

EVALUATION OF THE NUTRACEUTICAL AND ORGANOLEPTIC PROPERTIES OF PROBIOTIC INTEGRAL JUICES USING KEFIR: A SYSTEMATIC REVIEW.

Congresso Brasileiro De Bioquímica Industrial., 1ª edição, de 26/01/2021 a 28/01/2021
ISBN dos Anais: 978-65-86861-74-7

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RESUMO

Introduction: *Kefir* has been associated with health benefits for decades. There is now clear scientific evidence emerging as to which species of the probiotic microbiota relate to the specific health effects. The heterofermentative bacteria are particularly characterized in that regard, being associated with protection against pathogenic bacteria; immune system modulation for potentially reduced risk of allergies and cancer; reducing levels of cholesterol and radical oxidative species; and potentially benefiting in the treatment of diabetes, for example. Probiotics are also important in modulating immunity against pathogens, and for the prevention and treatment of infectious diseases. The efficiency of a probiotic depends mainly on its class (presence of different strains of microorganisms), dose, and type of food. The development of non-dairy probiotic drinks is particularly attractive due to lack of milk allergens, cholesterol, and is accepted by flexitarians, vegetarians and vegans. The fermentative process generates a series of bioactive substances, responsible for nutraceutical properties; in addition to compounds that give *kefir* its characteristic flavor and aroma. Studies have shown that regular *kefir* consumption brings a number of health benefits, such as stimulation of the immune system; antimicrobial activity against pathogens; intestinal microbiota balance; and antitumor action. One of the features that distinguish *kefir* from other fermented beverages is that, in order to achieve fermentation of the medium where inserted, it is crucial to keep a kefir grain with a high population of yeast. The *kefir* grains are formed by microorganism proteins and polysaccharide matrices, containing a number of bacterial and fungal species that are essential for the fermentation of the substrate. **Objective:** This work aims on presenting a systematic literature review on the nutraceutical properties of probiotic, integral and organic juices that use water-*kefir* (tipic in Brazil). **Methodology:** A systematic literature review of articles – from the platforms PubMed, SciELO, and VHL – was performed on this topic; complete articles were analyzed and articles that counted only with the abstract were excluded from the research. **Results:** The continued use of probiotic, *kefir*-based drinks provides a number of benefits to the human health due to their nutraceutical properties, such as the modulation of the immune system to potentially reduced risk of allergies and cancer; reduction of ROS and cholesterol levels; and potentially benefiting in the treatment of diabetes and other non-genetic metabolic diseases;

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antimicrobial activity against pathogens; and balance of the intestinal holobiome. **Conclusion:** Studies show that *kefir's* action mechanisms on cardiometabolic diseases include: recruitment of endothelial progenitor cells; improvement on the balance of the sympathetic/vagal nervous system; reduction of excessive amounts of reactive oxygen species; inhibition of the angiotensin-conversion enzyme; improvement on the profile of anti-inflammatory cytokines; and alteration of the intestinal microbiota. Such results confirm that its nutraceutical properties are of great relevance.

PALAVRAS-CHAVE: Functional Foods, nutraceutical, kefir, composition, therapeutic properties, health.

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