approaching the AEC only mentioned it as one of the possibilities for the occupational therapist to act in this context (Bombarda et al., 2016; Barbosa & Reis, 2017; Okuma et al., 2017; Carmo et al., 2018; Koester et al., 2018; Santos, 2018). Based on these considerations, studies involving this theme are essential.

Thus, this study aims to describe the procedures before the intervention of occupational therapy with patients having communicative difficulties and hospitalized

in an ICU. This research sought the quality of care and the strengthening of the profession's scientific literature.

2 Method

This is action research, different from an action composed of a diagnostic evaluation, the guidance of assistance, adapting the involvement of researchers with the participants to achieve expressive results that satisfy the object of study (Thiollent, 2005; Grittem et al., 2008). The action research was carried out from June to December 2018 and aimed at the implementation of AEC for patients with communicative difficulties admitted to an ICU of a university hospital in the city of Rio de Janeiro - RJ. For the implementation to occur systematically, different subjects involved were mobilized for critical and reflective practice.

Thus, this research is part of the project called "Alternative and Expanded Communication as a strategy for occupational therapy intervention in a general ICU", which evaluated and performed interventions involving adults and elderly hospitalized with communication limitations such as through speech and/or writing, family members and health professionals in the sector in direct contact with the patient. The patients with cognitive, visual, and hearing impairments from moderate to severe and previously detected were not eligible for the intervention.

The relevant information such as time of intervention and interactions with caregivers, health professionals, and additional observations during the research was recorded in a field diary, besides a summary of the occupational therapy intervention described in an electronic medical record.

We created five evaluations based on experiences, and in the national and international scientific literature to understand the main demands of patients, inspiring some questions: 1) assessment form of the patient's clinical condition and biography; 2) form of basic information at the bedside and patient selection; 3) communication skills assessment protocol in the hospital context which includes cognitive, motor and sensory components in Annex A (Pelosi et al., 2019); 4) assessment form of the patient's occupational profile supported by a set of AAC boards; and 5) patient satisfaction scale applied before and after the intervention.

Item 3 is a protocol created by occupational therapists by the difficulty in finding accessible assessments for people who were unable to answer orally. We used the Mini-Mental State Examination (MMSE) (Brucki et al., 2003) and the Confusion Assessment Method in an Intensive Care Unit (CAM-ICU) scale for the cognitive aspects (Gusmao-Flores et al., 2011; Pelosi et al., 2019).

This protocol enabled a qualitative assessment of the patient based on their answers represented by pictograms from the Aragonés Portal for Augmentative and Alternative Communication (Arasaac); photographs taken from the researchers' collection and the internet; letters and numbers. The boards of the assessment did not exceed 12 symbols per answer page, except for the alphabet (Pelosi et al., 2019).

Also, performed instruments already recognized, validated, and widely used in this context, highlighting: 1) Glasgow Coma Scale, created to assess the state of coma and awareness of patients through eye-opening, verbal response, and better motor response. The lowest value on the Glasgow scale is 3 points, while the highest value is 15 points.

The closer to 3, the more severe the patient's clinical condition (Teasdale et al., 1979); 2) The confusion assessment method for ICU (CAM-ICU) created to identify delirium in ICU patients, sensitive to those who are unable to communicate verbally. The method determines the presence and fluctuation of aspects such as inattention, disorganized thinking, impaired memory, perception, agitation or psychomotor slowing, and alteration of the sleep-wake cycle. Errors greater or equal to 3 indicate the presence of delirium (Gusmao-Flores et al., 2011); 3) Richmond agitation and sedation scale (RASS), which studies the agitation and sedation of critical patients; its score varies between -5 and +4. When the is zero score means an alert patient, with no apparent agitation or sedation. Levels less than zero mean that the patient has some level of sedation, and levels greater than zero mean that the patient has some level of agitation (Nassar Junior et al., 2008).

After knowing the specificity of the source population, the researcher underwent training and qualification regarding the application of the assessment instruments. The Human Research Ethics Committee approved the project according to Resolution 466/12 of the National Health Council (CNS) - CAAE 86006418.4.0000.5257. Absolute secrecy was guaranteed to the participants of the study. For those who were unable to sign the Free and Informed Consent Form, their consent was through the affixing of the fingerprint or signature of the legal guardian, after the patient's signed authorization.

3 Results

This study aimed to detail the procedures before the Occupational Therapy intervention in patients with communicative difficulties admitted to an ICU to allow other occupational therapists to propose similar interventions in other hospitals. In this sense, we described the actions before the hospitalization into the ICU and the step by step for the evaluation of these patients.

The ICU analyzed in this study faced economic and physical difficulties and had eight beds and assistance from professionals in medicine, physiotherapy, nursing, psychology, social work, pharmacy, nutrition, and speech therapy. In this research, 54 patients with communication restriction by occupational therapy were evaluated in which nine of these 54 patients were eligible, and six family members and nine health professionals in the sector were interviewed.

The patients admitted to the ICU had several serious clinical instabilities, resulting from cardiac, pulmonary, neurological diseases, cancer, among others, or were in the postoperative period, and showed the need for continuous monitoring, specific drugs to maintain the vital capacity of organs and systems, and advanced life support procedure, such as orotracheal intubation and tracheostomy, resources commonly visible in the ICU that prevent them from communicating verbally. The occupational therapist's performance in the sector occurred three days a week, in the afternoon shift, totaling 12 hours a week.

Preliminary actions enabled the implementation of AEC in the ICU, highlighting the main actions that should precede the occupational therapist's entry into the unit. The Flowchart summarized the procedures for implementing the AEC.

