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Perceptions and actions of oral care performed by nursing teams in intensive care units

Análise de percepções e ações de cuidados bucais realizados por equipes de enfermagem em unidades de tratamento intensivo

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ABSTRACT

Objectives: A study was carried out, by means of a questionnaire for guided interviews seeking to establish a profile of perceptions and oral care given by ICU nursing team to patients in intensive care units.

Methods: The target population consisted of nursing practitioners divided in three education categories: nurses, nursing technicians and auxiliary nurses working at public and private hospital institutions providing for intensive care unit patients in Belem-PA. Dentistry experience has developed in this field reporting scientific findings and practical applications on prevention and re-establishment of the oral health in question.

Results: This survey disclosed re-

sults suggesting that oral hygiene care given to intensive care units patients is insufficient and inadequate requiring changes be made in the care now provided in the nosocomial environment by the nursing team.

Conclusion: Presence of a dentist, knowledge of preventive dentistry, dissemination and use of oral hygiene specific resources are means suggested in an attempt to resolve difficulties found in oral health maintenance and treatment of oral diseases that affect the general health of hospitalized individuals. Interdisciplinary action for these individuals is advocated to achieve a better quality of life by preventing or minimizing oral pathologies.

Keywords: Patient care team; Oral hygiene/nursing; Intensive care units

INTRODUCTION

Intensive care units (ICU) were created based upon the need to care for patients in critical conditions, requiring continued attention and observation from physician and nurses as well as the need to improve and concentrate material and human resources for the care of critically ill patients, however considered recoverable, also for constant surveillance have centralized patients in a specialized center.⁽¹⁾

Interdisciplinary teams (professionals from related areas) and multidisciplinary (together with professionals from specialized areas are part of these unit's day-by-day.

Patients in the ICU require excellent care not only directed towards the physiopathological issues, but also to the psycho-social, environmental and family member issues that become closely connected with the physical disease. The essence of multidisciplinarity is that professionals from different areas acting on the same patient in intensive care do not

rely on the environment or special equipment but on the decision making process, based on the full understanding of the patient's physiological, psychological conditions and of new therapies.

It is mandatory that ICU patients receive sufficient oral hygiene care during their stay, for the purpose of preventing oral pathologies and possible complications of already existing oral diseases.⁽²⁾

Pathogens commonly responsible for nosocomial pneumonia are found colonizing the dental plaque and oral mucosa of inpatients. However, good hygiene techniques may prevent progress of oral cavity infection towards the respiratory tract.⁽³⁾

After about 24 hours, without cleaning of the oral cavity, a layer of dental plaque may be clinically detected. Absence of it or adopted technique of oral hygiene will be closely related to the number and species of microorganisms found in the oral cavity.⁽⁴⁾

The tracheal colonization route was observed in the development of ventilation associated pneumonia and it was found that 80 out of 100 patients were colonized in the first day of endotracheal ventilation. Moreover, the oral cavity is the first source of pathogens that cause this pathology.⁽⁵⁾

Various studies recorded that inpatients tend to have precarious oral hygiene, when compared to day-care patients and control patients of society. This lack of attention to oral hygiene results in increased amount and complexity of the dental plaque which may facilitate bacterial interaction between the plaque's indigenous bacteria and known respiratory pathogens such as *Pseudomonas aeruginosa* and enteric bacilli.⁽⁶⁾

Studies were carried out to assess the prevalence of respiratory pathogens colonizing the mouth in a group of ICU patients with a special attention to dental plaque and mucosa. The authors observed that in 65% of the examined patients, oral plaque and mucosa presented respiratory pathogens among them *Staphylococcus aureus*, *Pseudomonas aeruginosa* and 10 genera of gram-negative bacilli. These patients present precarious oral hygiene, which according to the author may influence colonization of the oropharynx by respiratory microorganisms. Furthermore, there is a hypothesis that the normal oral flora is altered due to some enzymes present in the mucosal surface make it receptive to adherence of such pathogens.⁽⁷⁾

