








DONATION OF ORGANS AND TISSUES FOR TRANSPLANTS: KNOWLEDGE, ATTITUDE AND PRACTICE

DOAÇÃO DE ÓRGÃOS E TECIDOS PARA TRANSPLANTES: CONHECIMENTO, ATITUDE E PRÁTICA

DONACIÓN DE ÓRGANOS Y TEJIDOS PARA TRASPLANTES: CONOCIMIENTO, POSTURA Y PRÁCTICA

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ABSTRACT

Objective: to assess the knowledge, attitude and practice of members of intra-hospital organ and tissue donation commissions for transplants regarding the process of organ and tissue donation for transplants. **Method:** an evaluative, quantitative study, with the application of a questionnaire on knowledge, attitude and practice (CAP) to 34 health professionals in 2017. **Results:** it was found that the professionals were more adequate in terms of attitude and less in terms of knowledge. Professionals with specialization in the area and those who feel prepared obtained higher scores of knowledge and practice; those with double employment had lower attitude scores; those trained to serve on the commission and those who had no obstacles to conducting the process achieved higher scores for practice. The knowledge and practice scores showed a moderate positive correlation. **Conclusion:** there was a deficit of professionals regarding the knowledge domain of the donation and collection of organs for transplantation.

Keywords: Tissue and Organ Procurement; Transplantation; Nursing; Health Knowledge, Attitudes, Practice; Health Personnel.

RESUMO

Objetivo: avaliar o conhecimento, atitude e prática de integrantes de comissões intra-hospitalares de doação de órgãos e tecidos para transplantes quanto ao processo de doação de órgãos e tecidos para transplantes. **Método:** estudo avaliativo, quantitativo, com aplicação de questionário conhecimento, atitude e prática (CAP) a 34 profissionais de saúde em 2017. **Resultados:** constatou-se mais adequabilidade dos profissionais quanto à atitude e menos quanto ao conhecimento. Profissionais com especialização na área e os que se sentem preparados obtiveram maiores escores de conhecimento e prática; aqueles com duplo vínculo empregatício apresentaram menores escores de atitude; aqueles com formação para atuar na comissão e os que não tinham empecilhos para a condução do processo alcançaram pontuações superiores de prática. Os escores conhecimento e prática apresentaram correlação positiva moderada. **Conclusão:** evidenciou-se déficit dos profissionais quanto ao domínio conhecimento do processo de doação e captação de órgãos para transplantes.

Palavras-chave: Obtenção de Tecidos e Órgãos; Transplante; Enfermagem; Conhecimentos, Atitudes e Prática em Saúde; Pessoal de Saúde.

RESUMEN

Objetivo: evaluar el conocimiento, la postura y la práctica de los miembros de las comisiones intrahospitalarias de donación de órganos y tejidos para trasplantes con respecto al proceso de donación de órganos y tejidos para trasplantes. **Método:**

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estudio evaluativo y cuantitativo, con la aplicación de un cuestionario sobre conocimiento, postura y práctica (CAP) a 34 profesionales de la salud en 2017. **Resultados:** se comprobó mayor adecuabilidad profesional en cuanto a postura y menor en conocimiento. Los profesionales con especialización en el área y aquéllos que se sentían preparados obtuvieron mayores puntajes en conocimiento y práctica; aquéllos con dos empleos fijos obtuvieron menor puntaje en postura; aquéllos capacitados para desempeñarse en la comisión y los que no presentaron problemas para conducir el proceso lograron mayores puntajes en práctica. Los puntajes de conocimiento y práctica mostraron una correlación positiva moderada. **Conclusión:** se constató el déficit de los profesionales con respecto al dominio conocimiento del proceso de donación y adquisición de órganos para trasplantes.

Palabras clave: Obtención de Tejidos y Órganos; Trasplante; Enfermería; Conocimientos, Actitudes y Práctica en Salud; Personal de Salud.

