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Research report

Functional disabilities do not prevent the elderly in Finland from eating regular meals

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Abstract

The aim of this study was to depict the prevalence of different meal patterns of the elderly in Finland and to analyse the role of socio-demographic factors, functional capacity and help received as the determinants of following a conventional meal pattern. A nationally representative sample of elderly people aged 65 years and over and living at home ($n = 1697$) in 2000–2001 was obtained. A structured (personal) interview was used for data collection. Regular hot meals are common among the elderly. Functional disability affecting the carrying out of food-related activities does not have an independent effect on the regularity of meals. The conventional meal pattern, which consists of breakfast, a hot lunch and a hot dinner, is more seldom followed by the elderly who have a low socio-economic status than by those whose educational level and monthly income are higher. The help received in carrying out food-related activities contributes to the ability to maintain a conventional meal pattern. In order to allow elderly people to live independently at home for as long as possible, special attention should be paid to the problems regarding meals in the lower socio-economic groups.

Keywords: Meal patterns; Food habits; Functional capacity; Elderly; Socio-economic status

Introduction

The pattern of three meals per day is widespread throughout the world (Pliner & Rozin, 2000). Two or three meals are also eaten daily in Finland (Kjærnes, 2001; Prättälä, 2000).

The conventional Finnish meal pattern has been described as a breakfast, usually sandwiches with cheese, or porridge, and coffee before 9 am; a prepared hot lunch at noon; and a prepared hot dinner from 4 to 6 p.m. (Roos & Prättälä, 1997). For example, several Finnish dietary guidelines (for the elderly, hospitalized patients, children and sportsmen) take this meal pattern for granted (Hasunen et al., 1992; Von Fieandt & Hasunen, 1994). Almost 45% of all Finns (Gronow & Jääskeläinen, 2001; Roos & Prättälä, 1997) and 35% of elderly Finns aged 65–84 years (Sulander, Helakorpi, Nissinen, & Uutela, 2006) follow the conventional meal pattern. The Finnish prepared hot meal usually consists of boiled potatoes, meat or fish, gravy and vegetables (Mäkelä, 2001). Bread and milk or water are included as well.

Factors affecting meal patterns and nutrient intake in old age can be grouped into three broad groups; physical, social and psychological. Various disabilities, e.g. restricted mobility, difficulties in shopping, cooking, and cleaning up, visual impairments and lack of transportation may restrict eating and limit nutrition intake by the elderly (Darnton-Hill, 1992; Horwath, 1991). Other physical impairments, such as poor natural dentition, unfit false dentures, lack of saliva secretion and the loss of taste and smell can all affect the palatability of food and restrict food choices. A blunted hunger sensation may affect eating, but the effect is reduced by following daily eating routines such as maintaining regular meal patterns (De Castro, 2002).

Typical social determinants of food habits and meal patterns are gender and socio-economic status. Cooking is usually done by the wife (Ekström & Fürst, 2001), and men accordingly have more difficulties in preparing meals than women (Pitkälä, Valvanne, Kulp, Strandberg, & Tilvis, 2000; Sulander et al., 2006; Valvanne, Juva, Erkinjuntti, & Tilvis, 1991). Men living alone have been considered to be at greater risk of malnutrition

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than women, but results are inconsistend (Charlton, 1999; Korpela, Valsta, & Pietinen, 1999; Pearson, Schlettwein-Gsell, van Staveren, & de Groot, 1998; Walker & Beauchene, 1991). However, women living alone especially after bereavement also tend to simplify their cooking and eat more cold meals (Gustafsson & Sidenvall, 2002; Quandt, Vitolins, DeWalt, & Roos, 1997). Low social status including low income, education and occupational status has been related to disabilities and poor nutrition (Charlton, 1999; Darnton-Hill, 1992; Horwath, 1991). Elderly people with a low socio-economic status are also more likely to have health problems and functional disabilities (Huisman, Kunst, & Mackenbach, 2003).

Depression, loss of appetite, and lack of desire to cook or eat and loneliness are psychological factors that are associated with eating too little (Darnton-Hill, 1992; Gustafsson & Sidenvall, 2002; Quandt et al., 1997). Poor life satisfaction, stressful life events and negative attitudes towards eating have similar effects on eating.

