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Prevention of Pressure Injuries in Critical Care Patient: Contributes of the Comfort Theory and the Self-Care Deficit Theory

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ABSTRACT

Introduction: The nurse's intervention to the critical care patient concerning the prevention of pressure injury relies on the usage of the nursing process, current knowledge and in the nursing foundation theories. They allow a personalized nursing care and answer the complex needs in people's health care. The interventions of nursing in intensive care, specifically the ones dealing with the prevention of pressure injuries, benefit from having as reference Kolcaba's Comfort Theory and Orem's Self-care Deficit Theory.

Results: The nursing process allows the systematization of care throughout the use of its several steps valuing comfort and the capacity to perform some actions (self-care). To relieve is the main goal assumed by nurses, related with discomfort in physical context, regardless of the patient´s clinical conditions and autonomy. The capacity to self-care of mobilizing in bed and to relieve pressure zones must be analyzed and developed in a care cooperation with the patient or even substituted by the nurse, being the needs of self-care where nursing is based on.

Conclusion: The process of nursing based on the nursing theories of comfort and self- deficit allows the nurse to develop intentional, personalized and focused actions aimed at preventing pressure injuries.

Keywords: Pressure ulcer, Critical care, Holistic nursing, Models nursing

Abbreviations: ICU: Intensive Care Unit

INTRODUCTION

Taking care of critical care patient is a complex situation in the binomial family and patient. This complexity of care involves distinct and related pathophysiological processes inherent to the disease (hypoxemia, alterations in perfusion, sepsis, increase in nutritional needs); alteration of the personal, familiar and social role in an unexpected and sudden way, in a condition of disease laden with uncertainty, regarding diagnostic and prognosis; multiple needs from the simpler to more complex ones.

Therefore, care implies complexity, respect for dignity and valuation of the patient´s needs, optimizing adequate answers to the singularity of the case. For this, it is crucial to incorporate theoretical bases that support knowledge in nursing, namely in the way they sustain the operationalization of the process of nursing.

The complexity of care is based on its uniqueness since a situation of care is not repeated. Being unique and focussed on the global situation, but also in its parts and in the valuation of all its continuous interactions. Hence the complexity of intervening in the situation and to provide personalized care, contemplating all these elements [1].

Thus, considering the complexity of care inherent to critical care patient, among others, there is an increased risk of developing pressure injuries evidenced by the incidence and prevalence rates, higher than in other care contexts [2-4]. The development of an injury by pressure is associated with multiple organ failure [2] and to numerous risk factors, such as immobility, vasoactive drugs, inadequate nutrition/malnutrition, invasive mechanical ventilation, prolonged hospitalization, diseases like diabetes mellitus, venous and arterial disease, incontinence [5], among others.

The prevention of pressure injuries is a responsibility of the multidisciplinary team and encompasses aspects such as pain, discomfort, length of stay, decline of autonomy, costs

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of hospitalization, anxiety and depression (2). However, many of the interventions and actions related to it are in the nurses´ area of competences.

In this paper, special attention is given to comfort and to self-care deficit in the prevention of pressure injuries in critical care mobilizing the theories of comfort and self-care deficit.

PURPOSE

To highlight the contribute of Katharine Kolcaba's comfort theory and Dorothea Orem's self-care deficit theory in the prevention of pressure injuries in critical care patient.

METHODS

Literature review and critical analysis about the assumptions inherent to comfort and self-care deficit theories and their transference to the context of clinical practice in nursing.

The systematization of the care process in nursing

On the intention of the nursing care underlies the clinical reasoning of the nurse and it is operated through the nursing process. The latter is known as a systematized approach that allows the organization of nursing knowledge and decision making based on systematic collection of the patient's data. The nursing process implemented in 1950, in New York [6], is a dynamic and interrelated process [7] that demands critical reasoning by the nurse, communication skills [8], and a permanent capacity of adaptation in the face of new evaluations carried out. It "provides an orderly and logic approach that solves problems to the administration of nursing care" [7]. Nowadays it consists of five stages: assessment, diagnostic, planning, implementation and evaluation [7,9] **(Table 1)**.

