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Barriers and facilitators in the management of preoperative thirst of the burned patient in the light of Knowledge Translation*

Barreiras e facilitadores no manejo da sede pré-operatória do paciente queimado à luz do *Knowledge Translation*

Barreras y facilitadores en el manejo de la sede pre operatoria del paciente quemado a la luz *del Knowledge Translation*

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ABSTRACT

Objective: To explore the perception of health care professionals about barriers and facilitators, and coping strategies for the implementation of the Thirst Management Model in the preoperative period of the burned patient. **Method:** This is a qualitative study, anchored in the conceptual framework Knowledge Translation. The focus group technique was chosen for data collection, composed by eight key professionals, to identify barriers and facilitators in evidence implementation and to point out coping strategies for the critical nodes found. Thematic Content Analysis technique was used to evaluate the data. **Results:** Five categories emerged: Physical structure, environment and supplies; Particularities of the burned patient; Human Resources; Team attitude; Team training and education. Coping strategies were raised for each barrier identified. **Conclusion:** The main barriers identified were found in the Human Resources and Team Attitude categories. The main facilitators were Particularities of the burned patient and Team training and education. The identification allowed planning coping strategies for critical nodes, providing support for scientific evidence in clinical practice.

DESCRIPTORS

Evidence-Based Nursing; Translational Medical Research; Perioperative Nursing; Burns; Thirst.

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INTRODUCTION

Strong and innovative nursing is built through the implementation of scientific evidence and changes in practice. In a time when the relevance of nursing in the world scenario is discussed and reflected upon, the simple dissemination of research results does not ensure their use in clinical practice. This observation redirects the meaning of doing research[1]. In this regard, the World Health Organization draws attention to the need to translate knowledge into action to improve public health, bridging the gap between what is known and what is actually done[2].

Aiming to provide resources to help confronting this problem, the conceptual framework Knowledge Translation (KT) was developed, which emphasizes models of articulation and exchange between the production of scientific evidence and care practices[3]. KT recommends the use of six essential elements: use of scientific evidence, knowledge of the scenario/context, use of multifaceted interventions, identification of barriers and facilitators for the implementation of the use of evidence, assessment/audits and implementation sustainability[4].

This article highlights the use of the essential element "identification of barriers and facilitators" in complex and unexplored scenarios of implementation of the Thirst Management Model (TMM) with the surgical burned patient. The relevance of making barriers and facilitators explicit, within KT's conceptual framework, is warranted by its influence in the selection of coping strategies to be used to transfer knowledge[5]. For this identification to take place, a select group of professionals is to be brought together to jointly identify the main barriers and facilitators and establish coping strategies for a successful implementation[6].

Considering that KT allows effective changes to be performed in clinical practice, it becomes useful in complex and still under explored scenarios, such as the issue regarding thirst of the burnt in the pre-anesthetic period. Although undervalued in clinical practice, thirst is prevalent, severe, uncomfortable, and is not yet part of care protocols for this group of patients[7]. Even though there is consistent and robust evidence on the possibility of reducing fasting time[8], it is still poorly widespread in surgical practice.

In the surgical burned patient, thirst worsens. This is because, in addition to the factors that a common surgical patient is subjected to, the burned patient may have to undergo multiple interventions to manage their injuries: balneotherapy for bathing and changing dressings under sedation, debridement and grafting, and all of them require fasting. Moreover, the burn itself triggers physiological reactions, causing edema and, consequently, hypovolemia[8]. Paradoxically, no studies specifically addressing the burned patient's thirst were found in the national and international literature[8].

Recent studies on sensation physiology, as well as evidence for both the identification and treatment of thirst, resulted in a perioperative TMM, initially used in the Post-Anesthesia Recovery Unit (PAR)[9]. It is a model based on four pillars: identification of thirst, measurement, safety assessment, and offering of a thirst relief strategy. It is noteworthy that the model has already been implemented in public and private institutions in the immediate pre- and postoperative period (IPO), providing greater safety and comfort to the patient.