INTRODUCTION

With the evolution of the practice of transplants and aiming at a better organization and qualitative and quantitative expansion of the organ removal activity, in 2005, the Ministry of Health determined the constitution of an Intra-Hospital Commission for Donating Organs and Tissues for Transplants (IHCDOTT) in all hospitals with more than 80 beds.¹

CIHDOTT must be formally instituted by the management of each hospital and be composed of at least three members of higher education, including a doctor or nurse who must have participated in the training course for intra-hospital organ donation and tissue for transplantation coordinators.¹ It is essential that its members have knowledge about brain death and activities involved in the entire donation process, interpersonal communication skills, familiarity with documentation, specific legislation and ethical aspects that involve donation.²

CIHDOTT's duties include: establishing an organ donation assistance protocol; co-participation in the identification of the potential donor; enabling and notifying the diagnosis of brain death; articulation with health teams, sectors and establishments, to make the organ removal process more agile; the promotion and organization of welcoming to the donor family; accountability for the permanent education of the institution's employees; and the registration and filing of each process, intervention and activity developed.³ It is up to these commissions, then, to develop routines that culminate in the benefit of patients waiting for organs and, therefore, that positively impact the annual growth of the donor rate.⁴

Brazil is the second country in the world in absolute number of transplants, but there is still a worrying disproportion between the demand and the supply of organs. This panorama also represents the reality of Brazilian states that, for the most part, have

not achieved, in recent years, the goals of donation rates established by the Ministry of Health.⁵

Considering the attributions of CIHDOTTs and the need to increase their rates, the evaluation of their members must be assumed to improve the process of removing organs and tissues for transplants, based on professional experience and theoretical support, and thus, minimize possible failures that may interfere in the conversion of the potential donor into an effective donor.

Therefore, this article aims to assess the knowledge, attitude and practice (*Conhecimento, Atitude e Prática-CAP*) of professionals who work in the process of organ and tissue donation for transplants.

METHOD

This is an evaluative study, with a quantitative approach, developed from June to September 2017, which had the CIHDOTTs of public, private and philanthropic hospitals in a state in the southeastern region of Brazil.

The study population consisted of 123 professionals from CIHDOTTs with regulated activities in the State where the study was conducted. To determine the sample, professionals with higher education who attended the quarterly training meetings promoted by the State Transplant Center (Centro Estadual de Transplante - CET), which took place during the data collection period, were considered. In the June and September meetings, when data were collected, 34 and 31 professionals participated, respectively. Each participant was counted only once, determining a sample of 34 professionals.

Data were collected before the start of the training meetings, using a CAP-type questionnaire, built and validated in three stages. In step 1, the search for scientific literature on the topic was carried out to elaborate the questions. In step 2, the apparent and content validation of the questionnaire was carried out by judges considered experts on the theme, assuming as an eligibility criterion to be a health professional with a higher educational level with at least one year of experience in the CET. To assess the degree of agreement between experts, the content validity index (CVI) was used. Finally, in step 3, the CVI score analysis of the judges' reviews was carried out, with the purpose of forming the final version of the questionnaire.

The collection instrument consisted of three parts: a) personal identification, with two questions; b) professional characterization, with 20 questions; c) CAP questionnaire, with 10 questions about knowledge, 10 about attitude and five related to practice, focusing on the process of organ and tissue donation for transplants.

The CAP-type questionnaire consists of a set of questions that serves as an educational diagnosis and whose purpose is to measure what a certain population knows, thinks and how it acts on a given

problem. It is a type of formative assessment that intends to collect data to support the subsequent elaboration of interventions.⁶

In this study, knowledge was considered the ability to acquire and retain information to be used; attitude like the inclination to react to situations, see and interpret events according to certain predispositions and organize opinions with coherence; and practice as application of rules and knowledge that lead to the execution of the action in an ethical way.^{7,8}

The data related to personal identification and professional characterization were treated by descriptive statistics, represented by absolute and percentage values, mean, median and standard deviation.

For analysis of the CAP questionnaire, according to similar methodology studies, knowledge was considered adequate when the answer was "true" for true statements or "false" for false statements, computing 1.0 point for each correct answer. The attitude was considered appropriate when the answer was "agree" or "strongly agree" for true statements or "disagree" or "strongly disagree" for false statements, with 1.0 points being attributed for the question answered correctly. The practice, in turn, was considered adequate when the answer was "yes" and inadequate when the answer was "no", with 2.0 points attributed for correct statement.^{7,8}

The sum of the scores of each domain resulted in a score from zero to 10, reaching the maximum score when all questions were answered correctly. In such a way, the higher the score, the greater the knowledge, attitude and practice of professionals. It should be noted that there is no consensus in the literature as to the score to be considered satisfactory so that the scores of the CAP questionnaire are understood as adequate. Therefore, if the studies consider a variation in the percentage of correct answers between 50⁷ and 90%,⁹ for this study, scores of 60% or more were considered satisfactory.

