

SUMMARY

Nursing home residents is a population at high risk of undernutrition. This is costly not only for the society, but also for the individual who experience reduced health and quality of life. Undernutrition is caused by a reduced food intake due to internal and external factors in relation to the meal and the old adult, such as impaired senses, appetite regulation, the social setting during the meal and the meal itself. In nursing homes meals are often served through meals-on-wheels systems, which may reduce the sensory aspects of the meals and limit appetite stimulation. A way to combat the problem could be to suit these meals according to the sensory preferences of the target group. Different studies have investigated meal preferences in nursing home residents, and in most cases traditional, Danish and familiar meals were found. The overall aim of this thesis has been to investigate if a culinary improved two-course meals-on-wheels menu could affect health-related quality of life in nursing home residents. The thesis was basis on four studies, resulting in three papers in total.

In **paper I**, it was investigated, which in-between-meals were most accepted based on appearance and flavor. Twenty texture-modified in-between-meals were assessed by 30 nursing home residents with dysphagia. Those in-between-meals that were most accepted in relation to flavor, were also those with the highest fat and energy content. The evaluations of appearance and flavor were in accordance in 18 of 20 (90%) in-between-meals. Sensory characteristics of the most accepted in-between-meals were that they were frozen, cold and sweet. Similarly, forty main meals were evaluated on their *appearance*, *flavor* and *texture* by 29 old adults in **paper II**. The aim was to investigate main meal preferences of nursing home residents. These meals were divided in six meal type groups (mixed meat, beef, pork, fish, chicken, plant-based), and rated on three sensory aspects. The results showed that with respect to *appearance* pork was liked higher than beef, with respect to *flavor* the meals containing beef were liked higher than the plant-based meals. Lastly, regarding *texture* the meals containing fish were higher liked than meals containing beef or plants. From these pilot studies a selected amount of meals was chosen for a **culinary study** using culinary sessions with chefs from the Copenhagen House of Food to create a sensory improved intervention menu (which included a stimulating, novel twist). This menu was tested in **paper III**. The design was a cluster-randomized study, where 52 nursing home residents were randomized either to receive the control (n=32) or intervention menu (n=20) for 12 weeks. The results showed a reduction in health-related quality of life in the intervention group. The reason for this was possibly that the meals in this menu were less familiar than the meals the control group received. Overall, no effects were found in either the nutritional or functional parameters, which can be attributed the initial frailty of these old adults. Taken together the present PhD thesis suggest that familiarity and recognizability play crucial roles for meal acceptance in nursing home residents. Meal improvement should be done with minor adjustments and respect for meal preferences to increase appetite and quality of life in old adults.