The need to take action regarding the surgical burned patient's thirst motivated the use of the TMM in this setting, considering its wide clinical applicability. In this context, the use of the conceptual framework KT is applicable and necessary for an effective implementation, since it involves research and intervention on the main critical nodes[a], understood as barriers hindering the effective implementation of scientific evidence[1].

Therefore, this study aims to explore the perception of health care professionals about barriers and facilitators and the coping strategies for the implementation of the TMM in the preoperative period of the burned patient.

METHOD

Type of study

This is a descriptive study of qualitative approach, anchored in the conceptual framework KT, which was used prospectively in the development of focus groups and data analysis[4].

Scenario

The unit that received the evidence implementation was a Burned Patient Treatment Center (BPTC), a reference facility in the north of the state of Paraná, which has two operating rooms and a monthly average of 69 surgeries, as well as a balneotherapy room that holds an average of 122 monthly procedures. The BPTC has 15 ward beds and 6 intensive care unit (ICU) beds. To carry out all activities in this sector, the team consists of 8 registered nurses and 33 nursing technicians, distributed in the morning, afternoon, and night shifts.

The implementation of the TMM that aims to identify, measure, assess safety and relieve thirst through a strategy[9] took place in the preoperative period. This period was selected due to the multiple and sequential procedures to which the burned patients are subjected, leading them to frequently remain on pre-anesthetic fasting and for prolonged periods.

Prior to the implementation phase, the researcher immersed herself in the sector's reality for a month. She followed the unit's routine, getting to know the profile of workers and patients, as well as the procedures performed, so that professionals could become familiar with her.

Selection criteria

The sample comprised eight health professionals, including teachers and BPTC workers: an primary care registered

[a] NT: Critical node is a concept proposed by the simplified Situational Strategic Planning designed by Carlos Matus that means the main cause, the one that, if attacked, solves the problem or minimizes it.

nurse (PN) and a nurse manager (NM) of the unit, two nursing technicians (NT1 and 2), a chief surgeon of the unit (S), an anesthesiologist (A), and two nursing professors with a PhD on thirst (P1 and 2). The sample was intentional and the inclusion criteria were determined based on their professional experience in the theme thirst or care of burned patients and representative insertion in the unit of choice, in order to act as facilitating members in the implementation.

Focus group strategy was selected for data collection because it provides group interaction for the production of data about the objectives of the study[10].

Data collection

A pilot study was not carried out because it was understood that the professionals required to compose the focus group were unique in the unit. Data collection was carried out in two stages, described below, which occurred after the acceptance of participation, in October 2019.

The first stage consisted of a session lasting approximately one and a half hours, held in a comfortable and private meeting room within the BPTC, with the participation of all invited members. The moderator was the main researcher, who is a specialist and Master in perioperative nursing and thirst. The main researcher and the assistant were trained through an educational intervention on the conceptual framework, TMM, and techniques for collecting and recording data for the conduction of the focus group, totaling eight hours.

Still in the first session, a dialogical presentation was made, exposing the preoperative TMM and the supporting evidence. Subsequently, baseline data audited in the pre-implementation period were presented to the subjects of the study. Data were audited by the main researcher for two months, three days a week, in the different shifts of work, through direct observation and collection from medical records. These data refer to the preoperative fasting time for solids and liquids, average intensity of thirst in adults and children, peripheral signs patients had that were related to thirst, percentage of patients who felt thirsty and did not spontaneously express it, and percentage of professionals who asked the patient if he/she was thirsty.

After this first moment, participants were encouraged to talk about the possible barriers and facilitators they identified for the implementation of the TMM. Following this opportunity for reflection and discussion, members of the group wrote their answers on self-adhesive papers. Based on them, a charts was produced bringing together all barriers and facilitators for the implementation of the TMM four pillars.

Another activity held during the first session was a free discussion of the coping strategies that could be used to interfere with the identified critical nodes. The strategies were recorded in the researcher's current log[11], for which the researcher had the help of a previously trained research assistant.

