

Nursing care for storage of dental prostheses in hospitalized elderly patients

O cuidado de enfermagem no acondicionamento da prótese dentária de idosos hospitalizados

El cuidado de enfermería en el acondicionamiento de la prótesis dental de ancianos hospitalizados

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Abstract

Objective: To understand nursing care required for storing dental prostheses in the hospitalized elderly.

Methods: This was a descriptive and qualitative research. Data were collected from September to October of 2018, through interviews with 35 professionals who comprised the intensive care unit nursing team and the hospital ward of a university hospital in Salvador, Bahia, Brazil. The data were analyzed using the thematic content analysis technique.

Results: Disagreements regarding the care for dental prosthesis were identified, according to statements of different storage methods among the professionals, in addition to insufficient records on this kind of care. It was possible to perceive a positive aspect when there was a lack of material to protect the prosthesis, which provided an incentive to adapt the care, which allowed the reduction in lost prostheses in the hospital environment.

Conclusion: The nursing care related to dental prostheses in the hospitalized elderly showed a gap, signaling a need for greater attention with this instrument of elderly rehabilitation.

Resumo

Objetivo: Compreender como é desenvolvido o cuidado de enfermagem no acondicionamento da prótese dentária de idosos hospitalizados.

Métodos: Trata-se de uma pesquisa descritiva e qualitativa. A coleta de dados foi realizada no período de setembro a outubro de 2018, por meio de entrevistas com 35 profissionais que compunham a equipe de enfermagem dos setores da unidade de terapia intensiva e da enfermaria de um hospital universitário de Salvador, Bahia, Brasil. Os dados foram analisados por meio da técnica de Análise de Conteúdo Temática.

Resultados: Foi possível compreender que há um descompasso no cuidado com as próteses dentárias, pois houve relato de divergente formato de acondicionamento entre os profissionais e ainda insuficiente registro sobre essa assistência. Foi possível perceber um aspecto positivo quando, pela ausência de material para guarda da prótese, houve estímulo para uma adaptação ao cuidado, que permitiu a diminuição de perdas da prótese no ambiente hospitalar.

Conclusão: O cuidado da equipe de enfermagem com a prótese dentária de idosos hospitalizados apresenta lacuna, sinalizando uma necessidade de maior atenção nesse instrumento de reabilitação do idoso.

Resumen

Objetivo: comprender cómo se desarrolla el cuidado de enfermería del acondicionamiento de la prótesis dental de ancianos hospitalizados.

Métodos: se trata de una investigación descriptiva y cualitativa. La recolección de datos fue realizada en el período de septiembre a octubre de 2018, por medio de entrevistas con 35 profesionales que componían el equipo de enfermería del sector de la unidad de terapia intensiva y de la enfermería de un hospital universitario de Salvador, Bahia, Brasil. Los datos fueron analizados por medio de la técnica de análisis de contenido temático.

Resultados: fue posible comprender que hay una divergencia en el cuidado de las prótesis dentales, ya que hubo relatos de diferentes formatos de acondicionamiento entre los profesionales y aún hay insuficiente registro sobre esta atención. Se pudo percibir un aspecto positivo cuando, por falta de material para guardar la prótesis, hubo un estímulo para una adaptación del cuidado, que permitió la reducción de pérdidas de la prótesis en el ambiente hospitalario.

Conclusión: el cuidado de prótesis dentales de ancianos hospitalizados por parte del equipo de enfermería presenta un vacío, lo que indica una necesidad de mayor atención a este instrumento de rehabilitación del anciano.