The questionnaire result was analyzed using descriptive and inferential statistics, using the Statistical Package for the Social Sciences (SPSS) version 20 and Bioestat version 5.3. Refuted the hypothesis of normality of the data by means of the Shapiro-Wilk test, the Mann-Whitney and Kruskal-Wallis tests were used for comparisons between metric and categorical variables. And, for the comparison between scores, Wilcoxon or Friedman tests were used, when appropriate. For the correlation analysis, Spearman's correlation coefficient was used, using the following parameters: weak correlation when $0.00 < p < 0.30$; moderate if $0.30 \leq p < 0.60$; strong when $0.60 \leq p < 0.90$; and strong if $0.90 \leq p < 1.00$. For all hypotheses, $p < 0.05$ was considered significant.

As this is a research involving human beings, the research project was submitted to the Research Ethics Committee, obtaining approval in November 2016 under the CAAE Nr. 618994416.0.0000.5060. All recommendations of Resolution Nr. 466/2012 of the National Health Council were followed, including

the signature on the Informed Consent Form, in two copies, and clarification regarding the potential risks of the research.

RESULTS

The population participating in this study was predominantly composed of female professionals ($n=28$; 82.4%), aged between 20 and 40 years ($n=26$; 76.5%) and graduated in Nursing ($n=27$; 79.4%). In addition to nurses, this study comprised three social workers (8.8%), three psychologists (8.8%) and a physical therapist (2.9%). Most of them graduated from private institutions ($n=24$; 70.6%) a maximum of nine years ago ($n=19$; 55.8%). Postgraduate students attended 79.4% ($n=27$) of the participants, but only 26.5% ($n=09$) took a specific postgraduate course to work in the procurement and donation of organs and tissues for transplants.

Of the total participants, 79.4% ($n=27$) have more than five years of professional experience and 58.8% ($n=20$) have been working at CIHDOTT for up to two years. Prevailed professionals who feel prepared to conduct the organ and tissue donation process ($n=24$; 70.6%) and those who stated that there are relational, structural, logistical, managerial and/or personal obstacles that hinder the conducting of this process ($n=21$; 61.8%).

Table 1 shows the proportion of appropriate responses to the CAP questionnaire regarding knowledge, attitude and practice about the process of organ and tissue donation for transplants. It was found that, in the knowledge dimension, the average scores of four of the 10 questions were above 60%. The lowest percentages of adequate response were observed in the items referring to the maintenance of the potential donor ($n=2$; 5.9%) and to the family interview ($n=4$; 11.8%).

In attitude, out of the 10 statements, only one scored less than 60% of correct answers, namely: "I believe that giving support to the donor's family is more stressful than providing care to the donor" ($n=19$; 55.9%). In terms of practice, the items with hit rates below 60% were those referring to the resuscitation maneuver in case of potential donor cardiac arrest ($n=14$; 41.2%) and the availability of a physical area for the commission developed its work ($n=17$; 50.0%).

The results of the comparative analysis between the scores of the medians of knowledge, attitude and practice of the professionals and selected variables are illustrated in Table 2. There were high scores, with statistical significance, in knowledge and practice among those with specific specialization in the area ($p=0.049$ and $p=0.032$) and among those who feel prepared to conduct the capture process ($p=0.029$ and $p=0.001$). In practice, the professionals who participated in the CIHDOTT training course ($p=0.047$) and among those who did not identify obstacles to developing the work ($p=0.015$) added higher scores. As for the attitude, the lowest scores are among the professionals who have a job in another institution ($p=0.027$).

