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NURSING CARE PATIENTS INTUBATED: CONTINUING EDUCATION AS A TOOL FOR THE CARE OF IMPLEMENTATION

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ABSTRACT

Objective: To evaluate nursing care for intubated patients before and after the educational intervention to implement care protocols. *Method:* quasi-experimental before-after study involving 26 nursing professionals working in an ICU of a public hospital in the state of Tocantins, Brazil. They went through 3 stages: 1st phase-Situational diagnosis. 2nd phase-Educational intervention with implementation of a care protocol. 3rd phase - evaluation. **Results:** It was verified in the situational diagnosis the need to implement care protocols and continuing education with both theoretical and practical focus. After the intervention and implementation of the Assistance Program, a tendency of convergence of nursing actions to the recommended form of care was evidenced, which essentially defined the enhancement of the improvement of care provided by professionals to intubated patients after the intervention. **Conclusion:** The incorporation of continuing education keeps the entire team in the process of continuous learning by engaging in educational programs, improving the quality of care and reducing the risks of health care-related infections.

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INTRODUCTION

The intensive care unit (ICU) is characterized as an environment vulnerable not only the susceptibility of patients to infections but also by exposure and need support many invasive procedures (Backes et al., 2012). In this environment the patients have a high risk of acquiring healthcare associated infections (HAI), which are responsible for hospital mortality. Among the factors that have increased the mortality of patients with HAI are comorbidities associated pneumonia or not

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(VAP), tracheal intubation (TI), among others tracheostomy (Souza *et al.*, 2015). This study will address aspects VAP consisting clinically in clinical suspicion of pneumonia with radiographic infiltration of new or progressive chest after 48 hours of admission or within 48 hours of mechanically ventilated patients and one of the following changes: fever> 38.3 ° C, leukocytosis > 12,000 / cmm or Leukopenia <4,000 / cmm, purulent respiratory secretions and bacteria to demonstrate polymorphism with gram-stain, the growth cultures with> 106 colony forming units (cfu) / ml (Dandagi, 2010). In this sense, the nursing care of patients who use invasive mechanical ventilation with the aid of the endotracheal tube (TOT), must be based on a specialized care, systematic (Lima, Andrade, Haas, 2007) aimed at organizing, implementing protocols care, efficiency and quality of care provided, promoting implications in patient safety and reducing infections (Cavalcante et al., 2015). And while the endotracheal tube is needed and beneficial, it can damage surrounding structures including the oral cavity (Martins *et al.*, 2006), The decreased level of consciousness and the need for constant mechanical ventilation difficult to mobilize tracheal secretion and facilitates its accumulation above the cuff, flowing towards the back of the throat, the subglottic region, making environment conducive to rapid microbial reproduction and bacteria potentially pathogenic (Safdar, Crnich, Maki, 2005).

As this cycle continues contamination, pathogenic microorganisms prevail over anti-bacterial body's defenses, making the patient prone to developing respiratory diseases like pneumonia (Coutinho, Falcão-Silva, Gonçalves, 2008).
In addition to the individual patient factors, the nursing care when not carried out systematically with dedicated scientific evidence of the risk reduction, care quality and patient safety, can lead to numerous adverse events. Elements such as lack of knowledge, criteria, standardization and nursing actions, aimed at care activities to patients with TOT result in behaviors and attitudes not care for nursing professionals such as not checking the cuff pressure, not centralization TOT and inadequate oral hygiene (Albini *et al*., 3013). For nursing care related to the management of TOT are quality is essential to develop the professional and organizational competence; efficient use of resources; risk reduction, patterns, indicators, implementation of protocols and measures to encourage the development and improvement of the quality of patient care glimpsing the achievement of results (Souza Mendes, 2014).
This positive outlook, changing the behavior of nursing professionals, it is revealed as an essential condition for the prevention and control of infections. So we understand that continuing education is a tool that can be used to implement care protocols to build knowledge and develop technical skills for professional practice. Thus, the aim of this study was to evaluate the nursing care for intubated patients before and after the educational intervention implementation of care protocols.