3.1 Preliminary actions

When recognizing the specificity of the participants, the vulnerability of the sector and the wealth of possibilities for occupational therapeutic interventions, the professional needed to seek information regarding the routines and technologies of the ICU, and to improve their knowledge regarding the monitoring of critical patients; reading laboratory tests; biosafety; scales of cognitive, sensory and motor assessment; AEC and its relationship with language, and actions taken by other professionals in the area.

As a strategy, before starting work, the occupational therapist worked under supervision for a month in an adult ICU, participating in a short course of the profession's performance in the ICU, attending patients as a listener in Assistive Technology and AEC, improving searches in the scientific literature and guided from health professionals, especially on clinical terms and technologies of the ICU that until then were unknown to the professional.

To formalize the beginning of the work in the ICU, which did not have occupational therapeutic assistance in its list of procedures, the clarifications and information to the coordinators of the ICU teams, both in Medicine and Nursing were necessary. The ICU coordinators and the team of the Hospital Infection Control Commission (CCIH) had three meetings, contributing to the training of the occupational therapist to work in the sector, based on information related to biosafety, with data on handwashing, use of gloves and the use of other personal protective equipment, such as a mask, cloak, and cap, especially in cases that the patients were cautiously in contact due to the presence of multi-resistant bacteria - the most common ones in the hospital is the Enterococci, resistant to Vancomycin (VRE), *Staphylococcus aureus*, resistant to Methicillin (MARSA), and Enterobacteria, resistant to Carbapenems (ERC).

There were team meetings to have contact with professionals from other areas. They were occasional meetings during the occupational therapeutic consultations and also in the two professional seminars promoted by the coordination of the ICU, allowing the occupational therapist the opportunity to detail the objectives of his work, providing better interaction with the team and the possibility of identifying demand. It was also convenient to disseminate posters in strategic points of the ICU, informing the patients about the performance and contacts with the occupational therapist.

The professional collected information on physical and digital tools available at the institution daily and used a direct assessment for the selection of patients. The electronic medical record allows several professionals to have access to patients' clinical and social data, facilitating communication and storage of daily data, which include the evolution and results of exams. This tool is accessed through computers available in the sector. In addition to the electronic medical record, there is a Kanban model in the ICU represented on a whiteboard with summary data of patients admitted to that unit, which is frequently updated by the medical team. The information based on this model includes the patient's name, bed, age, medical record number, diagnosis, and other important issues, facilitating the visibility and access of data by the entire team.

In addition to these resources, the professionals, especially the day doctors, nurses, physiotherapists, and psychologists, complemented the information using informal

conversations at the unit, in which they indicated to patients that, in their evaluation, they needed monitoring by Occupational Therapy, AEC, or in daily, morning multi-professional team meetings, in which the occupational therapists participated according to their schedule availability.

3.2 Action plan

The action plan is for the outlining of the steps necessary to identify eligible patients and the observation strategies that favored a participatory process of the individual involved in the research and the understanding of essential aspects for the implementation of AEC in a general ICU.

The first stage was based on an active search to record the patient's biography and clinical situation, in addition to the application of scales and instruments indicated for the case, such as the Glasgow coma scale, the CAM-ICU and the RASS. In this way, it is possible to select the patient with the necessary interaction to start the AEC intervention. In the next stage, the preparation of the materials and care necessary for the subsequent application of the communication skills assessment protocol in the hospital context was carried out, in which the professional classified the patient's performance as excellent or good, and proceeded to assess the occupational profile.

Then, there was the offer and training of the basic kit of communication boards, the registration of the satisfaction of care expressed by the patient, and then the registration of the medical record and guidance to the relatives and professionals of the shift. Figure 1 shows the implementation flowchart, detailed throughout the text.

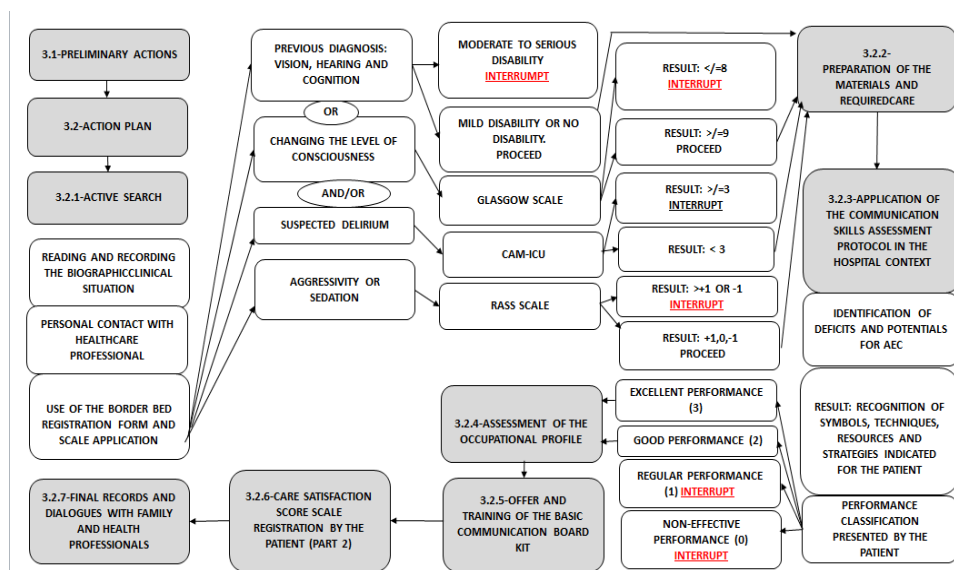


Figure 1. Flowchart about the procedures performed to implement the AEC in a general ICU.

3.2.1 Active search

The active search is a survey of the professional's demand and begins with access to the electronic medical record that is the first source of data about the patient. In it, the professional collects the following data with the support of a standardized form: name of the patient, date of hospitalization, time in the ICU, medical record number, bed number, age, gender, telephone number, the reason for hospitalization, diagnosis or diagnostic hypothesis, other comorbidities and some more information about the patient's occupational profile.

