

Dietary fat choices in Finland. Long-term trends and short-term changes, 1978–2014

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Dietary fat has long been a target of several Finnish policy sectors with conflicting interests. Changes in fat use from animal to vegetable fats have often been characterized as “a public policy success story”, in which policy interventions have led to healthier diets. The aim of this paper is to elaborate the picture of the developments in the consumption of different fat products, and to explore whether and what kind of other developments there may have been besides the general change from animal to vegetable fats. Based on population statistics between 1978 and 2014, the study shows that instead of a uniform transformation from animal to vegetable fats, there have been multiple developments simultaneously, and not all of them unambiguously agree with the “success story” discourse. The changes were related to novel fat products, health policy interventions, cultural trends, public debates on dietary fats, and fat diets.

Keywords: Fat consumption, novel products, nutrition policies, trends, population survey

Introduction

Finns, especially middle-aged males, topped the international statistics on cardiovascular mortality in the 1960s and early 1970s, which was connected to the heavy use of animal fats. The consumption of both total fat and animal fats has decreased among Finns since the 1970s (Pietinen, Paturi et al. 2010). These changes, together with an increase in the consumption of vegetables, have been the long-term aim of Finnish nutrition policy. Although total fat intake has decreased also in other EU-countries during the latter half of the 20th century, Finland has often been highlighted as a prime example of successful policies targeting fat consumption, both nationally (Prättälä 2003, Puska 2002) and internationally (van der Wilk, Jansen 2005).

Based on population statistics between 1978 and 2014, this study shows that instead of a uniform transformation from animal to vegetable fats there have been multiple developments simultaneously, and not all of them unambiguously agree with the “success story”. Moreover, we will discuss what market-related, social, and political factors might be found behind both long-term and short-term changes.

Fat consumption is affected by several interconnected factors, such as agricultural and health policies, product availability and pricing, and cultural trends and fashions. Butter

was traditionally an important agricultural product in Finland, involving significant economic interests. The production of margarine was allowed only in 1920. Thereafter, margarine and butter production were clearly separated by legislation. Public health objectives and market interests eventually led to legislative changes that permitted the production of a mixture of butter and vegetable oil in 1979, and of low-fat spreads in 1986. However, because of problems related to overproduction, the higher taxation for margarine and sales promotion and price subsidies for butter remained in place until the early 1990s (Suojanen 2003).

Health policy and nutrition recommendations have for several decades aimed at lowering fat consumption. Since the 1968 Nordic nutritional experts’ report, a reduction in the consumption of saturated fat and an increase in the use of unsaturated fats have been a constant feature in the national nutrition recommendations (Suojanen 2003). Moreover, major attempts to prevent cardiovascular diseases with interventions such as the North Karelia project from 1972 onwards have had a key role in establishing saturated fats as a risk factor for heart problems in Finland (Puska 2000).

Since the 1960s, margarine has increasingly been associated with positive images, such as lightness and slenderness, fitting the health-conscious atmosphere of the 1980s (Pantzar 1995). During the past years, the cultural meanings of dietary fats have changed: low-carbohydrate diets typically classify animal fats as healthy and margarines as unhealthy (Knight 2012).

In this article, we examine, first, the long-term trends of fat preferences among Finns between 1978 and 2014 and the short-term changes in the use of various fat products. Second, we discuss how various political, cultural and market-related developments in the Finnish society may have affected these trends.

