



Strategies for thirst relief: integrative literature review

Estratégias para o alívio da sede: revisão integrativa da literatura
Estrategias para el alivio de la sed: revisión integrativa de la literatura

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ABSTRACT

Objective: to analyze the strategies used to relieve the thirst of hospitalized patients. **Method:** an integrative review, for which the databases PubMed, LILACS, CINAHL and the group of references organized by the Group for Study and Research of Thirst were selected for the search of primary studies, with the keywords: *thirst, ice, cold, intervention, nursing care, artificial saliva*. **Results:** the review sample was composed of ten primary studies. The strategies found were: low temperature using frozen gauze, ice chips, and cold water, menthol associated with cold strategies, chewing gum, acupuncture, and the use of a thin straw, substitute saliva, and early fluid ingestion. **Conclusion:** the temperature was presented as a predominant and effective strategy to relieve the thirst for surgical patients in intensive care and hemodialysis treatment. **Descriptors:** Thirst; Ice; Nursing Care; Low Temperature; Artificial Saliva.

RESUMO

Objetivo: analisar as estratégias utilizadas para minorar a sede do paciente hospitalizado. **Método:** revisão integrativa, para a qual as bases de dados PubMed, LILACS, CINAHL e o conjunto de referências organizadas pelo Grupo de Estudo e Pesquisa da Sede foram selecionadas para a busca dos estudos primários, com os descritores: *thirst, ice, cold, intervention, nursing care, artificial saliva*. **Resultados:** a amostra da revisão foi composta de 10 estudos primários. As estratégias encontradas foram: baixa temperatura utilizando gaze congelada, lascas de gelo e água fria, mentol associado a estratégias frias, goma de mascar, acupressão, uso de canudo fino, substituto salivar e ingestão precoce de líquidos. **Conclusão:** a temperatura apresentou-se como estratégia predominante e efetiva para minorar a sede de pacientes cirúrgicos, em cuidado intensivo e em tratamentos de hemodiálise. **Descritores:** Sede; Gelo; Cuidados de Enfermagem; Temperatura Baixa; Saliva Artificial.

RESUMEN

Objetivo: analizar las estrategias utilizadas para saciar la sed del paciente hospitalizado. **Método:** revisión integrativa, sobre estudios primarios seleccionados de las bases de datos PubMed, LILACS, CINAHL y del conjunto de referencias elaboradas por el Grupo de Estudio e Investigación de la Sed, con los descriptores: *thirst, ice, cold, intervention, nursing care, artificial saliva*. **Resultados:** la muestra de la revisión se compuso de 10 estudios primarios. Las estrategias halladas fueron: baja temperatura utilizando gasa congelada, hielo molido y agua fría, mentol asociado a estrategias frías, goma de mascar, acupresión, uso de sorbete delgado, sustituto salival e ingestión precoz de líquidos. **Conclusión:** la temperatura se presentó como estrategia predominante y efectiva para saciar la sed en pacientes quirúrgicos, en cuidados intensivos y en tratamientos de hemodiálisis. **Descritores:** Sed; Hielo; Atención de Enfermería; Frío; Saliva Artificial.

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INTRODUCTION

Thirst can be defined as a longing or desire to drink water, not necessarily generated by a physiological need, but also triggered by habit, taste, dry mouth or throat, the will to consume fluids that provide a sensation of heating or cooling. Different factors can influence the presence and intensity of the thirst, including, age, comorbidity, nutrition and anxiety⁽¹⁻²⁾.

According to its etiology, thirst can be osmotic or hypovolemic⁽¹⁾. Osmotic thirst derives from a slight increase of 1% to 2% in plasma osmolarity, which is able to stimulate the release of the antidiuretic hormone⁽²⁾. When the compensatory mechanism provided by the osmotic changes are not effective, thirst is activated, prompting the body to seek water⁽¹⁾. In turn, hypovolemic thirst is associated with the need for hydric ingestion to restore plasma volume, and its regulatory mechanism depends both on the renin-angiotensin-aldosterone system and the adrenergic action⁽¹⁾.

