



Taking Care of Critical Burned Patients: Nursing Practice

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Introduction: Burns are injuries caused by agents that result in varying levels of tissue loss and cause physical and emotional damage to patients and their families. The burned patient needs health care from a multiprofessional team, including differentiated nursing care in order to have a functional physical and psycho-social recovery as soon as possible. **Objective:** Analyze the complexity of taking care of a burned patient in critically care. **Material and methods:** Systematic review of the literature, using the keywords “nurse care”, “burn patients”, “critical care”; using the PICO method. Between 2011/2017 ten electronic databases were selected, including the analysis of seven articles. **Results:** The analyzed studies revealed that for the treatment and monitoring of the sick burned patient there is a need for the understanding of the pathophysiological mechanisms involved in such a pathological process. It is the competence of the nurse to participate in all stages, from the first visit until the end of the treatment. It is fundamental to maintain knowledge and skills updating in order to contribute to the reduction of the complications and mortality associated with the burned patient. **Conclusion:** The lesions resultants of burns are responsible for irreversible sequels and even death. It is essential to supply a care nursing team.

INTRODUCTION

The burns are classified as injuries due to trauma of thermal origin resulting from exposure to flames, hot liquids, hot surfaces, cold, chemical substances, radiation, friction or abrasion. The skin is the largest organ in the human body, corresponding to 16% of the body weight and it involves the whole body, determining your limit with the external environment. The degree to which these lesions can damage the

skin depends on many variables, including the duration and intensity of contact with the aggressor agent, such as the skin thickness of the anatomical region affected, the size of the exposed area, local vascularization and age ^(1,2). The kind of burn depends on the degree of impairment of the tissue, in addition to the exposure to pathogenic agent. In this way, the victim of this type of accident not only can come to die or endure irreversible sequels but also experience great physical and psychological suffering ⁽²⁾. Because it is a trauma of great complexity and it requires immediate treatment, many of these accidents have a high rate of morbidity and mortality throughout the world ⁽³⁾. The most common complaints in patients who had suffered some kind of burn is the intense pain and the great emotional impact and these can be some of the factors that interfere in their recovery ^(4,5).

Pre-hospital care and appropriate emergency treatment are essential, with the primary objective of improving the effectiveness of the response ^(2,6). The importance of the humanized care with patients who have suffered burns is fundamental because before us we come across individuals who have their fears, desires, cultures, religions and their own opinions, thus deserving assistance that is specified according to their needs ^(7,8). The practice of professional nursing requires the ability of observation, communication, reflection, application of knowledge of the physical sciences and behavior. In addition to that the professional nursing must make assessments and decisions, when applying the scientific method or the method of resolution of problems to plan nursing care ⁽⁹⁾.

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In this context, it is necessary for adequate nursing care, continuing with professional ethics and thus to adopt the junction of these essential factors in the therapeutic treatment.

MATERIALS AND METHODS

A systematic review of the literature is one of the methods of research used in the practice of based-evidence and its purpose is to gather and summarize results of research on a given topic in a systematic and orderly manner, contributing to the knowledge of the theme ^(10,11). The method used was based on PICO strategy (acronym for patient, intervention, comparison and outcomes). This way it maximizes the inclusion of relevant information in different databases, focusing on the research object and avoiding unnecessary lookups ⁽¹²⁾.

Observing with rigor all steps required in the usage of this method, the time interval between December of 2011 and March of 2017, a protocol was developed for the identification of studies of interest to this work and that consisted of a research on the search engines: Ebsco and B-ONline, and on the following databases: CINAHL Plus, SCOPUS, PubMed/ MEDLINE, LILACS, Scielo, Web of Science, ScienceDirect, Cengage Learning, Academia Search Complete, Phsychology and Behavioral Sciences Collection, John Wiley & Sons, SportDiscus, The Joanna Briggs Institute, U.S. National Library of Medicine, Directory of Open Access Journals, Springer Science & Business Media and Repository of Scientific Open Access of Portugal.

For the identification of relevant studies, a search strategy was used using the following descriptors: Nursing practice AND Burn pathology AND Critical care. After meeting all these protocol assumptions, some articles, that did not meet the requirements, were phased out, developing methodically a reductive process.

RESULTS

It was selected for the study eight articles that in Table 1.

DISCUSSION

According to the articles we can see that one who suffers any kind of burns, regardless of its extension, becomes a victim of physical assault on its morphology and aesthetics, which goes beyond physical damage ⁽²⁾. These facts corroborate with all the studies, although with special emphasis on studies S1, S2, S3 and S5. Depending on their length and depth, the lesion caused can compromise various types of physical disorders, such as, loss of liquid volume, metabolic changes, bodily deformities and risk of infection, added the complications of burns, which can cause major complications in the health status of the patient. Apart from the physical impairment caused by the accident the patient is generally very shaken, even in a state of shock ⁽⁵⁾. These facts are more evidenced in studies S1, S2, S3, S5 and S6. The immediate care of the sick burned is aimed in the first place to save his life, and at the same time, working with the goal of preventing infections, deformities and alleviate the psychological trauma. These goals should always be present at all times. The first is achieved with the presence of spirit, control and efficiency. The second, always working with aseptic techniques. The third, thinking in the recovery of normal movements of the patient, which they need for their future reintegration in society. And the last, providing encouragement, affection and support ⁽²⁾. These facts are mentioned in all the studies surveyed.

