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Oral hygiene: performance of the nursing team in a hospital environment

Higiene oral: atuação da equipa de enfermagem em ambiente hospitalar

Higiene oral: la actuación del equipo de enfermería en el entorno hospitalario


Adilson Carlos da Silva Junior¹

 <https://orcid.org/0000-0003-4631-9386>


Itamar Paulo Xavier¹

 <https://orcid.org/0000-0003-2894-6546>


Laura Menezes Silveira²

 <https://orcid.org/0000-0002-2397-2553>


Angelita Maria Stabile²

 <https://orcid.org/0000-0002-3371-7038>

Evelin Capellari Cárnio²

 <https://orcid.org/0000-0002-8735-4252>

Josiane Lima de Gusmão¹

 <https://orcid.org/0000-0002-3132-1291>

André Luiz Thomaz de Souza¹

 <https://orcid.org/0000-0001-5158-9247>

¹ University Center of Vale do Ribeira, São Paulo, Brazil

² Nursing School of Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil

Corresponding author:

André Luiz Thomaz de Souza

Email: alfenas2@hotmail.com

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Abstract

Background: Oral hygiene is essential in nursing care. It helps in the prevention of oral and systemic diseases.

Objective: To identify the performance of the nursing team in oral hygiene in a hospital environment. **Methodology:** Exploratory, descriptive, cross-sectional study with a quantitative approach carried out with nursing professionals who work in the hospital environment. A questionnaire was applied to participants about their sociodemographic and professional characteristics and the performance of oral hygiene.

Results: A total of 114 nursing professionals participated in this study. Of these, 75.4% of participants reported that they had not performed oral hygiene in the last shift, and 44.7% of the team members suggested that the patient should do so. Work overload and high patient turnover were mentioned as constraints to the performance of oral care.

Conclusion: The nursing staff perceives oral hygiene as a part of essential patient care; however, oral hygiene practice has been neglected. This study points to the need to provide continuing education activities on this type of care in the hospital environment.

Keywords: oral hygiene; nursing; nursing care; disease prevention

Resumo

Enquadramento: A higiene oral é um cuidado essencial na assistência de enfermagem. A sua realização auxilia na prevenção de doenças bucais e sistémicas.

Objetivo: Identificar a atuação da equipa de enfermagem na higiene oral em ambiente hospitalar.

Metodologia: Estudo exploratório, descritivo, transversal, de abordagem quantitativa realizado com profissionais de enfermagem, que atuam na área hospitalar. Foi aplicado um questionário contendo informações sociodemográficas, do trabalho e da atuação dos participantes na higiene oral.

Resultados: Cento e quatorze profissionais de enfermagem participaram do estudo, dentre estes, 75,4% relataram que não realizaram a higiene oral no último turno e 44,7% da equipa sugeriu que o doente o fizesse. A sobrecarga de trabalho e a alta rotatividade de doentes foram citadas como impedimentos para realização deste cuidado.

Conclusão: A equipa de enfermagem percebe a higiene oral como um cuidado essencial ao doente, contudo a atuação na prática da higiene oral tem sido negligenciada. Neste contexto, este estudo aponta para a necessidade de fornecer atividades de educação permanente sobre esse cuidado em ambiente hospitalar.

Palavras-chave: higiene bucal; enfermagem; cuidados de enfermagem; prevenção de doenças

Resumen

Marco contextual: La higiene oral es un cuidado esencial en la atención de enfermería. Su realización ayuda a la prevención de enfermedades orales y sistémicas.

Objetivo: Identificar la actuación del equipo de enfermería en la higiene bucal en un ambiente hospitalario.

Metodología: Estudio exploratorio, descriptivo, transversal y de enfoque cuantitativo realizado con profesionales de enfermería que trabajan en el área hospitalaria. Se aplicó un cuestionario que contenía información sociodemográfica sobre el trabajo y la actuación de los participantes en la higiene bucal.

Resultados: Ciento catorce profesionales de enfermería participaron en el estudio, de ellos el 75,4% informó de que no realizaron la higiene bucal en el último turno y el 44,7% del equipo sugirió que el paciente lo hiciera. La sobrecarga de trabajo y la alta rotación de pacientes se citaron como impedimentos para realizar esta atención.