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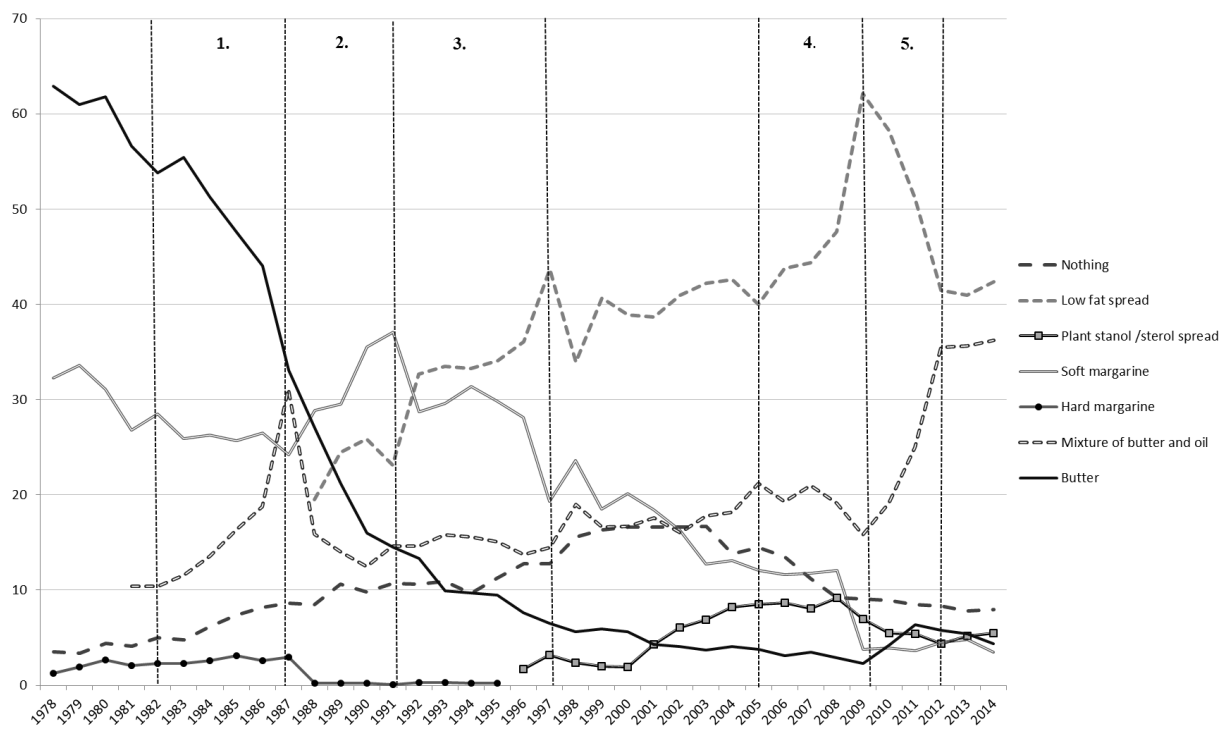


Figure 1. The choice of bread spread by research year (per cent), vertical lines for the periods of rapid increase.

Material and methods

The data used in the analysis were collected during 1978–2014 in the Health Behaviour and Health among the Finnish Adult Population (AVTK) monitoring survey, which is an annual postal survey by the National Institute for Health and Welfare. A random sample was drawn from the National Population Register and the questionnaire was posted each spring to 5,000 respondents aged 15–64 years.

Altogether the data comprises of 132,144 respondents. The response rate has fallen from 84% (1978) to 53% (2014). Women and older respondents have been more active in responding throughout the years, and the decline has been particularly steep among those with a low level of education. The questionnaire contains questions on key aspects of health behavior (Helakorpi, Holstila, Virtanen, Uutela 2012). In the present analysis we use the questions “What type of fat do you mostly use on bread?” and “What type of fat do you mostly use for cooking at home?”

The question on bread spread was asked yearly with the options “butter”, “soft margarine” (containing 70–80% fat) and “nothing”. A butter-oil mixture (containing approximately 50% animal fat and 25% of vegetable fat) was added to the response options in 1981, low-fat spread (containing max. 60% fat) in 1988, and cholesterol lowering plant stanol and/or sterol spread (containing max. 60% fat) in 1996. Hard margarine (containing 80% fat) was included in 1978–1995.

The question on cooking fat was presented in 1978–1987 and in 1990–2014 with the options “butter”, “hard margarine”, “soft margarine”, “vegetable oil” and “nothing”.

The options that were later added include “butter-oil mixture” (from 1981), “low-fat spread” (from 1990), “plant stanol/sterol spread” (from 1996) and “liquid margarine” (from 2002). For both fat questions, since 2009 the low-fat spread options included separate categories for spreads with “max. 40% fat” and “approximately 60% fat”. In the analysis these options were combined.

Below, we present the trends of bread spread and cooking fat consumption and discern rapid increases in the consumption of various fat products. We developed and applied the following criterion for a rapid increase: A rapid increase occurs when the consumption of a product increases by at least 50% during a period of 1–6 years.

Results

As Figures 1 and 2 show, there has indeed been a general shift from animal to vegetable fats both in bread spreads and in cooking fats. However, the figures also indicate that this is not the whole story. During the study period there have been considerable changes in the use of various fat products. Below, we describe and discuss these changes in more detail.

Regarding bread spreads, five periods of rapid increase matching our criteria were found: The first period (1982–1987) is characterised by an increased consumption of a novel product, butter-oil mixture (introduced in 1979), from 10% to 31%, and a decreased consumption of butter (from 54% to 33%). Moreover, the tendency to choose soft margarine decreased slightly.