The causes of increased frequency of burns are: exposure to fire, the boiling water and contact with heated objects. The Burns occurred by electrical currents, chemical agents and accidents with caustic solution in which this type of tissue damage does not always result in the

production of heat, are less frequent ⁽²⁰⁾, as it is revealed in studies S2 and S3.

To be hospitalized represents, for the sick burned, a feeling of fear and helplessness, besides being a painful process, due to the different care procedures that cause pain and discomfort. But that it is necessary in the treatment process ⁽²¹⁾. Most of the patients are totally dependent for completion of any activity, in particular those of the Self-care ⁽²⁰⁾. The initial care given to the patient who suffered burns involves not only taking care of the injuries incurred with the causative agent but also the maintenance of airway permeability, fluid replacement and pain control. These are measures that aim to reduce complications due to thermal trauma. The form of care and treatment to the patient burned should be established in accordance with the severity of the lesions arising from exposure, type and degree of impairment, taking into account the real needs of the sick, with the aim of stabilization, improvement and, finally, decrease time of hospitalization ⁽³⁾. Those facts are emphasized in studies S2, S5, S6.

The healing process, formation of a tissue in the course of treatment, will scale the possibilities and limitations of the Sick ^(22,23). It is noteworthy that the area which has been burned is one of the most traumatic forms that an individual can have as physical and emotional experience, because it is an event that disrupts their way of living, passing the physical integrity to the imbalance ⁽²⁴⁾. As referred in all studies of this research.

The nursing team should be prepared to act in different areas, showing competences and skills ⁽²⁵⁾, however, providing nursing care in burnt patients, requires that the nurse has a high level of scientific and technical expertise, thus enabling, identifying and preventing subtle changes that may trigger major complications as a consequence of tissue injuries ⁽²⁶⁾. The nursing staff should provide assistance in the emergency phase, taking into account the physical and psychological stabilization of the patient, in addition to that they should intervene in the psychological needs of the family, also because the burns generate variables emotional responses ⁽²⁶⁾. These facts are shown in studies S3, S4, S6 and S7. Some studies suggest that effective teams need nurses who follow the multidisciplinary team concept. It requires teams to value each individual contribution to the team and for leaders to allow members to express opinions, evenly though these opinions might conduct to conflict. Hence, teams need a common purpose on which members are agreed ⁽²⁷⁾.

In the process of rehabilitation, the nurse will help the sick and their families cope with bodily changes and the possible difficulties and limitations in daily activities which was before the accident. It is important to orientate that it happens due to tissue retractions and pain, since they are problems that the patient will encounter after hospital discharge. Therefore, the nursing professional should begin during the period of hospitalization to help the patient deal with some situations that he could experience outside the hospital environment ⁽²⁶⁾.

Providing quality assistance to the sick is an arduous task, being very important for the dedication and perseverance of the nursing team. Thus, it is necessary to understand it, taking into account the very special characteristics resulting from the traumatic situation experienced, on the assumption that the burns that the patient has suffered can leave sequels to life, either disabling the individual or disfiguring them irreversibly ⁽²⁸⁾. These facts are shown in studies S3, S4, S6 and S7.

The work environment in which nurses cater care to patients can decide the quality and safety of patient care. As the largest health care workforce, nurses employ their knowledge, skills, and experience to