Table 1. Stages of the nursing process.

Nursing Process steps	Description
Assessment	Systematic collection of patients' related data.
Diagnosis	Data analysis with the purpose of identifying problems.
Planning	Identification of goals and the expected outcomes in the face of the person´s individual condition (maintenance or optimization) and the choice of adequate nursing interventions to obtain results; it is focussed on the needs and well-being considering its capacity to execute actions.
Implementation	Execution of nursing interventions
Evaluation	Evolution of the identified outcomes and monitoring of the effectiveness of nursing interventions.

It is in this cyclic dynamic of constant assessment, planning, intervention, evaluation and planning that the nursing care identifies themselves but still not on a global basis. It is throughout the steps of the nursing process that current evidence is mobilized in the identification and resolution of problems, as well as the elements of the nursing theories that support and lead to answer people's needs. Although nursing theories do not always specify these five steps in an explicit way its operationalization culminates in the same type of procedural reasoning. It is concerned with data collection, the importance of the validation of the problem with the patient, identification of the problem, planning, implementation and evaluation, with the specificities of each one of them.

Considering the analyzed theories, it is important to refer that in a literature review concerning the use of the comfort theory in the implementation of the nursing process it was possible to identify their application in different nursing process steps [10]. It is also worth emphasising that in the theory of self-care deficit, Orem (1980) points out three steps of the nursing process: 1st step – data collection in an interview to identify the diagnostic and the prescription to determine the person´s necessity of nursing care; 2nd step – planning of nursing actions and nursing systems in which the nurse determines which is the most adequate compensatory system or support-education always from the perspective of turning the patient a self-care agent; 3rd step – evaluation of nursing actions in the chosen system highlighting the alterations that occur in the self-care agent, in the self-care deficit and in the nursing system [11].

Contributes of Katherine Kolcaba and Dorotea Orem are debated in this paper.

COMFORT PROMOTION

Studies confirm that the great majority of hospitalized people in Intensive Care Units (ICU) consider the provision of physical comfort important [12]. Being the actions related to this type of comfort the most prevalent in nursing practice specifically in positioning and dressing change [13]. In addition, forms of comfort are considered in physical context, pain relief, pressure areas relief, massage, skincare [14] and pressure injuries [15]. There are factors identified by the patients that affect comfort such as pain, noise, sleep disorders, immobilization associated to medical devices [12].

Taking all these into account and assuming that immobilization is frequent in people in ICU context and that pressure injuries often cause pain and discomfort; the promotion of comfort is a priority nursing intervention with these patients. Bearing in mind pressure injuries, this intervention is important as it enables to identify painful areas where the development of pressure injuries can occur and also the maintenance of the patient´s position and comfort. Preferably, finding this balance when the patient communicates and understands the purpose of care.

Whenever he cannot communicate for hospitalization particularities such as sedation, the use of airway devices or when augmentative/alternative communication is not effective, the nurse acts according with the principle of beneficence. Mobilizes the theoretical concepts and evaluates physiological and behavioural signs of pain/discomfort such as frown eyes, retraction, antalgic positions, hypertension, tachypnea and tachycardia [16] interpreting them and using clinical judgment. Thus, initiates the nursing process: evaluation of discomfort signs (assessment), identifies the focus of nursing diagnostic "impaired comfort" (diagnostic), plans actions according to the patient´s capacity of communicating discomfort, identifies what is comfortable to the patient and its capacity on executing actions (planning), carries out actions (implementation) and evaluates the results: did the comfort increase? Did the comfort signs decline? (evaluation).

From a global point of view, comfort is something that every patient wishes above all [17] and it is defined by Kolcaba as "the state of having met basic human needs for ease, relief, and transcendence" [18].

Comfort is action, in the sense of giving comfort to someone whose purpose is comforting, as well as a sensitive and measurable outcome to nursing care, mediated by the relation between patient and nurse [19] in any of the experienced contexts.