The second rapid increase (1987–1991) is characterized

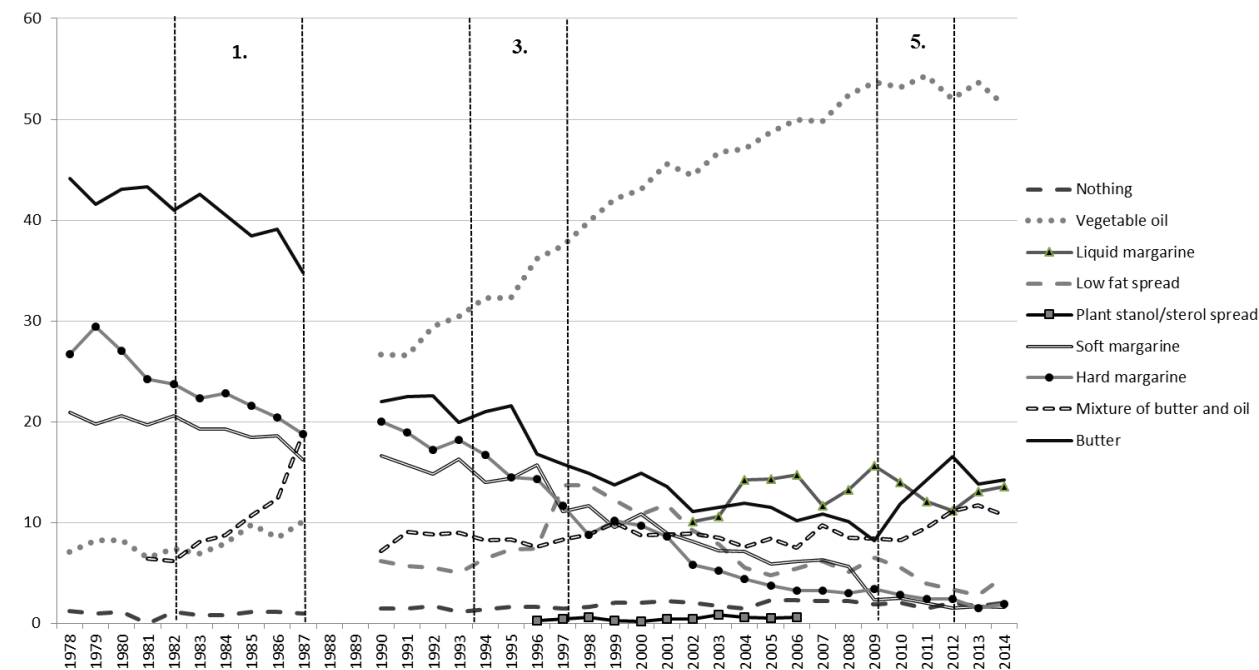


Figure 2. The choice of cooking fat by research year (per cent), vertical lines for the periods of rapid increase.

by increased consumption of soft margarine with 24 % to 37 % choosing this response option in 1987 and 1991, respectively. Low-fat spreads entered the market in 1987 and 20% of the respondents had begun using them by the following year. Consequently, the use of butter and butter-oil mixture decreased.

The third (1991–1997) and the fourth (2005–2009) rapid changes are characterised by an increased consumption of low-fat spreads. During 1991–1997 the consumption of soft margarine and butter decreased, whereas in 2005–2009, the use of soft margarine and a butter-oil mixture decreased.

During the fifth rapid change (2009–2012), the consumption of butter (from 2 % to 6 %) and a butter-oil mixture (from 16 % to 36 %) increased. Consequently, the use of low-fat spreads decreased. In 2013–2014, the consumption of butter products remained at the level they had reached in 2012.

In addition to these periods, the proportion of those who reported that they use no bread spreads increased slowly for more than two decades, and then began to decrease. Plant stanol/stenol spreads were increasingly used in the 2000s but remained the main product of only a small minority.

Between 1978 and 2014, the proportion of those who typically used butter, soft margarine and hard margarine in cooking decreased, and the consumption of vegetable oil increased (Figure 2). The periods of rapid change partly overlapped with those of bread spreads. The first rapid change took place between 1982 and 1987, when the tendency to choose butter-oil mixture increased. During 1993–1997, the use of low-fat spreads for cooking increased steeply and the use of hard and soft margarines decreased. The period between 2009–2012 was characterized by an increase in the

use of butter or a butter-oil mixture in cooking and a slight decrease in use of liquid margarine and low-fat spreads. Although there was a slight decrease in the consumption of vegetable oils, they were still chosen for cooking by over a half of the respondents.