MATERIALS AND METHODS

Experimental Study quasi-before-after type. The survey was conducted in an intensive care unit of a public hospital in the state of Tocantins. Research subjects were all professionals of the nursing team workingfor over 01 years ICU and who were working during the survey period. The population consisted of 26 professionals of the nursing team, which corresponded to all professionals working in different shifts ICU corresponded to four teams from the ICU and the record book of hospitalized patients in the period of data collection.

The study took place in three phases:

Phase 1 - Situational Diagnosis: This step consisted of direct observation of the nursing staff about the nursing care performed in patients with TOT. To collect the data we used two instruments: a self-administered questionnaire and a checklist structured. The self-administered questionnaire was adapted from Rodrigues proposal, Coelho and Godinho (2006) which sought to verify if the professionals knew identify the main care patients using TOT and how to execute them. The development of structured check list was based on Rodrigues Coelho and Godinho (2006) and Castelhões and Silva (2007) and identify how the care and which nursing actions were performed were performed for patients with TOT, such as aspiration, tire pressure monitoring cuff among others. The suitability of the instruments, in substance, form and relevance to the objectives, was analyzed by 03 experts in the subject. Subsequently, the instruments were applied in another unit in order to test its objectivity and relevance to the proposed study. The observation took place for a period of 30 days, excluding the time of the visit and prioritizing the zones with higher number of procedures performed by nursing staff, being of the 07h to 16h and 17h to 22h, thus making a total of 14 hours daily observation to 420 hours per month.

2nd phase-educational intervention with implementation of a clinical protocol: It was implemented a continuing education program within the unit lasting 50 hours for each of the four teams. They were performed (07 meetings for each team) lasting (02 hours) each.

The strategies used were

simulation cases, theorizing through dialogue-based exhibition, discussions, preparation and implementation of a clinical protocol for nursing care to patients with TOT. Every meeting was worked contents related to the subject, and the simulation relating to these care practices, based on theoretical. Whereas the Continuing Education provides learning of the nursing team, added the reality and the professional daily life, the need of the sector, the professional and the institution (Olsen et al., 2007), the educational activities of this study were concerned for the implementation of the protocol described below:

Phase 3: The evaluation was performed after (02) months of the intervention and to evaluate the effect of the implementation of the protocol in nursing care to patients with TOT. the same processes and tools applied in the first stage were used. This phase corresponds to 420 hours followed. The record book served to assess some outcome indicators before and after the intervention such as: time of hospitalization, intubation time, number of deaths, high. For statistical analysis, all variables were evaluated descriptively, by calculating the absolute and relative frequency. He noted that the guidelines for research involving human subjects, included in the National Health Council Resolution 196/96. The project was approved by the Ethics Committee of the University UNIRG in the State of Tocantins, 169/2008 Protocol and the subjects participated in the study after consent by signing the Term of Consent.

Table 1. Continuing Education Program for Nursing Team

Themes	Description	Strategies
1st meeting Oral hygiene 04 to 04 hours and whenever necessary	Obs .: Professional responsible for running the nursing technician under the supervision of nurses. • Keep clean the oral cavity objective-	Theorization through dialogical simulation with realistic exposure and use of oral disclosing local staff to demonstrate the increased adherence of bacterial plaque in the oral cavity of the patient.
2nd meeting Check labial 12 in 12 hours	Obs .: Professional responsible for running the nurse. • Goal - identify non-traditional lesions and ulcers during the physical examination	Theorizing through dialogue-based exposure
3 ° against shoelace exchange and centering the endotracheal tube 01 once daily and whenever necessary (humidity)	Obs .: Professional responsible for implementing the nurse because of the risk of extubation. • Objective - To avoid non-traditional face ulcers and tissue compression and great vessels of the neck (hypo-oxigenation)	Theorizing through dialogue-based display and simulation on the technical
4th meeting Check pressure cuff and tracheal auscultation After intubation and every 12 hours	Obs .: Professional responsible for running the nurse. • Objective - prevent tracheal necrosis	Theorizing through dialogued exposition and technical simulation
5th meeting Aspiration of TOT open system Whenever necessary	Obs .: Professional responsible for implementing the nurse, the technical delegate only the impossibility of accomplishment. • Objective - prevent bronchospasm, atelectasis	Theorizing through dialogued exposition and technical simulation.
6 ° patient against Mobilization Every 02 hours	Obs .: Professional responsible for running the nursing technician under the supervision of nurses. • Objective - To prevent pressure ulcers, stasis secretion.	Theorizing through dialogued exposition and technical simulation
7th meeting Moisturizing lip 04 to 04 hours and whenever necessary	Obs .: Professional responsible for running the nursing technician under the supervision of nurses. Objective - prevent non-traditional ulcer	Theorizing through dialogue-based exposure