Conclusión: El equipo de enfermería considera la higiene bucal como un cuidado esencial para el paciente, sin embargo, esta práctica de la higiene bucal se ha descuidado. En este contexto, el presente estudio señala la necesidad de realizar actividades de educación permanente en torno a este tipo de cuidado en un entorno hospitalario.

Palabras clave: higiene bucal; enfermería; atención de enfermería; prevención de enfermedades



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Introduction

Oral hygiene is necessary to maintain oral health. An inadequate oral care can facilitate the accumulation of plaque and formation of biofilm with pathogenic microorganisms, which in turn can promote the development of halitosis and respiratory infections such as hospital-acquired pneumonia, gingivitis, and periodontitis. Besides, it can be associated with systemic diseases like ischemic stroke, endocarditis, carotid atherosclerosis, and glycemic changes (Scannapieco & Shay, 2014).

Oral care contributes to the maintenance not only of oral health but also of the overall health of the patient. In hospital settings, this type of care can be performed by the patient, the caregiver, if the patient is disabled, or the health team in charge. The nursing team plays an important role in the oral care of the hospitalized patient, either by promoting self-care, providing instructions for it (Assis, Sousa, Turrini, Poveda, & Silva, 2018), or even performing this type of care through chemical and mechanical procedures to provide comfort to the sick person and avoid complications (Agência Nacional de Vigilância Sanitária, 2017).

It is essential, given the importance of oral health, that oral care should be recognized by the nursing team as a part of the care process and preventive measure that minimizes the aggravation of the hospitalized person's health (Buley, 2018). Therefore, in addition to the technical abilities to perform oral hygiene, the nursing team needs to know the physiology and anatomy of the mouth so as to recognize abnormalities and establish safe and effective measures.

Studies on oral care and nursing have been carried out with a greater emphasis on intensive care units (ICU), especially focusing on prevention of ventilator-associated pneumonia (VAP; Rumagihwa & Bhengu, 2019). However, it is essential to know the performance of the nursing team and the perceptions of these professionals about this practice in different care scenarios. Thus, the objective of this study was to identify the performance of the nursing team in oral hygiene in hospital settings.

Background

Hospitalized patients require nursing care according to the basic needs identified and the degree of impairment in self-care. The critically ill patients need specialized and continued care, depending on a multidisciplinary team in the rehabilitation process. In some cases, patients may need even help in performing simple everyday life activities, such as oral hygiene (Miranda, Paula, Castro Piau, Costa, & Bezerra, 2016).

Although oral care is part of the routine nursing care, publications on the topic by Brazilian nurse researchers are developing. In fact, most of the available evidence is produced by international researchers (Nogueira & Jesus, 2017). Besides, there is so far no national survey on oral care and its conditions in Brazilian hospitals, hence the need to know the different realities of the country.

The barriers contributing to the inadequacy of this type care described in the literature include lack of education, staff training, care protocols, materials, time, and staff, physical incapacity of the patient (Gibney, Wright, Sharma, & Naganathan, 2015), and the low prioritizing of this care in relation to other nursing care (Nogueira & Jesus, 2017). In addition, many nursing professionals consider oral hygiene as only a hygiene and comfort measure. They are unaware of its effect on the prevention of pneumonia and/or other systemic diseases (Rumagihwa & Bhengu, 2019).

The culture of oral health care in Brazilian hospitals is still scarce, and oral hygiene is insufficiently considered in care planning. Usually, the health professionals responsible for care delivery are unaware of the association between oral hygiene and disease prevention (Miranda et al., 2016). Within this context, the nurse plays a decisive role in the anamnesis and physical examination because the basic needs of the patient are identified in this moment. It should be highlighted that, concerning oral health, the clinical discussion with the dental surgeon can allow nurses to make a more efficient decision. As a result, the standardization of nursing care is promoted, especially in situations with the risk of complications, such as, for example, risk of bleeding in patients with thrombocytopenia (Buley, 2018).

Research question

What is the performance of the nursing team in oral hygiene in hospital settings?

Methodology

An exploratory, descriptive, cross-sectional study, with a quantitative approach, was conducted between May and August 2018 in a midsize public hospital located in Sao Paulo state, Brazil. Approval was obtained from an Ethics Committee for Research Involving Human Beings under the opinion no. 2,950,933.