The act of comforting undertaken by nurses is seen in the literature in several ways, as a basic need, in the view of Hildegard Peplau or as an objective of the nursing care intervention, in the perspective of Leininger, Watson, Morse, Kolcaba [20], Nightingale [14,20] and Peterson and Zderad [18]. Thus, it is considered a complex concept intrinsic to nursing care and to a complex intervention [20,21] in a way it might not be just a problem of the physical sphere and might not be related only with an adequate positioning in bed, for example. Therefore, as a short-term goal, comforting is understood as relieving discomfort and as an assistance on the bearing of pain. Nurses must help in the overcome through the application of strategies that enable the achievement of that outcome [20].

Considering the previously mentioned needs of comfort in physical sphere, these are part of the physical context and are related with physical sensations [18,22,23]. The factors that affect comfort in the environmental context are related with the external component of human experience such as light, humidity, noise. Social context is concerned with interpersonal, familiar and social relationships. The psychospiritual relates with itself, assuming topics as sexuality and the meaning of life [18,22,23]. All these contexts are among the areas of the nurse's intervention.

It is also important to highlight the three senses of comfort: relief, ease and transcendence. Relief is understood as the state of relieving a specific discomfort, an immediate result of satisfaction of a need of controlling the factors which cause discomfort and may be constantly altered [18,22,23]. This is the most coherent sense with the promotion of the pressure zones relief, relief from pain and discomfort, focussed on this present essay. Ease, as a state of calmness or satisfaction, is the most lasting and continuous comfort state by resulting from the resolution of a specific need. Transcendence, as a state of revigoration, the higher level, and related with the satisfaction of needs of motivation and education [18,22].

On the perspective of pressure injuries prevention, the nurse aims to achieve relief in the first place on a physical context of comfort. Because it may not exhaust here, aims to achieve ease in the face of the patient's satisfaction on the resolution of a specific need. In this sense, it is related with the patient's conditions inherent to hospitalization, state of conscious and capacity of communication; and with the implementation of personalized nursing actions.

In short, comfort as a central concept in nursing [18] is a complex and multidimensional construct, because the experience of feeling comforted is subjective and felt with different intensities [22]. The context of ICU has certain features that have a tendency to compromise the comfort in its different contexts. Its inability of communicating not always facilitates an assertive and extensive diagnostic with favourable results for the patient.

In the operationalization of theory and nursing process, nurses identify the needs of comfort and plan interventions in this sense. They have to consider all variables to achieve outcomes [24] that result from nurses' intentional actions.
To look after hospitalized people in the ICU and the possible associated problems such as immobility and more concretely pressure injuries, it is absolutely necessary the contribution of the self-care deficit theory.

Levels of Self-Care

Self-care deficit theory developed by Orem presents, as a starting point, that older people suffer from limitations and according to their needs the power of acting intentionally manifests itself [25]. However, limitations are not limited to old people. On the contrary, along the life cycle, people are affected by basic conditioning factors (central concept in Orem's theory) that can be age, sex, state of development, state of health, sociocultural orientation, family, standards of living, adequate environmental factors and resource availability [26].

One of these factors is the state of health. In this sense, the disease as well as the ICU hospitalization determine alterations in self-care. The hospitalizations are characterized by an inhospitable environment and different from the others. It is full of medical devices and invasive and non-invasive monitoring which restrict mobility to bed and in great part promote immobility therapeutically and even the immobilization of body segments.

As a concept, self-care is the performance of activities that each one realizes in self benefit to maintain life, health or well-being, in other words, to keep structural integrity and human development [25].

Still in the same line of thought, one of the requirements of self-care is the self-care health deviation that occurs in conditions of disease, medical treatments, injury or incapacity. This health deviation situation has different lengths, and this determines the needs of people care. The bigger the health deviation, the greater and more complex the needs of care and the nurse´s performance in the face of nursing systems. Therefore, the necessities of therapeutic self-care are directed to external factors to maintain health and are related with instrumental activity to control environment or the patient, in which nurses execute actions to compensate or overcome those needs [25-27]. The activity of self-care is associated to the capacity to overcome the inherent needs to human functioning and development. This sometimes implies nursing performance based on reasoned acting to satisfy the needs of therapeutic self-care [25].