Once thirst is present, the organism can be satiated in a pre- or post absorptive way⁽³⁾. In the pre-absorptive way, the pressure and temperature receptors in the oropharynx monitor the impact of hydric ingestion even before the body absorbs the fluids, acting to regulate this act and interrupt the drinking⁽⁴⁾. In other words, the parts of the brain responsible for thirst satiety are activated without the need for a large volume of water. The post absorptive mechanism occurs when fluid is absorbed, balancing the blood osmolarity⁽³⁾.

The hospitalized patient experiences stress situations and deprivation of fluid ingestion, often for prolonged periods, which cause the symptom of "thirst"⁽⁵⁻⁶⁾. Patients with chronic kidney disease on dialytic therapy have more intense thirst and xerostomia (dry mouth), and also need to maintain a diet with fluid restrictions to prevent hypertension, acute lung edema and congestive heart failure⁽⁷⁻⁸⁾.

In intensive care units, patients face conditions that predispose them to develop the symptom "thirst", such as hydroelectrolytic disturbances, dry mouth due to prolonged intubation and use of anticholinergic and opioid medications. In some cases, the difficulty communicating makes it impossible to report thirst, causing discomfort, stress, and irritability⁽⁹⁻¹⁰⁾. The surgical patient is exposed to a confluence of factors that result in thirst, such as preoperative fasting, anxiety, surgical-anesthetic drugs, intubation, intraoperative bleeding, and prolonged oxygen therapy⁽¹¹⁻¹⁴⁾. In the case of a child, perioperative thirst is a particularly stressful symptom and pain generator⁽¹⁵⁾.

Thirst is, therefore, a symptom that is present in clinical practice, but frequently undervalued, often unnoticed by the health team, although always recorded in the reports of individuals who experience it^(11-12,15).

The use of strategies that act in the pre-absorptive satiety are a viable alternative for patients who experience thirst in periods of fluid restriction⁽²⁾. However, with professional experience as a basis, it can be inferred that the lack of knowledge of the health staff about safe and effective strategies perpetuates an inertial attitude in face of hospitalized patients' thirst, thereby prolonging their suffering.

The motivation for the conduct of this integrative review was the need to compile knowledge about available strategies

for the management of thirst, producing evidence for the implementation of interventions in clinical practice.

OBJECTIVE

To analyze the strategies used to relieve the thirst of hospitalized patients.

METHOD

This is an integrative review method that gathers, evaluates and summarizes the results of research on specific themes. The stages followed in development of the study were: developing the research question, sampling or literature search of primary studies, data extraction, assessment of the primary studies included, interpreting the results, presenting the review⁽¹⁶⁾.

For the development of the research question of the integrative review, the PICO strategy was used (*patient, intervention, comparison, outcomes*). The use of this strategy to formulate a research question in literature reviews allows for the identification of keywords, which aids in locating relevant primary studies in the databases⁽¹⁷⁾. Thus, the defined research question was: "What are the strategies found in the literature to relieve the thirst of hospitalized patients? The first element of the strategy (P) consists of hospitalized patients; the second (I), the strategies; and the fourth element (O) is relieving thirst. It should be noted that, depending on the review method, it is not necessary to use all the elements of the PICO strategy. In this integrative review, the third element, comparison (C), was not used.

The search for primary studies was performed from September to October of 2015, in the following databases: National Library of Medicine National Institutes of Health (PubMed), Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Latin American and Caribbean Center on Health Sciences Information (LILACS), and the group of references organized by the Group of Study and Research on Thirst (GSRT) in the State University of Londrina, located in the State of Paraná.

The controlled terms selected in the Descriptors of Health Science (DeCS) of the Virtual Health Library (VHL) and MeSH Database were *thirst, ice, cold, intervention, nursing care, artificial saliva* (in English). The noncontrolled terms (keywords) were *cold* and *intervention* (in English). The CINAHL headings used as controlled descriptors were *thirst, nursing care, ice, cold* and *artificial saliva*, and the noncontrolled was *intervention*. The terms were combined in different ways to ensure a wide search. The combinations in all databases were: *Thirst AND Artificial saliva; Thirst AND Ice; Thirst AND Cold; Thirst AND Intervention; Thirst AND Nursing care*.

