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Nutrimal: Novel nutritional solutions to combat chronic malnutrition in the elderly



Key external stakeholders:

Food manufacturers, retailers, food researchers, public health practitioners, food policy makers

Practical implications for stakeholders:

Communications and product development in relation to food and health for the older consumer should consider the distinct and specific needs of this target group. Messages should be clear and simple, delivered from trusted sources.

Main points

As life expectancy increases, the number of people aged over 60 years is increasing at a rate faster than all other age groups. Moving to the senior stages of life brings a new and different set of physical and nutritional requirements, which may require changes in food consumption and lifestyle behaviours. An understanding of these changes helps the development of targeted and appropriate food products to enhance quality of life and promote healthy aging.

Main results:

Important considerations in relation to food choice were observed in a qualitative study of senior consumers aged over 65 years and living in Ireland. In nutrition related considerations, sugar was a key concern, which resulted in avoidance of certain foods. Most consumers were not aware of the need for protein in their diets, which is an essential nutrient for healthy aging to prevent muscle loss and frailty. These senior consumers have adapted to changes in household structure over time, with many living alone. This impacted upon food purchasing behaviour and further food avoidance if portion sizes were too large. The social network of individuals has a particularly important role to play in the food-related life of these older adults, with friends and family sharing meals. This can assist in food acquisition and be a source of advice and guidance on food and nutrition. Family and GP were the most trusted sources for information about health benefits of food. This study found that these consumers believe there is a lack of reliable knowledge pertaining to nutrition and health, which is a cause for concern. Daily obstacles faced by older people alongside food avoidance may result in diminished dietary intakes and consequently impaired nutritional and functional status.

Opportunity / Benefit:

Opportunities exist to produce foods designed to meet the specific needs of the older person such as increasing protein content or fortifying with essential micronutrients. However, the communication strategy developed to promote these foods needs to be clear, simple and explain the dietary health benefits, such as protein, of these foods. These messages should come from trusted sources such as GP and family, to increase the likelihood of success.

Collaborating Institutions:

University College Dublin, Dublin City University, Healthy Service Executive, *safefood*.

Teagasc project team: Dr Sinéad McCarthy, Ms Helen Cummins (MSc Walsh Scholar)

External collaborators: Professor Helen Roche, Professor Clare Corish, Dr Caoileann Murphy, University College Dublin
 Dr Marian O'Reilly, Safefood
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1. Project background:

Population ageing is a global demographic trend. Consequently, the importance of maintaining good health in older people is increasingly recognised, with food and nutrition acknowledged as modifiable factors. For this population group, adequate protein intake is essential to maintain muscle mass and function; it may also slow the development of sarcopenia (muscle wasting). In addition, meeting calcium and vitamin D requirements is vital in order to achieve optimal bone health into older age. Functional food products, which consider the needs of older adults are common in Asia; few products are available on the European market. Such products, including meal replacements and white milk powders, frequently have a medicinal focus in terms of product type, packaging and design.

2. Questions addressed by the project:

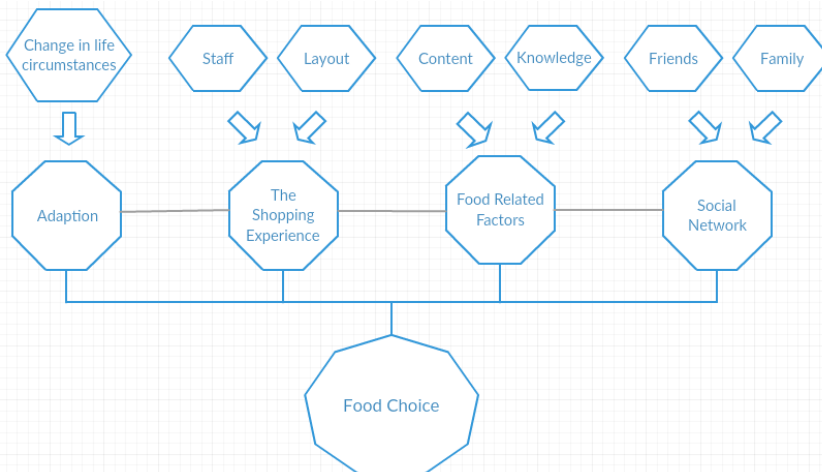
This study sought to investigate the attitudes, motives and behaviours of older Irish adults concerning their food related behaviours. A core objective was to determine if there is a role for producing targeted functional foods for senior consumers to address and combat diet and age related health issues.

3. The experimental studies:

Eight focus groups were undertaken, with consumers aged 65-84 years, (n=60) from varying socio-demographic backgrounds. The focus groups were recorded, transcribed and thematically analysed using NVivo 11 QSR International.

4. Main results:

Nearly all of the participants (n=56) had an existing health issue while more than half lived alone (53%; n=32). Using thematic analysis, four prominent themes specific to food choice were identified. These were Adaptation, The Shopping Experience, Food Related Factors and Social Network as outlined in the schematic below.