There is also the presence of other normal devices and clinical records of the ICU routines to monitor their clinical stability that influences the follow-up of care, such as heart rate parameters; blood pressure or average blood pressure; saturation; temperature; presence of tracheostomy, orotracheal intubation, peripheral access to the upper limb; administration of medications, mainly sedatives and vasoactive drugs; breathing type (in room air, O₂ catheter, macronebulization, mechanical ventilation); glucose values; laboratory values, especially platelets, hemoglobin, and sodium; complaints of pain; the presence of edema in the upper extremities that prevents the patient from interacting; pressure injury; bed restraint; and precaution for contact. Also, the records of other professionals in medical records are consulted, and the information was obtained by reading the Kanban and by personal contact.

After finishing this stage of clinical and biographical records, the occupational therapist meets the patient to interact with him at the bedside and to confirm the data collected - carried out daily - in all beds and quickly, enabling the patient's eligibility for follow-up. We used a simple registration form to guide this action, inspired by a model created by an occupational therapist and used in the ICU of Hospital Municipal Cármino Carricchio, in the city of São Paulo, São Paulo state, based on evaluation scales.

Initially, the occupational therapist had direct contact with the unit's patients, one at a time, and filled out the information on the registration form at the bedside, in an action of approximately 10 minutes. This form had a space for characterizing the patient (name, bed, medical record number, date of intervention, age, diagnosis or hypothesis), confirmation of medications in use by an infusion pump, level of consciousness (interacting, drowsy), sedated and coma), and the type of communication at the moment (adequate or with the use of equipment, such as a mechanical ventilator, macronebulization, gestures, lip mimics, facial expressions), or the inconclusive option (when it is not possible to identify the form of communication at that moment).

Close to the patient's view, the professional performed the following actions: 1) he tried to wake him up with his voice or touch; 2) he made a brief presentation about him and clarified his objective at that moment; 3) he asked simple questions, with possible answers of affirmation or denial, using some part of the body (eg: Do you understand me? Can you see me? Can you hear me? Do you know where you are? Are you on the beach?) and, at the same time, the professional observed the individual's receptivity, responsiveness, and reactions, visual and auditory capacity, if when encouraged, the patient performed subtle voluntary movements, such as closing the eyes, moving the head and extremities, or shaking hands. With this information, the professional was already able to identify the communication at that moment, the patient's communication possibilities, and to verify the application of the Glasgow coma

scale, if the professional was able to observe the variables of motor responses, verbal responses, and eye-opening.

Then, the therapist scored the patients' interaction according to one of the three scales chosen for the active search. The Glasgow coma scale establishes an eligibility parameter for cases with a score greater or equal to 9 (moderate state of consciousness) (Teasdale et al., 1979). In the final score on the Glasgow scale of those patients who are unable to communicate verbally due to a mechanical invasion (tracheostomy or orotracheal intubation), this observation should be inserted in the scale record as "11/15 TQT", which means 11 for a total of 15 points with the tracheostomized patient. In case of suspicion of fluctuation of the basal mental state that influences the presentation of hypoactive, hyperactive or mixed delirium, the professional used CAM-ICU evaluation method, and the patient only became eligible with a score lower than 3, that is, without signs of delirium (Gusmao-Flores et al., 2011).

In the case of an agitated patient or with a compromised level of consciousness by any sedative medication, such as Midazolam or Fentanyl, the professional used RASS scale, with eligibility parameters ranging from -1 (torpor, not completely alert, but keeping eyes open and eye contact to the verbal stimulus for a time greater or equal to 10 seconds), 0 (alert and calm) and +1 (restless, anxious, but not aggressive) (Nassar Junior et al., 2008). The active search ended with the dialogue between the occupational therapist and other professionals on the shift who accompanied the patient. From this action, the occupational therapist was able to determine which patients were qualified or disabled for the assessment or care at that time.

This active search evaluated all the patients in this unit to cover the largest number of people able to start and/or continue to use the AEC. The assessment was daily, considering that in the ICU the patient's clinical status may improve, worsen or even die, as well as discharge from the sector and admission of new cases.

3.2.2 Preparation of material and necessary care

To assist the patients eligible for AEC, the professional needs to separate, sanitize and protect the materials in an appropriate space, either in the occupational therapy service room or in the ICU - in this last space, the action lasted of approximately 15 minutes, being more practical and efficient because it is already inside the ICU, and then applying the communication skills assessment protocol in the hospital context.

The set of materials included: printed and laminated communication boards; adapters to aim the head and hands-on touchscreens; laser pointer; regular or thickened pen and spiral notepad; pen and small whiteboard; tablet with Android operating system; notebook with 13-inch Windows operating system with a flexible touchscreen at 360° rotation; articulated support for the tablet, which can be fixed on the bed rail; support for the computer in the form of a table to put it on the bed; eye mouse; and an aluminum cart with wheels from the ICU. This cart had two shelves and, after being sanitized, the professional transported the clean and protected resources to be used in the day's care, and as a storage space for those already used by the patient, providing more functionality in handling the resources during care.

The communication boards used in the evaluation and the consultations were also inserted in the computer and the tablet because they are resources of easy transportation,

preparation, protection, use, and hygiene when compared to the printed and laminated boards. Factors such as weight and handling of sheets to allow the use of the content have become barriers for the professional.

