

# EVALUATION OF THIRST DIMENSIONS IN ORTHOPEDIC SURGICAL PATIENTS

*Avaliação das dimensões da sede no paciente cirúrgico ortopédico*

*Evaluación de las dimensiones de la sede en pacientes quirúrgicos ortopédicos*

Layse Daniela de Lima Oliveira<sup>1</sup> , Safira Ferreira do Nascimento<sup>2</sup> , Camilla Ribeiro Lima de Farias<sup>3\*</sup> 

**ABSTRACT: Objective:** To evaluate thirst dimensions (presence, intensity, and discomfort) in orthopedic surgical patients in the immediate postoperative period. **Method:** Cross-sectional, exploratory, and descriptive research with a quantitative approach. The sample consisted of 98 patients over the age of 18. A semi-structured form was used, including sociodemographic information and three scales – Visual Analogue Scale (VAS), Verbal Numeric Scale (VNS), and Perioperative Thirst Discomfort Scale (*Escala de Desconforto da Sede Perioperatória*, EDESP) – to characterize thirst. **Results:** Of the 98 evaluated patients, the average age was 47.3±20.1 years, and most of them were men (60.2%). Based on VAS, 65.3% patients reported moderate thirst; as for VNS, 48.0% reported mild thirst; and as for EDESP, 92.9% of patients reported thirst at the time of the interview. Regarding nursing care, we found no documentary record for proving the care provided to reduce thirst. **Conclusion:** There was a high prevalence of thirst in patients during the immediate postoperative period, and no palliative measures were taken to reduce it. We suggest the nursing team to be trained and oriented as for the application of the scales used in the present study.

**Keywords:** Thirst. Postoperative period. Perioperative nursing. Perioperative care.

**RESUMO: Objetivo:** Avaliar as dimensões da sede (presença, intensidade e desconforto) no paciente cirúrgico ortopédico no período pós-operatório imediato. **Método:** Pesquisa transversal, de caráter exploratório, descritivo, com abordagem quantitativa. A amostra foi composta de 98 pacientes com idade acima de 18 anos. Foi utilizado formulário semiestruturado contemplando informações sociodemográficas e três escalas — escala visual analógica (EVA), escala verbal numérica (EVN) e escala de desconforto da sede perioperatória (EDESP) — para caracterização da sede. **Resultados:** Dos 98 pacientes avaliados, a idade média foi de 47,3±20,1 anos, e a maioria era do sexo biológico masculino (60,2%). Com base na EVA, 65,3% relataram sede moderada; já na avaliação da sede pela EVN, 48,0% relataram sede leve; e pela EDESP, 92,9% dos pacientes relataram sede na ocasião da entrevista. No que concerne à assistência de enfermagem, não foi encontrado nenhum registro documental que comprovasse a assistência prestada para a diminuição da sede. **Conclusão:** Houve alta prevalência da sede nos pacientes durante o pós-operatório imediato e não foi realizada nenhuma medida paliativa para sua redução. Sugere-se que a equipe de enfermagem seja capacitada e orientada quanto à aplicação das escalas utilizadas neste estudo.

**Palavras-chave:** Sede. Período pós-operatório. Enfermagem perioperatória. Assistência perioperatória.

**RESUMEN: Objetivos:** Evaluar las dimensiones de la sed (presencia, intensidad y malestar) en el paciente quirúrgico ortopédico en el postoperatorio inmediato. **Método:** Investigación transversal, exploratoria, descriptiva con enfoque cuantitativo. La muestra consistió en 98 pacientes mayores de 18 años. Para caracterizar la sed se utilizó una forma semiestructurada que contenía información sociodemográfica y tres escalas (Escala visual analógica-EVA, Escala numérica verbal-ENV y Escala de incomodidad de la sed en el período perioperatorio-EDESP). **Resultados:** De los 98 pacientes evaluados, la edad media fue de 47,3±20,1 años; la mayoría del sexo biológico masculino (60,2%). Según la EVA, el 65,3% reportó sed moderada; por otro lado, la evaluación de sed de ENV, 48,0% reportó sed leve y por EDESP, 92,9% de los pacientes reportaron sed al momento de la entrevista. Con respecto al cuidado de

<sup>1</sup>Nursing degree from Centro Universitário UNIFACISA. Responsible for the internship of the curricular component Surgical Clinic I, from UNIFACISA – Campina Grande (PB), Brazil.

<sup>2</sup>Nursing degree from Centro Universitário UNIFACISA – Campina Grande (PB), Brazil.