The second session took approximately one hour and had the objective to present the charts built for the validation of barriers, facilitators, critical nodes, and coping strategies proposed by the group.

Data analysis and treatment

We opted not to carry out new focus groups as the researcher identified repetition of data, that is, there would be no supply of new elements to deepen the theorization[12]. No specific software was used for data management, only Microsoft Word for synthesis and construction of results.

For data analysis, Bardin's Thematic Content Analysis technique[13] was used. This analysis takes place in three phases: pre-analysis, in which the selection of documents, formulation of objectives, and preparation of material for analysis take place; exploration of the material, that is when raw data are transformed in an organized manner and aggregated in record units; and treatment of results, a stage in which data inference and interpretation are performed[13].

The pre-analysis phase took place right after the completion of each session, when the researcher systematically analyzed the data. In the exploration phase, possible groupings were carried out, through the construction of charts of barriers, facilitators, and strategies for confronting critical nodes, which had been discussed in the first session, so that they could be validated with the study subjects. In the treatment of the results, there were the interpretation of the data obtained and the validation of the five categories that emerged: Physical structure, environment and supplies; Particularities of the burned patient; Human Resources; Team attitude; Team training and education.

Ethical aspects

The research complied with all the standards recommended by Resolution No. 466/2012 of the National Health Council, being approved by the Human Research Ethics Committee, under CAAE No. 13638519.1.0000.5231 and report No. 3476724 of year 2019.

The professionals were personally invited to participate, and the formalization was carried out through printed invitation and via e-mail. All of them signed the free and informed consent form after acceptance.

RESULTS

The mean age of the eight participants was 47 years old, of which six were women. Two were professors in perioperative nursing and the other professionals have worked at the BPTC for about eight years, on average. Regarding the professional's qualifications, a nursing technician had high school level; the other, undergraduate studies. A nurse and two physicians had a graduate degree, a nurse was a Master, and two teachers had PhD degree. Two provided outsourced work for the institution under study, and two participants had more than one job.

A chart was built (Chart 1) with the categorization of the main barriers and facilitators identified for the implementation of TMM, as well as the strategies for coping with the critical nodes identified during the development of the focus groups.

Chart 1 - Categorization of barriers and facilitators and coping strategies for the critical nodes identified in the focus group. Londrina, PR, Brazil, 2019.

Categories	Facilitators	Barriers	Coping strategies
Physical structure, environment and supplies	Presence of a freezer in the sector to store the popsicles (A; S; PN; NM; P1; P2; NT1; NT2). Isolated sector allows engaged employees to collaborate with other colleagues (S; NM; NT 1). Feasibility of standardizing supplies applied as thirst management strategies (NM; S; P1; P2).	Difficulty in previous organization due to lack of a defined schedule (sequence) for anesthetic-surgical procedures (PN; NM; NT1; NT2).	Chief surgeon of the unit was responsible for defining the schedules of the first three patients every day (S).
Particularities of the burned patient	Professionals in the sector are aware of the intensity of the burned patient's thirst, which leads to awareness raising (S; NM; NT 2).	-	-
Human Resources	Availability of a technical nursing professional for making the popsicles (NM; NT1; NT2).	Lack of time for the professionals to employ thirst management because they rely on the number of patients under their responsibility (PN; NT1; NT2).	At the end of training, the employees concluded that they can quickly manage thirst while they are providing basic care (PN; NT1; NT2).
Team attitude	Implementation of scientific evidence that is beneficial to the patient (A; S; PN; NM; P1; P2; NT1; NT2).	Resistance on the part of some team anesthetists regarding the possibility of reducing fasting time (A; S; PN; NM; P1; P2; NT1; NT2). Lack of interest by the perioperative team in learning and managing the preoperative thirst (PN; NM; NT1; NT2).	Meeting with the hospital charts of directors and head of anesthesiology to present the project, exposing the evidence on the benefit of managing thirst, reducing fasting and supporting the project (P1; P2; A; S; NM). Disclosure of the project and its objective through personalized strategies to the sector, which included professionals and patients (P1; P2; NM). Exposure of data from baseline collection to raise the awareness of professionals to the theme (P1; P2).
Team training and education	The willingness of the team implementing thirst management to train the entire team that provides care to the patient (S; NM; P1; P2).	Lack of knowledge of the team on management of preoperative thirst (A; S; PN; NM; P1; P2; NT1; NT2). Application of the protocol for children performed only by nurses, as it is more complex (PN; NM; NT1; NT2).	Training in the unit in the morning, afternoon and night, at different times, in order to contemplate the majority of the employees (PN; NM; S; A; NT1; NT2; P1; P2). Professional training for the use of the new perioperative form, which includes the record of thirst management (PN; NM; P1; P2). Individual training of all technicians and nurses on thirst management (P1; P2; NM). Development and dissemination of didactic video on the Adult and Pediatric Thirst Management Model (P1; P2).

