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To Choose or not to Choose Functional Foods, that is the Question

*Swedish Consumers' and Health-care Professionals'
Attitudes to and Use of Functional Foods*

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Abstract

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The aim of this thesis is to investigate attitudes to functional foods (here defined as foods with health claims) among Swedish consumers and health-care professionals. The aim is also to survey demographics and health interests associated with the consumption of functional foods among Swedish consumers. Finally, the aim is to investigate health-care professionals' knowledge of and willingness to recommend functional foods to patients.

Examples of functional foods used in the studies are probiotic fruit-drinks, probiotic milk-products, cholesterol-lowering spreads and fibre-rich bread with omega-3 fatty acids. Ten focus groups of consumers and three of health-care professionals were conducted. Two questionnaires were also used, one for consumers aged 17-75 years (n=2000) and one for health-care professionals (dietitians, n=100; registered nurses, n=200; physicians, n=200). Almost half of the consumers (48%) and exactly half (50%) of the health-care professionals responded.

The consumers wondered whether the functional foods were normal foods or medicines. They considered functional foods unnecessary, unless you suffer from incurable diet-related problems. The consumers were worried that the foods could be used as a compensation for an unhealthy lifestyle. While the consumers in the focus groups were mainly sceptical towards functional foods, these foods are being consumed by those who perceive them as necessary, the health-conscious, the well-educated and people who have noticed effect of the foods.

The registered nurses and physicians, in contrast to the dietitians, expressed doubts regarding the claimed effects of the functional foods. The dietitians rated higher knowledge and were more willing to recommend functional foods to patients than were the physicians and, to some extent, the registered nurses. The interviews with the health-care professionals revealed that the dietitians were more positive towards functional foods than the registered nurses and, primarily, the physicians. This was confirmed through the questionnaire. Those, who consumed functional foods, reported high knowledge, and perceived benefits of functional foods, were most likely to recommend these foods to patients.

Keywords: functional foods, attitudes, use, knowledge, consumers, health-care professionals

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*Let your food be medicine
and your medicine be food*

Hippocrates (460BC - 377BC),
unverified quote

List of papers

This thesis is based on listed papers, which are referred to in the text by their Roman numerals.

- I Landström, E., Koivisto Hursti, U-K. and Magnusson, M. “Functional foods compensate for an unhealthy lifestyle”: Swedish consumers’ impressions and perceived need of functional foods. Submitted
- II Landström, E., Koivisto Hursti, U-K., Becker, W. and Magnusson, M. (2007) Use of functional foods among Swedish consumers is related to health-consciousness and perceived effect. *British Journal of Nutrition*, 98 (5): 1058-1069. Erratum in: *British Journal of Nutrition* 2008; 99:215 (Cambridge University Press)
- III Landström, E., Sidenvall, B., Koivisto Hursti, U-K., and Magnusson, M. (2007) Health-care professionals’ perceived trust in and willingness to recommend functional foods. A qualitative study. *Appetite* 48 (2): 241-7
- IV Landström, E., Koivisto Hursti, U-K., Becker, W. and Magnusson, M. Swedish health-care professionals’ use, knowledge of and willingness to recommend functional foods to patients. Submitted

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Abbreviations

DA	data not available
FOSHU	foods for special health use
FUFOSE	Functional Food Science in Europe
LDL	low density lipoprotein
NFC	nutrient function claim
NPI	natural product interest
OR	odds ratios
PASSCLAIM	Process for the Assessment of Scientific Support for Claims on Foods
PSC	product-specific health claim
RDC	reduction of disease risk claim

Introduction

Today's food market gives the consumer both a myriad of choices of food from all over the world and constantly fresh fruit and vegetables. What we eat constitutes one of several factors in our lives that have an effect on our health, because all foods affect our physiology. Fairly recently (in 1990) functional foods entered the food market. Functional foods are foods which may prevent or reduce the risk of diet-related diseases, or may enhance certain physiological functions⁽¹⁻³⁾. However, functional foods, as opposed to other foods, can have a health claim on the package in order to inform the consumer about the possible effect of the food. Also, some functional foods have been clinically tested on humans. These foods can carry a product-specific health claim if they have proved to have a significant effect compared to a conventional food product⁽³⁾. Examples of these foods are cholesterol-lowering margarine, probiotic fruit-drink and probiotic milk-products⁽⁴⁻⁷⁾. These foods could be used in combination with, or in replacement for, certain pharmaceuticals.

The willingness to understand food choices emerged from an industrial perspective, through the interest in selling products. However, the urge to understand food choices also comes from a health perspective⁽⁸⁾, since food choices are important for our nutritional status and, hence, health. Thus, both manufacturers and governments are interested in gaining knowledge of which attitudes, individuals and societal factors lead to different food choices, and – as will be presented in this thesis – to the choice of functional foods⁽⁹⁾.

