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INTEGRATIVE LITERATURE REVIEW *DOI: 10.9789/2175-5361.rpcfo.v17.13795*

BRAZILIAN TRENDS IN ORAL HEALTH CARE FOR ADULT PATIENTS HOSPITALIZED IN A HOSPITAL CONTEXT

Tendências brasileiras sobre cuidados de saúde bucal para pacientes adultos internados em contexto hospitalar

Tendencias brasileñas en el cuidado de la salud bucal de pacientes adultos hospitalizados en el contexto hospitalario

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RESUMO

Objetivo: analisar as tendências brasileiras acerca dos cuidados de saúde bucal desenvolvidos com pacientes adultos internados em hospitais. **Método:** foi realizada uma Revisão Narrativa da Literatura, utilizando dados do Catálogo de Teses e Dissertações da CAPES, com seleção de 12 estudos após triagem de 317 registros iniciais. Procedeu-se com análise descritiva e narrativa. **Resultados:** a maior parcela das pesquisas foi realizada na região Sudeste (50%), com predomínio de metodologias experimentais e quase-experimentais (63,7%). Identificou-se que pacientes internados, sobretudo em Unidades de Terapia Intensiva (UTIs), apresentavam condições bucais adversas, como gengivite e raízes residuais. A padronização de protocolos para higiene bucal, especialmente com o uso de clorexidina 0,12%, mostrou benefícios na redução de infecções. **Conclusão:** a realização de cuidados bucais com pacientes assistidos em ambientes hospitalares são cruciais para minimizar complicações sistêmicas e melhorar a qualidade do atendimento, principalmente em ambientes de terapia intensiva.

DRESCRITORES: Saúde bucal; Boca; Cuidados de enfermagem; Assistência hospitalar.

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ABSTRACT

Objective: to analyze Brazilian trends regarding oral health care developed with adult patients admitted to hospitals. **Method:** a Narrative Literature Review was carried out, using data from the CAPES Theses and Dissertations Catalog, selecting 12 studies after screening 317 initial records. Descriptive and narrative analysis was carried out. **Results:** the largest portion of research was carried out in the Southeast region (50%), with a predominance of experimental and quasi-experimental methodologies (63.7%). It was identified that hospitalized patients, especially in Intensive Care Units (ICUs), had adverse oral conditions, such as gingivitis and residual roots. The standardization of oral hygiene protocols, especially with the use of 0.12% chlorhexidine, has shown benefits in reducing infections. **Conclusion:** providing oral care to patients treated in hospital environments is crucial to minimize systemic complications and improve the quality of care, especially in intensive care environments.

DESCRIPTORS: Oral Health; Mouth; Nursing Care; Hospital Care.

RESUMEN

Objetivo: analizar las tendencias brasileñas en materia de atención a la salud bucal desarrolladas con pacientes adultos ingresados en hospitales. **Método:** se realizó una Revisión de la Literatura Narrativa, utilizando datos del Catálogo de Tesis y Disertaciones de la CAPES, seleccionando 12 estudios después de cribar 317 registros iniciales. Se realizó análisis descriptivo y narrativo. **Resultados:** la mayor parte de las investigaciones fue realizada en la región Sudeste (50%), con predominio de metodologías experimentales y cuasiexperimentales (63,7%). Se identificó que los pacientes hospitalizados, especialmente en Unidades de Cuidados Intensivos (UCI), presentaban condiciones bucales adversas, como gingivitis y raíces residuales. La estandarización de los protocolos de higiene bucal, especialmente con el uso de clorhexidina al 0,12%, ha mostrado beneficios en la reducción de infecciones. **Conclusión:** brindar cuidado bucal a pacientes tratados en ambientes hospitalarios es crucial para minimizar las complicaciones sistémicas y mejorar la calidad de la atención, especialmente en ambientes de cuidados intensivos.

DESCRIPTORES: Salud Bucal; Boca; Atención de Enfermería; Atención Hospitalaria.