<sup>3</sup>Nurse. PhD student in Surgery from Universidade Federal de Pernambuco (UFPE) – Recife (PE), Brazil. Professor of the Nursing Program at Centro Universitário UNIFACISA – Campina Grande (PB), Brazil. Coordinator and supervisor of the Surgical Center and the Sterile Processing Department of Hospital de Oftalmologia de Campina Grande – Campina Grande (PB), Brazil.

\*Corresponding author: camilla\_ribeiro@hotmail.com

Received: 09/26/2019 – Approved: 03/31/2020

DOI: 10.5327/Z1414-4425202000020006

enfermería, no se encontró ningún registro documental que probara la asistencia brindada para disminuir la sed. **Conclusión:** Hubo una alta prevalencia de sed en pacientes durante el postoperatorio inmediato y no se tomaron medidas paliativas para reducirla. Se sugiere que el equipo de enfermería esté capacitado y orientado sobre la aplicación de las escalas utilizadas en este estudio.

**Palabras clave:** Sed. Periodo posoperatorio. Enfermería perioperatoria. Atención perioperatoria.

## INTRODUCTION

Thirst means the excessive desire to drink water, which patients in the immediate postoperative period (IPP) are unable to visibly express, and may go unnoticed by healthcare professionals<sup>1,2</sup>. The prevalence of thirst in the IPP can reach up to 81.3% when patients are still fasting<sup>3</sup>.

The main factors that lead to thirst in patients in the IPP are: prolonged fasting, anesthetic procedure, anxiety, bleeding during the surgical procedure, drugs used during the anesthetic procedure, pain, nervousness related to the duration and type of surgery, among others<sup>4</sup>.

In the perioperative period, thirst can be a dominant symptom, overcoming even pain, and result in dehydration, anxiety, and distress. The signs and symptoms most reported by patients are thick saliva, dry tongue and lips, bad taste in the mouth, dry throat, desire to swallow, feeling of suffocation, and weakness<sup>5</sup>.

Because it is a subjective and multifactorial symptom, it is necessary to assess thirst in its entirety. There are several ways for assessing or measuring thirst, such as with the Visual Analogue Scale (VAS), Faces Pain Scale (FPS), Verbal Numeric Scale (VNS), and the Likert-type scale – used for evaluating patients who undergo surgeries, and which was denominated Perioperative Thirst Discomfort Scale (*Escala de Desconforto da Sede Perioperatória* – EDESP). These instruments are used to assess pain in different populations<sup>2,5,6</sup>.

Thirst dimensions aim at enabling healthcare professionals to take actions for the management and relief of thirst. According to authors of experimental studies, a decrease in the intensity of thirst was found with the application of ice to hydrate lips, and also with the use of mint candies, which have been shown to promote a sensation of freshness and relief of such symptom<sup>7,8</sup>.

## OBJECTIVE

To evaluate thirst dimensions, including its presence, intensity, and discomfort in orthopedic surgical patients in the IPP.

## METHOD

This is a cross-sectional, exploratory, descriptive study, with a quantitative approach carried out from July 5 to August 5, 2018 in the post-anesthesia care unit (PACU) of a hospital for urgency and emergency care located in Campina Grande City, Paraíba State, Brazil. The hospital exclusively serves patients from the Brazilian Unified Health System (SUS), accounting for 292 beds, and a surgical center (SC) with 6 operating rooms. In the PACU there are 7 beds, which is in accordance with the rules of the Board Resolution no. 50/2002<sup>9</sup>.

The definition of the sample size was based on the number of orthopedic surgical procedures performed at *Hospital de Emergência e Trauma* [Hospital for Trauma and Emergencies] (170 elective surgeries/month), considering a prevalence of 81.3% of thirst in the IPP<sup>8</sup>. Thus, sample size was calculated by using the Epi Info™ calculator, adopting a 95% confidence level, and 98 patients were needed to obtain a representative sample.

The inclusion criteria were patients over 18, of both sexes; who were SUS users, had undergone orthopedic surgery, and presented good visual acuity and good oral communication to spontaneously verbalize their thirst when applying the VNS and VAS scales. Those who did not have clinical and psychological conditions were excluded, because they compromised the application of scales to assess thirst dimension.

Data collection started after obtaining authorization from the nurse responsible for the SC, and it was carried out by the researcher and a guest nurse working in the center, who had been previously trained.