Adaptations to daily shopping and food routines helped this cohort overcome barriers to achieve their desired food choices. Most commonly, changes in life circumstances were the precursor to these adaptations. Children leaving home and/or the loss of a spouse instigated a change in food purchasing, cooking and consumption. Some found it hard to adjust to this change.

The shopping experience plays its own independent role in food choice decisions of senior consumers. A high value was placed on shop staff interaction in all focus groups with unanimous agreement that staff should be “pleasant”, “nice” and “helpful” resulting in ease of access to food in the shops such as finding

products in the crowded retail environment. Shop layout was also discussed as part of the shopping experience theme with difficulty reaching products on high shelves regularly cited as an issue when shopping.

Food related factors such as food composition (protein, fat, sugar) or nutrition knowledge comprised this theme. Sugar content featured right across all focus groups as a deterrent to purchasing certain products with the common opinion that sugar was “bad” and concern at the sugar content of many foods. Participants believed that reducing or removing fat from their diets was beneficial for health because it would prevent an increase in blood cholesterol and decrease weight. The majority had very limited knowledge of protein; few knew its sources although a small number knew it was present in meat and eggs. Overall, the view of the participants was that protein intake was not an important consideration for food choice. Health and nutrition information was obtained by participants from many sources including doctors and pharmacists. The internet was rarely used as a source of information but print media and television were mentioned. Family was perceived as a trusted source of information on health and nutrition. However, consumers were frequently confused as they felt they were exposed to mixed messages and were not familiar with nutrients of relevance to their stage of life.

The social network theme refers to the informal network of family and friends who support the participant and provide positive food choice experiences. Both family and friends were deeply entwined in the food choice process. For those living alone, their own children had a large influence over what was consumed at meal times, either by cooking their meals or by providing food which participants could use in their own homes. New foods were introduced into participants’ diets because of this family influence. Those who received meals in their children’s homes consumed new food types and foods with different flavours, which they had not previously encountered or used.

‘Perceived Need’ and ‘Trust’ were recognised as prominent themes influencing functional food choice. For many participants, they did not perceive the need to use functional foods as believed that they were consuming a healthy balanced diet and did not require additional benefits from functional foods. For those where were consuming functional foods, it was for a specific health purpose such as lowering their cholesterol by consuming the plant stanol products. These products were only consumed after recommendation by a trusted person such as GP or family and even then, they were not fully convinced of their beneficial effects. The most familiar and commonly used functional foods were fortified milks and cholesterol-lowering spreads. Participants who consumed these perceived them as easy substitutes for their equivalent non-functional food. These participants also stated that it is important to check with health care professionals before considering consuming functional foods. A strong distrust of the food industry and manufacturers across all focus groups was apparent and hence they would not be viewed as a trusted source in communicating the benefits of functional foods

5. Opportunity/Benefit:

A number of barriers to appropriate food choice for healthy aging were identified. While many of nutritional challenges can be rectified through reformulation of food products, significant barriers include a lack of knowledge about the role of different nutrients at this life stage. The requirement for many macro and micronutrients increases in older adults and this presents an opportunity for reformulation/new product development by food companies as well as sensitive marketing of their products to the older consumer. The retailer plays more than just a role in the acquisition of food for its older consumer, it also provides outlet for social engagement and interaction, which in an indirect manner has an impact on food choice. The retailers can support this by making the store inclusive for their older customers, by having well-trained, friendly staff to assist the older customer and appropriate placement of products to avoid bending down and over-reaching. They could also provide a good location for testing product concepts and providing samples to consumers. There is a significant role for public health bodies to effectively communicate the essential information to consumers in relation to unnecessary food avoidance as well as promoting the essential nature of protein in the diet of older consumers. Future public health campaigns need to recognise older adults as a unique group and provide targeted nutrition advice with clear, simple messages that raise awareness about the importance of age-related nutrition for wellbeing. Focusing on well-being rather than negative aging messages is key. Finally, the daily obstacles faced by older individuals when using food products needs to be recognised and considered to prevent negative food experiences leading to decreased dietary intake with consequences such as impaired nutritional and diminished functional status.

6. Dissemination:

On 29th November 2017 at Teagasc Food Research Centre, a workshop was hosted in conjunction with Meat4Vitality (FIRM funded research project on snacks for elderly) entitled Healthy Ageing: Opportunities for NPD

Cummins, H; Corish, CA; Roche, HM; McCarthy, SN; Considerations for developing functional food products for the older population. Proceedings of the Nutrition Society 76:OCE3 2017: Cambridge University Press

Cummins, Helen; Corish, Clare A; Roche, Helen M; McCarthy, Sinead N. Consumer Assessment Of Unmet Needs In The Development Of Targeted And Appropriate Novel Food For The Over Sixty Fives. Age and Ageing 45:suppl_2: ii13–ii56 2016.

Popular publications:

H Cummins, S. McCarthy, C Corish, H Roche. Eat well, age well. TResearch, Spring 2017

7. Compiled by: Dr Sinéad McCarthy