As a nutritionist I have a special interest in how we can improve our health by what we eat. If people want to improve their health by their food intake, I think it is important to know if they regard functional foods as something which may help improve their health. It is also important to know if health-care professionals, with the possibility to recommend foods to patients, would consider functional foods, for example cholesterol-lowering margarine.

As of today there are few scientific investigations on Swedish consumers' attitudes to and use of functional foods. And, to my knowledge, there are no scientific investigations of Swedish health-care professionals' attitudes to and knowledge of functional foods. That is why this thesis has been written. The project which this thesis is based on was founded by VINNOVA, the Swedish Governmental Agency for Innovation Systems.

In the introduction of this thesis I will firstly describe the history of functional foods and define what I mean by “functional foods”. Functional foods will then be put in an international perspective before I describe the regulations surrounding functional foods in Sweden. This is followed by a scheme describing factors influencing our food choices and factors influencing choices of functional foods among consumers and health-care professionals.

In this thesis the words *functional foods*, *consumer* and *health-care professionals* are used frequently. *Functional foods* are defined below. A *consumer* is an individual who “uses goods and services” generated within the economy and food market⁽¹⁰⁾. Included in the expression *health-care professionals* are dietitians, physicians, and registered nurses who meet and take care of patients. Of course, the health-care professionals are likewise consumers.

Definitions of functional foods

History

Functional foods are said to have entered the food market in Japan in the early 1980s when people became more health-conscious due to increased medical costs and the extension of years lived⁽¹¹⁾. In 1991 the Japanese Ministry of Health and Welfare introduced a labelling regulation named Food for Special Health Use (FOSHU)⁽¹¹⁾. For foodstuff to be eligible for FOSHU, then scientific documentation from clinical and nutritional trials proving health efficacy, daily intake, safety, stability of the food or ingredient are required. Thus, Japanese functional foods are foods with scientifically documented effects, claimed on the food and approved by the Ministry⁽¹¹⁾. This is from where the concept of functional foods emerged from⁽¹¹⁾. These Japanese regulations have influenced several countries’ regulations on functional foods.

In 1990, Sweden became the first country in the world with rules on health claims made on foods by a concerted action of the Food Sector⁽¹²⁾. The rules were called Health Claims in the Labelling and Marketing of Food Products, The Food Sector’s Code of Practice.

The term “functional food” has no officially accepted definition in Sweden; however, the term functional food will be used throughout this thesis as a term for all “foods with health claims”. Functional foods are food products which, in addition to their basic nutritional value, contain nutrients or other substances or have a nutritional composition that may prevent or reduce the risk of a diet-related disease or may enhance a certain physiological function⁽¹⁻³⁾. These foods are allowed to carry claims of their effects⁽³⁾.

Setting the scene: functional foods – an international perspective

At the same time as complex and high-technological foods, such as functional foods, become integrated in the daily diet of the westernised world, a native individual in the deep forests of the Amazonas has probably not lend it a thought. Functional foods exist worldwide, but all cultures do not separate food and medicine. In China, for example, food and medicine are recognized as to share the same origin⁽¹³⁾.

Comparisons between countries regarding functional foods are complex since the definition of functional food differs around the world⁽¹⁴⁾ and, hence, also in the market and scientific research. The World Health Organisations have guidelines for the use of nutrition and health claims on foods⁽¹⁵⁾. Countries choose, however, whether or not to set up their own rules and regulations, and these regulations differ, of course. Latin America had in 2002 no official definition of functional foods, although the scientific and regulatory committees associate functional foods with foods having health benefits beyond basic nutrition⁽¹⁶⁾. In the USA health claims are put on foods containing substances affecting diseases or health-related conditions. Thus, functional foods can in the USA be natural (unprocessed) or conventional food, fortified foods or dietary supplements^(17, 18). Their definition is, however, different from the newly adopted EC regulation (more about the EC regulation on page 15).

What kinds of foods are the functional foods, then? The European functional food market focuses on gut and intestinal health, for example probiotics (milk or fruit products enriched with gut-friendly lactic acid bacteria) and prebiotics feeding the gut-friendly bacteria (oligofructos-enriched cereals). The European functional food market also focuses on healthy cholesterol levels (cholesterol-lowering margarines, yoghurts or milk with plant sterols or stanols and β -glucan-enriched bakery products and cereals). In Germany beverages enriched with A, C, and E vitamins have succeeded, whereas this particular market is minor in the other European countries⁽¹⁴⁾. In Japan gut health is the most important category of approved FOSHU (Foods for Special Health Use) but also healthy cholesterol and blood lipid levels and mineral absorption are prioritized⁽¹⁹⁾. In Japan, 703 food products were approved for FOSHU in 2007⁽²⁰⁾. In Sweden, 23 products were approved for a product-specific health claim in 2007⁽²¹⁾.