The researcher made the preoperative visit the day prior to the surgery to fill in data from the research form at the surgical ward of the hospital. The form included data on patients and their sociodemographic profile for the better characterization of the sample.

Variables of sociodemographic characteristics were evaluated as follows: skin color (classified as white and

non-white); age (analyzed as a continuous variable and later categorized into less than 60 years old and  $\geq 60$  years old); biological sex (male or female); and place of residence (city of origin).

To measure thirst, we used VNS for recording its intensity in numerical values, which ranged from 0 to 10, in which 0 indicates no thirst, and 10, intense thirst. The application of this scale was verbalized to the patients, demanding good cognitive skills from them.

Concerning VAS, we adopted it for patients who had good visual acuity to identify the level of their thirst according to the scale classification, in which 0 indicates “not at all” and 10, “extremely thirsty.” The scale was interpreted as follows: if there was no thirst at all, the classification would be 0; if there was moderate thirst, the classification would be 5; and if the thirst was extreme, the classification would be 10.

Regarding the three-point Likert scale (EDESP), it was interpreted as follows: the final score 0 indicated “not bothered,” the score 1 indicated “slightly bothered,” and 2 indicated “very bothered,” in order to achieve a score from 0 to 14, 14 being equivalent to the most intense discomfort related to thirst.

In addition, we used the surgical procedure record book available in the SC, from which we collected the information required to fill in the research form, such as previous fasting time, surgery duration, type of anesthesia, presence or absence of venoclysis, and presence of comorbidities. Furthermore, there was also a search for records of the patients’ clinical evolution in their own medical record, such as information on thirst after surgery and nursing care provided to the patient when verifying this discomfort.

Regarding data analysis, the program Statistical Package for the Social Sciences version 22.0 was used, considering a probability of less than or equal to 5% for rejecting the null hypothesis or the non-association in all analyses.

Initially, a descriptive analysis of the sample was performed, using mean and standard deviation to assess age and the absolute and relative frequencies of categorical variables. For analysis purposes, age was classified into two groups: less than 60 years old and  $\geq 61$  years old.

The study followed the standards of Resolution No. 466/2012 of the National Health Council, which provides the guidelines that regulate research involving human beings<sup>10</sup>. The project was submitted to the CESED Ethics Committee, having approval on July 3, 2018, under Opinion No. 2.751.250 and

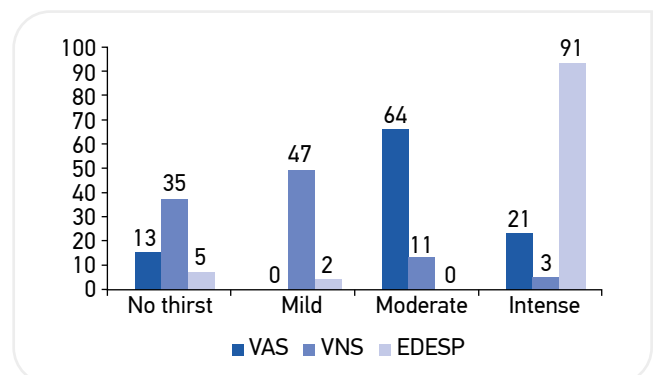
Certificate of Presentation for Ethical Appreciation 90721418.6.0000.5175.

We could read the Informed Consent Form and the Researchers’ Term of Commitment to the patients, both written in a language compatible with the subjects’ understanding. Moreover, patients were guaranteed freedom not to participate in or to withdraw from research, as well as privacy, confidentiality, and anonymity.

## RESULTS

We analyzed 98 patients in IPP of orthopedic surgeries, from July 5 to August 5, 2018. The average age was  $47.3 \pm 20.1$  years, with great variation, with a minimum of 18 and a maximum of 105 years old; 30 patients (30.6%) were older than 60. Of the total, we verified a predominance of male patients (60.2%), from neighboring municipalities of Campina Grande (60.2%), non-white skin color (72.4%), and with an average of  $3.1 \pm 2.4$  years of education.

Regarding the evaluation of thirst dimensions (Figure 1), based on VAS, 65.3% (n=64) reported moderate thirst, whereas 21.4% indicated they were extremely thirsty. As for the VNS evaluation of thirst, 48.0% (n=47) of the patients reported mild thirst. Concerning EDESP, 92.9% (n=91) of patients reported they were thirsty at the time of the interview. It is worth noting this discomfort so that relief measures are taken. In Table 1 we describe the distribution of parameters assessed with the EDESP scale.