The inclusion criteria established by the studies were articles with strategies to alleviate the thirst of hospitalized patients. The traditional reviews of the literature, secondary studies (e.g.: systematic review), reply letters and editorials were excluded from the sample of the integrative review. There were no idiom restrictions due to the lack of scientific production on the subject.

In the first analysis, after reading the title and the abstract of the primary studies (n=826), the articles that did not indicate any strategy/intervention related to thirst were excluded (n=815).

Among them: secondary articles, physical exercise, thirst physiology, hormonal alterations, emotional aspects, thirst related to other diseases that did not answer the research question, and unrelated themes. In the second analysis, reading the full text (n=11), one duplicated article was excluded. The analyses were performed independently by two expert reviewers.

For data extraction, an instrument developed by nursing researchers was used, which consists of items related to article identification, methodological characteristics, and evaluation of methodological accuracy⁽¹⁸⁾.

For the analysis of the level of evidence, we used the definition of the type of study according to the authors of the included studies. Concepts of nursing researchers who advocate a specific hierarchy of evidence for different clinical questions were applied⁽¹⁶⁾. In the healthcare sciences, clinical questions towards treatment/intervention are measured by means of the strength of evidence. This is classified into seven levels: level 1 (stronger) - evidence from systematic review or meta-analysis of randomized controlled trials; level 2 - evidence derived from well-designed randomized controlled trials; level 3 - evidence from well-designed non-randomized clinical trials; level 4 - evidence from cohort studies and well-designed case-control studies; level 5 - evidence from systematic reviews of descriptive and qualitative studies; level 6 -: evidence from a single descriptive or qualitative study; and level 7 (weaker) - evidence from expert opinion.

The analyses of the highlighted results were performed descriptively, a summary of each study included in the integrative review was presented, and comparisons of the included studies were made highlighting differences, and similarities.

RESULTS

The sample of the integrative review consisted of ten primary studies. The years with the greatest number of publications (two studies each year) were 2010, 2014 and 2015. Regarding idiom, six were published in English, three in Korean and one in

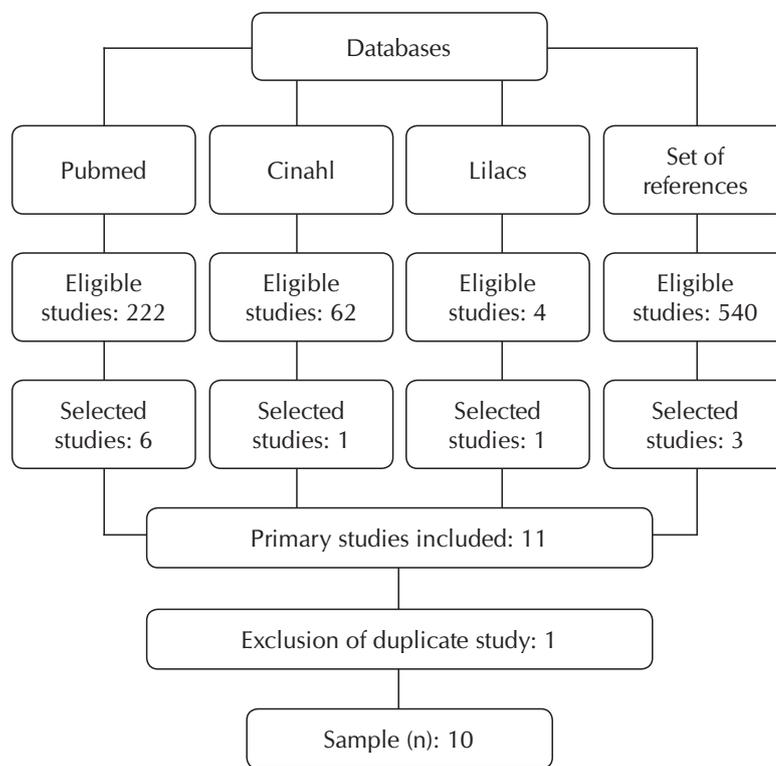


Figure 1 – Flowchart of selection of the primary studies included in the integrative review by databases, 2015

Portuguese. One study in Portuguese was performed in Brazil, evidencing the lack of articles published on this subject in the country. In nine articles, nurses were the authors, and one was developed by physicians.