Table 1 Description of selected studies and main results of investigations

Study	Author(s)/ Year	MainResults
S1: "Management of Critical Burn Injuries: Recent Developments"	David J. Dries, John J. Marini; 2017 ⁽¹³⁾ .	-The burned patient record is often revived and has the complications that follow, including complicated healing and respiratory compromise. -In spite of new and advanced therapies in these patients, their recovery process continues to be very prolonged and cumbersome. -Recent reports emphasize the complications about resuscitation in burned patients.
S2: "Epidemiology and outcome analysis of burn patients admitted to an Intensive Care Unit in a University Hospital"	Luiz Fernando Tibery Queiroz, Elza H.T. Anami, Elisangela F. Zampar, Marcos T. Tanita, Lucienne T.Q. Cardoso, Cintia Magalhães C. Grion; 2016 ⁽¹⁴⁾ .	-Two hundred ninety-three patients were analyzed in the study; 68.30% were men, with an average age of 38 years old. -Fire was the most common cause of burn, found in 77.10% of patients. -Liquid alcohol was the most frequent accelerating agent. -Patients were considered to be severely burned. -Most of the samples had a high mean total body surface area burned. -ICU mortality was 32.80%, and hospital mortality was 34.10%.
S3: "Nursing Activities Score: nursing workload in a burns Intensive Care Unit"	Marcia Bernadete Camuci, Júlia Trevisan Martins, Alexandrina Aparecida Maciel Cardeli, Maria Lúcia do Carmo da Cruz Robazzi; 2014 ⁽¹⁵⁾ .	-The mean score for the Nursing Activities Score was 70.4%, at 100%, and the average was 70.3%, corresponding to the percentage of the time spent on direct care to the burn patient in 24 hours. -The Nursing Activities Score provided information which involves the process of caring for patients hospitalized in a Burns Intensive Care Unit and indicated that there is a high work load for the nursing team of the studied sector.
S4: "Feelings experienced by the nursing team at a burns treatment center"	Julia Trevisan Martins, Maria Cristina Cescatto Bobroff, Renata Perfeito Ribeiro, Marcos Hirata Soares, Maria Lucia do Carmo da Cruz Robazzi, Maria Helena Palucci Marziale; 2014 ⁽¹⁶⁾ .	-The burn studied patients referred experiences and feelings of pleasure and pain. -It is necessary to implement strategies to be materialized by the managers and the nursing team for health promotion, disease prevention and health recovery. -The work in a UTI (unit of intensive care) involving burned people is hard and very difficult to do.
S5: "Clinical review: The critical care management of the burn patient"	Jane A Snell, NeHooi W Loh, Tushar Mahambrey, Kayvan Shokrollahi; 2013 ⁽¹⁷⁾ .	-Regional burn centers have been developed to address resource requirements and the complexity of burn care. -There have been significant improvements in outcome following burn injuries in the latter half of the 20th century, reflecting advances in critical care. -These improvements in care have resulted in the majority of outside patients of extremes of age treated in a modern burn centre being expected to survive. -Whilst many strategies have been utilized successfully to attenuate the hypermetabolic response, further studies are required to assess their safety and appropriate use. -There are many ongoing studies that will provide additional guidance for the recovery of these patients.
S6: "Assistência do enfermeiro ao doente queimado em unidade de terapia intensiva/Nursing care for the burned patient in an intensive care unit"	Paula Regina Pereira Braz, Lillian Cristina Pereira Braz; 2011 ⁽¹⁸⁾ .	-The nurses who take care of sick burnt victims must be trained and specialized for this purpose. -Must systematize assistance to achieve effective results; providing support to the patient's physical, psychological and emotional condition, identifying their greatest anxieties within the ICU. -Should also attend the families of these victims, conducting continuing education in order to achieve a proper rehabilitation for the patient. -The nurses need to be inserted in programs of support within the institutions that they work for, so that they can develop strategies to cope in difficult situations.
S7: "The pivotal role of nursing personnel in burn care"	Elisabeth Greenfield; 2010 ⁽¹⁹⁾ .	-The importance of a multidisciplinary approach to patient care cannot be overstated. -At the center of this team, is the nurse. -The nurse's assessments in relation to burns, observations and evaluations of the patient's response to interventions. -Preventing complications and making the critical difference in patient outcomes is crucial.

care for the various and changing needs of patients. A large part of the requests of patient care is centered on the work of nurses. Understanding the complexity of the work environment and engaging in it to advance its end results is paramount to higher quality, safer care. There are compound care processes, complicated health care technologies,

complex patient needs and responses to therapeutic interventions, and convoluted organizations. There are awesome opportunities and face off in improving the quality and security of health care, but the majority wish for purposeful redesign of health care organizations and processes. Organizations that are devoted to high-quality and safe care will not

place nurses at the “sharp end” of care but will focus on system ameliorations. Recognizing the complexity of care and how assorted factors combine at a definite time and result in errors and antagonistic events, organizations, leaders, and clinicians will devote themselves to using data and assessment and to continuously advance the quality and safety of care, even when there are elaborated challenges⁽²⁹⁾. Most of these concepts are present in the studies found for the study.

CONCLUSION

After analyzing the studies mentioned above, it was possible to recognize that the care for patients with injuries caused by burns, beyond the body impairment, cause a lot of pain, irreversible sequels, causing emotional disorder for both, the patient and their families. In this context, it is necessary to adequate continuous nursing care and with professional ethics and, thus, the junction of these essential factors in the therapeutic treatment to be adopted. The burned patient needs a proper nursing assistance to have an early physical, functional and psychosocial recovery. Such care begins with the attitude when receiving patients who arrive agitated due to pain or psychological trauma and it should continue during the entire treatment until the hospital discharge. The nursing staff should work in parallel with the medical staff and possess specialized knowledge about care being provided to patients burned. For the correct treatment of burn patients in intensive care are also necessary in many medical specialties such as: Dermatologist, surgeon, plastic surgeon, pathologist, among others.

It is very important to convey specific knowledge about the skills of healthcare for the elderly so as to help the person with burn injuries. The Act of Caring is a continuous attitude of work and involvement that requires a lot of professionals who must take an ethical conduct with a willful character, always striving to enhance the knowledge and mobilize skills to better qualify their intervention of care.

Carrying out more similar studies, to discover strategies to maximize the nursing care and of the entire multidisciplinary team, can be very useful for the patient and for the social and economic development.

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