Table 1 - Knowledge, attitude and practice of professionals regarding the process of organ and tissue donation for transplants. Brazil, 2018 (n=34)

Aspects	Appropriate responses (n=34)	
	n	%
Knowledge		
Brain death concept	17	50.0
Conditions for opening the brain death protocol	27	79.4
Suspension time for central nervous system depressant drugs	11	32.4
Suspension of the brain death protocol due to spinal cord motor responses	18	52.9
Absolute contraindications for organ and tissue donation for transplants	25	73.5
Time of death in patients diagnosed with inconclusive brain death	16	47.1
Maintenance of the potential donor	2iiii	5.9
Family interview in all cases of potential donor brain death	4	11.8
Family authorization for organ and tissue donation for transplants	29	85.3
Notification of all brain death protocols to the Transplant Center	23	67.6
Attitude		
Understanding and accepting brain death	28	82.4
Organ removal	33	97.1
Discussion of the topic of organ and tissue donation after brain death diagnosis	27	79.4
Supporting the donor's family is more stressful than providing care to the donor	19	55.9
Transplantation and quality of life of the recipient patient	33	97.1
The concern of taking care of an individual in brain death is greater than I can bear	33	97.1
Adequate experience/training to assist a potential donor	24	70.6
Organ donation and religious beliefs	31	91.2
The desire to donate organs	33	97.1
I would donate the organs of my family members	32	94.1
Practice		
Resuscitation (if cardiorespiratory arrest occurs) of the donor potential	14	41.2
Suspension of therapeutic support after the diagnosis of brain death	21	61.8
Physical area for the commission to develop its work	17	50.0
Image examination	30	88.2
Actions related to permanent education	22	64.7

Source: prepared by the authors.

Table 3 shows the comparison of median knowledge, attitude and practice, indicating that there is a statistical difference between the professionals' knowledge, the attitude they consider correct and what they practice. In this analysis, there was more suitability of professionals in terms of attitude, followed by practice, and less in terms of knowledge about the organ and tissue removal process.

A significant moderate positive correlation was found at the intersection between the knowledge and practice scores ($p=0.501$; $p=0.003$), that is, as the knowledge score increases, the practice score also increases. In the crossings between knowledge and attitude ($p=0.112$; $p=0.528$) and attitude and practice ($p=0.276$; $p=0.114$), no statistically significant correlations were found.

DISCUSSION

The analysis of the data identified that the professionals presented a better performance related to the attitude, followed by the practice and knowledge, indicating that the professionals know the attitudes that they must assume, however, they act in a lesser proportion and with little theoretical foundation. Brazilian studies that aimed to assess the knowledge of health professionals also identified a knowledge deficit regarding the investigated topic.¹⁰⁻¹³

Another finding of this study is that there is a moderate positive correlation between knowledge and practice, that is, what the professional knows (measured from knowledge) is directly

Table 2 - Comparison of medians of knowledge, attitude and practice of professionals on the process of organ and tissue donation for transplants according to selected variables. Brazil, 2018

Variables	Knowledge (0 to 10)			Attitude (0 to 10)			Practice (0 to 10)		
	Median	SD	p	Median	SD	p	Median	SD	P
Age range									
20 to 30 years	6.00	2.02		9.00	0.79		6.00	2.05	
31 to 40 years	6.00	1.88	0.494**	8.00	1.24	0.071**	6.00	2.73	0.076**
41 years or more	5.00	1.31		8.50	1.36		5.00	1.49	
Sector with longest experience in assistance									
Intensive care/Emergency room	4.00	1.91	0.135*	8.50	0.93	0.729*	6.00	2.41	0.692*
Others	6.00	1.64		9.00	1.39		6.00	2.45	
Specialization in the field of organ donation and donation									
Yes	6.00	1.58	0.049*	9.00	0.83	0.871*	8.00	1.94	0.032*
No	5.00	1.77		9.00	1.33		6.00	2.38	
Institution of work									
Public	5.00	1.71		9.00	1.11		6.00	2.45	
Private	6.00	2.11	0.652**	9.00	1.64	0.707**	6.00	2.54	0.109**
Philanthropic	4.50	1.71		9.00	0.88		8.00	1.90	
Link to another institution									
Yes	6.00	1.87	0.202*	8.00	0.90	0.027*	6.00	2.23	0.584*
No	5.00	1.81		9.00	1.21		6.00	2.48	
CIHDOTT Coordinator									
Yes	6.00	1.59	0.107*	9.00	0.95	0.348*	6.00	2.56	0.820*
No	4.50	1.74		8.50	1.36		6.00	2.38	
Training for CIHDOTT									
Yes	6.00	0.92	0.287*	8.50	0.99	0.710*	8.00	1.41	0.047*
No	5.00	1.99		9.00	1.29		5.68	2.56	
Time working at CIHDOTT									
Up to 2 years	5.00	1.98	0.477*	9.00	1.15	0.229*	6.10	2.63	0.957*
3 years or more	5.50	1.50		8.00	1.28		6.14	2.14	
Feeling of preparation for conducting the organ and tissue donation process									
Yes	6.00	1.69	0.029*	9.00	1.09	0.125*	7.00	2.13	0.001*
No	4.50	1.63		8.00	1.37		4.00	1.63	
Hindrances in the process of organ and tissue donation									
Yes	5.00	1.81	0.494*	9.00	1.40	0.868*	6.00	2.31	0.015*
No	6.00	1.80		9.00	0.83		8.00	2.06	