Care with the oropharynx of 16 patients in the ICU under mechanical ventilation was analyzed. Clinical and demographic data were recorded on each day of stay by collection of microorganisms with

swabs, tracheal secretion and oral clinical exams, until removal of the ventilation equipment. Seven patients presented xerostomia; ten lip injuries were identified in nine patients; eight tongue injuries were diagnosed in nine patients and eight injuries of the mucosa were recorded in nine patients. Forty four percent of patients at the X-ray showed evidence consistent with pneumonia. Gram negative microorganisms were detected in the oropharynx and simultaneously in the tracheal secretion. Although hygiene of the oral cavity is considered a very difficult procedure, because it is performed in intubated patients. It is known that the poor condition of the oropharynx may be related to acquired nosocomial organisms and this relation should be given special attention. Therefore, systematic and clinical analyses of the oropharynx may prevent appearance and worsening of many infections.⁽⁸⁾

Treatment of the oropharynx and maintenance of a favorable hygiene are difficult procedures in intensive care patients mainly in those under mechanical ventilation due to difficult access to the oral cavity.⁽⁹⁾ The intubated patient is under a higher risk of being a victim of colonization by microorganisms, because the oral cavity is in contact with other instruments such as: strips, oral retractors and tubes among others.⁽⁸⁾ The function of the endotracheal oral tube is to provide ventilation and protection of the air passage. Position of the tube and of other support materials may hinder visualization of the oral cavity and restrict access with a negative impact on hygiene.⁽¹⁰⁾ As such, nursing professionals feel reluctant to handle the apparatus required for the patients' breathing to carry out hygiene procedures. The attachment strips very near to the oral cavity quickly become contaminated by pathogens when saliva molecules are manipulated in the effort to perform hygiene techniques.⁽¹¹⁾

Notwithstanding the existence of significant resources such as artificial saliva, suction devices, antiseptics, electric toothbrushes and tongue scrapers that may be used for oral treatment in the ICU, they are seldom used. Among the discussed reasons for non-utilization of such tools, lack of time or knowledge by the professional in charge and lack of assistance by the oral health professionals in the ICU are those most often reported.⁽¹²⁾ Interactions with dental hygiene techniques may improve knowledge and ability of the nursing team regarding oral care.⁽¹⁾

Oral hygiene in the ICU is considered a basic, crucial nursing procedure for the purpose of keeping the patient's oral cavity healthy. Such procedures are nec-

essary to achieve and keep cleanliness, prevent infections / stomatitis; maintain the oral mucosa humid; promote the patient's comfort.^(13,14)

In studies with nurses, hospital directors and home care nurses, various erroneous concepts were found about practice of dental care of inpatients. Lack of knowledge on dental pathologies was found to be significant, encompassing numberless aspects, such as exam of the oral cavity. Locomotion difficulties and other physical constraints of patients are viewed as the major difficulties or impossibilities for dental care. It was estimated that 48% of professionals participating in this survey had not had access to this knowledge and 30% of the sample showed that these were not matters of priority in their functions.⁽¹⁵⁾ It was noted that 83% of the nursing staff had not received basic training on oral health. Researchers are aware of the need to improve the quality of oral care of geriatric patients. They conclude that appropriate training and presence of a dentist in the hospital environment could contribute to the enhancement of knowledge and better performance of the nursing team in relation to the oral health of patients.⁽¹⁶⁾

This work intended to assess the perceptions and actions of the nursing team regarding oral health care given to patients in an intensive care unit during the process of daily oral hygiene to which they have been submitted.

METHODS

Aiming to reach a profile of the perception of oral care by nursing teams, a survey was carried out with a statistical approach of data analysis using a target population of nursing professionals acting in ICU of public and private hospitals in the city of Belem - PA, from June to November 2007. It must be mentioned that the considered institutions were intended for adult patients with at least eight beds available for use.

It was decided not to divide different groups because comparison between public and private hospitals did not characterize the objective of the work and the division among groups would jeopardize precision and coherence of results.

After submission to and register of approval by the research ethics committee on human beings from the center of health sciences of the Universidade Federal do Pará, the survey was developed by interviews carried out by a single interviewer, a dentist using a structured questionnaire.

Nursing professionals of both genders, without age limit, who acted in 23 intensive care units belonging to 12 public and private health institutions in Belem, Para, were interviewed.