One article shows the results of two studies. Regarding the methods adopted by the studies, five (45.5%)^(7,10,19-21) were randomized clinical trials (level of evidence 2); five (45.45%)^(11,22-25) were quasi-experimental studies (level of evidence 3); and one (9,10%)⁽²¹⁾ was a cross-sectional observational study (level of evidence 4)⁽¹⁶⁾.

The included investigations were predominantly performed with: surgical patients in the postoperative period (60%)^(11,19-20,22-24), chronic renal failure patients on dialysis in three studies (30%)^(7,21,25), and patients in intensive care in one study (10%)⁽¹⁰⁾.

Box 1 shows the main information extracted from primary studies included in the review.

Box 1 – Summary of primary studies included in the integrative review (n = 10), 2005-2015

Year/ country/ database	Kind of study /evidence level (EL)	Objectives/method	Strategy	Main results
2015 USA Another source GSRT	Ford, McCormick, Teng, Parkosewich ⁽¹⁹⁾ Randomized clinic trial (n = 149) NE = 2	To determine the effect of the early liberal regimen of ice chips and water on adverse events and thirst after cardiothoracic surgery. Patients were randomized to the liberal scheme, which offered ice chips one hour post-extubation then water. The usual regimen was 6-hour fast post-extubation.	Compare the liberal regimen to the usual regimen, evaluating thirst and the following events: nausea, vomiting, dysphagia, and aspiration pneumonia.	There was no statistically significant difference between groups with regard to adverse events. However, the liberal regimen was associated with a significant reduction in thirst. In appropriate patients, this strategy can reduce thirst and uncomfortable symptoms.