Source: prepared by the authors. SD: standard deviation; CIHDOTT: Intra-Hospital Commission for Donating Organs and Tissues for Transplantation; *Mann-Whitney test; **Kruskal-Wallis test (p<0.05).

Table 3 - Comparative analysis of the scores obtained regarding the knowledge, attitude and practice of professionals about the process of organ and tissue donation for transplants. Brazil, 2018 (n=34)

Variable	Median	Standard-deviation	p-value*
Knowledge	5.00	1.79	<0.001
Attitude	9.00	1.21	
Practice	6.00	2.41	

Source: prepared by the authors. *Friedman test (p<0.05).

linked to his/her practice. However, the best rates in terms of practice suggest the risk of automated and non-reflective practice. In this sense, the need for professional updating is emphasized, since promoting the team that works with the donation-transplant process is essential for more efficiency of the system, translated in the increase of conversion rates from potential donor to effective donor, of authorization and number of organs harvested and transplanted in the country.

When investigating the attitude, higher scores were found, revealing a positive behavior of the professionals regarding the donation of organs and tissues, a fact that directly influences the whole process to be developed. Negative attitudes are related to disbelief in the diagnosis of brain death, distrust of the waiting list criteria and the belief that organ donation would probably not help the donor's family to deal with their pain.¹⁴

In this study, the professionals had a score above 60% in all questions in the attitude domain, with the exception of the item related to family support, which was also the subject of an item with a low rate of correct answers in the knowledge domain. About this, it is already known that the family interview for organ donation, although it is one of the most important moments in the removal process, is also one of the most delicate for professionals, as they have to deal with the family's fragility and suffering. In this regard, the inability and/or anxiety to welcome the family, combined with insufficient knowledge about the donation process and the short time for the family to make a decision, constitute a barrier to the donor's effectiveness.¹⁵ Other factors that can make this moment stressful for the professional are related to their own religious beliefs and their difficulty in perceiving the patient as a mere organ donor, in understanding and explaining brain death and in addressing a topic still considered social taboo.¹⁶

Considering the practice performed during the organ and tissue donation process, low scores were counted for the items "to act in cases of need for cardiopulmonary resuscitation of the potential donor" and "availability of physical area for the development of the team's work". Such situation incurs losses for the donation process and for the quality of the organs to be transplanted, whose main factors are related to the inadequate maintenance of donors, who may need resuscitation during the care provided, and to the family refusal, often associated improper infrastructure for the reception of the family.¹⁷

The knowledge parameter was identified as the one with the greatest deficit, with scores below 60% in six of the 10 questions, showing a limitation of the professionals' knowledge regarding issues related to the appropriate conducts for maintaining the potential donor, the concepts of brain death and handling of the organ donation protocol. These results are justified, in part, by the fact that a portion of the sample, composed of psychologists, physiotherapists and social workers, may not have received or developed, during their training, theoretical and practical clinical knowledge associated with the items investigated. However, it is noteworthy that the set of nurses, who are assumed to be more familiar with conducting the organ removal process, also had a low average score in the knowledge dimension, although it was higher than the set of other categories. It implies that the curriculum of Nursing courses may also not address the theme in a way that promotes the development of the skills necessary for this practice.¹⁸

These results are worrying, as there is a possibility that CIHDOTT members do not conduct their assignments correctly, such as the process of actively searching for patients who meet the criteria for donation; the family interview, in which all doubts need to be clarified; permanent education of other professionals; and the stimulation and coordination of the necessary care for the preservation, monitoring and viability of organs, causing, mainly, the unavailability or low quality of grafts for transplants.^{3,12,19}