The professional chose the materials for the AEC judiciously and conditioned to the rules and approval of the CCIH, and they were classified as resources easy to clean, which could be sanitized directly with alcohol 70, Alcoholic Chlorhexidine and Practical 100, such as pointers; those resources that could collect the patient's secretions and that needed to be washed with Chlorhexidine Degermante or cleaned with Prático 100, like the slate; those that could no longer be reused by other people, and must be permanently available to the patient, or else discarded, such as a paper pad; and those who could not come into contact with cleaning substances and should be protected with large plastic bags, film paper and ziplock bags, such as the tablet and the computer. Table 1 shows the correct way to wrap and remove electronics from plastics in the sequence of the images.

Table 1. Step by step for the safe removal of digital equipment inserted in ziplock bags.






Action Images	Image Description
	<p>Step 1: The professional holds the equipment with his left hand and tears the opening tip of the ziplock bag with his right hand. The equipment is supported on an aluminum table previously cleaned.</p>
	<p>Step 2: The professional removes the ziplock bag towards the table, with both hands.</p>
	<p>Step 3: The professional performs a quick move holding the equipment with his left hand and, at the same time, removing the glove from his right hand.</p>

Table 1. Continued...

Action Images	Image Description
	<p>Step 4: With the right hand without a glove, the professional firmly holds the tip of the computer that is no longer protected. The left hand still wearing a glove removing the ziplock bag.</p>
	<p>Step 5: The professional completely removes the equipment from the ziplock bag, which is now ready to be stored in a safe place.</p>

Source: Personal file.

3.2.3 Communication skills assessment protocol in the hospital context

After preparing the material and the necessary care, the occupational therapist applied the protocol to identify the patient's deficit and potential to use the AEC. They adapted the protocol answers using different symbols, as mentioned in the Methods section to enable the effective participation of these specific patients.

The professional invited the patient to express satisfaction regarding his communicative ability before the intervention, through a visual performance scale, which was built by the researcher, with values from zero to 10. They collected their satisfaction score in this question and recorded it as a quantitative variable to favor the comparison of performance after the insertion of the AEC.

The professional was a facilitator in its application, and the patient could answer directly with some part of the body; with the aid of pointers; or by a scanning system with the professional pointing in a paused way, until the patient signals the desired symbol. They also observed other patient's motor skills, including whether he held and maintained the object; if he puts his hand on the object; pointed it out; if there was an intrinsic impeding factor (incoordination, alteration of tone, muscle weakness); or if there is any extrinsic impeding factor (peripheral access, limb restraint in the bed).

The professionals also recorded sensory capacities related to the visual and hearing system. Regarding the vision, they sought to identify the preservation of visual acuity, the perception of colors and contrast; at the hearing, the occupational therapist scored whether there was the preservation of hearing acuity and perception of sound with the whisper test.

They also evaluated the following cognitive aspects: attention; understanding; voluntary movement; visual perception; auditory perception; memory; language (reading letters, numbers, words, and phrases; forming sentences and spontaneous writing; naming and understanding); temporal orientation; spatial orientation; recognition of photographs and pictograms that represent concrete and abstract

concepts. The professionals scored the answers for the cognitive items as right, wrong and unanswered, or by the number of correct answers, depending on the question (Pelosi et al., 2019), as shown in Table 2.

Table 2. Representative part of the communication skills assessment protocol in the hospital context.

Evaluated aspect	Evaluator's command	Board		Answers and Observations
To recognize photos	19- Show me the person who is lying down	MOSTRE-ME A PESSOA QUE ESTA DEITADA		<input type="checkbox"/> Right <input type="checkbox"/> Wrong <input type="checkbox"/> Unanswered
				

Source: Personal file.

Besides the aspects previously considered, the protocol also allowed the recording of patient preferences in their interaction with symbols, resources, selection techniques, and strategies. Concerning the symbols, the professional recorded whether the patient was able to recognize photographs, pictograms, words, numbers; and if he was able to write using the alphabet board. The resources used are among the range of objects mentioned above. The selection techniques were direct or by the scanning system.

In the end, the professional classified the patient's performance in the protocol, indicating one of the following options: 3 points for excellent performance (able to express needs with the use of AEC on time and adequate interaction); 2 points for good performance (able to express needs with improved use of AEC about time and interaction); 1 point for regular performance (able to express needs but still having difficulty using the AEC with time and interaction); 0 points for ineffective performance (unable to express needs). This criterion was controlled by the researcher.

In the case of good and excellent performance, they performed the patient's occupational profile. For regular and ineffective performance, the approach was ended and the patient was followed by the active search in the next meetings.

3.2.4 Occupational profile assessment

After the application of the protocol, the professionals showed a dynamic board content built with the same resources previously mentioned for the recognition of the patient's profile and performance. Some of the questions were: 1) the neighborhood in which he lives; 2) marital status; 3) cohabitation; 4) visits and from whom; 5) education; 6) dominance; 7) religion; 8) occupation; 9) assistive devices used; and 10) things he likes to do. This evaluation allowed us to understand the patient's occupational history and experiences, daily living standards, interests, values, and needs (American Occupational Therapy Association, 2015), as well as the creation of boards that would meet more individualized demands.

Figure 2 shows a dynamic board used to support the patient's answer.