Discussion

The often repeated “success story” of Finnish health policy (Prättälä 2003; Puska 2002) holds true when we look at the decreasing preference for butter and increasing preference for low-fat spreads and vegetable oils. Throughout the study period, nutrition recommendations have repeatedly contained two core messages as regards fat consumption: People have been urged to choose vegetable fats rather than animal fats and to decrease their total fat consumption. Furthermore, the period has been characterised by an increasing concern for health matters and responsibility placed on individuals to choose healthy lifestyles (Crawford 2000; Petersen & Lupton 1996). This concern, or even a fear of fat, is echoed in our result showing an increase of respondents using no fat at all on bread until the early 2000s, even though total avoidance of fats has never been the aim of Finnish food policy. Moreover, vegetable oils, especially olive oil, have gained a positive image not only among the health-conscious but in gourmet culture as well (Mili 2009). Reflecting these messages, the food industry has since the 1980s increasingly supplied reduced fat and low-fat products in Finland and elsewhere (Hamilton et al. 2000).

One factor affecting the use of fat products is price. However, the price differences between the products do not seem to have affected consumption patterns significantly: From

1978 up until 2008, the mean price of butter and butter-oil mixture has been approximately one fifth higher than the price of soft and hard margarine and later, also of low-fat spreads (Statistics Finland 2013). However, the decrease in the consumer price of butter by 30 % in 2009 may have somewhat affected the subsequent increase in butter use (Niemi et al. 2010).

Besides these long-term developments, we detected five periods with rapid increase in the preference for fat products. Between 1982–1987, the use of a novel product, butter-oil mixture, increased, partly replacing butter both as a bread spread and in cooking. Although the butter-oil mixture is only partly a vegetable oil product, in the early 1980s it was promoted as a healthier choice compared to butter, and a halfway solution to those consumers who were used to the taste of butter but wanted to make a healthier choice (Pantzar 1995).

The following three periods between 1987–2009 reflect the aims of health and food policies in Finland, health promotion initiatives, the more general trend of healthism (Crawford 2000), and the ethos of slimness. During 1987–1991, the preference for both soft margarine and low-fat spreads increased. Besides the general impact of the ethos of health promotion, several events in the late 1980s probably affected the consumer preferences: The introduction of a novel product, low-fat spread in 1987 changed the supply as well as demand. In 1987, the first national nutrition recommendations were published and reported widely in the media. It is also noteworthy that the 1989 memo for the implementation of nutrition recommendations favoured low-fat spreads (National Nutrition Council 1989), whereas the following recommendations did not contain such emphasis. Moreover, an extensive and heated media debate on the healthiness of saturated fats took place in the leading subscription newspaper Helsingin Sanomat in summer 1988. In this debate, the experts arguing for the harmfulness of animal fats held the strongest position and consequently, strengthened public health policies, which place responsibility for lifestyle and health on citizens themselves. Later, in the 2000s, the increasing concerns about obesity in Finland and elsewhere is probably reflected in the preference for low-fat spreads (Setälä & Väliaverronen 2014, Gard & Wright 2005).

The trend reversed during the following years, as the use of butter-oil mixture, and butter increased between 2009–2012 (cf. Männistö et al. 2012) and the use of low-fat spread decreased. The trend may partly reflect the decrease in the price of butter products (Niemi et al. 2010), but more importantly, the extensive media publicity around low-carbohydrate/high-fat diets in Finland (Karvonen 2013; Jauho 2014). These diets typically promote butter as a healthy and natural product, whereas margarine is labelled as harmful (Knight 2012). Although only a minority of Finns followed strict low-carbohydrate diets in 2012 (Jallinoja et al. 2014), the arguments favouring butter have probably affected the fat choices among the population at large, encouraging people to use butter products instead of vegetable fats. Moreover, instead of pure health motivations, the current food discourses increasingly favour pleasure and taste as central mo-

tives for food choices (Johnston & Baumann 2009). As the most fierce low-carbohydrate boom has faded, the results for 2013 and 2014 suggest that the consumption of butter and a mixture of butter and oil has stabilized at the level of 2012.

The response rate of the survey had declined and was 53% in 2014 - a general development in surveys in Europe (Groves & Couper 1998). This decrease has been detected in all population groups, and consequently response rates of over 50 per cent have been considered satisfactory in recent studies (Tolonen 2005). Another issue to be considered is self-reported fat consumption. Self-reporting is the only feasible and cost-effective method for collecting large, representative data. Here we have explored only bread spreads and cooking fats, leaving other fat products, such as milk and cheese, for a later analysis. Despite these limitations, the present study provides a valuable exploration of long-term and short-term changes in fat preferences and hence, an analysis of the changes in society that are related to these trends.

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