INTRODUCTION

The oral cavity is a large depository of bacteria and fungi, which can commonly enter the bloodstream and complicate the patient's general health.[1] Studies indicate the existence of oral pathogens in the respiratory tract, mainly related to inadequate hygiene.[2-4] In this perspective, the condition of oral hygiene significantly interferes with the patient's general health, especially when they are in intensive care.[5]

In hospital units, patients require comprehensive care, such as maintaining their oral hygiene habits, especially when they are sedated and totally dependent on care, reinforcing the need for qualified care.[6] Neglect of this practice is related to longer hospital stays and an increase in infections in the oral cavity.[7-8]

Nurses are responsible for supervising oral hygiene care, and it is up to the nursing team to carry out these practices and maintain the patient's health.[9] In addition, nurses are responsible for instructing their team, with an emphasis on methods, care plans, and the importance of oral hygiene practice.[10-11] To ensure that this care is adequate, it is essential to develop training and qualification with specific techniques, with a view to maintaining patient health.

Infections such as caries, periodontal and pulp diseases can spread to the deep tissues of the face, oral cavity, head and neck. This spread can compromise the airways and lead to severe complications, especially in individuals with chronic immunosuppressive diseases.[12] On the other hand, when oral health is properly and effectively maintained, the risk associated with biofilm and oral diseases is reduced, contributing to a more efficient patient recovery.[13]

In this context, a study of Brazilian trends on the subject was carried out, using a narrative approach.[14] This is fundamental in the construction and reflection of pertinent themes, such as oral hygiene care for dependent patients. In addition, this study will provide data on oral hygiene care provided to patients in hospital environments, which will help us to reflect on guidelines for this practice. The aim was to analyze Brazilian trends in oral health care for adult patients in hospital settings.

METHOD

This is a Narrative Literature Review (NLR), which offers a comprehensive description of the development of a given topic,

in an agile and non-systematic way. In this way, it facilitates updating on the subject.[14]

The delimitation of the review question was based on the PCC (Population - Concept - Context) mnemonic. The following aspects were taken into account: P = adult patients; C = oral hygiene practices and care; C = hospital environments. Based on this, the review question was developed: what are the trends in Brazilian theses and dissertations on oral health practices and care developed with adult patients admitted to hospital?

The studies were accessed via a search in the CAPES Catalog of Theses and Dissertations, using keywords, resulting in the following strategy: "oral health" OR "oral health" OR "oral hygiene" AND "hospital" OR "hospital context" OR "hospitals". No filters were used. The screening and selection period was from May to June 2024.

We included dissertations and theses from Brazilian postgraduate programs, with research that addressed oral health practices and care for adult patients in hospital environments. Productions with unavailable or incomplete abstracts were disregarded.

A single reviewer with a degree in dentistry screened and selected the studies. Phase 1 of the selection took place by reading the titles and phase 2 by accessing the abstracts of the theses and dissertations (when necessary, the productions were also accessed in full). Any doubts were discussed with the supervisor.

Information was collected on the publication data, area of knowledge concentration, line of research and academic level of the authors. In addition, the methodological approach and design, the instruments used, the total number of participants and the main results and conclusions on oral hygiene care with adult patients were sought. The information was extracted using tables prepared in Word®.

The results were analyzed in a narrative and descriptive way, using charts and tables to facilitate understanding. Absolute and relative frequencies were also used. The information published by the authors in their studies was faithfully reproduced. The studies were coded with the letter "E" followed by numerals.

RESULTS

A total of 317 references were obtained, with no duplicate records. Of these, 295 did not meet the selection criteria, leaving 22 productions. Five studies were then excluded as they were not available in full. The titles and abstracts were then read, resulting in the exclusion of another five studies (they did not answer the review question). In the end, 12 studies made up the corpus of the narrative.

Figure 1 - Flowchart for selecting scientific productions for the review adapted from PRISMA[15]