To be continued

Box 1

Year/ country/ database	Kind of study /evidence level (EL)	Objectives/method	Strategy	Main results
2015 Korea Another source GSRT	Moon, Lee, Leong ⁽²²⁾ Quasi-experimental study (n = 56) NE = 3	Compare the effect between wet gauze with cold saline (experimental group) and wet gauze with cold water (control group) on thirst, oral cavity condition and saliva pH of patients in the immediate postoperative period. The groups received the intervention three times with a 15-minute interval.	Comparison of the effect of gauze with cold saline and gauze with cold water.	Thirst, condition of oral cavity and saliva pH in both groups improved with an increasing number of gauze applications. The reduction in thirst intensity was higher in the experimental group (p = 0.009). There was no difference in the oral cavity condition and pH of saliva between the groups.
2014 China PubMed	Yin, Ye, Zhao, Li, Song ⁽²⁰⁾ Randomized clinic trial (n = 983) NE = 2	To determine the safety and tolerability of early oral rehydration compared with delayed oral rehydration after general anesthesia. The control group received water four hours after anesthesia and those in the experimental group received 0.5 mL/Kg of water when recovered from anesthesia.	Comparison between early and late oral hydration. The outcomes evaluated were nausea, vomiting, desire for liquid, thirst, oropharyngeal discomfort and satisfaction.	Early oral rehydration was safe. Patients in the experimental group showed greater satisfaction, less intense thirst and oropharyngeal discomfort (outcomes measured using scales).
2014 EUA PubMed	Puntillo, Arai, Cooper, Stotts, Nelson ⁽¹⁰⁾ Randomized clinic trial (n = 252) NE = 2	To test an intervention bundle for thirst intensity, thirst distress, and dry mouth. Participants were admitted to intensive care units. The control group received usual care and the intervention group received the intervention bundle.	Intervention bundle: cold water spray, mentholated lip hydration and oral swabs. Both thirst intensity and discomfort were assessed.	There was a significant decrease in the mean thirst intensity and suffering in the intervention group compared to the usual care group. The usual care group was 1.9 times more likely to report dry mouth for each intervention session.
2013 China PubMed	Fan, Zhang, Luo, Niu, Gu ⁽²¹⁾ Observational study (n = 42) NE = 4 Randomized clinical trial crossover (n = 11) NE = 2	To analyze the clinical significance and related factors of thirst and xerostomia in hemodialysis patients. The patients received chewing gum (six to 10 times a day or as desired) or a thin straw for sucking water in the first two weeks. After two weeks of wash-out, the thin straw was used during the last two weeks.	Comparison between chewing gum and thin straw to drink water in patients on dialysis. DTI = dialysis thirst inventory VAS = visual analogic scale to measure the thirst Xerostomia measured by VAS = visual analogic scale and XI = inventory to measure the xerostomia.	There was a strong positive correlation between the DTI and VAS to measure thirst, and DTI and VAS to measure xerostomia. In the crossover trial, scores of the DTI to measure thirst and xerostomia and gain of interdialytic weight were significantly reduced by chewing gum. The VAS scores to measure thirst, DTI and gain of interdialytic weight were significantly reduced by the use of thin straw.
2012 Brazil CINAHL	Aroni, Nascimento, Fonseca ⁽¹¹⁾ Quasi-experimental study (n = 90) NE = 3	To assess strategies to alleviate thirst in the immediate postoperative period. Patients with thirst were divided into two groups (intervention group = ice and control group = water). An assessment and intervention were performed every 10 minutes for one hour.	Comparison between the use of ice (2 mL) and water (2 mL) to alleviate patient's thirst in the immediate postoperative period.	75% of patients reported thirst. The initial mean intensity of thirst was 5.1 (water group) and 6.1 (group ice), and the final intensity was 2.33 and 1.51 respectively. The difference was not statistically significant; it was inferred that the small volume of ice was not allowed the biggest difference between the groups.
2011 Korea Another source GSRT	Yoon, Min ⁽²³⁾ Study quasi- experimental, pre-test and post-test with group- no equivalent control (n = 52) NE = 3	To identify the effects of gargling with cold water on thirst and the oral cavity condition, and throat pain in patients undergoing orthopedic surgery with general anesthesia, at 0, 2, 4 and 8 hours after surgery.	Comparison between the use of gargling with cold water (intervention group) and wet gauze (control group).	The score of thirst intensity was lower, and the conditions of the oral cavity were better in the experimental group. However, there was no significant difference in the levels of a sore throat among the groups.

To be continued

Year/ country/ database	Kind of study /evidence level (EL)	Objectives/method	Strategy	Main results
2010 Taiwan PubMed	Yang, Yates, Chin, Kao ⁽²⁵⁾ Quasi-experimental with single group repeated measures (n = 28) NE = 3	To assess the impact of an acupuncture program on thirst intensity and salivary flow in patients on hemodialysis. The patients received a placebo for four weeks at predetermined acupoints, three times a week. Then the patients received acupuncture for four weeks.	Comparison between acupuncture intervention and adhesive intervention to acupuncture (placebo) to decrease the intensity of thirst and increase the salivary flow of patients on dialysis.	The acupuncture was associated with significant increase in saliva flow rate (p = 0.04). The mean score of thirst intensity was reduced from 4.21 to 2.43.
2010 Korea PubMed	Cho, Kim, Park ⁽²⁴⁾ Study quasi-experimental, pretest / post-test, no equivalent control group (n = 53) NE = 3	To examine the effects of ice, gauze with frozen saline and humid gauze on thirst and oral condition of patients in the immediate postoperative period, divided into three groups. The intensity level of the thirst and oral conditions were evaluated three times and every 15 minutes.	Comparison between groups with ice, frozen gauze with saline and humid gauze.	There was a statistically significant difference in the thirst intensity level between the groups after the second intervention. The tongue condition, saliva, oral mucosa and gingiva improved in patients receiving gauze with frozen saline solution or ice.
2005 Holland PubMed	Bots, Brand, Veerman, Korevaar, Valentijn-Benz, Bezemer, Valentijn, Vos, Bejesma, Wee, Van Amerongen, Nieuw Amerongen ⁽⁷⁾ Randomized clinical trial crossover (n = 65) NE = 2	To investigate the effect of chewing gum or salivary substitute for dry mouth, thirst, and interdialytic weight gain. Chewing gum and saliva substitute were used for two weeks, there was a wash-out period of two weeks and, then, the other scheme was introduced. Xerostomia, thirst and weight gain rates were evaluated at baseline and after each treatment period.	Comparison between groups of chewing gum and saliva substitute.	The chewing gum reduced the Xerostomia Inventory Score from 29.9 to 28.1. Both the chewing gum and the salivary substitute significantly reduced the DTI scores, but no change occurred in dialysis weight gain.