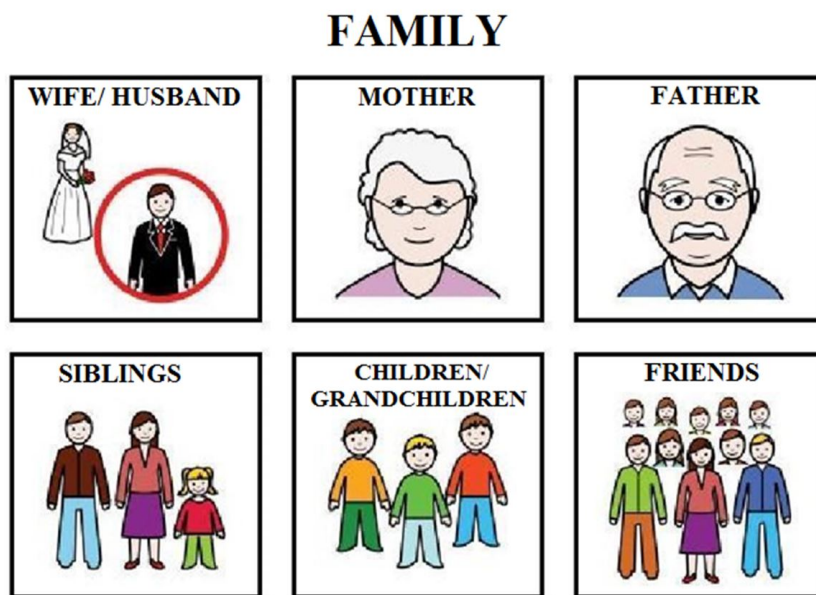


Figure 2. Example of a dynamic board used to support the patient's answer. Source: Personal file.

The presence of family members during visiting hours contributed to more detailed information about the patient. The performance of occupational therapy in the ICU was strategically chosen to be in the afternoon because there was usually the presence of family members as a factor to stimulate patient communication and a source of information, and there was a reduction in interference other professionals for care and routine exams, which happened more frequently in the morning.

3.2.5 Offer and training of the basic communication board kit

In this stage, the professionals offered the patient a kit with four printed and laminated basic boards: 1) a board with human body symbol in the anterior, posterior and lateral plan, highlighting symptoms of "pain", "itching", "burning", "cramp" and "I can't move"; 2) a board with yes and no symbols; 3) an alphabet board with options of "I erred", "space", "end" and "tired"; and 4) a visual pain scale. They used the tablet and computer in the presence of the occupational therapist, given the impossibility of leaving such resources with patients in this environment.

In cases where the patient was able to write, the therapist offered resources to support writing, such as a whiteboard and a pen, and the family member was instructed to acquire such resources. These actions were strengthened by attaching a symbol to the bed rail (Figure 3), so that patients with adequate motor skills could easily reach and identify the symbol, requesting communication resources from a facilitator. These symbols also helped the health team to identify the patient's type of communication. In the basic board kit, there was also a brief step-by-step on how to use the material, allowing people inexperienced in the AEC area to easily use the resources.



Figure 3. Example of symbol attached on the bed rail. Source: Personal file.

3.2.6 Patient satisfaction score recorded on a scale by the patient

The patient's satisfaction score for his communicative ability was questioned at the beginning of the protocol and, immediately, after the intervention and receiving the basic communication kit. Such evaluation was carried out using a visual scale of numerical performance from zero to 10, as previously mentioned. The patients who benefited from the AEC continued to be monitored by the occupational therapy team for the adaptation and training of the AEC resources, until discharge from the sector, return of oral communication, or death.

3.2.7 Final records and dialogue with family members and health professionals

A field diary was among the records used at the end of the intervention by the professional to highlight additional information and observations during the research, such as: how he found the patient in bed; what was the patient's performance; the description of the intervention, interactions and guidance with caregivers and health professionals; subjective impressions; doubts that need further clarification; intervention time with the registered patient in less than 10 minutes, between 10 and 20 minutes, between 20 and 40 minutes, between 40 and 60 minutes, and in more than 60 minutes, so that the professional identified the time needed for each approach. In addition to the field diary, they also synthesized the intervention in electronic medical records, so that other professionals in the sector could accompany occupational therapy interventions and, when necessary, reinforce actions in team meetings.

The evaluation process usually took place in a single day, but in this context of hospitalization, the patient could become tired, request the interruption of care, need a medical complication, such as exams and medications, receive visits, or present changes in the clinical picture with fluctuations in the level of consciousness, needing to interrupt the assessment or perform a new assessment for AEC.

4 Discussion

For the use of AEC in patients with restricted verbal communication in the ICU, the occupational therapist must consider a variety of characteristics of the sector and the patient, influencing and preceding their entry into the ICU, and reflecting on the success of an evaluation and monitoring. Since 1986, Dowden, Honsinger, and Beukelman have already carried out interventions with patients in intensive care who did not speak and described factors such as the severity of the case that prevents the evaluation with complex and time-consuming communication devices; the hospital routine with flexible intervention to complications; the instability of patients that can change their cognitive, motor and motivational functions; and, finally, the fact that patients and professionals needed interventions that would facilitate immediate communication.

Based on this information, the authors showed an intervention evaluation protocol in ICU patients with communicative restrictions, considering a sequence of steps to be followed for the choice of communication resources, from a preliminary screening with behavioral questions, guidance and answers to commands, followed by the enhancement of the capabilities of motor, sensory and cognitive components, until its completion, with an interview with family members, professionals and, when possible, with the patient, considering the needs of their communication partners, the environment and their individualized messages (Dowden et al., 1986a).

We found that even after more than 30 years of publication of this study (Dowden et al., 1986a), it has similarities with our research and confirms the importance of systematizing AEC assistance for professional decision making. Such systematization favors greater quality of care and contributes to the continuity of interventions with ICU patients with communicative restrictions.

Among the procedures for the intervention of Occupational Therapy in this study, we highlight the collection of information in medical records of patients admitted to the ICU, reading the Kanban and conversations with other professionals in the sector, as it is essential that the occupational therapist understands in detail the case, recognize its limits and avoid errors that may even threaten the patient's life.

Based on the understanding of the context in which patients with communicative difficulties were inserted, an instrument applicable to the bedside was built, based on assessments already widely used in ICUs, such as the Glasgow Scale, RASS and CAM-ICU, aiming to assist the professional in identifying patients eligible for AEC implementation.