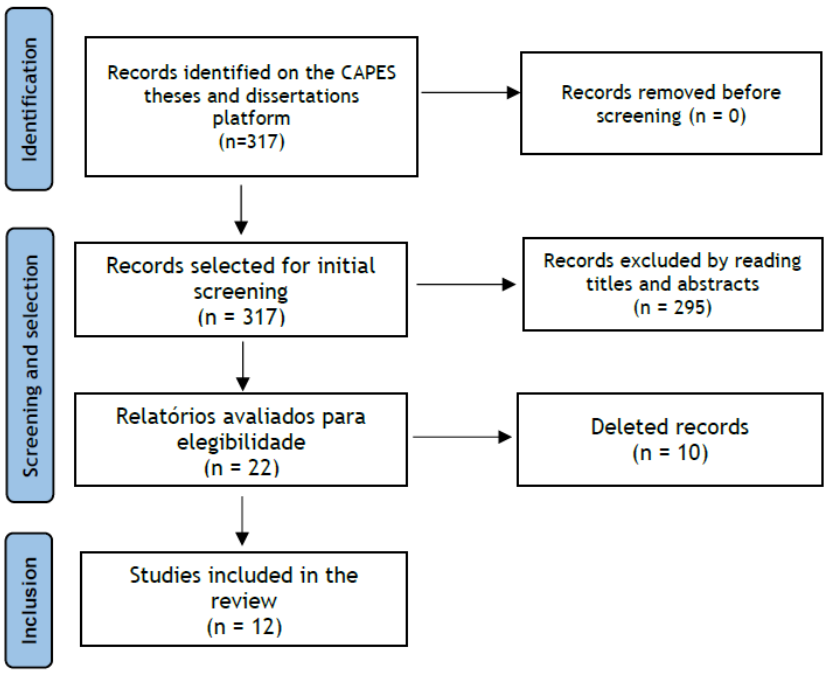

Table 1 shows information on the productions selected for this review.

Table 1 - Characteristics of Brazilian theses and dissertations on oral hygiene care for adult patients in a hospital environment

Variables		Number of Studies (n)	Percentage (%)
Year of Defense	2009	01	8,3
	2012	02	16,7
	2013	01	8,3
	2014	02	16,7
	2016	03	25,1
	2018	01	8,3
	2020	01	8,3
	2022	01	8,3
Postgraduate	Master's Degree	10	83,3
	Doctorate	02	16,7
Study design	Experimental Studies/ Almost experimental	07	58,3
	Observational studies	03	25,0
	Review studies	02	16,7
Geographical region	North East	02	16,7
	North	02	16,7
	South East	06	50,0
	South	02	16,7

Table 1 shows the other characteristics of the investigations analyzed.

Chart 1 - Characteristics of Brazilian theses and dissertations on oral health care for hospitalized patient

Code	Identification of studies	Methodological c haracteristics	Population/ Scenario	Main results
E1 MUSSOLIN, (2022)[16]	- Area: oral health - Master's Degree in Health Sciences - University of São Paulo, Ribeirão Preto.	- The study involved an initial dental assessment in the first 48 hours of hospitalization. Patients underwent a protocol that included treatment of oral conditions identified as a source of infection, oral hygiene performed by the nursing team, and dental follow-up throughout hospitalization.	- 354 adult patients. - Intensive Care Units (ICU) of a University Hospital.	- 40% of patients had dental pathologies on admission. Edentulous patients had fewer respiratory complications and less need for antimicrobials. Inadequate oral health on admission to the ICU was associated with worse clinical outcomes.

Code	Identification of studies	Methodological c haracteristics	Population/ Scenario	Main results
E2 BERGAN (2012)[17]	- Area: cardiology - Master's degree in health sciences - University: Oswaldo Cruz Foundation.	- This study used an oral hygiene protocol, including the use of 0.12% chlorhexidine, tooth brushing and tongue and denture hygiene. Patients were followed up preoperatively and postoperatively, with data collected on oral hygiene, incidence of ventilator-associated pneumonia (VAP), and analysis of associated risk variables. Statistical analysis was used to assess the impact of the intervention protocol	- 226 adult patients in the preoperative period for heart disease; in the preoperative period for coronary artery bypass grafting (CABG) and valve surgery (VS). - Public hospital for heart patients.	The intervention reduced the rate of postoperative pneumonia from 61 to 28 pneumonias/1000 days of mechanical ventilation. The presence of plaque on the tongue, poor hygiene of dental prostheses and mechanical ventilation were significant risk factors for pneumonia. The use of 0.12% chlorhexidine was effective in reducing the incidence of postoperative pneumonia.
E3 CAPUCHO, (2018)[18]	- Area: Microbiology and Oral Health. - Professional Master's Degree in Health Sciences - Federal University of Roraima.	- Collection of oral biofilm samples from 51 critically ill patients (116 oral biofilm samples). - Phenotypic and genotypic analysis of the samples using VITEK®2 Compact and Polymerase Chain Reaction (PCR) to identify the CTX, TEM and SHV genes.	- 51 patients over the age of 18 in critical condition. - ICU of the General Hospital of Roraima.	The samples showed that 68.97% of the bacteria were Gram-negative. The Extended Spectrum Beta-lactamase (ESBL) genes CTX-M were detected in 85.71% of the cases, TEM in 64.28% and SHV in 17.85%. The most frequent bacteria were A. baumannii and P. aeruginosa (17.86% each). Proper oral hygiene was suggested to reduce the spread of ESBL bacteria.
E4 DONDA (2020)[19]	- Area: Public Health and Hospital Dentistry. - Professional Master's Degree in Innovation in Higher Education in Health - Municipal University of São Caetano do Sul.	- Systematic review with search in scientific data sources (BVS, PubMed, Scielo); qualitative analysis	- Not applicable.	A lack of implementation of effective oral hygiene protocols in the hospital environment was identified, which contributes to an increase in systemic infections such as VAP. Updating and standardizing oral hygiene practices was recommended to improve clinical outcomes, especially in small centers in peripheral regions.
E5 VIEIRA (2009)[20]	Area: Epidemiology and Intensive Care - PhD in Epidemiology - Federal University of Rio Grande do Sul.	- Study with historical controls and prospective cohort study. Analysis of adherence to preventive measures and impact on the occurrence of VAP, with 5,781 observations made.	- 541 adult patients on mechanical ventilation for more than 48 hours. - Clinical and surgical intensive care center.	The VAP rate was reduced by 28.7% after the prevention protocol was implemented. Adequate adherence to prevention measures showed a reduction in the occurrence of VAP by 61% for respiratory physiotherapy and 43% for head elevation. The combination of oral hygiene and balloon pressure monitoring was essential in prevention, with a reduction of up to 58% in cases.