The questionnaire was comprised of 18 multiple choice questions. This number was set seeking to mention the more significant subjects because professionals answered during working time and did not have much time available for filling out the document. Average duration of the interviews was previously timed and it was found that approximately four minutes and thirty seconds were needed for the participation of each respondent.

The first part of the questionnaire, represented by questions 1 to 7, intended to assess the profile of the nursing team interviewed regarding the professional category, age bracket, gender, salaries, type of institution where the person worked and professional education.

The following questions 8 to 11 referred to participation of the multidisciplinary team, to the contact or not with a dentist and to the level of knowledge by the nursing team about dentistry and its relation with the individual's overall health.

As from questions 12 to 17, knowledge and care performed as routine in the ICU environment or oriented to patients during hospital stay, were assessed. Finally, question 18 assessed the level of interest by nursing team in receiving guidance about oral health and its clinical application.

To administer the questionnaire, the interviewer visited the institutions, with a letter written by the research project supervisor proposing to demonstrate the study objectives. After publicizing the positive opinion of the hospital management and registering the authorization to carry out the interviews, questionnaires were individually handed to the members of the nursing team. The interviewer waited for the professional's replies and eventual doubts were resolved, guaranteeing conscientious and assured replies by the interviewees. It must be mentioned that visits to the hospital took place during all shifts (morning, afternoon and night) according to work schedules set by each institution. Returns to the institution were required when it was perceived that all professionals were not active in that period, aiming to approach the complete nursing teams. Professionals on holidays or on leave were not included in this report as part of the target public of the study. Interviewees were oriented and informed by a free and informed consent term

stating that their participation was not obligatory, as well as assuring total confidentiality in relation to their identity and name of the working place.

RESULTS

Four hundred and two interviews were made with members of the nursing teams, 73 nurses, 284 technicians and 45 nursing auxiliaries. Replies were tabulated and submitted to statistical analysis as described below. It was found that in all categories the majority of professionals acts in interdisciplinary teams as shown in table 1.

Regarding presence of a dentist as an effective member of the interdisciplinary team, almost all interviewees replied that the teams to which they belonged had no dentist. And further, 86% of interviewees considered that such a professional was needed on the team and thus could act whenever there was a dental involvement.

Regarding knowledge of the relation oral health/overall health, 99% of the interviewees agreed with the assertion that a mouth infection can endanger the health of the rest of the body. Furthermore, 99.2% of those interviewed believe that oral hygiene is important during hospital stay.

It was observed that an exam of the oral cavity and/or orientation to seek a dentistry professional to perform it, does not take place according to replies given by 37% of professionals. For one group, representing some 63% percent of the interviewees, an oral exam and or orientation are performed.

Professionals interviewed also replied to questions regarding performance and orientation of their patients about the following procedures: normal tooth brushing (without aid of persons or special devices); use of a bowl for brushing in bed. It was found that 58% of those interviewed stated performing and/or orienting their patients regarding normal tooth brushing. When asked to the interviewees, in an open question to name

the brand of mouthwash most used, the rate of 100% was reached for cetylpyridinium chloride.

Resources such as gel, spray, tooth paste, mouth rinses and even chewing gum acting on the oral tissues, softening the effects of dry mouth are poorly disseminated among the nursing class: approximately 90% of interviewees reported they had never heard about these products and as for use in hospitals, none reported even isolated experience or contact with such resources.

Assessing the knowledge of nursing professionals on various dentistry subjects, about 30% of interviewees said they had knowledge about dental brushing techniques. Approximately 76% said they were able to recognize normal aspects in the oral cavity and when the subject was the most common disease of the oral cavity, such as dental caries, gingivitis, periodontitis and candidiasis, 29% did not know about them. Among the interviewees 30% believe that they know about hygiene for prostheses and interruption of their use and 29% stated knowing about hygiene of the mucosa. Regarding tongue cleaning about 40% said they knew the subject well and asserted their capability to orient patients, if they are asked

The completion of specific training on oral hygiene was inquired during professional education of members of the nursing team, It was noted that approximately 42% of professionals had been taught some knowledge on the subject.