DISCUSSION

In the analysis of the results of the primary studies there is evidence of strategies to reduce thirst intensity and relieve the discomfort associated with research with levels of evidence 2 and 3, mainly interventions using low temperatures, menthol, strategies to stimulate the chewing effort (chewing gum and fine straw to fluid ingestion), salivary substitute, and early introduction of fluids.

In six studies, the authors evaluated strategies using low temperatures in different forms and vehicles, comparing them to usual methods of each context^(10-11,19,22-24). The results of the action of cold were significant not only when compared to no action to relieve thirst⁽¹⁰⁾, but also in comparison with the commonly used strategies, such as water at room temperature⁽¹¹⁾.

Sensory physiology has discovered that every sense depends on the activation of the Transient Receptor Potential (TRP) and the cold feeling is stimulated specifically by the activation of the Transient Receptor Potential Melastatin 8 (TRPM8), which is also stimulated by menthol^(1,3). Refreshing the oral cavity with cold can be considered pleasant, related with the pleasure produced by pre-absorptive satiety^(3,26).

These differences in the effectiveness of cold and room temperature is justified by the presence of baroreceptors and

thermoreceptors in the sensory nerves in the oral mucosa, providing the perception of touch sensations, hot and cold temperatures⁽²⁻³⁾. The thermal perceptions occur particularly by means of the TRPM8 receptors, located on various cell structures, covering the whole oral cavity, the trigeminal and glossopharyngeal nerve endings.

The importance of this intervention refers to its extension through three neurons that project into the cingulate region in the cerebral cortex, namely the Brodmann region 3-1-2. This region is activated when there is thirst satiety. With the reduction of the oral mucosa temperature by cold strategies, the TRPM8 is activated, and refreshment, satiety, and relief from discomfort without great fluid ingestion occurs⁽²⁻³⁾.

The low temperature fluid was efficient in all studies in which this strategy was used. This clinical finding is extremely important because it allows for the adoption of effective strategies, particularly in intubated, chronic renal and perioperative patients. The frozen gauze strategy was also effective to relieve the thirst intensity and improve the oral cavity condition⁽²²⁻²⁴⁾. On the other hand, based on the accumulated experience by GSRT in the care of thirsty patients, this strategy is not the most comfortable, because the feel of gauze in contact with the tongue is not pleasant.

The strategies such as ice chips and gargling with cold water are practical, low cost and comfortable to be used in

postoperative patients who are conscious and have intact protective reflexes. However, no studies have been identified with application of this strategy preoperatively. Therefore, studies with this strategy should be performed, with the possibility of reducing the discomfort related to thirst in a period in which usually nothing is done to relieve it^(11,19,23).

In the only study which used menthol to relieve thirst, a bundle was applied consisting of cold water spray, oral swabs and mentholated lip hydration. This strategy was adopted in intubated patients in intensive care, who were sometimes unconscious and without protective reflexes; still, it proved feasible and easy to apply⁽¹⁰⁾. Thus, it was found that strategies using cold or cold associated with menthol are feasible to be implemented in clinical practice⁽¹⁰⁾. The researchers encourage the performance of the strategies separately, to assess the effectiveness in controlling thirst⁽¹⁰⁾. There were no strategies using menthol alone for the management of thirst, despite the connection of this substance with TRPM8.