When comparing the medians of knowledge, attitude and practice according to the selected variables, it was evident that professionals with expertise in the area of organ and tissue donation showed higher scores in the knowledge parameter. Likewise, professionals who feel prepared to conduct the organ and tissue donation process (69.4%) obtained higher scores for knowledge and practice; and professionals trained to work at CIHDOTT had a higher score related to practice. About this, it is believed that the involvement with a work of knowledge so peculiar develops ways to seek knowledge independently, and the constant contact with these patients favors the practice. These results confirm the importance of the theoretical contribution, which is associated with a positive effect on the level of security of the health professional for the development of their work, which reinforces a positive attitude and more efficient and beneficial professional practice.²⁰

The professional ability to perform their activities is directly linked to professional training. Specifically, for organ and tissue donation, permanent education is a decisive factor for the technical refinement of the transplant, the approach to the family and the improvement of the organ donation and collection rate.¹⁷

The pressure of a specific permanent education program that will fill the gap detected in the knowledge of the subjects in this study is revealed by the isolated analysis of the number of correct answers in the knowledge item, which proved to be incipient. It is believed that organ donation rates could be improved with educational opportunities for health professionals.²⁰ A CIHDOTT formed by a multiprofessional team specialized in organ removal provides clarifications to other hospital professionals about the best practices in organ removal and transplants, transmits security and qualifies the welcoming to the family.²¹

Another result to be highlighted is the existence of "obstacles that hinder the conduct of the organ and tissue donation process", mentioned by 63.9% of the professionals, who had lower scores in the practice parameter, suggesting that there are barriers that interfere in the care given to donors and the family. In this study, the most cited obstacle was inadequate infrastructure (47.8%), a factor also mentioned by nurses from Ceará¹⁷ and by research that analyzed factors related to the structure for organ donation in hospitals in *Natal, Rio Grande do Norte*.²² Structural problems can generate anxiety, stress and great physical exhaustion due to the impossibility of the professional to offer care in the appropriate

way, as alluded to by nurses who work in services for the search for organs and tissues in the city of *São Paulo*.²³

It should also be noted that the professional who has more than one job has a lower attitude score. In this sense, it is possible that the professional who has a greater workload is less dedicated to the activities, as suggested by an international study, according to which, when the workload is high, surveillance over patients is impaired and increases the risks of occurrence of adverse events.²⁴

Given the above, it is clear that a professional who is safe and aware of his/her attitudes and practices can ensure better quality assistance to the user, family and patients waiting in line for an organ, thus contributing to the increase in the rate of donors. In this sense, commissions composed of professionals with a lack of knowledge about the process can contribute to the failure to reach the agreed goals. It is necessary to consider, however, that, in addition to this, several other factors can positively or negatively impact the efficiency of the national system and state transplant centers, such as related legislation, the structure and capacity of the care network and the investment in society awareness on the topic.²⁵

As for the limitations of this study, we can mention the fact that the assessment of attitude and practice was based on the information collected, without the direct observation of these professionals in their workplace; in such a way, it is possible that professionals have tended to affirm that they carry out certain practices and attitudes that may not correspond to reality. Another limitation is the determination of the sample by a non-probabilistic method and the sample size that may not be representative of the population of professionals who make up the CIHDOTTs. Thus, the generalization of results should be viewed with caution. However, it should be noted that the low participation in the quarterly meetings organized by CET, reflected by the low adherence to research, may be a consequence of an undermining of the need for learning or improvement.

The scarcity of studies of similar methodologies with CIHDOTT professionals can also be considered a limitation since it impaired the comparison of results and the depth of the discussion. In this perspective, it is recommended to develop new research that focuses on these commissions and that includes new methodological approaches and other professional categories.

CONCLUSIONS

This study evaluated the knowledge, attitude and practice of health professionals working in CIHDOTTs in a state in the Southeast of Brazil in relation to the process of organ and tissue donation for transplantation. It was found that the attitude obtained the highest index among the categories of the CAP questionnaire. As for the practice, there was a considerable willingness to perform the work, but with some deficiencies. And there was a deficit in knowledge.

In this perspective, considering the topics addressed as guidelines for the work to be developed by this population, the results found here will subsidize the planning of actions to be developed to improve the professional work process, which must consider the interconnection of the CAP triad. Therefore, in addition to the need for changes in the behavior of professionals, it is also necessary to invest in infrastructure and professional qualification processes, which is an essential point for the rationalization of procedures and for the improvement of standards and routines.

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