In all categories, classification of efficacy of training carried out was stressed as insufficient by 74% of the sample. Interest in knowledge about oral health was shown by 98%.

DISCUSSION

For direct care of the patient, most institutions have physicians of various specialties, nurses, technicians and auxiliary nurses. Other professionals such as physiotherapists, nutritionists and psychologists are not so usual.

Table 1 – Do you act in multi/interdisciplinary teams?

	Yes		No		Total	
	Frequency	%	Frequency	%	Frequency	%
Nurse	72	17.9	1	0.2	73	18.2
Nursing technician	277	68.9	7	1.7	284	70.6
Nursing auxilliary	45	11.2	0	0.0	45	11.2
Total	394	98.0	8	2.0	402	100.0

Based on the inquiry of presence of dentist, who would be directly responsible for cases with dental involvement, we essentially consider that hospitals should revise their concepts of an interdisciplinary team, to justify admittance of dentists into the hospital environment.^(1,2)

Statistical analysis of this work disclosed that even though attention is not focused on preservation and oral hygiene care, dentists, in a certain way have the nursing knowledge.⁽¹⁷⁾ Presence of a dentist on the hospital staff was necessary for 86% of those interviewed who acknowledge that the dentist could act whenever there is dental involvement. Literature on dentistry in interdisciplinary practice specifically in the ICU scenario in Brazil has little mention of dentists acting in this sector in the nineties, contrary to many other countries. However, because of growing scientific research in the field of dentistry, relating oral changes with many other organic alterations, interest in the so called “hospital dentistry” is growing.

During visits to the ICU it was observed that some patients may not need mechanical ventilation and was able to perform their own basic hygiene, demanding help by the nursing team. Therefore, it is important to assess the degree of independence of patients, since self-care and independence must be encouraged, not for the purpose of reducing the nurse’s duties, but to speed patient recovery. The importance of verifying the use of prostheses must be stressed, especially those that were not in use at the time of admission and identification. In such cases it is recommended that they be kept in labeled glasses. Data obtained in this survey showed that approximately 100% of patients did not use their prostheses, even when they did not need mechanical ventilation.⁽¹⁸⁾ In most cases prostheses were given to family members or companions at admission in emergencies or ICU due to emergency procedures. This is, in opposition to researchers who call attention to the importance of use of these devices when-

ever possible in the hospital environment to prevent alterations that may be provoked such as changes of the mucosa, decrease of the vertical dimension of the occlusion and reabsorption of the alveolar bone.

The patient should have adequate oral hygiene even in the absence of teeth. Authors suggest massage to strengthen the gingival and washing of prostheses to remove food debris that may hurt and annoy the patient. Furthermore, nursing teams are in charge of observing the oral condition of the patient, use of prostheses, and ability to chew and eat by himself.⁽¹⁴⁾ Data from the survey will help in the assessment of the importance of dentistry professionals in the ICU environment. The formulation of these questions was directed towards knowledge of opinions of nursing professionals, on their capability to perform oral hygiene procedures on their patients and on the importance of a dentist that would orient and perform these practices.

Orientation on oral care must be adjusted to the motor skill and cognitive capacity of the patient. As such, preventive intentions must be understood by the patient and by the support group (family members and nursing team). Often, physical or mental causes hinder a satisfactory oral hygiene so help of a trained person is required. Chart 1 shows a guide that may also be suggested to the nursing team on the relation between need for adequate procedures of oral hygiene and different levels of the patient’s dependence.

Prevention and promotion of oral health in the ICU may be enhanced by means of protocols prepared according to individual requirements of ICU patients, recommending mechanical removal of the plaque in dentulous individuals using correct dental brushes. However, among the observed teams none followed any individual protocol. The same, oral hygiene procedure was performed on all patients. Seldom, tooth brushes were used by the individuals themselves, who were totally independent from special care, without