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Introduction

With the aging population, oral health care of the elderly deserves consideration. According to the World Health Organization, the oral health of the elderly is neglected, which is important to healthy aging, especially in the disadvantaged, in developed and developing countries.⁽¹⁾

The dental prosthesis is a resource present among the Brazilian elderly. A study based on data from the National Oral Health Survey, which analyzed data from 7,496 elderly people, revealed that approximately $\frac{3}{4}$ of these present use and need of dental prosthesis; the country has 54% of total edentulous patients. In this context, the northeast region of the country has a higher prevalence of prosthesis use.⁽²⁾

This oral rehabilitation device requires care, as it is a risk factor for biofilm development in the oral cavity. In denture users, for example, *Candida* is the most present fungus.⁽³⁾ In addition, dentures with plaque and food debris can lead to the development of systemic disease, particularly aspiration pneumonia.⁽⁴⁾

Although consensus has not yet been reached on this issue, it is recommended that the prosthesis is not used during sleep, and that it is stored in a specific container.⁽⁵⁾ This is also a guideline in the Foundation's dental care manual,⁽⁴⁾ however there are no guidelines on the best method for storage.

Thus, this scenario needs dental care activities for the health team. Nursing, in the hospital environment, is the profession that is closest in this care, requiring involvement in its current and continuous execution. Therefore, nurses need knowledge regarding the oral health care of the elderly. However, what is observed are frailties in academic education and training programs of health institutions in regard to this care.⁽⁶⁾

Based on these considerations, this study aimed to understand the current state of nursing care related to the storage of dental prostheses for the hospitalized elderly.

Methods

This was a descriptive, qualitative research; it was part of a matrix project entitled, "Care for the elder-

ly in the hospitalization process and hospital-home transition". The study presented the following guiding question: How do you and/or your team develop oral health care for hospitalized elderly people?

The *locus* was a large public university hospital, integrated into the Unified Health System, located in the city of Salvador, Bahia, Brazil. Participants were members of the nursing team of two intensive care units (ICUs I and II) and one hospital ward, with clinical and surgical demands, who met the inclusion criteria: working in the units during the data collection period, and performing oral health interventions for hospitalized elderly people; persons with less than three months of professional activity in the units were excluded.

The study respected the ethical aspects of Resolution 466/12, and was approved by the Research Ethics Committee, with the Registration and Ethical Appraisal (CAAE) number 87976818.6.0000.5531.

The data collection was conducted from September to October of 2018, using a semi-structured interview, composed of a sociodemographic form and a questionnaire about the general oral health care of hospitalized elderly. The questions also included care of the dental prosthesis.

The individual interviews were recorded and transcribed in their entirety. To ensure confidentiality and anonymity, an identification was given by means of an acronym, consisting of the abbreviation "ICU" for intensive care unit and "INF" for infirmary, followed by "dot" and the addition of the letter "N" for nurses and "T" for nursing technicians, followed by Arabic number according to the number of the interview, for example: ICU.T1; ICU.N1; INF.T1; INF.N1.

In the loci units, 154 nursing professionals (53 nurses and 101 nursing technicians) were working during the data collection period. The collection was interrupted after reaching saturation was achieved: achieving the objectives of the study, with no new data appearing, which is the manner of defining the number of participants. Thus, 35 nursing professionals from the three units studied participated, based on the inclusion

and exclusion criteria. Within this sample, 20 were nurses and 15 were nursing technicians: approximately seven nurses and five nursing technicians per unit.

The content analysis technique was used to organize the data, favoring the construction of categories of analysis. The interviews transcripts comprised the corpus of the research, and after exhaustive reading, the categories of analysis were created, in an aprioristic manner, with a focus on the research question.

The *corpus* was used in the development of the categories, considering the completeness, homogeneity, representativeness, and pertinence of the statements in relation to the objective to be reached.⁽⁷⁾ Thus, the material was divided into register units, forming three categories of analysis. For this stratification, the only content used was that which was related to the storage of the dental prosthesis of the hospitalized elderly.

Results

The participants were predominantly female (n=27), with a mean age from 31 to 35 years (n=12), working less than two years on the unit (n=26); most of them did not have any training on oral health (n=25).