n = 8

Primary care registered Nurse (PN); Nurse Manager (NM); Nursing Technician (NT1 and NT2); Surgeon (S); Anesthesiologist (A); Professors (P1 and P2)

DISCUSSION

The importance of this study lies on the identification of barriers and facilitators in a public health institution for the adoption of scientific evidence in clinical practice, as well as on the analysis of the coping strategies adopted for the implementation of the TMM in the preoperative period of the burned patient. Recognizing barriers and facilitators as the main elements during the stage for knowledge transfer planning can be the key to effectively adopting the recommendations validated by research results in the provision of care[14-16]. This is particularly important when seeking to transfer knowledge about an unexplored and possibly undervalued topic by healthcare professionals.

The relevance of the construction of the charts with barriers and facilitators, perceived by the participants of the focus group for the implementation of the TMM in the preoperative period, lies on the need to understand the weaknesses and potentialities of the sector. Understanding this context subsidized the decisions in the elaboration of goals and effective strategies for the transfer of knowledge to be implemented in the clinical practice of this unit.

It is essential to assess barriers and facilitators of the setting in question during a process of knowledge translation, with subsequent elaboration of personalized strategies and theoretical basis to address these points. The adoption of this approach can positively influence evidence-based practice[15-16].

The definition of how knowledge should be transferred involves a careful planning of this process[16-17]. Thus, factors that ensure the best way to transfer this knowledge shall be considered. Different models of KT are available in the literature[18], with barriers and facilitators always being considered as influencing the selection of interventions to be used in the transfer of knowledge[5].

In the category Physical structure, environment and supplies, professionals listed as a barrier the fact that the unit does not have a sequence of procedures and schedules defined for surgeries and balneotherapies, which makes it difficult to establish an individual fasting time of two hours for clear liquids without residues[19].

In the category Particularities of the burned patient, the group pointed out the fact that this population feels very thirsty, making the team more aware. Although a study on

the prevalence or perception of the burned patient regarding thirst has not been identified in the literature, it is possible to observe in practice how this symptom is present in this population[8]. The dichotomy manifested in clinical practice, between the thirst experienced by the burned patient and the gap in scientific research on the subject in the literature, highlights the relevance of this study and its contribution to the nursing field.

In the Human Resources category, they mention the lack of time because of work overload due to the reduced number of employees[20-22]. However, this is the barrier most commonly identified by nursing professionals to perform KT effectively, especially in clinical areas of high workload[20-22].

Although not initially identified by the group as a facilitator, the effective participation of team members with management positions enhances the coordination and integration of the different mechanisms, which balance application and implementation, to support and facilitate the team's use of evidence[21]. A similar conclusion is presented in a review of the role of nursing leadership in promoting and maintaining evidence-based practice (EBP), which identifies the unit manager as the precursor to EBP[23].