Chart 1 – Adequate oral hygiene procedures and level of dependence

Independent patient	Patient able to walk	Walks to a sink and performs own hygiene Encourage and orient regarding the correct techniques
Partially dependent patient	Patient unable to displace himself	Offer a bowl for oral hygiene in the bed
	Patient with motor difficulty	Support devices such as brushes with adjustable handles, electric brushes...
Dependent patient	Patient with motor disability	Hygiene performed by a healthcare provider or nurse with normal brushes or electric brushes

orientation or incentive by members of the caretakers' team.⁽¹⁹⁻²¹⁾

Survey results disclosed that the nursing teams responsible for hygiene care of inpatients receive little information on methods for control of the plaque responsible for the origin of the important oral pathogens. Teams are still not aware of a variety of oral hygiene resources that may be used in the hospital environment for significant improvement in the maintenance and recovery of oral health of these individuals.⁽¹⁴⁻¹⁶⁾ Regarding frequency of performance of the specific oral hygiene cares, opinions differed among the surveyed authors.^(1,3,14) Brushing using a brush and toothpaste must be recognized as a basic essential care to be extended to all patients who need this type of attention. We observed that oral hygiene procedures were carried out only twice a day in the ICU chosen for this study, coinciding with the bath schedule and shortly before the time for visits by family members and companions.

Some authors state that the best prevention is mechanical removal of plaque by brushing, using dental floss and other hygiene means. In literature dental brushing techniques were described, effects of dental cleaning were compared, and found to have similar results.^(4,5,7) These authors state that willingness, capability of patients and results achieved regardless of the used brushing techniques are the most important factors in the selection of the tooth brushing method. In 100% of the visited ICU the only technique of oral hygiene used by the nursing team was use of swabs dipped in cetylpyridinium chloride. Our survey admitted that hygiene with a brush for patients totally or partially dependent requires a greater ability and takes longer. This seems to be one of the reasons for cares given in the hospitals visited. It is recommended that cares in the ICU be reviewed, to benefit patients.

CONCLUSION

Based on results achieved the following conclusions were reached. To maintain oral health at satisfactory levels, current care in the hospital environment must be changed by the nursing team:

The nursing teams under study knew little about plaque control methods responsible for the main oral pathologies and the different products that may be used for oral hygiene;

Resources available in the visited hospitals are scarce and inadequate, making maintenance of oral

health impossible and hindering control of the already existing oral infections.

According to the replies, professionals interviewed did not receive adequate education to perform the procedures of oral care. As such, we suggest that nursing curricula be reviewed and that knowledge of preventive dentistry be better defined, for this class of professionals. Presence of a dentist is suggested in an endeavor to resolve the difficulties found in the maintenance of oral health and treatment of oral disease affecting the general health of individuals staying in the ICU.

Interdisciplinary, in ICU care, should envisage the presence of a dentist integrated with the involved teams. Appropriate dental knowledge disseminated in the hospital environment would be beneficial, even after discharge, to assure a better quality of life for these patients.

RESUMO

Objetivos: Buscando estabelecer um perfil da percepção e realização dos cuidados em saúde bucal prestados a pacientes internados em unidades de tratamento intensivo por equipes de enfermagem, realizou-se um estudo com entrevistas orientadas por um questionário.

Métodos: A população de estudo foi constituída de profissionais de enfermagem divididos em três categorias de formação: enfermeiros, técnicos de enfermagem e auxiliares de enfermagem que atuam em instituições hospitalares públicas e particulares prestando serviços em unidades de tratamento intensivo na cidade de Belém - PA.

Resultados: A pesquisa desenvolvida neste trabalho retornou com resultados, os quais sugerem que os cuidados de higiene bucal realizados nos pacientes hospitalizados em unidades de terapia intensiva são escassos e inadequados, sendo necessárias modificações nos cuidados dispensados atualmente, especialmente no ambiente nosocômial da equipe de atenção ao paciente.

Conclusão: A presença de cirurgião dentista, a difusão dos conhecimentos de odontologia preventiva e o uso de recursos específicos de higiene bucal são medidas sugeridas como tentativas de solucionar as dificuldades apresentadas na manutenção da saúde bucal e no tratamento das doenças bucais, que afetam a saúde geral dos pacientes hospitalizados. A atuação interdisciplinar no atendimento a estes indivíduos é defendida visando à obtenção de uma melhor qualidade de vida prevenindo ou minimizando patologias orais presentes.

Descritores: Equipe de assistência ao paciente; Higiene bucal/enfermagem; Unidades de terapia intensiva

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