Table 1. Profile of ICU nursing team professionals

Specification	Age Average (years)	Sex		Time to Training (years)			operating time ICU (years)		
		Fem.	Men.	1 to 3	3 to 6	> 6 years	1 to 3	3 to 6	> 6 years
Nurses	38, 5	3	2	2	-	3	2	-	3
Technical	41.5	2	17	6	4	9	9	-	10
Auxiliary	45	0	2	-	-	2	-	-	2
Total	41.5	5	21	8	4	14	11	-	15

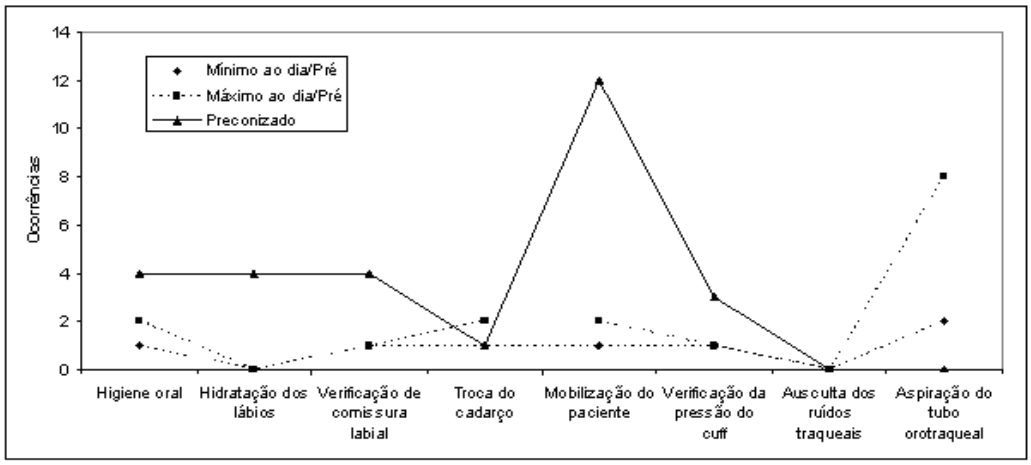

Figure 1. Care provided in the pre-intervention time by the ICU nurses, Tocantins, 2009

RESULTS

The study included 26 professionals of the nursing team, with 05 nurses, 19 nursing technicians and 02 nursing assistants. The results of the assessment regarding the profile of the nursing staff are shown in Table 1. We found that 21 (81%) of workers are female and most 14 (53.85%) has over six years of completion of the nursing program. As for the time of experience in ICU, 15 (57.69%) professionals reported having more than six years of experience (p-value = 0.04). The analysis of the questionnaire self applied allowed us to check gaps in the knowledge of professionals in the identification and implementation of key care patients using the TOT because some care such as checking the labial, moisturizing the lips and centralization of TOT were not cited . Check the cuff pressure was cited as a physical therapist care for all professionals and oral hygiene and care of the nursing team only once a day. Despite the above shortcomings, when asked about the importance of the implementation of protocols and systematization of care as an essential tool for safe nursing care, all said to be important. This data combined with the situational diagnosis made reveals practices and unsafe behaved, based on empirical practices, and insufficient knowledge of the nursing team for the realization of care (Figure 2).

