

Title

A Transdisciplinary Multi-centre Feasibility and Acceptability Study on Modifying Puree Meals in Residential Aged Care Facilities

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Introduction

Purees are often recommended to older adults in residential aged care facilities (RACF) to target swallowing difficulties and nutrition. However, they lack appeal and may have negative impacts on nutritional intake. Since the introduction of HKSAR Government subsidy for texture modified softmeal for residential care homes, there has been an increased level of interests for care homes to implement softmeal diet in their everyday operations. There are commercially accessible approaches to optimising purees, but there is little evidence for their efficacy in older adults. The emergence of optimized puree also encourages RACFs to review their internal operations and guidelines on food production that is often deemed challenging.

Aims

This study investigated the subjective experiences and objective swallowing function and safety of older adults in response to a modified puree.

Methods

The research team was a collaboration of public universities, NGO-run RACFs, and private businesses where transdisciplinary professions, including speech therapists, community partners and care workers, worked together to implement the study. Trainings were provided prior to the launch of the fieldwork for the kitchen staff of each RACF, while all puree and modified puree meals were made fresh on-site during the research with the help of the community partners.

Twenty-eight residents from 3 RACF whose regular diets consisted of purees were recruited. These research participants were selected based on their swallowing difficulties, cognitive level and ability to feed themselves. Purees were modified to improve visual appeal by adding a commercial enzyme gellant. Each participant was observed during 3 puree and 3 modified puree meals, made with the same ingredients (rice, meat, vegetables). For each meal, participants were observed for mealtime difficulties and completed a brief questionnaire. A videofluoroscopic swallowing study (VFSS) was performed with 16 of the participants to investigate objective swallowing function and safety.

Results

Despite the less ideal research conditions imposed by COVID-19, the research was completed successfully with the cooperation of the various research parties. Compared to purees, modified purees were observed to be easier for oral processing and intake amount was higher, but participants required assistance more often and mealtimes were longer. Participants did not show preference for any type of puree. However, some respondents with sound cognition comprehension appeared more engaged when presented with modified puree. VFSS showed similar swallowing responses between the two puree types. There was a statistical difference in swallowing safety rating between modified meat purees and meat purees ($p=.024$), but not for rice ($p=.891$) and vegetables ($p=.244$).

Conclusions

Modifying puree meals in RACFs is a feasible approach to improve nutrition intake while maintaining safety, but their appeal to consumers is not definitive. Subsequent research will target a larger cohort on consumer perspectives to understand the benefits of modified purees, particularly among older adults with sound cognitive comprehension (for example, older adults living with mild to moderate grade dementia).

Transdisciplinary collaboration helps to enable better quality of life of older adults at RACF. The research was made possible with the help and support of kitchen staff, frontline care workers, managements of RACF, speech therapists and dietitians, and community partners working together. Towards the end of the study, it has inspired the RACF to further study the feasibility of implementing modified puree in the long run while there is also an increased awareness among operation staff at RACF for modified puree.