The sample for this study was intentional and non-probabilistic, composed of professionals from the nursing team (nurse, technician, and nursing assistant). The inclusion criteria were to be of the nursing team, of both genders, to be involved in care or nursing service management. Excluded from the study were participants who, during the data collection, did not complete and/or return the questionnaire to researchers, professionals who were on vacation, sick leave, or maternity leave, as well as those who were not found after two attempts for data collection.

For the data collection, a questionnaire was produced based on theoretical principles available in the literature (Associação de Medicina Intensiva Brasileira, 2014; Agência Nacional de Vigilância Sanitária, 2017). The questionnaire included 32 objective questions related to sociodemographic characteristics (gender, marital status, age); work (sector and working shift, training time, time

of professional experience, existence of another type of work contract); and performance of the nursing team in oral hygiene.

The research forms were submitted to a refining process with the purpose of assessing if the items represented the overall content, if they allowed achieving the proposed objectives, and if they were clear and objective. This refinement was performed by three nurses who were experts in this area. Afterward, a pilot test was conducted with professionals who were not part of the final study sample.

The estimated time for completion of the questionnaire was approximately 10 minutes for each participant, and its implementation occurred according to the work shifts of the nursing team, as well as the availability of each participant. Afterward, the questionnaires were collected, and the anonymity of the participants was preserved.

The data were subject to descriptive analysis using IBM SPSS Statistics software, version 20.0. The results are presented by means of absolute and relative frequency, mean, and standard deviation (*SD*).

Results

The final study sample comprised 114 participants: nurses (21.0%), nursing technicians (24.6%), and nursing assistants (54.4%). Among the professionals not included ($n = 55$), 3.63% refused to participate, and 96.37% did not meet the inclusion criteria.

Among the study participants, the female gender was predominant (68.4%), the mean age was 35.7 ($SD = 10.98$) years, being the minimum age of 19 years and maximum of 70 years. Most were married (46.5%), worked in the daytime period (68.4%), had completed nursing training approximately 8.7 ($SD = 6.96$) years ago, and worked in nursing for approximately 7.9 ($SD = 7.47$) years.

When questioned about participating in continuous education on oral hygiene, over half of the respondents reported no (58.8%). The predominant work sector of the nursing team was the surgical center (15.8%), followed by the obstetric center (14.9%), as shown in Table 1.

Table 1

Frequency and percentage of answers related to the work sector of the study participants (n = 114)

Work sector	<i>N</i>	%
Surgical center	18	15.8
Obstetric center	17	14.9
Emergency network	16	14.0
Male accommodation	15	13.2
Private wing	15	13.2
First-aid	13	11.4
Joint accommodation	9	7.9
Female accommodation	7	6.1
Management / coordination / continuous education	2	1.8
Pediatrics	2	1.8

Note. *N* = Absolute frequency; % = Relative frequency.

Of the 24 nurses questioned about the number of oral hygiene prescriptions in the last shift, 54.2% reported that they had not prescribed oral hygiene at that moment, while 45.8% reported at least one hygiene prescription during the work shift. When questioned about the number of times they performed oral hygiene during the last shift, 75.4% of

the nursing team members reported not having performed oral hygiene in hospitalized patients. Less than half of the nursing team suggested that the patients performed oral hygiene in the last shift (44.7%). The nursing team was also questioned about the constraints to performing oral hygiene. The results can be seen in Table 2.

Table 2
Frequency and percentage of answers about the constraints to oral hygiene (n = 114)

Constraints to oral hygiene	N	%
No constraints	70	61.4
High patient turnover and low permanence of the patient in the sector (surgical center/obstetric center)	15	13.2
Low staff level/work overload	12	10.5
Lack of material resources for procedure	6	5.3
Participants not involved in direct care delivery	5	4.4
Lack of acceptance from patients	4	3.5
Believes oral hygiene is not important	1	0.9
Presence of trainees	1	0.9

Note. N = Absolute frequency; % = Relative frequency.

Regarding the assessment of oral hygiene by the nursing team, more than half of the participants responded having never participated in continuing education on the topic. One third claimed not believing/not knowing if oral hygiene prevents pneumonia. However, 96.5% believe that it can prevent oral infections; 85.1% reported not believing/not knowing if the topic of oral hygiene had already been addressed in continuing education

activities promoted by the institution where they work; 45.6% responded that the topic of oral hygiene had not been addressed adequately during professional training. Besides, more than half of the nursing team reported not seeking further knowledge on the topic of oral hygiene. The results of the performance and assessment of the nursing team about oral hygiene are presented in Table 3.