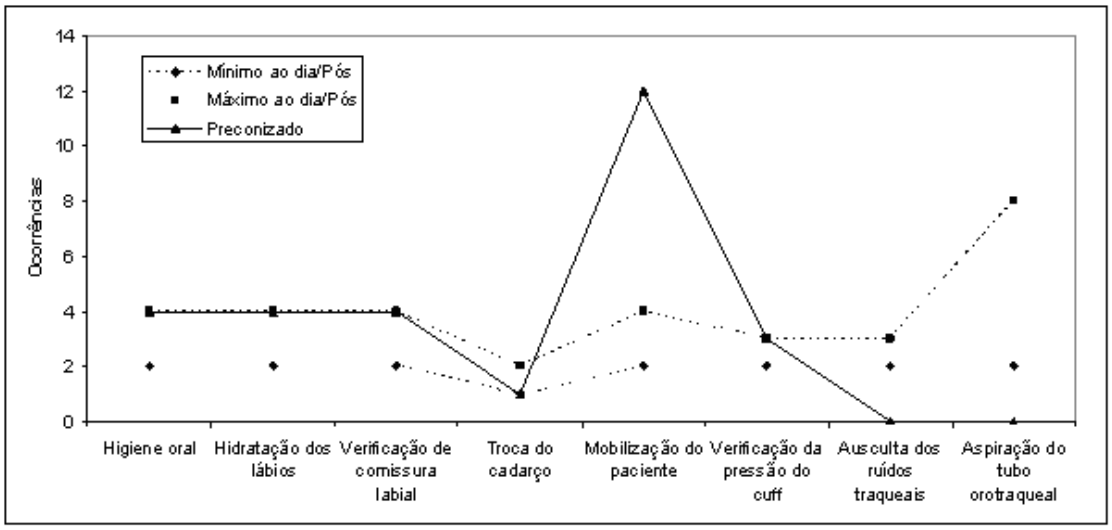

Figure 2. Care provided to patients intubated at the moment after the intervention, Tocantins, 2009

Table 3. Results indicators pre-intervention

No. Patients	Number of deaths	Number of high	Average hospitalization time (days)	Average intubation Time (days)
26	19	07	5.07	3.19

Table 4. Result Indicator post-intervention

No. Patients	Number of deaths	Number of high	average length of stay in days	Average time of intubation in days
27	10	17	4.18	2.40

Proximity between the observed maximum and minimum occurrence of each care, both distant from the recommended values for the set of procedures established in this study. This occurred except for the aspiration of TOT, which must be performed according to the patient's need. Thus, it was found in the situational diagnosis that the performance of the nursing team did not converge to the recommendations, thus demonstrating the need to implement care protocols and continuing education focusing on both theoretical and practical. After the intervention and the implementation of the assistance program, the evaluation period (post intervention) showed a trend of convergence of nursing actions the way to take care recommended, which essentially defined the enhancement of improvement of care provided by professionals to patients intubated after intervention (Figure 2). Despite the central focus of the study is not the direct observation of the improvement of the indicators, but adherence to care, it is important to note that there was a significant change in high indicators, mortality, mean length of hospitalization and intubation. In addition to the verbal reports of staff to refer to the improvement in odor from the ICU. After the intervention, the number of deaths decreased by 53% and the high increased by 242% to the two moments are analyzed, it is noteworthy that the patients did not have the same diagnosis and other clinical conditions, so we can not say that the improvement was as a result of care provided. (Table 3 and 4).

DISCUSSION

The reality of training for nursing professionals has changed dramatically in recent decades, in terms of keeping pace with current clinical practice, the "new" nurses should have more knowledge of certain work areas, meeting social needs and health population (Ortega *et al.,* 2015). The incorporation of systematization of nursing care and the realization of continuing education are forms of advancement of nursing as a science, promoting a continuous and secure organized care for the patient (Silva, Seiffert, 2009), which corroborates the findings of this research, verify staff reports them in relation to the importance of maintaining a routine and the systematization of nursing care. However, imperative is to consider that the procedures speaking time may have been insufficient to improve the whole set of care, however assured a tendency to change behavior, which is a result of the acquired knowledge and specific training of the combined duties of care effective.Thus, when evaluating some care actions such as aspiration in pre and post intervention time is observed that began to be performed when necessary. On the other hand the high number of puffs refers to the excess of pulmonary secretions that may be associated with the occurrence of pneumonia and other respiratory disorders.