**Figure 1.** Evaluation of thirst dimensions (presence, intensity, and discomfort) in 98 orthopedic surgical patients in the immediate postoperative period, by applying the Visual Analog Scale (VAS), the Verbal Numeric Scale (VNS), and the Perioperative Thirst Discomfort Scale (EDESP).

**Table 1.** Parameters evaluated for 98 orthopedic surgical patients attended at Hospital de Emergência e Trauma de Campina Grande (Paraíba State), Brazil, using the Perioperative Thirst Discomfort Scale.

Evaluated Aspect	n	%
Patient is thirsty		
Yes	91	92.9
No	7	7.1
Spontaneous complaint		
Yes	3	3.1
No	95	96.9
Dry mouth		
Not bothered	14	14
Slightly bothered	56	57.1
Very bothered	28	28.6
Dry lips		
Not bothered	21	21.4
Slightly bothered	55	56.1
Very bothered	22	22.4
Thick tongue		
Not bothered	67	68.7
Slightly bothered	27	27.6
Very bothered	4	4.1
Thick saliva		
Not bothered	42	42.9
Slightly bothered	48	49.0
Very bothered	8	8.2
Dry throat		
Not bothered	17	17.3
Slightly bothered	45	45.9
Very bothered	26	36.7
Bad taste in the mouth		
Not bothered	31	31.6
Slightly bothered	38	38.8
Very bothered	29	29.6
Desire to drink water		
Not bothered	12	12.2
Slightly bothered	31	31.6
Very bothered	55	56.1

We evaluated the presence of thirst by the two scales, VAS and VNS, with a prevalence of 86.7 (n=85) and 64.2% (n=61), respectively, and an average between the two scales of 75.4 % (n=73). The relation between VNS, VAS, and EDESP scales is satisfactory for assessing thirst; VNS and VAS, for assessing intensity; and EDESP, for assessing patients' discomfort in the IPP.

The scale used for evaluating thirst discomfort, EDESP, is a recently created instrument; therefore, studies on the scale still lack, which makes it difficult to compare the used data. It is an instrument used for evaluating the measurement of thirst in addition to its intensity, and it has been positively contributing to thirst relief<sup>6</sup>.

Considering data presented in Table 1, we found that 92.9% of patients were thirsty in the IPP; among them, 96.9% did not report having spontaneous complaints.

Regarding signs and symptoms of thirst, patients reported they were slightly bothered as to dry mouth (57.1%), followed by dry lips (56.1%). In the item for assessing the issue of thick tongue, the prevalence was 68.7% of patients, who reported not feeling bothered. However, 49% reported having thick saliva, feeling slightly bothered by this symptom; 38.8% of the patients said they were slightly bothered concerning the bad taste in their mouths; and, in relation to the desire to drink water, there was a predominance of 56.1% who were very bothered. According to the patients' responses, dry mouth and thick tongue consisted in the EDESP items that most bothered them.

## DISCUSSION

Our data were like those of a study whose authors obtained a 74.6% prevalence of male patients in orthopedic surgeries<sup>8</sup>. This prevalence is due to the fact that the hospital where research was carried out serves many patients of trauma, which mostly result from traffic accidents, affecting more male individuals. Corroborating this statement, researchers of another study showed that injuries from traffic accidents are among the main causes of hospital admissions<sup>11</sup>.

Regarding the age group, our research was compatible with those from such study, in which the average age of participants was 41.5 years. However, there was a divergent prevalence as for sex, considering that there was a predominance of women (63.7%) in the aforementioned study due

to the most performed type of surgery – gynecological and obstetric procedures (31.8% )<sup>12</sup>.

Our results (Table 1) agree with that of other studies, whose authors show a high prevalence of thirst (81.3%)<sup>3</sup>. The “dry mouth” item also had a high prevalence in another study, accounting for 87.3% of patients<sup>12</sup>.

We assessed thirst dimensions in the first six hours of the IPP at the PACU. Thus, in an observational way, we verified the care provided by nurses to patients under this condition, because, when analyzing the patients’ clinical evolution in their own medical records, we identified failure in recording such care.

After applying the scales, some patients reported intense thirst, in such a way we called a member of the nursing team to perform relief measures, according to the needs of each patient. As alternatives, the use of ice chips in contact with the patient’s lips and/or gargling with ice water have been suggested, because they refresh the mouth and consist in low-cost practices that could contribute to positive results<sup>13</sup>. Nonetheless, the adoption of such measures was unsuccessful: the nursing team reported that none of these practices were part of the PACU routine.