Code	Identification of studies	Methodological c haracteristics	Population/ Scenario	Main results
E6 COELHO (2012)[21]	- Area: Nursing and Prevention of Hospital Infections. - Master's Degree in Nursing. - University of Southern Santa Catarina.	- A questionnaire was applied based on the Likert scale, used to measure nurses' perceptions and knowledge of VAP prevention, classifying it as insufficient, satisfactory, good and excellent, allowing for qualitative and quantitative analysis.	- 55 nursing professionals. - ICU at the Polydoro Ernani de São Thiago University Hospital.	Professionals' knowledge was classified as good (69.1%) and satisfactory (30.9%). The areas with the least knowledge included enteral nutrition, cuff pressure and tracheostomy.
E7 FÉLIX (2016)[22]	- Area: Dentistry and Intensive Care - Master's Degree in Dentistry - Federal University of Ceará.	- Study comparing the efficacy of oral hygiene with gauze soaked in 0.12% chlorhexidine versus a manual toothbrush soaked in the same solution. Evaluation of primary and secondary outcomes, including presence of VAP and oral health.	- 58 ICU patients. - ICU at the Dr. Waldemar Alcântara General Hospital.	The two techniques showed a low incidence of VAP, with no statistically significant difference. In the second evaluation, the group that used the toothbrush had a lower rate of visible plaque compared to the gauze group. K. pneumoniae and P. aeruginosa were the most frequently isolated bacterial species.
E8 VIDAL (2014)[23]	- Area: Oral Health and Intensive Care - PhD in Tropical Medicine - Federal University of Pernambuco.	- Study comparing oral hygiene with 0.12% chlorhexidine and tooth brushing versus 0.12% chlorhexidine without tooth brushing, with analysis of the outcomes of incidence of VAP, duration of mechanical ventilation, length of hospital stay and mortality.	- 213 adult patients. - Clinical, surgical and cardiology ICUs in four hospitals in Recife.	Tooth brushing with 0.12% chlorhexidine gel reduced the incidence of VAP compared to the use of chlorhexidine solution without brushing, without significance ($p = 0.084$). There was a significant reduction in mean mechanical ventilation time ($p = 0.018$) in the intervention group. Mortality was higher in the control group, with no statistically significant difference.
E9 RABELLO (2016)[24]	- Area: Dentistry. -Professional Master's Degree - Federal University of Minas Gerais.	- Scientific technical opinion based on a literature review, including 16 systematic reviews (14 with meta-analysis) to evaluate the efficacy of chlorhexidine in preventing nosocomial pneumonia and ventilator-associated pneumonia in ICUs.	- Not applicable.	Chlorhexidine 0.12% has been shown to be effective in preventing nosocomial pneumonia in elective cardiac surgery patients, but its effectiveness has been controversial in ICUs with varied clinical and surgical populations. Chlorhexidine is recommended as a therapeutic option due to its low cost and good antibacterial properties.
E10 MATTJE (2016)[25]	- Area: Health Promotion and Intensive Care - Master's Degree in Health Promotion. - University of Santa Cruz do Sul.	- This study collected data from medical records and blood samples from patients admitted to the Intensive Care Unit (ICU) between January and June 2016. Analysis of DNA damage using the comet assay and C-reactive protein (CRP). Comparison between patients who did and did not develop pneumonia.	- 179 ICU patients. - Bruno Born Hospital, Santa Cruz do Sul.	Nosocomial pneumonia was more prevalent among patients with worse oral hygiene. There was no significant association between CRP levels and the SAPS 3 score. Genomic stability was compromised after 72 hours of hospitalization.