Table 3
Distribution of answers about the performance and assessment of the nursing team about oral hygiene (n = 114)

Performance and assessment of the nursing team about oral hygiene	Yes		No		Don't know	
	N	%	N	%	N	%
Have you participated in continuous training in oral hygiene?	47	41.2	67	58.8	---	---
Do you believe that oral hygiene prevents pneumonia?	77	67.5	17	15.0	20	17.5
Do you believe that oral hygiene prevents oral infections?	110	96.5	3	2.6	1	0.9
Has the institution where you work in promoted continuous training in oral hygiene?	17	14.9	70	61.4	27	23.7
Do you know the institutional routine of oral hygiene for bedridden/unconscious patients?	81	71.1	30	26.3	3	2.6
Do you believe yourself apt to perform oral hygiene in bedridden/unconscious patients?	98	86.0	12	10.5	4	3.5
Do you seek knowledge of oral hygiene in hospitalized patients?	58	50.9	51	44.7	5	4.4
Do you think that the topic of oral health care was addressed adequately during your professional training?	58	50.9	52	45.6	4	3.5
Do you know the necessary materials to perform oral hygiene?	106	93.0	4	3.5	4	3.5
Do you think that all hospitalized patients need oral hygiene?	109	95.6	4	3.5	1	0.9
Do you think that oral hygiene is a task of the nursing team?	103	90.4	7	6.1	4	3.5
Have you ever read the NOP* on oral hygiene?	21	18.4	83	72.8	10	8.8

Do you think that the oral health of the hospitalized patient should be part of the nursing process?	101	88.6	8	7.0	5	4.4
Do you believe that oral health can decrease the hospitalization time of a patient?	62	54.4	34	29.8	18	15.8
Do you believe that performing oral hygiene to prevent certain oral and respiratory conditions can decrease the use of antibiotics?	80	70.2	13	11.4	21	18.4
Have you performed oral hygiene in hospitalized patients?	111	97.4	3	2.6	---	---
Do you seek to update yourself on adequate oral care practices for hospitalized patients?	40	35.1	71	62.3	3	2.6

Note. N = Absolute frequency; % = Relative frequency; *NOP = Normal Operating Procedure.

Discussion

This study suggests that oral hygiene is a practice valued by the nursing team. The majority of professionals believe that oral hygiene prevents pneumonia and oral infections and recognize this care as part of the nursing process. More than 90% of professionals stated that all hospitalized patients needed oral hygiene, and 70% reported no impediments to its performance.

However, it was noted that this care had been neglected by these professionals in their performance because more than half of the nurses reported not having prescribed oral hygiene in their last shift, 75.4% of the nursing staff reported having performed the procedure, and only 44.7% suggested that the patient did. High patient turnover and short permanence of the patient in sectors such as the surgical and obstetric center, reduced staff level, work overload, lack of material resources, and lack of acceptance of the patient were among the reasons for the non-completion of oral hygiene and/or difficulties in its implementation. These data show the need for implementing actions that favor the performance of the nursing team in oral hygiene of the patient hospitalized. In addition, they contribute to knowing about the oral health care in Brazilian hospitals. Other studies also suggest similar difficulties in the implementation of oral hygiene by the nursing team (Blum et al., 2017; Gibney et al., 2015; Jordan et al., 2014).

The care provided by the nursing team, in particular, oral care, requires overcoming the barriers in the system, the patient, and knowledge (Booker, Murff, Kitko, & Jablonski, 2013). The barriers in the system are related to the traditionalist doctor-centered care. The integration of this professional's care in that of the dentist and the nursing team can impact the oral and general health of the hospitalized patient positively (Booker et al., 2013).

Among the patient-related that may hamper oral hygiene, the report on the use of invasive mechanical ventilation is the most relevant. In this situation, the nursing team should focus more on performing oral hygiene because of the endotracheal tube. Although the endotracheal tube is essential to maintain adequate ventilation in critically ill patients, it can restrict access to the oral cavity, causing insecurity in the professional about the risk of tube displacement, discomfort, and injury to the patient, hindering a proper hygiene (Booker et al., 2013).

