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How sensory properties of an oral nutritional supplement affect intake, satiation and satiety

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Oral Nutritional Supplements (ONS) can be used to improve nutritional status of malnourished patients(1) but their effectiveness depends on adequate intake(2, 3). This is not always achieved due to the disliked flavour and satiating properties of ONS (1, 3, 4, 5, 6). The aim of this study was to investigate the effect of thickness and sweetness intensity on intake of an ONS. It was hypothesized that lower sweetness and thickness intensities would decrease oro-sensory stimulation and satiety, improve the sensory profile and thus improve ONS intake. The effect of sweetness and thickness intensities was investigated using a 2x2 design (low-/high-sweetness and thin/thick). Participants (n=36) consumed each ONS to satiation. Each ONS was identical in macronutrient and calorie content. Appetite and thirst were measured throughout the morning of the test. Additionally, an expert sensory panel (n=11), performed a sensory sequential profile of each ONS (results not presented here). No effect of sweetness intensity was found. Results showed that 33% more of the thin compared to thick, ONS was consumed without affecting satiation or satiety. In conclusion, this study showed that an ONS with a lower thickness increased intake in healthy adults without affecting satiation and satiety. This implies that, for ONS attention should not be solely focused on nutritional content.

Biography

Nikos Pagidas is the Sensory & Consumer Sciences Manager at Kerry Europe & Russia, supporting new product development and strategic taste & nutrition initiatives. Previously, Dr. Pagidas was the Sensory & Consumer Insights Director at Sensory Research Ltd. providing multinational companies with training and also support on their sensory and consumer research needs. He has also worked as a researcher at University College Cork, developing nutraceutical products with optimised sensorial properties.He received his Ph.D. from University College Cork and his M.Sc. from the University of Teesside.

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