Code	Identification of studies	Methodological c haracteristics	Population/ Scenario	Main results
E11 MEINBERG (2013)[26]	- Area: Medicine and Related Sciences - Master's Degree in Health Sciences. - São José do Rio Preto Medical School.	- Prospective pilot study with patients on prolonged mechanical ventilation. Comparison between the use of 2% chlorhexidine gel and mechanical brushing versus placebo, evaluating the incidence of VAP and associated clinical outcomes.	- 52 patients admitted to the Intensive Care Unit. - ICU of the Hospital de Base of the Faculty of Medicine of São José do Rio Preto.	The rate of VAP was 45.8% in the placebo group and 64.3% in the chlorhexidine/mechanical brushing group, with no statistically significant difference. The study was stopped early due to the lack of efficacy observed.
E12 HIRATA (2014)[27]	- Area: Medical Sciences and Intensive Care - Master's Degree in Medical Sciences - Rio de Janeiro State University.	- A study with intubated patients, evaluating the impact of an oral hygiene protocol with 0.12% chlorhexidine on the incidence of VAP and analysis of the oral microbiota before and after application of the protocol. Microbiological analysis was carried out using PCR (quantitative Polymerase Chain Reaction) and DGGE (Denaturing Gradient Gel Electrophoresis).	- 20 patients on mechanical ventilation - ICU Hospital Central da Aeronáutica (HCA).	The oral hygiene protocol with 0.12% chlorhexidine reduced the incidence of VAP ($p < 0.05$). Despite the reduction in microbial load, colonization of the oral mucosa by hospital pathogens persisted in some cases. The protocol was well accepted by the ICU team, with perceived improvements in patients' oral health and in the ICU environment.

DISCUSSION

Through this narrative, it was possible to identify trends in Brazilian theses and dissertations on oral health care for adult patients admitted to hospital. Above all, there was a plurality of approaches to oral hygiene, especially oral hygiene with 0.12% chlorhexidine.

The characteristics of the productions in the area revealed that most of them belonged to the master's degree level and were carried out in the Southeast region. This is in line with the greater concentration of postgraduate programs and research centers in this region.[28] This centralization reflects the inequality in the distribution of academic resources in Brazil, which highlights the need to encourage scientific production in other regions.

As for the methodological design of the research, experimental/quasi-experimental designs stood out. This predominance highlights the methodological rigor in evaluating interventions, such as the use of 0.12% chlorhexidine to prevent VAP. These methods are fundamental for establishing cause and effect relationships, providing robust evidence to support the implementation of protocols based on consistent results. However, limitations such as controlling for external variables and generalizing the findings to different hospital settings deserve attention.[29]

With regard to oral health care in hospital environments, the data revealed the need to implement oral hygiene protocols, especially with the use of 0.12% chlorhexidine. The main benefits include reducing the incidence of VAP, especially for ICU patients. Everyone emphasizes the need for oral hygiene, especially in sedated patients.

From this perspective, the implementation of oral hygiene bundles, together with interventions based on scientific evidence, can be an effective strategy for controlling hospital-acquired infections. These practices, when implemented correctly, play a fundamental role in preventing infections and promoting patient well-being. The application of bundles results in the optimization of clinical and care processes, which translates into an improvement in the overall quality of care provided.[7-8]

Carrying out oral hygiene care for ICU patients on mechanical ventilation is a major challenge for nursing professionals and is often seen as a complex task. The most commonly used protocol involves the removal of biofilm, daily flossing and the application of 0.12% chlorhexidine.