A study in 2013 to evaluate the effectiveness of an educational intervention on adherence of health professionals to the techniques of tracheobronchial aspiration recommendations in patients admitted to the intensive care unit pointed out that after the educational intervention, the tracheobronchial aspiration technique has improved significantly in several aspects. And that implementing educational intervention measures, even though simple, has shown a positive effect, at least in a short period of follow-up, improving adherence to appropriate aspiration techniques (Lima *et al*., 2013). In the case of tracheal intubation, no sedation front of this care, can cause problems for patients physically and existentially. Thus the clinical nursing practice should be developed to accommodate the needs, communication and participation of

patients, in addition to the pain of the headquarters of the management and handling of the tube, are the best possible (Holm, Dreyer, 2015). As regards the TOT maintenance and care in accidental extubation prevention associated with nursing care, professional training can improve the quality in the handling of this device and be instrumental in reducing the incidence of accidental extubation. A study in 2007 to analyze the results of the training of nursing staff for the prevention of accidental extubation related to nursing care, associated with four times: bed bath, critical patient transport, changing positions and exchange of fixation, He pointed out an important knowledge gain knowledge of nursing technicians after training these professionals. These professionals form analyzed in two moments through notes (before training and after training). Pre-training notes had an average of 7.4 points. Post-training the same professional obtivem an average of 9.6 points. And that during the analysis of the training, there was a rise in global averages around 25% compared to the initial medium, while all the training ending with more than 8 grades. This indicates that the continuing education of these professionals directly interferes with the improvement of the quality of care provided (Castelões, Silva, 2007).

Studies point out that nosocomial pneumonia is the infection with the highest incidence detected in the intensive care unit in mechanically ventilated patients (Dasgupta, *et al.,* 2015), which represents one of the main challenges faced by intensivists during their daily practice. . This contributes to the study of its clinical relevance and epidemiological profile as a distinct clinical area within nosocomial pneumonia (Rodrigues *et al.*, 2009). It is also suggested that the high-held aspiration index, can be linked indirectly to the lack of other care analyzed as: oral hygiene, as this care is considered a potential factor in the development of pneumonia, as well as ICU, the use of VM, the duration of MV, prior use of antibiotics and reintubation and lack of patient mobilization by entail stagnation of pulmonary secretions (Mota *et al*, 2017.; Glassou, Hansen, Pedersen, 2017; Epstein 2014;Rodrigues *et al.*, 2009). As regards the early mobilization of critically ill patients in the ICU, this has directly contributed to reducing the length of stay and consequently associated with improvements in the results as regards the incidence of VAP (Hughes, McGrane, Pandharipande, 2012). And the aspiration of variousupper airway of patients in VM, is an important caution. No routine made vacuum, but that performed whenever necessary, with prior auscultation and without the routine use of saline instillation (Silva, Nascimento, Salles, 2014). Thus, by knowing the care endotracheal tube are directly connected to associated pneumonia (VAP), there is the importance of this study on the prevention of these infections are considered an important mortality predictor in ICU compared to other infections.