Researchers showed that nursing professionals did not recognize symptoms related to thirst because they were unable to identify it by their patients’ expressions. Hence, evaluating such symptoms was not part of the work routine. Moreover, members of the nursing team also believed that, considering patients were fasting, they could not drink fluids. Therefore, given that there are no protocols for measuring thirst, the nursing team does not take actions for reducing this discomfort and, when any measure is taken, it is not recorded<sup>4</sup>.

In order to change this reality, there is research in the implementation of measures to relieve thirst. Authors of a study used instruments to measure thirst and ice popsicles, with a small volume of liquid, as a strategy to minimize such symptom, and promoted the training of the nursing team to highlight the importance of using protocols for evaluating thirst and strategies to reduce this symptom. The study motivated the nursing team and raised awareness of a humanized care to be provided to patients in IPP. After six months of use and adherence, the study proved to be effective, because patients felt relief in relation to thirst, and the nursing team adhered to the protocol in a positive way<sup>13</sup>.

During research, it was possible to observe that the prolonged fasting time in the preoperative period favored the increase of patients’ thirst. All patients had a minimum fasting time of eight hours, but some even fasted for up to 22 hours.

The use of relief measures in the preoperative period, such as the use of chewing gums, is effective when it comes to discomfort, making it a feasible alternative with good acceptance on the part of patients and presenting a positive response to discomfort<sup>14</sup>. Corroborating these findings, in another study carried out in the PACU, researchers used mentholated resources (lip balms and ice popsicles) for relieving thirst<sup>8</sup>.

Taking this into consideration, there are several ways to attenuate the patient’s thirst; however, paradigms must be broken and the care routine must change, requiring the adherence of the multidisciplinary team, aiming at the well-being and quality of the care provided to surgical patients.

## CONCLUSION

According to the results of our study, most of the 98 patients that comprised the sample are men, of non-white skin color, and reside in the neighboring cities of Campina Grande. Regarding thirst dimensions, we verified a high prevalence in the PACU, where 92.9% of the patients reported this symptom at the time of the interview, according to EDESP. In the evaluation of thirst intensity by VAS, 65.3% had moderate thirst, and in the evaluation by VNS, 48% of the patients indicated having mild thirst.

Considering these findings, the adoption of palliative measures to reduce such discomfort becomes relevant. The multidisciplinary team that provides care to patients during the perioperative period must adopt such measures. It is noteworthy that, during the development of research, we identified no records of care provided for relieving the thirst of patients in the IPP.

Furthermore, training professionals is paramount, as well as the application of the VAS, VNS, and EDESP scales to facilitate the identification of thirst and guide the team in adopting measures for its management, providing comfort and well-being to surgical patients, especially in the IPP.