However, its implementation faces obstacles, highlighting the importance of discussing and improving these practices in the hospital environment.[30]

It is pertinent to discuss the use of 0.12% chlorhexidine, a substance widely recognized as an essential tool in the oral care of hospitalized patients. Studies show that its regular application significantly reduces the formation of biofilm and the proliferation of pathogenic microorganisms, reducing the incidence of complications.[24,27] Despite its advantages, its prolonged use can cause mild side effects, such as dental pigmentation and altered taste, requiring a careful approach to minimize possible discomfort.[24]

Studies have shown that the use of chlorhexidine solutions in oral hygiene protocols significantly reduces the aspiration of microorganisms and the incidence of nosocomial infections, contributing to the safety of critically ill patients.[31-33] The implementation of protocols that integrate 0.12% chlorhexidine is essential to promote better clinical outcomes and safety in the care of critically ill patients.

Research has shown the need for constant supervision and good oral hygiene practice, and for this process to be carried out by a trained team, so that their actions can effectively reduce lung colonization by microorganisms from the oral microbiota.[29] In this context, the inclusion of the dental surgeon in the multidisciplinary team is essential to contribute to the well-being of hospitalized patients.

To this end, the creation of a multiprofessional team in hospital dentistry goes beyond oral care, promoting a general approach to the patient's health conditions and also improving the quality of care. It is also recommended to investigate patients' perceptions and assess the economic impact of this integration in order to reduce the costs of health complications in hospital environments.[34]

In order to contribute to the field, it is considered essential to discuss the current scenario, especially with regard to the main limitations surrounding the inclusion of the dental surgeon in the multidisciplinary team. With regard to the implementation of effective oral hygiene protocols, there are still significant challenges in the Brazilian hospital setting, mainly due to the lack of standardization of conduct and the need for constant training of health professionals.

Although this study provides results on oral health care developed with hospitalized patients, one limitation relates to the fact that the selection of studies was not carried out in a double-independent manner. In addition, some studies were not available in their entirety.

CONCLUSION

Brazilian trends in oral health care for hospitalized patients reveal a predominance of master's degree studies, conducted in the Southeast, using experimental approaches. As for oral health care, the need to implement oral hygiene protocols was revealed, especially with the use of 0.12% chlorhexidine. Some studies suggest the use of brushes for hygiene. Further research is recommended, especially in peripheral regions, in order to better understand and expand oral hygiene practices.

REFERENCES

1. Silva SPO, Santos RF, Morais AD. Role of the dental surgeon in oral health care in hospitalized and care-dependent patients: literature review. Facit Business and Technology Journal. [internet]. 2022 [cited 2024 nov 20];2(39). Available from: https://revistas.faculdadefacit.edu.br/index.php/JNT/article/view/1836/1245.

2. Hata R, Noguchi S, Kawanami T, Yamasaki K, Akata K, Ikegami H, et al. Poor oral hygiene is associated with the detection of obligate anaerobes in pneumonia. Journal of Periodontoogy. [internet]. 2019 [cited 2024 nov 20];91(1). Available from: https://doi.org/10.1002/JPER.19-0043.

3. Miranda AF, Félix RA, Sá, JCR, Oliveira MLC. Systemic and oral health status of older adult inpatients in an intensive care unit. Geriatric, Gerontology and Aging. [internet]. 2023 [cited 2024 nov 20];17(1). Available from: https://doi.org/10.53886/gga.e0230014.

4. Motta ACF, Innocentini LMA, Macedo LD. Manejo Odontológico de Pacientes com Comprometimento Sistêmico. São Paulo: Napoleão; 2024.

5. Barros JBS, Gomes IR, Silva JC, Reis KD, Silva LC, Prado SV et al. Atuação do cirurgião dentista na diminuição de casos de Pneumonia Nosocomial. RECIMA21. [internet]. 2021 [cited 2024 nov 20];2(7):e27565. Disponível em: https://doi.org/10.47820/recima21.v2i7.565.

6. Vargas MAO et al. Unidade de Terapia Intensiva: Aspectos Históricos e Conceituais. In: Bitencourt JVOV, Adamy EK, Argenta C. (Eds.). Processo de enfermagem: da teoria à prática em cuidados intensivos. 1. ed. Chapecó: Ed. UFFS, 2022. v. 2p. 34–47.

7. De Luca FA. Procedimento Operacional Padrão (POP) de higiene bucal na prevenção de pneumonia associada à ventilação mecânica-PAVM, em Unidade de Terapia Intensiva: Estudo não randomizado, aberto, com avaliador cego. [mestrado em pesquisa clínica]. Botucatu (Brasil): Universidade Estadual Paulista, 2019.

