



REVIEW ARTICLE

Quantitative evaluation of taste in childhood populations: a systematic review^{☆,☆☆}



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KEYWORDS

Taste;
Child;
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Abstract

Introduction: Taste is of great importance for the feeding process. Seen in this light, it is essential to investigate this sense in children as developing human beings. However, despite little variation in the use of tests that measure the gustatory capacity, there are still questions about the applicability and effective use of tools for quantitative assessment in children.

Objective: To search the literature on quantitative instruments used for the evaluation of taste used in studies with children.

Methods: A search was conducted in the PUBMED and Web of Science platforms, and subsequently, the identified articles were selected and reviewed. The descriptors and terms used were "taste," "child," "assessment," "diagnosis," and "dysgeusia". Original articles related to the theme in English, restricted to children and with no year limitation, were selected. Studies conducted in other stages of human development, exclusively or concurrently with the pediatric population; animal studies; literature review articles; dissertations and book chapters; and case studies and editorials were excluded. The data analysis was performed through a cataloging protocol created for this study, including the following points: author, research department, year, location, population/sample, age, purpose of the study, methods, and primary results.

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PALAVRAS-CHAVE

Paladar;
Criança;
Avaliação;
Disgeusia

Results: 5613 items were found. 5307 were excluded based on title, 248 by abstract analysis, and 43 by full text evaluation. Fifteen articles were selected for analysis; of these, six were repeated articles, and thus nine articles were selected for review.

Conclusion: The tests aiming at evaluation of taste were judiciously used, ensuring reliability for future research, which may employ methods similar to previous studies.

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Avaliação quantitativa do paladar na população infantil: revisão sistemática**Resumo**

Introdução: O paladar é de grande importância para o processo de alimentação. Visto dessa forma, torna-se fundamental a averiguação deste sentido junto às crianças, que são seres em desenvolvimento. Porém, apesar da pouca variação na utilização de testes que mensuram a capacidade gustatória, ainda existe questionamento acerca da aplicabilidade e do uso eficaz dos instrumentos de avaliação quantitativa, especificamente na população infantil.

Objetivo: Levantar na literatura os instrumentos quantitativos para a avaliação do paladar utilizados em estudos com crianças.

Método: Busca dos artigos realizada nas plataformas PUBMED e Web of Science, seguindo etapas de seleção e análise crítica dos periódicos encontrados. Os descritores e termos utilizados foram taste, child, assessment, diagnosis e dysgeusia. Foram selecionados artigos originais relacionados ao tema no idioma inglês, realizados somente com a população infantil e sem restrição de ano. Foram excluídos estudos realizados em outras fases do desenvolvimento humano, exclusivamente ou concomitantemente com a população infantil; estudos com animais; artigos de revisão de literatura, dissertações e capítulos de livros, artigos de estudo de caso e editoriais.

A análise dos dados foi realizada por meio de um fichamento protocolar criado para este estudo, contemplando os seguintes pontos: autor, departamento de pesquisa, ano, local, população/amostra, idade, objetivo do estudo, métodos utilizados e resultados principais.

Resultados: Foram encontrados 5613 artigos. Foram excluídos 5307 artigos pelo título, 248 pelo resumo e 43 pelo texto lido na íntegra. 15 manuscritos foram analisados, dos quais seis eram artigos repetidos. Assim, 9 artigos foram selecionados para esta revisão.

Conclusão: Foi observada a utilização criteriosa dos testes de avaliação do paladar, garantindo confiabilidade às pesquisas futuras que venham a utilizar métodos semelhantes aos estudos já realizados.

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Introduction

The release of chemicals during the chewing process allows the taste buds in the oral cavity, pharynx, and larynx to transmit information for the recognition of the taste of the food. Taste is a complex sensory mechanism that can be broken down into four basic sensations (salty, sweet, sour, and bitter), but always resulting from the interaction of all of them and influenced by olfactory and trigeminal nerve mediated factors (texture, consistency, temperature, etc.).¹

Changes in taste can be characterized as ageusia (absence of taste); hypogeusia (decreased perception of taste); dysgeusia (distorted taste capacity); parageusia (distorted sense of taste in the presence of stimulus); and phantogeusia (distortion of taste perception, but without the presence of stimulus).^{2,3} The gustatory disorders of some individuals are affected by changes in nasal–oral airflow⁴ during respiration that changes the influence of smell on

taste. In other individuals, a decrease of saliva from chronic mouth breathing,⁵ which is common in childhood alters the perception of taste. Other causes of gustatory disorders include poor hygiene and impaired oral condition⁶ and some specific epilepsy medications.⁷ In children, a loss of sense of taste can cause a significant decrease in food intake possibly resulting in eating disorders, which can affect physical growth and overall development, as well as reduce the pleasure and comfort associated with food and increase the danger of food poisoning or excessive exposure to harmful environmental chemicals that would otherwise be detectable by the sense of taste.⁸

In order to quantify these potential difficulties and changes, different methods were developed for the evaluation of taste. The current literature⁹ contains several articles involving all age groups using psychophysical quantitative instruments that expose the evaluated subject to the four basic tastes. There is no major variation in the tests

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