Happ et al. (2015b) used initial evaluation and eligibility criteria and were able to identify that 53.9% of patients on mechanical ventilation would benefit from the use of AEC and the monitoring of an experienced professional in the area. The criteria used were: awake patient; alert; and sensitive to communication with the professional. As a strategy for implementing these criteria, the researchers used the nursing report as procedures, to make sure that the patient was awake for 12 hours, and the alert factor, with one of the following aspects: response to commands; nursing description; score 6 for a motor response on the Glasgow coma scale; score greater or equal to 4 on the Riker agitation and sedation scale; a score between 1 and 3 on the modified Ramsay sedation scale.

When understanding the need to use materials that could be inserted in the ICU and the way they would be used, stored, and sanitized to prevent nosocomial infections, we used the research by Nascimento et al. (2017) as a reference in this study. However, recognizing the peculiarities of the ICU, we decided to replace the plastic film with ziplock bags, after verifying its quality and practicality. The cleaning and preparation of the materials were carried out in a room inside the ICU, reducing the travel time and the preparation of the material from 1 hour, as stipulated in the referenced study, to 15 minutes.

Regarding the communication skills assessment protocol, the occupational therapist must have clarifications on all the factors that involve AEC: its resources, selection techniques, strategies, and symbols (Pelosi, 2007). All assessments created and used in the literature provided information to more specifically identify facilitators and barriers related to occupational performance, especially communication management (Dowden et al., 1986a; Radtke et al., 2011). The occupational therapist has a fundamental role in proposing different forms of access; in the integration of sensory and motor functions; in developing the functionality of the upper limbs and other parts of the body; and in the acquisition of independence in essential activities (King, 1999), as in communication.

Individualized care was necessary since physical and cognitive aspects can change daily, becoming barriers to the widespread use of AEC techniques and devices in the ICU, added to the importance of recognizing that the patient admitted to this care unit has a profile of complicated intervention, requiring several communication systems at the same time for successful interaction (Dowden et al., 1986b). Besides the patients with complex communication needs, it could be necessary to use AEC resources to favor the communication of immigrants or tourists hospitalized in ICUs that do not communicate in Portuguese and that, under Brazilian law, have the right to be assisted by the Unified Health System (Brasil, 1990).

The choice of the communication resource must also have an appropriate assessment. If resources are chosen at random and without considering the patient's skills, this may harm their communication. Flinterud & Andershed (2015), in a descriptive study, observed that patients with a tracheostomy who were confident about their abilities to use resources such as the iPad, the pen and the paper, were extremely disappointed when they realized that they were not able at the time to perform that task, and found communication very tiring and laborious, and with physical and mental demands beyond their possibilities. In this sense, the participation of a professional with expertise in the area is essential. Communication management is an instrumental activity of daily living (American Occupational Therapy Association, 2015) that when impaired and consequently causes dissatisfaction in the individual, requires occupational therapeutic monitoring.

The number of symbols for most evaluation boards and the use of high-tech AEC resources, such as a computer with a 360° flexible screen and a tablet, was based on the conclusions of the research by Pelosi & Nascimento (2018). In this research, with 34 patients with restricted verbal communication and hospitalized, the patients chose the tablet together with the occupational therapist, as the most appropriate to favor their communication and 12 symbols per screen as the adequate quantity for the studied

group. This research also showed the need for the occupational therapist to consider the patient's choice.

In this research, the occupational therapist created strategies to benefit the patient's autonomy in his treatment, as well as to address issues beyond the diagnosis. For the patient's well-being, physical, social, spiritual, and emotional aspects need to be considered, since his intervention is based on a holistic and patient-centered approach.

When fixing visible AEC symbols close to the patient, the occupational therapist considered his potential and enabled him to show the desire to start an interaction, making him autonomous and active in the treatment. In a study in the ICU carried out with intubated and patients with tracheostomy, the nurse initiated 86.6% of the communication exchanges, with an average time of 2.62 minutes (Happ et al., 2011), that is most patients were controlled by the professional. Another study with the similar profile of the patients of this study showed that they answer questions about basic needs (pain, positioning, endotracheal aspiration, and temperature) and also when asked if they wanted to communicate other content, 83% of the patients confirmed it (Duffy et al., 2018).

With the assessment of the occupational profile (American Occupational Therapy Association, 2015), the occupational therapist was also able to understand what ruptures were caused by the illness process, the supports and barriers, especially the priorities of the evaluated patients. The possibility of demonstrating satisfaction with the care received through a performance scale, before and after the intervention, also provided tools for the patient to exercise his autonomy and express his opinion.

The participation of family members and other health professionals in the AEC work carried out in the ICU was essential and enabled to exchange information regarding the patient. Families provided important information about limited literacy and pre-existing hearing/visual impairments, which were critical for effective AEC planning and strategy selection (Broyles et al., 2012). Also, family support enabled the patients to get closer to their daily lives and favored interaction with loved ones regarding the expression of feelings and expectations.

To implement AEC, professionals working in the ICUs must be qualified for this intervention. In this study, the training of professionals took place through direct conversations within the ICU through printed summaries of the usability of the devices left for the patient and through seminars organized by the head of the service. Dithole et al. (2016, 2017) pointed out the importance of studies and training in resource management, and other strategies that can be adopted together with the coordination of the sector, such as specialized training actions and allocation of more resources. Also, the study by Happ et al. (2011) reported that, without training in AEC techniques, nurses who work in intensive care do not have the set of skills in strategies necessary to favor the communication of their patients most severely affected by communication restrictions. Thus, Occupational Therapy has a special role in training actions for family members and professionals to facilitate the introduction of AEC resources in the ICU.

5 Conclusion

For the first time, a study described the procedures in a systematic and detailed way necessary for the implementation of AEC to patients with restricted verbal communication in the ICU.