8. Cabral BG, Matos ECO, Santana ME, Júnior ACF. Cuidados preventivos para pneumonia associada à ventilação mecânica: revisão integrativa. Revista Enfermagem Atual In Derme. [internet]. 2020 [acesso em 20 de novembro 2024];91(29). Disponível em: https://doi.org/10.31011/reaid-2020-v.91-n.29-art.542.

9. Quadros CTP, Silva MCV, Carvalho MF, Silva MES, Meireles IB, Silva CRL et al. Importância dos cuidados de higiene oral realizados em pacientes intubados no centro de terapia intensiva. Saúde Coletiva. [internet]. 2019 [acesso em 20 de novembro 2024];51:1933-1938. Disponível em: https://doi.org/10.36489/saudecoletiva.2019v9i51p1933-1938.

10. Jesus TM, Pimenta GF, Oliveira LP, Marins NCS, Oliveira MT. A importância da higiene oral em pacientes com ventilação mecânica. Revista Enfermagem Atual In Derme. [internet]. 2019 [acesso em 20 de novembro 2024];87(25). Disponível em: https://doi.org/10.31011/reaid-2019-v.87-n.especial-art.175.

11. Magalhães KRA, Hilário JS, Basílio JAD. The training of nurses in oral hygiene of patients in intensive careunit: integrative review. Brazilian Journal of Health Review [internet]. 2022 [cited 2024 nov 20];5(3). Available from: https://doi.org/10.34119/bjhrv5n3-154.

12. Jevon P, Abdelrahman A, Pigadas N. Management of odontogenic infections and sepsis: an update. British Dental Journal. [internet]. 2020 [cited 20 nov 2024];229(6). Available from: https://doi.org/10.1038/s41415-020-2114-5.

13. Santana R dos S, Vita W dos S. Condição de saúde bucal de pacientes internados em um hospital público brasileiro. Revista Baiana de Saúde Pública. [internet]. 2024 [acesso em 20 de novembro 2024];48(1). Disponível em: https://doi.org/10.22278/2318-2660.2024.v48.n1.a4072.

14. Cavalcante TG, Oliveira DC. Methods of bibliographic review in scientific studies. Educação em Perspectiva. [Internet]. 2021 [cited 20 nov 2024];11(3). Available from: https://doi.org/10.5752/P.1678-9563.2020v26n1p82-100.

15. Page MJ, Mckenzie JE, Bossuyt PM, Boutron I, Hoffman TC, Mulrow CD, Shamseer L et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ [internet]. 2021 [cited 20 nov 2024];372(71). Available from: https://doi.org/10.1136/bmj.n71.

16. Mussolin MG. Avaliação da condição de saúde bucal de pacientes internados nas unidades de terapia intensiva de um hospital universitário. [Mestrado em Ciências]. Ribeirão Preto (Brasil). Faculdade de Medicina de Ribeirão Preto; 2022.

17. Bergan EH. Impacto da higiene bucal em pacientes coronariopatas e valvulopatas submetidos à cirurgia cardíaca no Instituto Nacional de Cardiologia. [Mestrado em Pesquisa Clínica em Cardiologia e Infecções]. Rio de Janeiro (Brasil). Instituto de Pesquisa Clínica Evandro Chagas; 2012.

18. Caputo DB. Caracterização do perfil genético de bactérias produtoras de beta-lactamases de espectro estendido (ESBL) na cavidade oral de pacientes internados em unidade de terapia intensiva de um hospital de referência no estado de Roraima. [Mestrado Profissional em Ciências da Saúde]. Boa Vista (Brasil). Universidade Federal de Roraima; 2018.

19. Donda TR, Achar E. Revisão sistemática da influência da higiene oral sobre as infecções sistêmicas dentro da unidade de terapia intensiva: proposta de atualização para os profissionais de saúde do Hospital Municipal de Diadema. [Mestrado Profissional em Inovação do Ensino Superior em Saúde]. São Caetano do Sul (Brasil). Universidade Municipal de São Caetano do Sul; 2020.

20. Vieira DFVB. Implantação de protocolo de prevenção da pneumonia associada à ventilação mecânica: impacto do cuidado não farmacológico. [Doutorado em Epidemiologia]. Porto Alegre (Brasil). Universidade Federal do Rio Grande do Sul; 2009.

21. Coelho VIM. Conhecimento dos profissionais de enfermagem sobre a prevenção da pneumonia associada à ventilação mecânica na unidade de terapia intensiva. [Mestrado em Ciência da Saúde]. Tubarão (Brasil). Universidade do Sul de Santa Catarina; 2012.