First of all, it is important to explain that the self-care deficit theory is composed by three interrelated theories: self-care theory, self-care deficit theory and the nursing systems theory. How do they differ from one another? In this context, how can it be mobilized in care practice?

Self-care deficit theory is the basis of need in nursing to the extent that the person is incapable of maintaining self-care and/or will initiate new complex prescribed self-care measures. Their execution implies knowledge and acquired skills in training and experience and/or help in recovering from the disease. Its focus lies on the person's limitations related with health and health care and therefore they cannot control or manage external factors; relates the capacities of people with nursing care; considers that the identification of limitations helps to find the type of help and the capacities he has left [25,26].

Thus, to prevent pressure injuries, and considering the importance of positioning, the nurse evaluates: does the patient have capacities to move? Can he lateralize autonomously in bed? Help is only needed in lateralization? Does not have the strength to that movement, but moves the upper and lower limbs? What are its limitations? Which type of help has to be provided? The patient has capability and mobility but the associated risk of medical device exteriorization is great and needs help? Is it only a self-care deficit or the nurse has to help the person? In some actions or in all of them?

To help answering this questions, Orem identified five helping methods (sequential actions that allow the compensation of limitations) related to help systems in nursing: acting or helping the other, guide the other, provide physical/psychological support, promoting an environment that promotes personal development in the face of its needs and teaching the other [11,25-27].

The theory of the nursing systems is based on the needs of the person's self-care and on the person's capacity to undertake them. But it is planned by the nurse (care process) being important the creation and maintenance of relationships. For this reason, nursing is considered a human action [25,26]. The nursing plan arises from clinical reasoning due to the real situation performed before and after the nursing diagnostic and prescription. That is where they are considered actions in a logic and sequential order to achieve defined goals to the patient and the respective outcomes. Conceptually, nursing systems encompass the set of sequential actions performed by the nurse to provide the needs of therapeutic self-care or to enhance the development of self-care actions by the patients [25].

Orem considered three nursing systems classifications to the requirements of patient's self-care that might be present in an isolated way, or together in the nursing practice with the same patient:

- Totally compensatory nursing system: the person has incapacity for self-care actions and throughout his actions the nurse can answer self-care [25,26]. Example: The patient is unable to perform any relief of pressure zones in a deliberate way, because he is in a coma; or people that understand the need to change the position and relieve pressure zones, but they are unable to perform self-care actions by the absence of answer capacity of a patient with tetraplegia.
- Partially compensatory nursing system: The nurse and the patient have an important role on the performance of pressure zones relief [25,26] and in the mobilization of body segments or pressure decrease associated to medical devices, in which there is a care cooperation and each one performs self-care.
- Support-education nursing system: the person performs therapeutical self-care or learns to do it, oriented by the nurse, that may substitute the actions in any stage and progressively gives autonomy [26]. This point is related to one of the values of self-care theory, the focus on the person and its needs in which the nurse relates education to health with the purpose of turning the person independent; every nurse performance has the purpose of recovering self-care, improving the practice to self-care recovery.

Finally, self-care theory stresses that people take care of themselves in life in a learning, continuous deliberate process [25,26]. It is easy to understand that in an ICU hospitalization the person loses total capacity of self-care in the face of the context specificities and to the alteration of care needs by the disease. However, some activities may be maintained, if the patient remains conscious and without physical limitations for example, eating, drinking, combing

the hair, mobilizing in bed, lateralizing and relieving pressure areas, mobilizing the limbs. To others, the alteration on the state of consciousness, sedation and sensory-motor limitations may compromise self-care.

In conclusion, when we think on critical care patient we are easily induced to the fully compensatory system. Where the prevention of pressure injuries will be effectuated by nursing interventions, because of the person´s incapacity: prevention of pressure injuries and positioning [28], without the patient's collaboration. However, the personalization of care implies in itself a particular evaluation and a specific development of nursing process. In this sense, some people hospitalized in ICU have self-care capacity levels that enable a shared nursing intervention. These are relevant aspects of nursing process to provide more specialized and personalized nursing care.