## REFERENCES

1. Silva LCJR, Aroni P, Fonseca LF. Tenho Sede! Vivência do paciente cirúrgico no período perioperatório. *Rev SOBEC*. 2016;21(2):75-81. <https://doi.org/10.5327/Z1414-4425201600020003>
2. Martins PR, Fonseca LF. Avaliação das dimensões da sede: revisão integrativa. *Rev Eletr Enf* [Internet]. 2017 [acessado em 23 mar. 2018];19(9):1-13. Disponível em: <https://www.revistas.ufg.br/fen/article/viewFile/40288/23000>  
<http://dx.doi.org/10.5216/ree.v19.40288>
3. Maldonado RN, Conchon MF, Fonseca LF. Sede em pacientes de cirurgias ortopédicas. In: *Anais do 13º Congresso Brasileiro de Enfermagem em Centro Cirúrgico, Recuperação Anestésica e Centro de Material e Esterilização* [Internet]. São Paulo; 2017 [acessado em 15 maio 2018]. Disponível em: [http://sobecc.tmeventos.com.br/anais2017/pdfs/trabalho\\_2280.pdf](http://sobecc.tmeventos.com.br/anais2017/pdfs/trabalho_2280.pdf)
4. Pavani MM, Fonseca LF, Conchon MF. Sede do paciente cirúrgico: percepções da equipe de enfermagem nas unidades de internação. *Rev Enferm UFPE* [Internet]. 2016 [acessado em 16 ago. 2018];10(9):3352-60. Disponível em: <http://dx.doi.org/10.5205/reeol.9571-83638-1-SM1009201621>
5. Cunha FF, Rego LP. Enfermagem diante da dor oncológica. *Rev Dor*. 2015;16(2):142-5. <https://doi.org/10.5935/1806-0013.20150027>
6. Martins PR, Fonseca LF, Rosseto EG, Mai LD. Elaboração e validação de escala de desconforto da sede perioperatória. *Rev Esc Enfer* [Internet]. 2017 [acessado em 24 ago. 2018];51:e03240. Disponível em: [http://www.scielo.br/pdf/reeusp/v51/pt\\_1980-220X-reeusp-51-e03240.pdf](http://www.scielo.br/pdf/reeusp/v51/pt_1980-220X-reeusp-51-e03240.pdf)  
<http://dx.doi.org/10.1590/S1980-220X2016029003240>
7. Godoi D, Fonseca LF, Conchon MF. Picolé de gelo e hidratação labial para alívio da sede: percepções do paciente cirúrgico. In: *Anais do 9º Simpósio Internacional de Esterilização e Controle de Infecção Relacionada à Assistência à Saúde* [Internet]. São Paulo; 2014 [acessado em 23 mar. 2018]. Disponível em: [http://sobecc.org.br/arquivos/ANAIS\\_9\\_SIMPOSIO\\_DE\\_ESTERILIZACAO\\_2014.pdf](http://sobecc.org.br/arquivos/ANAIS_9_SIMPOSIO_DE_ESTERILIZACAO_2014.pdf)
8. Serato VM. Pacote de medidas mentoladas para alívio da sede em sala de recuperação anestésica: ensaio clínico randomizado [dissertação]. Londrina: Universidade Estadual de Londrina; 2017 [acessado em 21 abr. 2018]. Disponível em: <http://www.bibliotecadigital.uel.br/document/?code=vtls000208824>
9. Brasil. Ministério da Saúde. Agência Nacional de Vigilância Sanitária (ANVISA). Resolução da Diretoria Colegiada RDC nº 50, de 21 de fevereiro de 2002. Dispõe sobre o Regulamento Técnico para planejamento, programação, elaboração e avaliação de projetos físicos de estabelecimentos assistenciais de saúde [Internet]. Brasília; 2002 [acessado em 31 mar. 2020]. Disponível em: [http://bvsms.saude.gov.br/bvs/saudelegis/anvisa/2002/rdc0050\\_21\\_02\\_2002.html](http://bvsms.saude.gov.br/bvs/saudelegis/anvisa/2002/rdc0050_21_02_2002.html)
10. Brasil. Conselho Nacional de Saúde (CNS). Resolução nº 466, de 12 de dezembro de 2012. Diretrizes e Normas Regulamentadoras de Pesquisas envolvendo Seres Humanos [Internet]. Brasília; 2012 [acessado em 31 mar. 2020]. Disponível em: <http://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf>
11. Ladeira RM, Malta DC, Morais Neto OL, Montenegro MMS, Soares Filho AM, Vasconcelos CH, et al. Acidentes de transporte terrestre: estudo Carga Global de Doenças, Brasil e unidades federadas, 1990 e 2015. *Rev Bras Epidemiol* [Internet]. 2017 [acessado em 11 nov. 2018];20(Supl. 1):157-70. Disponível em: <http://www.scielo.br/pdf/rbepid/v20s1/1980-5497-rbepid-20-s1-00157.pdf>  
<http://doi.org/10.1590/1980-5497201700050013>
12. Pierotti I, Fracarolli LF, Fonseca FL, Aroni P. Avaliação da intensidade e desconforto da sede perioperatória. *Rev Ana Nery*. 2018;22(3):1-7. <https://doi.org/10.1590/2177-9465-ean-2017-0375>
13. Garcia AKA, Galhardo VG, Fonseca LF, Santos SB, Alves MF. Relato de experiência: implantação do protocolo de manejo da sede em sala de recuperação anestésica. In: *Anais do 9º Encontro Internacional de Produção Científica Unicesumar* [Internet]. Maringá; 2015 [acessado em 14 abr. 2018]. Disponível em: [http://www.cesumar.br/prppge/pesquisa/epcc2015/anais/samira\\_bezerra\\_dos\\_santos\\_2.pdf](http://www.cesumar.br/prppge/pesquisa/epcc2015/anais/samira_bezerra_dos_santos_2.pdf)
14. Garcia AKA. Goma de mascar mentolada no manejo da sede pré-operatória [dissertação] [Internet]. Londrina: Universidade Estadual de Londrina; 2017 [acessado em 11 nov. 2018]. Disponível em: <http://www.bibliotecadigital.uel.br/document/list.php?tid=114&page=3>