The occupational therapist should consider and value a series of procedures in favor of the management of patient communication with verbal restriction in the ICU. Among the procedures, we highlight the strategies that preceded the occupational therapist's entry into the unit and the outline of steps that began with active search; preparation of material and necessary care; the use of the assessment protocol and communication skills in the hospital context; the assessment of occupational profile; the offer and training of the basic AEC board kit; the assessment of patient satisfaction regarding their communicative ability; the medical record and guidance to family members and health professionals.

Therefore, professionals need access to this type of information during their learning process in undergraduate and graduate courses and receive support from health systems to achieve profound and long-term changes in the communication practice in the ICU, qualifying the provision of services to society.

The results of this research may highlight the patients with restricted verbal communication in the ICUs, and enable the occupational therapists to elucidate common problems in this scenario and obtain essential clinical data for treatment, establish therapeutic objectives and direct patient-centered interventions. These results may also allow other occupational therapists to perform actions similar to this one in other hospitals and to develop other research with different approaches to this theme.

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Author's Contributions

Patrícia Santos de Oliveira Coelho performed the planning, the collection, and typing of data, the writing, review, and discussion of the article. Kelly do Valle collaborated with the collection and typing of data. Gabriela Pereira do Carmo and Thainá Rodrigues de Melo dos Santos assisted in the review of the article. Janaína Santos Nascimento and Miryam Bonadiu Pelosi collaborated with the planning, discussion and correction of the article. All authors approved the final version of the text.

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Corresponding author

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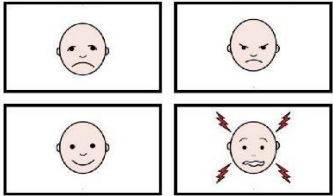
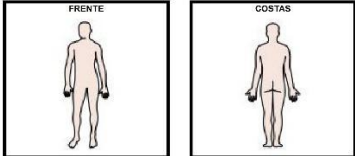
Annex A. Communication skills assessment protocol in the hospital context.

Protocolo de avaliação de habilidades comunicativas no contexto hospitalar que contempla componentes cognitivos, motores e sensoriais.

ASPECTO AVALIADO	COMANDO DO AVALIADOR	PRANCHA	RESPOSTAS E OBSERVAÇÕES												
Atenção Básica	1 - Pisque os olhos quando escutar a letra "A"	COMANDO DO AVALIADOR <div style="border: 2px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> S-A-V-E-A-H-A-A-R-T </div>	<input type="checkbox"/> < 3 erros <input type="checkbox"/> >= 3 erros <input type="checkbox"/> sem resposta												
Rastreamento visual, compreensão e velocidade de resposta	2 - Mostre-me o número 7	MOSTRE-ME O NÚMERO 7 <table border="1" style="margin: 0 auto;"> <tr><td>0</td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td></td><td></td></tr> </table>	0	1	2	3	4	5	6	7	8	9			<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
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Rastreamento visual, compreensão e velocidade de resposta	3 - Forme o número 51	FORME O NÚMERO 51 <table border="1" style="margin: 0 auto;"> <tr><td>0</td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td></td><td></td></tr> </table>	0	1	2	3	4	5	6	7	8	9			<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
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Memória imediata com pistas visuais	4 - Preste atenção: Eu vou dizer três palavras e você irá mostrar-me a seguir: "Caneta, bola e flor"	<table border="1" style="margin: 0 auto;"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>							<input type="checkbox"/> 1 acerto <input type="checkbox"/> 2 acertos <input type="checkbox"/> 3 acertos <input type="checkbox"/> Sem acertos <input type="checkbox"/> sem resposta						
															
															
Linguagem: leitura e nomeação	5 - O que você vê na imagem?	O QUE VOCÊ VÊ NA IMAGEM <div style="text-align: center; margin-bottom: 10px;">  </div> <table border="1" style="margin: 0 auto;"> <tr> <td>PENTE</td> <td>ÓCULOS</td> <td>MEIA</td> <td>LIVRO</td> </tr> </table>	PENTE	ÓCULOS	MEIA	LIVRO	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta								
PENTE	ÓCULOS	MEIA	LIVRO												
Linguagem: leitura e compreensão	6 - Leia e faça o que está sendo pedido	FECHE OS OLHOS	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta												

ASPECTO AVALIADO	COMANDO DO AVALIADOR	PRANCHA	RESPOSTAS E OBSERVAÇÕES																														
Linguagem: Escrita	7 - Escolha os itens necessários para formar uma frase simples na ordem correta	<p style="text-align: center;">FORMAR FRASE</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>EU</td> <td>HOSPITAL</td> <td>ESTA</td> </tr> <tr> <td>NO</td> <td>ESTOU</td> <td>VOCÊ</td> </tr> </table>	EU	HOSPITAL	ESTA	NO	ESTOU	VOCÊ	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta																								
EU	HOSPITAL	ESTA																															
NO	ESTOU	VOCÊ																															
Linguagem: escrita	8 - Quais são as letras que formam o seu nome?	<p style="text-align: center;">QUAIS AS LETRAS QUE FORMAM O SEU NOME</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>A</td> <td>G</td> <td>L</td> <td>Q</td> <td>V</td> </tr> <tr> <td>B</td> <td>H</td> <td>M</td> <td>R</td> <td>W</td> </tr> <tr> <td>C</td> <td>i</td> <td>N</td> <td>S</td> <td>X</td> </tr> <tr> <td>D</td> <td>J</td> <td>O</td> <td>T</td> <td>Y</td> </tr> <tr> <td>E</td> <td>K</td> <td>P</td> <td>U</td> <td>Z</td> </tr> <tr> <td>F</td> <td>ERREI</td> <td>ESPAÇO</td> <td>FIM</td> <td>CANSADO</td> </tr> </table>	A	G	L	Q	V	B	H	M	R	W	C	i	N	S	X	D	J	O	T	Y	E	K	P	U	Z	F	ERREI	ESPAÇO	FIM	CANSADO	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
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E	K	P	U	Z																													
F	ERREI	ESPAÇO	FIM	CANSADO																													
Linguagem: escrita	9 - Escreva o seu nome e idade	<p style="text-align: center;">COMANDO DO AVALIADOR</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>ESCREVA SEU NOME</td> </tr> <tr> <td>ESCREVA SUA IDADE</td> </tr> </table>	ESCREVA SEU NOME	ESCREVA SUA IDADE	<input type="checkbox"/> 1 Acerto <input type="checkbox"/> 2 Acertos <input type="checkbox"/> Sem acerto <input type="checkbox"/> sem resposta																												
ESCREVA SEU NOME																																	
ESCREVA SUA IDADE																																	
Evocação tardia com Pistas visuais	10 - Quais as palavras ditas anteriormente?	<table border="1" style="width: 100%; text-align: center;"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>							<input type="checkbox"/> 1 acerto <input type="checkbox"/> 2 acertos <input type="checkbox"/> 3 acertos <input type="checkbox"/> Sem acertos																								
																																	