The barriers reported in the categories Team attitude and Team training and education are consistent with other studies using KT for the implementation of evidence in practice. These topics point to the organizational culture, the beliefs of the professionals, the poor access to research, as well as the lack of its appropriation, as factors related to the difficulty of applying knowledge in practice[24-26]. In addition, the lack of educational preparation by health professionals for the implementation of evidence in practice is also considered a barrier[21].

The effective use of primary research relies on the professional's technical preparation and skill, organizational support factors, the continuous involvement of knowledge users, the partnerships established, the context of the institution in which the evidence will be implemented, and, of course, the existence of facilitators[2,20,22,27].

Another important barrier pointed out was related to anesthesiologists, due to their resistance to reduce preoperative fasting time. Also based on this approach, the professionals reported that, in the reality of the BPTC, cancelling or postponing the anesthetic-surgical procedure was a frequent act when the patient reported having chewed gum or ingested water in the preoperative period - strategies offered to the patient in the pre-anesthetic fasting period during thirst management[9]. This happened even if the patient had already been on absolute fasting for two hours between ingestion and procedure.

As KT strategies to overcome this barrier, a meeting was held with the head of the anesthesiology service of the institution, when the project "Patient Without Thirst" (PWT) was formally presented. At this meeting, evidence available in the literature was exposed on the benefits of reducing fasting time, in addition to the possible strategies to be used in the management of thirst. This meeting was enlightening for anesthesiologists as to the purpose and benefits of implementing TMM in the sector, transforming these barrier professionals into facilitators and supporters of the project's continuity.

Aiming to obtain formal support from the institution, another meeting was held to present the PWT project, with an invitation to the hospital charts of directors. To disclose the project, there were also interviews to the university and hospital radio and newspaper, in addition to the distribution of banners, posters, stickers and magnets with the project's logo in the hospital.

The multifaceted KT interventions, chosen to overcome barriers, took into account evidence that demonstrates that interventions are more effective when they include educational meetings, associated with interactive and didactic meetings, as well as auditing and feedback[5,28].

In view of the barriers and facilitators identified in the categories, multifaceted KT strategies were established in conjunction with the invited professionals within an intervention schedule. Therefore, 55 training sessions were held in the BPTC, in the morning, afternoon and evening, at different times, in order to contemplate all employees (33 nursing technicians and 8 nurses). The training addressed essentially the main evidences that allow the abbreviation of the fasting time, the step-by-step instructions for the application of the preoperative TMM, in addition to the baseline data of the sector related to thirst, to raise the team awareness. All professionals were also trained in the use of the new perioperative form, which was developed by the researcher to contemplate the TMM report.

Regarding the barriers found in the categories Human resources, Team attitude, and Team Training and education, one of the difficulties faced during the training was the fact that the employees could not go to the training sector out of working hours. Thus, it had to be during their respective working hours. At times, this caused the professionals to have their attention diminished due to the concerns about the service, as the unit already operates with a reduced number of nursing technicians and nurses. In such settings, which are directed to the performance of tasks, with few resources and inefficient structures, they are less receptive to change[29].

Another point that may have hindered training was that the night teams did not prioritize some time of their duty to receive the training. For this reason, when the researcher introduced herself to the nurse, at that shift in the unit, the professional requested agility and the use of the environment of the BPTC unit itself to carry out the training. Consequently, the employees had their attention diverted at all moments, as it is a unit with critical patients, who need intensive care. However, it is important to highlight that, even with these difficulties, the training with these employees could be carried out, with varied strategies and at alternate times, already considering one of the premises of KT, which is to know the scenario where you want to implement something[30].

To the employees who had their attention reduced in the training, the initial knowledge was conveyed with the next actions of the implementation project, through several KT activities. These included the presence of the research group, with strategies ranging from the participation of the local "clown doctors" to cantatas with the staff and patients. In addition, the researcher, with the help of members of the research group, was present at different times and at alternate

times within the sector, to carry out the individual training of the professional, stimulate the utilization of TMM in the preoperative period and answer questions. It was also possible to prepare an explanatory video about the model, for both adult and pediatric patients.