In two studies, the authors investigated the strategies on xerostomia (symptoms defined as the subjective sensation of dry mouth). People with xerostomia tend to increase the consumption of liquid food and to facilitate speech⁽⁸⁾. The results demonstrated that xerostomia in patients on hemodialysis is directly related to thirst. Dry mouth as a direct result of fluid restriction has a strong impact on oral health and quality of life. These subjective and unpleasant symptoms can potentially be improved by mechanical stimulation of the salivary glands and chewing or palliative care, such as the use of salivary substitutes^(8,21).

Two studies with strategies aimed at salivary stimulation (chewing gum, saliva substitutes and use of thin straws) concluded that the methods are effective^(7,21). The chewing gum was sugar-free, sweetened with xylitol and sorbitol, with a minty flavor in order to improve patients adherence⁽⁷⁾. However, the authors do not discuss the action of menthol on TRPM8 to decrease thirst. In order to stimulate oral hydration, chewing gum can be a feasible alternative for patients in the preoperative period to keep fasting for prolonged times (the strategy has not been investigated in the literature). Xerostomia is subjectively perceived by individuals, and both chewing gum and saliva substitute (Xialine TM) enabled patients do use this strategy to the extent of, and in proportion to, their individual needs⁽⁷⁾.

Acupressure is a Chinese massage technique that stimulates the human body points. In this therapy, the hands are used to put pressure on body surface points, relieving obstruction and balancing the energy flow. However the only study found which used acupressure had a small sample, the results are encouraging in relation to the increase in salivary flow and decrease the intensity of the thirst^(25,27). This technique can be particularly useful for patients in chronic dialysis treatment, as only 74.6% of patients on dialysis follow a fluid restricted diet^(8,28). Strategies to increase salivary flow can be used as effective clinical tools to assist in the adherence of the fluid-restricted diet. This can result in decreased dialytic weight gain, reducing the risk of complications and improving the quality of life^(7,21).

One of the great myths in preoperative care, particularly after surgery, is that the patient must maintain an absolute fast, often for an indefinite period, ranging from eight to 37 hours, in different institutional realities⁽¹¹⁾. This excessive fasting increases the production of gastric juice and further lowers the pH, which increases the risk of complications such as aspiration, and significantly worsens the thirst⁽²⁹⁾. Therefore, strategies such as the early introduction of fluid in the immediate postoperative period are safe and effective, exponentially reducing thirst and oropharyngeal discomfort, increasing patient satisfaction⁽²⁰⁾.

Study limitations

In this integrative review, despite the inclusion of primary studies with levels of evidence 2 and 3, there was a lack of studies on standardization strategies, explanation of sample size calculation, and presentation of the power of generalization. The predominance of studies evaluating cold temperatures on the intensity of thirst and its discomforts corroborate recent findings in the field of sensory physiology. Given the small number of studies on strategies to relieve the thirst of hospitalized patients, there is the need for investments in further research on the subject.

Another limitation was the inclusion of three studies found only in the group of references organized by the Group for Study and Research on Thirst, and not located in the selected databases, despite the rationale for the use of the search methodology. However, we chose to include these studies because of the relevance of their results for the elucidation of the research question.

Contributions to health

The relevance of this review is the synthesis of primary studies that demonstrate feasible strategies to relieve the thirst of hospitalized patients, generating evidence to guide feasible paths in clinical practice.

CONCLUSION

The evaluation of strategies to relieve thirst and its discomforts consisted, above all, in comparison of the primary usual practices adopted in the study sites.

Strategies found in this review can be combined, such as the use of cold and menthol, or salivary stimulation and early introduction of fluids in the immediate postoperative period. Low temperatures and menthol act on specific thermoreceptors which will activate brain areas responsible for thirst satiety. Strategies that focus on salivary stimulation act on areas responsible for mechanical stimulation of salivary gland and mastication. Early ingestion of fluids, in turn, proved effective and safe to reduce thirst and oropharyngeal discomfort, and increase patient satisfaction in the immediate postoperative period.

The implementation of necessary, safe and effective interventions to reduce thirst should be performed by health professionals, based on a careful and individualized assessment of each patient.

The synthesis of knowledge indicated the need to intensify efforts to develop research with methods able to produce strong evidence regarding this issue, especially in Brazilian hospital practice.

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