																																	
Orientação temporal	11 - Que dia é hoje?	<p style="text-align: center;">QUE DIA É HOJE</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>6</td> <td>7</td> </tr> <tr> <td>8</td> <td>9</td> <td>10</td> <td></td> </tr> </table>	0	1	2	3	4	5	6	7	8	9	10		<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta																		
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Orientação temporal	12 - Em que mês estamos?	<p style="text-align: center;">EM QUE MÊS ESTAMOS</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>JANEIRO</td> <td>FEVEREIRO</td> <td>MARÇO</td> <td>ABRIL</td> </tr> <tr> <td>MAIO</td> <td>JUNHO</td> <td>JULHO</td> <td>AGOSTO</td> </tr> <tr> <td>SETEMBRO</td> <td>OUTUBRO</td> <td>NOVEMBRO</td> <td>DEZEMBRO</td> </tr> </table>	JANEIRO	FEVEREIRO	MARÇO	ABRIL	MAIO	JUNHO	JULHO	AGOSTO	SETEMBRO	OUTUBRO	NOVEMBRO	DEZEMBRO	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta																		
JANEIRO	FEVEREIRO	MARÇO	ABRIL																														
MAIO	JUNHO	JULHO	AGOSTO																														
SETEMBRO	OUTUBRO	NOVEMBRO	DEZEMBRO																														
Orientação temporal	13 - Em que ano estamos?	<p style="text-align: center;">EM QUE ANO ESTAMOS</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>6</td> <td>7</td> </tr> <tr> <td>8</td> <td>9</td> <td></td> <td></td> </tr> </table>	0	1	2	3	4	5	6	7	8	9			<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta																		
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ASPECTO AVALIADO	COMANDO DO AVALIADOR	PRANCHA	RESPOSTAS E OBSERVAÇÕES
Orientação temporal	14 - Em que dia da semana estamos?	<p style="text-align: center;">EM QUE DIA DA SEMANA ESTAMOS</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">SEGUNDA</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">TERÇA</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">QUARTA</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">QUINTA</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">SEXTA</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">SÁBADO</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">DOMINGO</div> </div>	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
Orientação temporal	15 - Em que turno do dia estamos?	<p style="text-align: center;">EM QUE TURNO DO DIA ESTAMOS</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">MANHÃ</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">TARDE</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">MADRUGADA</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">NOITE</p> </div> </div>	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
Orientação espacial	16 - Em que local nós estamos?	<p style="text-align: center;">EM QUE LOCAL NÓS ESTAMOS</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">COZINHA</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">SALA DE INTERNAÇÃO HOSPITALAR</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">DORMITÓRIO</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">SALA DE ESTAR</p> </div> </div>	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
Orientação espacial	17 - Que local é este aqui?	<p style="text-align: center;">QUE LOCAL É ESTE AQUI</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">HOSPITAL</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">PRAÇA</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">PRAIA</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">CASA</p> </div> </div>	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
Orientação espacial	18 - Em que cidade nós estamos?	<p style="text-align: center;">EM QUE CIDADE NÓS ESTAMOS</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">SÃO PAULO</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">OURO PRETO</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">RIO DE JANEIRO</p> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> <p style="font-size: 8px;">SALVADOR</p> </div> </div>	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
Reconhecer fotografias	19 - Mostre-me a pessoa que está deitada	<p style="text-align: center;">MOSTRE-ME A PESSOA QUE ESTA DEITADA</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> </div>	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
Reconhecer pictogramas	20 - O que fazemos quando estamos com sede?	<p style="text-align: center;">QUE FAZEMOS QUANDO ESTAMOS COM SEDE</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> <div style="border: 1px solid black; padding: 2px; text-align: center;"> </div> </div>	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta

ASPECTO AVALIADO	COMANDO DO AVALIADOR	PRANCHA	RESPOSTAS E OBSERVAÇÕES
Reconhecimento de pictogramas abstratos	21 - Mostre-me a expressão feliz	MOSTRE-ME A EXPRESSÃO FELIZ	<input type="checkbox"/> Certo <input type="checkbox"/> Errado <input type="checkbox"/> sem resposta
			
Esquema corporal	22 - Mostre-me o onde estão o pescoço, a mão, e as costas	CORPO HUMANO	<input type="checkbox"/> 1 acerto <input type="checkbox"/> 2 acertos <input type="checkbox"/> 3 acertos <input type="checkbox"/> Sem acertos <input type="checkbox"/> sem resposta
			

Source: Pelosi et al. (2019).