With regard to the cues related to the storage of the dental prosthesis, the categories of analysis created were: *divergences related to the storage of the dental prosthesis of the hospitalized elderly by the nursing team, adaptation in care of the dental prosthesis storage of hospitalized elderly people, and insufficient nursing records on care for the dental prosthesis.*

Divergences related to the storage of the dental prosthesis of the hospitalized elderly by the nursing team

No standardization was identified regarding the storage of the dental prosthesis device.

INF.T5: The elderly person, frequently, wraps it in gauze and keeps it inside the closet.

INF.N6: The storage is poor. I've already found dental prostheses inside a margarine container with three days' old water [...] we use a disposable cup, because we do not have another type of storage container.

ICU.T8: We improvise by wrapping in napkins, gauze, compresses, any way, what is available at the moment, and after identification, the prosthesis is returned to the family.

ICU.N12: There is no place for storage; we use disposable materials to wrap it, after it is identified, so there is no risk of someone throwing it away.

Adaptation to the care of the storage of dental prostheses of hospitalized elderly people

In the ICU-II, transparent and disposable plastic containers were used, which were available by the coordination sector, acquired with its own resources, reducing the fear of loss of the dental prostheses by nursing professionals. This report was significant in the study (n=15/35), mainly by the ICU team (n=11/19).

ICU.N15: I didn't used to leave the elderly with the dental prosthesis; because there were many losses...the elderly person wants the prosthesis because it helps them to chew the food. So the co-ordination bought some plastic boxes, and now, we put them in there.

ICU.N20: The storage in our ICU-II is in a specific transparent container, because there is risk of loss, mixing it with paper, which used to happen with a certain frequency.

ICU.T14: The storage is in a transparent disposable box [...] they use the prosthesis, and they only remove it when they are having some procedure.

ICU.T15: The dental prosthesis is stored in our ICU in a disposable container, identified and returned to the family member, it is not our responsibility, so we do not lose it.

Insufficient nursing records on the care of dental prostheses.

The record of information on the dental prosthesis in the patient chart is insufficient, restricted to the time of admission and transfer of the elderly patient to another sector, with information regarding the presence or absence of the prosthesis.

INF.N3: When the patient leaves the unit for a procedure (surgical room), we describe how it was stored; we do not make any record about care of the prosthesis.

ICU.N11: The prosthesis registration is done at admission and in the patient's history. In the daily nurse evolution, some registration can be found, but in the annotation of the technician there is no record on the prosthesis.

INF.T1: There is no record on dental hygiene, and it is rare for me to ask about the prosthesis.

ICU.T12: The use of prosthesis is not always recorded in the patient record. I think it is only described when the patient arrives on the unit, but not daily. I do not even record it daily, whether the patient uses it or not.

Discussion

The dental prosthesis is a device that needs a suitable place for storage.⁽⁸⁾ The nursing staff reports non-ideal methods of care when, for example, they state the use of gauze to wrap prosthesis, disposable cups, and other items. Using the gauze, for example, can facilitate the loss of the prosthesis, as gauze is routinely used as a body cleansing and dressing material, and is commonly placed in the hospital waste. Therefore, its use for storage is inadequate, because the dental prosthesis camouflaged in gauze has a great risk of be discarded.

It is important to emphasize that the dental prosthesis box should provide a safe method of storage, as it is common to be wrapped in tissue, and inadvertently discarded; there is also the possibility

of exchange between patients.⁽⁹⁾ According to the research participants, providing a container, as coordinated in ICU II, for storing the dental prosthesis, represented an important action, which allowed for protection of the prosthesis and facilitated its use by the elderly when necessary, also guaranteeing their autonomy.

