

عنوان مقاله:

Development and Characterization of Fermented and Unfermented Whey Beverages Fortified with Vitamin E

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خلاصه مقاله:

Regarding hemodialysis patients' limitations in consuming different foods, providing them with a product with health-promoting effects is important. The objective of this study was to develop a functional food from whey protein for this disease condition and assess its sensory, chemical, and nutritional characteristics. Fermented and unfermented beverages were prepared as a mixture of whey protein concentrate (۸.۵%), permeate (۱.۴ % for fermented), mint flavor (۰.۰۱%), vitamin E (۰.۱۸%), and water. Ty1YA starter was used for the fermented blend. After pasteurization, and homogenization, the blends were stored until the sensory, chemical, and nutritional evaluations were done. Data were analyzed by SPSS Software (version ۱۶). The pH values of the fermented and unfermented beverages were ۳.۸ and ۶.۰۲, respectively. The medians of all sensory attributes were greater than ۴ for the fermented and less than ۳ for the unfermented beverages (except color). All sensory attributes other than the color were significantly different between beverages ($P < ۰.۰۵$). The overall acceptability of the unfermented beverage was less. No significant nutritional differences were seen between beverages. Some of the nutrients values in the beverages are desirable for hemodialysis patients (Protein: ۷.۹-۸ g ۱۰۰ g-۱, Fat: ۰.۴%, Trans fatty acids: ۲%, Saturated fatty acids: ۵۶.۱۵% Phosphorus: ۹.۲۵-۹.۳۵ mg ۱۰۰ g-۱, Potassium: ۰.۰۲۹۵ %, Sodium: ۶۲.۵ mg ۱۰۰ g-۱, and vitamin E: ۴۰۰ mg ۲۲۰ mL-۱). The microbial counts of both were safe. Vitamin E fortified fermented whey beverage might be a good recommendation for hemodialysis patients because of its protein quality, low fat, phosphorus, sodium, and potassium and high vitamin E contents.

کلمات کلیدی:

Fermentation, Functional food, Nutritional value, Sensory attributes, Whey protein concentrate