The assessment of the post-intervention time we note the improvement of nursing care, with only a low adhesion in the realization of decubitus change. This fact can be attributed to the profile of the nursing team, with a female predominance, tending to greater difficulty in performing activities that require great physical effort. These results were similar to those described in the literature, for a study to evaluate the effectiveness of educational strategy to improve the performance of preventive procedures associated pneumonia in mechanically ventilated made an improvement and efficacy after educational intervention in the proper completion of assembly of the VM technique aseptic, the cleaning of the tongue and the maintenance of proper order tube-nose-mouth during bronchial hygiene procedure (Gonçalves *et al.*, 2012). Thus, the educational interventions in improving care for intubated patients, can bring significant results in improving the care provided by the nursing staff. With regard to the oral care intubated patient, multiple factors can contribute to variations in oral care, including nursing practice, education, and availability of resources, and the appropriate documentation of interventions (Diaz *et al.*, 2017). The provision of oral care for intubated patients is a complex and multifaceted practice, since the changes in the nursing discourse over time favored a gap between science and practice of oral care. Thus, nurses, educators and administrators can benefit in critical discussions of this care (Dale *et al.*, 2013). Therefore, we must consider the need to adapt to continuing education to the workplace and careers of nursing professionals. Therefore, professional training should be viewed continuously, and that starts with basic training and extends throughout the professional life(Ortega *et al.*, 2015). Education and training that emphasize the importance of oral hygiene in critical patients and methods for providing more adequate oral care are useful, not only to improve the knowledge, skills and confidence of nurses, but also to reduce the negative perceptions compared to oral care including the perceived unpleasantness of the oral cavity cleansing that could adversely affect the quality of the oral care provided to patients (Saddki, 2014). For the previous training of nurses, especially nurses, has a significant impact on the perception of their training needs, why should be given extra attention aa these professionals with regard to continuing education (Ortega *et al.*, 2015).

Conclusion

Given the findings of this research, it is concluded that the continued education of the merger shows that not only nurses, but the whole team must remain in continuous learning process engaging in educational programs seeking to promote or require the institution in which it works to support the professional life in their particular area of expertise, so that changes to these can be a reality and not just temporary changes. This change of reality can be demonstrated by the various nursing care that when performed properly can provide clinical improvement of patients, such as the centralization of the endotracheal tube and the further reduction of lesions in labial, oral hygiene, change decubitus every 02 hours interfering with secretion mobilization, reducing the number of puffs and the risk of injury promoted by excessive tracheal aspirations.

REFERENCES

Albini, R.M.N. *et al.* Conhecimento da enfermagem sobre cuidados a pacientes disfágicos internados em unidade de terapia intensiva. Rev. CEFAC, v. 15, n. 6, p. 1512-1524, 2013.

Backes, M.T.S. *et al.* O cuidado intensivo oferecido ao paciente no ambiente de unidade de terapia intensiva. Esc Anna Nery (impr.). v. 16, n. 4, p. 689-696, 2012.

Castelloes, T.M.F.W.; Silva, L.D. Guia de cuidados de enfermagem na prevenção da extubação acidental. Rev. Bras. enferm., v. 60, n.1, p.106-109, 2007.

Cavalcante, A.K.C.B. *et al.* Cuidado seguro ao paciente: contribuições da enfermagem. Revista Cubana de Enfermería, v. 31, n. 4, p. 1-13, 2015.

Coutinho, D.; Falcão-Silva, V.S.; Gonçalves, G.F. Pulmonary bacterial pathogens in cystic fibrosis patients and antibiotic therapy: a tool for the health workers. International Archives of Medicine, v.1, n.24, p. 1-7, 2008.

Dale, C. *et al.* Mouth care for orally intubated patients: A critical ethnographic review of the nursing Literature. Intensive and Critical Care Nursing, v. 29, n. 5, p. 266-174, 2013.

Dandagi, G.L. Nosocomial pneumonia in critically ill patients. Lung India: Official Organ of Indian Chest Society, v. 27, n. 3, p. 149-153, 2010.

Dasgupta, S. *et al.* Nosocomial infections in the intensive care unit: Incidence, risk factors, outcome and associated pathogens in a public tertiary teaching hospital of Eastern India Indian. Journal of Critical Care Medicine, v. 19, n. 1, p. 14-20.

Diaz, T.L. *et al.* Oral care in ventilated intensive care unit patients: Observing nursing behavior through standardization of oral hygiene tool placement. Am J Infect Control, v. 45, n. 5, p. 559-561, 2017.