A Brazilian study, on women with acute myocardial infarction, reported that the continuous use of dental prostheses proved to be an encouragement for the women who needed them. It was emphasized that, in general, when the patient was admitted to a coronary unit, the dental prosthesis is given to the family; however, among the study participants, the request for not doing so was identified.⁽¹⁰⁾

The quality of life of patients can be affected when they are not using their dental prostheses, compromising their eating and social interaction, to the detriment of their nutritional, psychological, and general health.⁽¹¹⁾ Enabling the use of dental prostheses in the elderly certainly influences chewing, and improves intake of the diet. It should be noted that poor hygiene of this device, often impaired during hospitalization, could interfere with the acceptance of food.

The availability of a container for storing the dental prosthesis in ICU-II, became a managerial issue, as stated by the nursing team as the fear of prosthetic loss. The decision to provide a disposable, transparent container with a lid for the dental prosthesis storage made it possible to keep it in a safe place, offering easy visualization, and access for use by the elderly patient; it also led to care to prevent its disappearance. In addition, by allowing the prosthesis to remain with the elderly patients during their hospitalization, the nursing team promoted health education actions with these patients and their families regarding care for this rehabilitation device.

In terms of the adequate storage of dental prostheses to prevent losses, a 2017 study conducted in three hospitals in English cities, concluded that it is necessary to ensure measures to reduce the losses of prostheses in this environment, as losses represented a significant financial expense of approximately £ 1 million for the British Association of Dentistry.⁽¹²⁾

The loss of the dental prosthesis is a distressing fact for the elderly, due to the difficulty of the process and the need to adapt to this device. Moreover, some patients are ashamed to say that they use and hide them, sometimes wrapping them in tissues that are accidentally discarded.⁽¹²⁾

The nursing team does not always value the identification of dental prostheses⁽¹¹⁾ and, therefore, the importance of their adequate storage. A study, published in 2015, presented a dental prosthesis case made from silicone material, with the intention of molding the prosthesis and, in this way, constructing an impression. Thus, the elderly store the prosthesis in this silicone mold, which facilitated cleaning, avoided dropping and breaking the device, and provided a good storage container, preventing losses.⁽⁹⁾

In clinical practice, dental prostheses are primarily lost in the hospital environment in which no storage container is provided. An educational intervention with the members of the ICU nursing team in Salvador, aimed at increasing knowledge and introducing improvements in their practices of prevention and monitoring of delirium in elderly patients, made available boxes and plastic bags for storing dental prostheses. This behavior contributed to good nursing practices in relation to the elderly person.⁽⁸⁾

The standardization of material for storing the prosthesis, as well as the adoption of good care practices using specific protocols, are important actions due to the aging of the population. It was perceived, in the context of this research, that better storage, using a container, provided a reduction in dental prosthesis losses in ICU-II. When it is identified that the elderly person is using a prosthesis, it is pertinent to offer containers with a lid for storage, which should be labeled, ensuring a safe place when outside the mouth of the elderly patient.⁽⁹⁾

Authors stress that it is important to remove the dental prosthesis during sleep, allowing the compressed tissues around the device to rest,⁽¹³⁾ and preventing aspiration pneumonia.⁽¹⁴⁾ Providing a container for storing the dental prosthesis also facilitates the chemical hygiene, assuring the elderly individual's oral health, and increasing the longevity of the prosthesis.

With regards to storage with the use of a chemical method for cleaning, some gaps were found, demonstrating the peculiarities of oral health care in the elderly. Given the complexity of the senile universe, it is necessary to invest in studies, aiming to standardize the care provided to this population. This study warns, for example, of the risk of inadvertent ingestion of the chemical product used in preparation of the prosthesis. This necessitates, for safety reasons, care when maintaining the prosthesis immersed in solutions, as some reports are available on elderly people who have consumed the chemical solution used to clean the prosthesis, believing that is a beverage.⁽¹⁵⁾

The purchase of disposable containers for storage in the unit, by the nursing professional, was an important action, but such responsibility must belong to the hospital institution. A study that analyzed public policies focused on oral health services in Brazil revealed that the great problem of public dental health is the lack of inputs and resources dedicated to this issue. It should be noted that, for oral health, there is no percentage of funding that is specific within the entirety of the health budget.⁽¹⁶⁾

The attempt of health professionals to solve the problem, in the absence of appropriate materials, prevents reflection by the hospital management on the possibility of acquiring materials, despite demonstrating an understanding of the importance of oral health care for the hospitalized elderly patient.