22. Félix LC. Avaliação do impacto de dois diferentes métodos de higiene oral com clorexidina na prevenção de pneumonia associada à ventilação mecânica. [Mestrado em Odontologia. Fortaleza (Brasil). Universidade Federal do Ceará; 2016.

23. Vidal CF de L. Impacto da Higiene Oral com clorexidina com e sem escovação dental na Prevenção da Pneumonia associada à Ventilação Mecânica: Estudo Randomizado. [Doutorado em Medicina Tropical]. Recife (Brasil). Universidade Federal de Pernambuco; 2014.

24. Rabello F. Efetividade da clorexidina na prevenção de pneumonia nosocomial em unidades de terapia intensiva: overview. [Mestrado Profissional em Odontologia em Saúde]. Belo Horizonte (Brasil). Universidade Federal de Minas Gerais; 2016.

25. Mattje AV. Pneumonia nosocomial em pacientes críticos submetidos à higiene oral de rotina: perfil epidemiológico, escore de gravidade e nível de estabilidade genômica. [Mestrado em Promoção da Saúde]. Santa Cruz do Sul (Brasil). Universidade de Santa Cruz do Sul; 2016.

26. Meinberg MC de A. Uso de clorexidina 2% gel e escovação na higiene bucal de pacientes sob ventilação mecânica: efeitos na pneumonia associada a ventilador. [Mestrado em

Ciências da Saúde]. São José do Rio Preto (Brasil). Faculdade de Medicina de São José do Rio Preto; 2013.

27. Hirata MB. Eficácia de um protocolo de higiene bucal com utilização de solução de clorexidina a 0,12% na prevenção de pneumonias associadas à ventilação mecânica (PAVM) e os efeitos sobre a microbiota da mucosa bucal de pacientes internados em unidades de terapia intensiva. [Mestrado em Ciências Médicas] Rio de Janeiro (Brasil). Universidade do Estado do Rio de Janeiro; 2014.

28. Plataforma Lattes. Conselho Nacional de Desenvolvimento Científico e tecnológico - CNPq. [acesso em 05 de fevereiro 2025]. Disponível em: http://lattes.cnpq.br/.

29. Almeida HLB, Bittencourt AA, Soares A de S, Caires NCM. Perfil de saúde bucal de pacientes internados em uma UTI pública em Manaus/AM. Research, Society and Development. [Internet]. 2021 [acesso em 20 de novembro 2024];10(8):e1010817020. Disponível em: http://dx.doi.org/10.33448/rsd-v10i8.17020.

30. Souza SCS, Martins SCV, Miguel SM, Rodrigues LV, Vale MCS, Seroli W. Qual a importância da odontologia hospitalar para o paciente internado em UTI? E-Acadêmica. [internet]. 2022 [acesso em 20 de novembro 2024];3(3):e0933277. Disponível em: https://doi.org/10.52076/eacad-v3i3.277.

31. Hua F, Xie H, Worthington HV, Furness S, Zhang Q, Li C. Oral hygiene care for critically ill patients to prevent ventilator-associated pneumonia. Cochrane Database of Systematic Reviews. [Internet]. 2024 [cited 2024 dec 01];12. Available from: https://doi.org/10.1002/14651858.CD008367.pub3.

32. Collard HR, Chin DP, Moore M, Herridge MS. Efficacy of chlorhexidine for the prevention of ventilator-associated pneumonia in critically ill patients: A systematic review and meta-analysis. Critical Care Medicine. [Internet]. 2020 [cited 2021 dec 01];48(7). Available from: https://doi.org/10.1097/CCM.0000000000004334.

33. Lima AM, Silva TP, Ferreira CA. Chlorhexidine in intensive care units: mechanisms of action and clinical applications in preventing nosocomial infections. Journal of Hospital Infection. [internet]. 2020 [cited 2024 dec 01];104(3). Available from: https://doi.org/10.1016/j.jhin.2020.01.014.

34. Sales MMP, Alves JCMM, Guimarães GVM, Torres PHA. A relevância da odontologia hospitalar para os pacientes do Hospital Municipal de Sete Lagoas/MG. FACSETE Health Sciences. [internet]. 2022 [cited 2024 dec 01];1(1). Disponível em: https://facsete.com.br/revista/index.php/FACSETEHealthSciences/article/view/9.