Within this context, it is crucial to guide and train the team for the adequate practice of oral hygiene in the patient

undergoing invasive mechanical ventilation, especially with endotracheal intubation. In these patients, the natural cleansing of the mouth through chewing is reduced, as well as the movement of the tongue and cheeks during speech. Still, the reduced salivary flow and use of antibiotics or corticosteroids facilitate the imbalance of the oral homeostasis and promote biofilm formation (Agência Nacional de Vigilância Sanitária, 2017).

Under these conditions, the various pathogens that colonize the oral cavity may be transported to the respiratory tract along the oropharynx through the aspiration of the oral cavity content, culminating in the development of VAP and aggravating the health state of the patient, which in turn contributes to the increase of mortality rates (Agência Nacional de Vigilância Sanitária, 2017). It is recommended that all members of the health team that assists the hospitalized patient should be stimulated and trained to perform daily oral hygiene (Agência Nacional de Vigilância Sanitária, 2017). It should be emphasized that patients capable of performing oral hygiene should be supervised and directed by the nursing team for the correct practice of brushing gums, teeth, tongue, cheeks, soft palate, the floor of the mouth, using a soft toothbrush, toothpaste, mouth wash, and dental floss (Stina, Zamarioli, & Carvalho, 2015).

The barrier of knowledge requires permanent and continuing education as a central element in the training of nursing professionals. Among the participants of this study, only 35.1% seek to update themselves on oral hygiene practices, and only 18.4% reported having read the institutional NOP on oral hygiene. The nurse, as a leader, should take on the responsibility to seek ways to empower his/her team continuously in health institutions (Orlandini & Lazzari, 2012). Besides, the promotion of this care in medical records is important because it provides proof to the team that this care was performed and evidences the evolution of possible abnormalities found during the procedure that can help define best therapeutic plan for the patient.

In relation to the obstacles to performing oral hygiene pointed out in this study, the high patient turnover and short permanence of the patient in sectors such as the surgical and obstetric center were reported. In fact, the work dynamics of nursing team that works in the surgical center may focus more on perioperative surgical protocols, meeting the basic, psychological, and physical needs manifested during this period.

However, the nursing team can guide the patient in the preoperative period regarding postoperative oral health care, taking into account that some surgeries may temporarily limit the practice of self-care (Assis et al., 2018). Still, the team of nursing can confirm with the patient if oral hygiene was performed, since studies have shown that oral hygiene, when performed in the preoperative period, can minimize the risk of postoperative inflammation and complications, especially for patients submitted to endotracheal intubation, with prior oral pathology (Shigeishi et al., 2016), and submitted to cardiac surgeries (Amaral et al., 2016).

A study that assessed the effects of brushing teeth and 0.12% chlorhexidine gluconate oral rinse in patients undergoing cardiac surgery showed that patients who performed oral hygiene under the supervision of a professional had a lower incidence of VAP in the postoperative period and shorter hospital stay (Nicolosi, Del Carmen, Martinez, Gonzalez, & Cruz, 2014). In this way, it is clear that surgical care planning should include the assessment of oral health conditions prior to surgery in order to ensure a good maintenance of general health in the postoperative period. Inadequate hygiene and presence of inflammation and periodontal disease (inflamed gums, bone tissue, and periodontal ligament) allow the microorganisms present in the oral cavity to cause bacteremia, facilitating the adherence of infectious agents in previously compromised cardiac surfaces that can be fatal to patients submitted to cardiac surgery (Amaral et al., 2016). Furthermore, regardless of the type of treatment delivered to the hospitalized patient, periodontal disease has been strongly associated with the development of cardiovascular diseases (Kholy, Genco, & Van Dyke, 2015), meaning that it is necessary to emphasize the importance of oral hygiene in preventing other health consequences, especially in hospitalized patients.

Other reasons for not performing oral hygiene reported in this study were the reduced staff level, work overload, and lack of supplies, which is in line with the findings of a study conducted in Croatia (Jordan et al., 2014). On the other hand, a multicenter study carried out in Brazil showed that 19% of the nurses consider that the available time is insufficient to perform the procedure (Blum et al., 2017). The same study indicates that the health team has difficulties in providing oral hygiene care due to lack of training and appropriate protocols, suggesting that such problems could be minimized with the introduction of dental surgeons in hospitals (Blum et al., 2017).