Ultimately, it is important to mention that both theories reflect on the way the nursing process develops and the planned interventions to promote comfort are influenced by the capacity for self-care. **Figure 1** schematizes the operationalization of Kolcaba and Orem theoretical assumptions, in an ICU context [8,16,28].

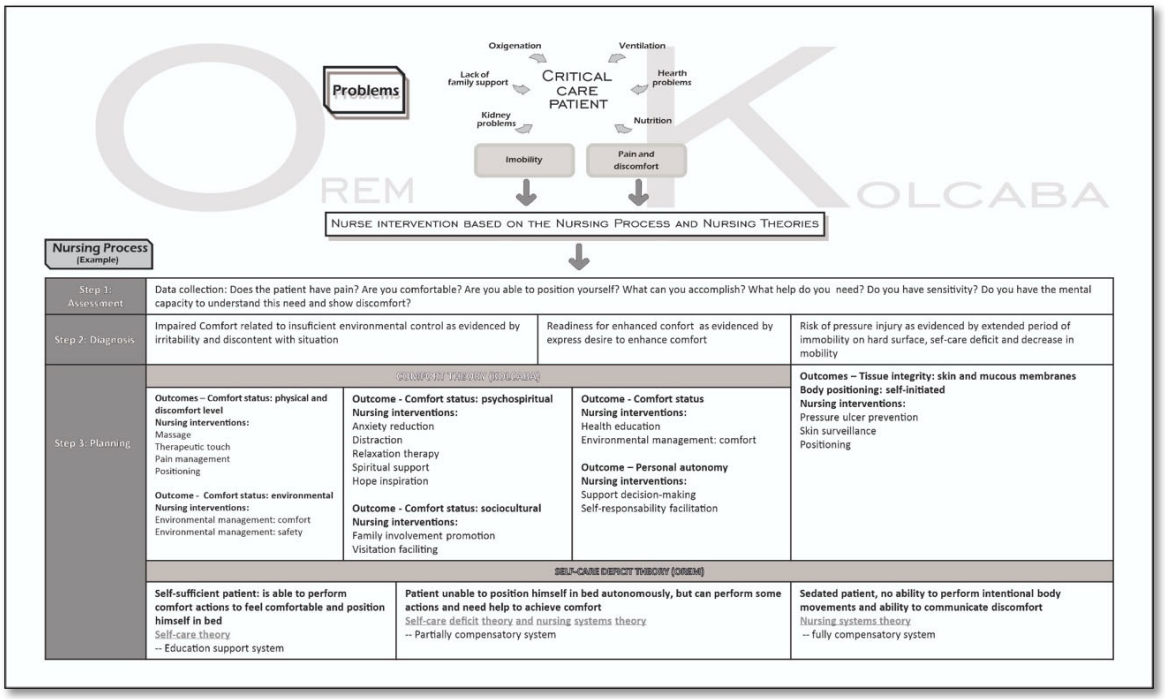

Figure 1. Comfort and Self-care theories mobilization practices in an ICU hospitalized person context.

CONCLUSION

The theoretical foundations of comfort theory and self-care deficit theory are useful for the nursing process implementation, specifically in the nursing interventions implementation in the binomial family-patient, in an ICU context. The pressure injuries risk phenomenon, particularly worrying in critical care patient, implies a nursing intervention based on the current evidence on the subject, but also supported by the theories that embody nursing knowledge. Thus, both comfort promotion and self-care (or self-care deficit) enable the nurse to direct its action to assure favourable outcomes to the person's health. Both theoretical references, briefly presented, contribute to the interaction, autonomy and the patient needs' valuation, through the comfort promotion and autonomy for self-care.
In this sense, it is recommended that the use of the various steps of the nursing process should not be seen as a purely academic exercise, but should constitute a way of thinking about nursing care. This enables the achievement of personalized outcomes, excluding a mechanized, biomedical and standardized nursing care practice from intensive care.

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