It is known that Brazil's health sector is experiencing an economic crisis, and that good results are necessary with little cost, associated to the best possible nursing intervention. This may become, for some professionals, the need to have a method for gaining respect for their profession. A study conducted in Sweden showed a different reality from that in Brazil, as intensive care nurses inspected patients' oral cavities daily, were competent in oral hygiene skills, and had access to different types of equipment and supplies to provide oral care. However, as noted in this study, the recording of these findings and these interventions were rare.⁽¹⁷⁾

An interesting aspect that could support resources to address the lack of supplies would be the

standardization of documentation regarding care for the dental prosthesis in the patient record, so that the materials needed for the oral care of the elderly would have greater visibility.

The insufficient documentation regarding the dental prosthesis was observed in the nursing professionals' statements, from comments on storage to general prosthetic care, such as cleaning, health education, and the moment when the prosthesis is being used by the elderly. In the statements, only records of the presence of dental prostheses were noted at the time of admission. In the studied sectors, the population of surgical patients is high, suggesting care for removal of the prosthesis, as the patients are usually sedated and require mechanical ventilation.⁽¹⁰⁾

The timing of the use of dental prostheses by hospitalized elderly patients should be documented in the patient records. This is an important action, because, use should be discouraged during sleep.⁽¹⁴⁾ At a minimum, the daily annotation on the use of the prosthesis is suggested, also addressing aspects regarding the form of cleaning and storage. In addition, recording health education interventions related to the use and care of this rehabilitation device is also proposed.

The record should be based on the dynamics of each type of care; unfortunately, there is a shortage of studies aimed at caring for dental prostheses,⁽⁴⁾ without consensus on the best manner of documenting in the nursing record about this aspect of care.

A study conducted in a Brazilian ICU, aimed at measuring the assessment of oral hygiene in adult patients, and identifying documentation of nursing diagnoses and interventions pertinent to oral cavity alterations, found that nurses did not record the oral cavity conditions in 100% of the charts.⁽¹⁸⁾ This same study emphasizes the importance of an assessment and detailed documentation of the condition of the oral cavity, observing institutional protocols and care, if these are being followed by the nursing team.

In this sense, the routine of documentation on the oral cavity and dental prosthesis is important, as well as investigating the time of use of

the prosthesis, and identification of any lesions, as an aid in the early diagnosis of oral cancer. A Brazilian study in Rio Grande do Norte showed the relationship between the use of dental prostheses and the appearance of oral lesions, the majority of which were due to the use of dental prosthesis for more than five years, and that there was an indication of exchanging the device. This study reaffirmed the need for assessment of the oral mucosa.⁽¹⁹⁾

Our research was conducted in a federal hospital in northeastern Brazil and, although it was performed in two settings (ICU and infirmary), it presents a limitation, which prevents the generalization of these findings. This highlights the need to incorporate spaces for reflection among professionals about interventions that respect the needs and individuality of the senile universe with regard to oral health.

Conclusion

The lack of care by the nursing team for the dental prostheses of hospitalized elderly patients was evidenced by the divergent storage methods, lack of materials to safeguard the prosthesis, and insufficient nursing documentation, which were obstacles to guaranteeing the oral health of the hospitalized elderly patient. This research enables reflections that inspire the need for further studies, aiming at a consensus on nursing care for hospitalized patients with dental prostheses.

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Collaborations

Fonseca EOS, Pedreira LC, Gomes NP, Amaral JB, Virgens IR and Santos FC declare that they contrib-

uted to the design of the study, analysis and interpretation of the data, essay writing, critical review of the intellectual content, and approval of the final version to be published.

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