Therefore, the presence of a dental surgeon integrated into a multidisciplinary team of a hospital could allow improving the care provided to the hospitalized patient in both oral health promotion as well as in the treatment of oral diseases that may not have been identified or treated before hospitalization. Moreover, it would enable the qualification of human resources for the practice of safe and effective oral hygiene, taking into consideration the clinical condition of the patient and his or her needs (Marin, Lanau, & Bottan, 2016).

Among the participants of this study, only half believes that the topic of oral health was addressed adequately during their training. Thus, the role of the dental surgeon in the

multidisciplinary team could help to meet the apparent deficit of knowledge on oral health in the training of the nursing team, overcoming the barrier of knowledge in the implementation of oral care (Booker et al., 2013). Besides, working together with these professionals can favor protocols in institutions and capacitate staff, especially the nursing team that provides direct care to the patient. This work can result in improvements in oral hygiene care practices, such as the brushing teeth technique, the use of mouth wash and dental floss, the identification of dental plaque, the use of fluoride varnish, and indicators of dental disease such as periodontal bleeding (Booker et al., 2013). Most of the participants of this study found that oral hygiene is a task of the nursing team and believe that all hospitalized patients need this care. In this sense, oral hygiene is not just a procedure, is part of the nursing process. When prescribing this care, nurses should include detail the practices to be performed, considering the clinical status and the characteristics of the patient such as the risk of bleeding, the presence of oral injuries, maximal mouth opening capacity, level of sedation/consciousness, presence or absence of teeth, dental prosthetics, cannulas, and probes. It should be noted that oral hygiene is low cost and constitutes an indicator of quality of care in the hospital environment (Saldanha, Costa, Pinto, & Gaetti Jardim, 2015).

Although this study reveals data about the performance of the nursing team in oral hygiene, some limitations should be considered in the interpretation of data. The results relate to the performance and evaluation of the nursing team of just one health institution, located in a specific region, which may not represent the Brazilian reality. In addition, no inferential statistical analyzes were carried out, which prevents the association of causality among the variables researched.

As for strengths of the study, the authors highlight the identification of factors that may affect the nursing care directed at the oral health of the hospitalized patient, mainly factors related with the reduced staff level, work overload, and lack of material resources. One implication of this study is, also, the need to broaden the discussions about the topic through surveys in different locations of the country and reinforce the process of training and practice of professionals in oral health care.

It should be noted that, considering the problems identified, a training course on oral hygiene was offered to the nursing team until the end of this study, in which all nurses, nursing technicians and assistants in different work shifts participated.

Conclusion

This study showed that the nursing team perceives oral hygiene as an essential care to hospitalized patients and identifies it as a nursing task. However, the non-performance and/or prescription of this procedure was common in the population studied, indicating work overload and high patient turnover as barriers for the performance of oral hygiene. Additionally, the results also point to the

need to provide permanent educational activities on the topic of *oral health care*.

Considering the factors that hinder the performance of oral hygiene in hospitalized patients, the authors suggest that clinical studies should be conducted to test the effect of educational interventions on the knowledge and performance of the nursing team in oral hygiene, mainly focusing on prevention of local and systemic diseases, such as VAP.

Author contributions

Conceptualization: Junior, A. C. S., Xavier, I. P., Silveira, M. L., Stabile, A. M., Cárnio, E. C., Gusmão, J. L., & Souza, A. L. T.

Data curation: Silveira, M. L., Stabile, A. M., Gusmão, J. L., & Souza, A. L. T.

Formal analysis: Silveira, M. L., Stabile, A. M., Gusmão, J. L., & Souza, A. L. T.

Investigation: Junior, A. C. S., Xavier, I. P., Silveira, M. L., & Souza, A. L. T.

Methodology: Junior, A. C. S., Xavier, I. P., Silveira, M. L., & Souza, A. L. T.

Project administration: Souza, A. L. T.

Supervision: Souza, A. L. T.

Writing - original draft: Silveira, M. L., Stabile, A. M., Cárnio, E. C., Gusmão, J. L., & Souza, A. L. T.

Writing - review and editing: Silveira, M. L., Stabile, A. M., Gusmão, J. L., & Souza, A. L. T.

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