Meals are an important factor contributing to the quality of life of the elderly. The role of nutrition in preventing chronic diseases changes as people get older. For example, being overweight or having a high intake of saturated fats are not such important risk factors as they are for middle-aged people (Schlettwein-Gsell, 1992). However, the sensory, psychological, and social meaning of eating may strengthen with increasing age. Familiar meal patterns enhance a sense of security, and bring order to an elderly person's day. They have a positive effect on self-esteem, enjoyment, situation awareness and appetite. Meal patterns provide continuity of values and they structure social contacts as parts of daily routines (Amarantos, Martinez, & Dwyer, 2001; Schlettwein-Gsell, 1992).

Food is eaten mainly as meals and energy is mainly obtained from hot meals (Andersson, Nydahl, Gustafsson, Sidenvall, & Fjellström, 2003; Gustafsson et al., 2002; Schlettwein-Gsell, deCarli, & de Groot, 1999). Elderly Swedish women acquired 74% of their daily energy intake from their meals (Andersson et al., 2003). The regularity of prepared meals has been related to a more nourishing diet as a prepared meal often includes more energy-dense food items (Andersson et al., 2003; Gustafsson et al., 2002; Päivärinta & Haverinen, 2002; Schlettwein-Gsell et al., 1999). A good nutritional status improves the health-related quality of life (Amarantos et al., 2001), whereas poor nutrition is related to ill-health and delayed recovery from diseases. In a European longitudinal study Schlettwein-Gsell and Barclay (1996) noticed that the oldest ate most regularly, even though they had difficulties with shopping and meal preparation.

It is presumed that meals have an effect on the functional capacity of the elderly through nutritional status and vice versa. Functional disability has been reported to affect the preparation of meals, and, as a consequence, proper meals are eaten less frequently and nutritional status deteriorates (Andersson et al., 2003; Wylie, Copeman, & Kirk, 1999). However, functional disabilities are not associated with deterioration in nutritional status in all studies (Korpela et al., 1999; Sonn, Rothenberg, & Steen, 1998).

Previous studies on meal patterns among the elderly have emphasized the role of regular meal patterns in contributing to the health and quality of life of the elderly. However, the determinants of regular meal patterns in the elderly are not well known. Studies on the association between functional capacity and meal patterns have shown contradictory results. Furthermore, there is a gap in the knowledge concerning the socio-economic determinants of food habits among the elderly, and whether the possible associations are mediated by functional capacity. Previous studies indicate that functional capacity is associated with socio-economic factors, but to our knowledge no previous studies have analysed the contribution of both socio-economic factors and functional capacity to the meal patterns of the elderly.

The overall goal of our study is to contribute to the understanding of the meal habits of the elderly. We describe the prevalence of different meal patterns among elderly people in Finland and functional disabilities in food-related activities. Then we analyse the determinants of the conventional meal pattern focusing on socio-demographic factors, functional capacity and help received from other people.

Methods

Subjects

This study is based on a population-based sample of 2113 people aged 65 and over in Finland (Health 2000 survey in 2000–2001). Persons aged 80 and over were oversampled by doubling the sampling fraction. Two-stage stratified cluster sampling was used to draw a representative sample of the Finnish population. Subjects were randomly selected from the 80 clusters including 160 municipalities in proportion to the population size. The Health 2000 survey consisted of a health interview, questionnaires and a health examination (Aromaa & Koskinen, 2004). This study of elderly Finns is based on the health interview. The participants were interviewed at home by trained interviewers using a computer-aided interview. The information used in this study was obtained from 85.5% of those members of the sample who did not live in an institution.

Variables

The distribution of the participants by the socio-demographic and health-related explanatory variables in this study is presented in Table 1. The questionnaire used in the health interview is available on the Internet at: http://www.ktl.fi/health2000.

Meal patterns were based on the following questions: 'What kind of meals do you normally eat on weekdays for (a) breakfast, (b) lunch, (c) dinner?' The options for these three questions were 'nothing', 'only a drink', 'cold meal' and 'hot meal'. Using this time-flexible question, we were able to define different meal patterns.

Self-rated health was measured by asking the participants to describe their health status by selecting one of five alternatives ranging from good to poor. The two lowest alternatives were