The conceptual framework KT proved to be a relevant structure for the pioneering implementation of TMM in the clinical practice with burned patients. This process allowed the analysis and overcoming of barriers, as well as the empowerment of facilitators. Moreover, this interface allowed greater autonomy and empowerment of nurses in conducting humanized care for burned patients with thirst.

As a limitation of this study, the multidisciplinarity of the focus group composition is highlighted, which may have influenced the freedom of expression of some study subjects.

CONCLUSION

The use of the conceptual framework KT allowed exploring, with the formation of focus groups, the main barriers, the facilitators, and their coping strategies for the effective preoperative implementation of the TMM in the burned patient. The main barriers identified were related to the topics Human Resources and Team Attitude. The main facilitators were centered on the items Particularities of the burned patient and Team training and education. This identification was essential to support the resolution of all critical nodes, through personalized and effective strategies, allowing the adequate planning of the implementation of evidence in clinical practice, so that they could actually be adopted as care protocols in the studied unit.

RESUMO

Objetivo: Explorar a percepção dos profissionais de saúde sobre barreiras e facilitadores e as estratégias de enfrentamento para a implantação do Modelo de Manejo da Sede no pré-operatório do paciente queimado. **Método:** Qualitativo, ancorado no referencial teórico *Knowledge Translation*. A técnica de grupo focal foi escolhida para coleta de dados, sendo formada por oito profissionais-chave, a fim de identificarem barreiras e facilitadores na implantação da evidência e apontarem estratégias de enfrentamento para os nós críticos encontrados. Utilizou-se a técnica de Análise de Conteúdo Temática para avaliar os dados. **Resultados:** Emergiram cinco categorias: Estrutura física, ambiente e insumos; Particularidades do paciente queimado; Recursos humanos; Atitude da equipe; Capacitação e educação da equipe. As estratégias de enfrentamento foram levantadas para cada barreira identificada. **Conclusão:** As principais barreiras identificadas foram encontradas nas categorias Recursos humanos e Atitude da equipe. Já os principais facilitadores foram Particularidades do paciente queimado e Capacitação e educação da equipe. A identificação possibilitou o planejamento das estratégias de enfrentamento sobre nós críticos, proporcionando a sustentação das evidências científicas na prática clínica.

DESCRITORES

Enfermagem Baseada em Evidências; Pesquisa Médica Translacional; Enfermagem Perioperatória; Queimaduras; Sede.

RESUMEN

Objetivo: Explotar la percepción de los profesionales de salud sobre barreras y facilitadores y las estrategias de enfrentamiento para la implantación del Modelo de Manejo de la Sede en la fase pre operatoria del paciente quemado. **Método:** Cualitativo, basado en el modelo teórico *Knowledge Translation*. Se eligió la técnica de grupo focal para recopilación de datos, compuesta de ocho profesionales, con la finalidad de identificar barreras y facilitadores en la implantación de la evidencia e identificar estrategias de enfrentamiento para los ejes críticos encontrados. Se utilizó la técnica de Análisis de Contenido Temático para evaluar los datos. **Resultados:** se produjeron cinco clases: Estructura física, ambiente y materiales: Particularidades del paciente quemado; Recursos humanos, Actitud del equipo; Capacitación y Educación del equipo. Se crearon estrategias de enfrentamiento para cada barrera identificada. **Conclusión:** las principales barreras fueron identificadas en las categorías Recursos Humanos y Actitud del equipo. Sin embargo, los principales facilitadores fueron Particularidades del paciente quemado y Capacitación y Educación del equipo. Identificarlo posibilitó la planificación de las estrategias de enfrentamiento sobre los ejes críticos además de sostener las evidencias científicas en la práctica clínica.

DESCRIPTORES

Enfermería Basada en la Evidencia; Investigación en Medicina Traslacional; Enfermería Perioperatoria; Quemaduras; Sed.

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