Epstein, N.E. A review article on the benefits of early mobilization Following spinal surgery and other medical / surgical procedures. Surg Neurol Int., v. 5, Supl. 3, p. S66-73, 2014.

Glassou, E.N.; Hansen, T.B.; Pedersen, A.B. Risk of pneumonia and urinary tract infection Within the first week after the total hip arthroplasty and the impact on survival. Clinical Epidemiology, v. 9, p. 31-39, 2017.

Gonçalves, F.A.F. *et al.* Efficacy of health education strategies for preventive interventions of ventilatorassociated pneumonia. Esc. Anna Nery, v. 16, n. 4, p. 802-808, 2012.

Holm A.; Dreyer, P. Intensive care unit patients' experience of being conscious during endotracheal intubation and mechanical ventilation. Nurs Crit Care, v. 22, n. 2, p. 81-88, 2017.

Hughes, C.G.; McGrane, S,; Pandharipande, P.P. Sedation in the intensive care setting. Clinical Pharmacology: Advances and Applications, v. 4, p. 53-63, 2012.

Institute of Medicine (US) Roundtable on Evidence-Based Medicine; Olsen LA, Aisner D, McGinnis JM, editors. The Learning Healthcare System: Workshop Summary. *Washington (DC): National Academies Press (US)*; 2007. Roundtable on Evidence-Based Medicine.

Lima, E.D. *et al.* Effects of educational intervention on adherence to the technical recommendations for tracheobronchial aspiration in patients admitted to an intensive care unit. Rev Bras Ter Intensiva, v. 25, n. 2, p. 115-122, 2013.

Lima, M.E.; Andrade, D.; Haas, V. Prospective assessment of occurrence infection in patients critical intensive care unit. Rev. bras. ter. intensiva, v. 19, n. 3, p. 342-347, 2017.

Martins, C. et al. Profile of the nurse and the necessities of professional competence development. Texto contexto-enferm., v. 15, n.3, p. 472-478, 2006.

Mota, E.C. *et al.* Incidência da pneumonia associada à ventilação mecânica em unidade de terapia intensiva. Medicina (Ribeirão Preto), v. 50, n. 1, p. 39-46, 2017.

Ortega, Mdel. C. *et al.* Academic training of nursing professionals and its relevance to the workplace. Rev Lat Am Enfermagem, v. 23, n. 3, p. 404–410, 2015.

Rodrigues, H.D.B.; Coelho, M.J.; Godinho, P.S. Sistematização dos cuidados de enfermagem ao cliente entubado à luz da teoria de Imogene King. Revista Enfermagem Brasil, v. 5, n. 2, p. 86-94, 2006.

Rodrigues, P.M.A. *et al*. Ventilator-associated pneumonia: epidemiology and impact on clinical outcomes in patients on an intensive care unit. J. bras. Pneumol, v. 35, n. 11, p. 1084-1091, 2009.

Saddki, N.; Mohamad, S.F.E.; Tin-Oo, M.M. Oral care for intubated patients: a survey of intensive care unit nurses. Nurs Crit Care, v. 22, n. 2, p. 89-98, 2017.

Safdar, N.; Crnich, C.J.; Maki, D.G. The pathogenesis of ventilator-associated pneumonia: its relevance to Developing effective strategies for prevention. Respir Care, v. 50, n. 6, p. 725-39, 2005.

Silva, G.M.; Seiffert, O.M.L.B. Continuing education: a methodological proposal. Rev Bras Enferm., v. 62, n. 3, p. 362-366, 2009.

Silva, S.G.; Nascimento, E.R.P.; Salles, R.K. Pneumonia associada à ventilação mecânica: discursos de profissionais acerca da prevenção. Esc Anna Nery, v. 18, n. 2, p. 290-295, 2014.

Souza, E.S.; et al. Mortalidade e riscos associados a infecção relacionada à assistência à saúde. Texto Contexto Enferm, v. 24, n, 1, p. 220-228, 2015.

Souza, P.; Mendes, W. Segurança do paciente: conhecendo os riscos nas organizações de saúde. – Rio de Janeiro, EaD/ENSP, 2014.

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