Apart from Japan, Finland also has a successful market for functional food. Finland has unique geographical concentrations of companies and institutions in interconnection enabling an innovative climate suitable for functional food development⁽¹⁹⁾. Furthermore, the Finnish government did make efforts to improve the health-status of the population in the 1970s when the occurrence of coronary heart diseases accelerated. The government supported interventions to promote better dietary habits, and the development of

health-enhancing foods (later functional foods) was one action to be done^(19, 22). Furthermore, the Finnish consumers have a more optimistic view of functional foods, compared to consumers in other European countries⁽²²⁾. So, the Finnish functional food market has the opportunity to continue its success.

However, not all functional food markets are increasing and expanding. Some researchers claim that the functional food market is characterised by a high rate of failures⁽¹⁴⁾. In Sweden, for example, PrimaLiv® products, including the yoghurt with muesli that smoothes out blood sugar level, have disappeared from the food stores during the spring of 2008 due to consumer demand which was too low.

Regulations of health claims: in Sweden and the European Community

The Swedish Code of Practice in the labelling of foods with health claims was applicable when the data for the studies in this thesis were collected. This Code of Practice was a self-regulating programme developed to complement the legislations concerning the use of health claims on foods⁽³⁾. The programme involved Svensk Daglivaruhandel (The Swedish Food Retailers Federation) and Livsmedelsföretagen (The Swedish Food Federation) with the Swedish Nutrition Foundation as an advisory board.

This Code of Practice mainly suggested three types of health claims, whereof two were generic and one product-specific. The claims were called: 1) product-specific physiological claim; 2) generic reduction of disease risk claim; and 3) generic nutrient function claim⁽³⁾. The functional foods used in the studies presented here were labelled with at least one of the three health claims.

Food products labelled with product-specific physiological claims required scientific documentation of human interventions confirming the foods' physiological effects. These foods were labelled with a logotype containing a text stating that the product's documentation had been evaluated according to the food sector's rules on health claims⁽²³⁾. In 2002 the product PrimaLiv® was the first Swedish product to be labelled with a product-specific health claim⁽²⁴⁾. It was followed by Becel pro.activ®⁽⁶⁾ and ProViva® fruit-drink⁽⁷⁾.

For foods with generic claims (nutrient claim and reduction of disease risk claim) there was no requirement of product-specific documentation through human intervention studies. However, in addition to their natural contents of nutrients, the foods were required to contain substances or to have a nutritional composition that could prevent or reduce the risk of diet-related diseases (foods with reduction of disease risk claim) or enhance

physiological functions and well-being (foods with nutrient function claim)⁽³⁾.

Foods with a nutrient function claim were required to contain substances or have a nutritional composition relevant to Swedish conditions⁽³⁾. In foods with a reduction of disease risk claim, the composition of nutrients or substances was required to consider one of nine well-established connections between diet and disease. One of the well-established connections regards cardiovascular disease/atherosclerosis of the arteries and omega-3 fatty acids from fish⁽³⁾.

In January 2007 the new EC regulations on Nutrition and Health Claims came into force⁽²⁵⁾. Thus the use of health claims on Swedish foods will transform accordingly. In the new EC regulation the Commission will establish a Community Register of nutrition and health claims made on food, that is, a list of permitted health claims. This list will come in action by the year 2010⁽²⁵⁾.

Regulations on health claims on foods are important and helpful for the peoples' trust in these foods⁽²⁶⁾. The regulations will not decide if the food will be chosen or not. Factors with larger influences on our food choices will be presented in the next section.

Factors influencing food choice

Every day and several times a day we eat and every time we eat we make choices of which food to eat, more or less of our own will. What we eat affects our health but it also manifests who we are and where we belong.

The factors influencing our food choices are several and integrated in a complex network. Researchers have been occupied with understanding and explaining how these factors integrate, and there are several models and schemes on this topic⁽²⁷⁾. Figure 1 (page 16) demonstrates a modified version of some factors influencing food choices, presented by Richard Shepherd in 1985. Even though the scheme is more than 20 years old, the factors presented are still applicable on food choices of today. Nevertheless, I have suggested additions and modifications in order further to explain factors influencing our food choices. These suggestions are marked in italics (Figure 1).

The reason for the addition of *Food within the person* is that this factor did not exist in the previous scheme but is being highlighted through the concepts in this thesis; functional foods, consumers and health-care professionals. The reasons for the modifications – *Socio-cultural; Economic, social and cultural factors*; and *Attitudes to and interests in food characteristics* (previous Economic and Social; Price, Availability, Brand, Social/cultural; and Attitudes e.g. to: Sensory properties, health/nutrition, price/value^(27: 8)) – are that I wanted to simplify and highlight factors which are important to the

concepts in this thesis. However, the aim of the thesis has not been to develop a new scheme for factors influencing choices of functional foods. The scheme in Figure 1 is an illustration which aims at guiding the reader through this thesis.

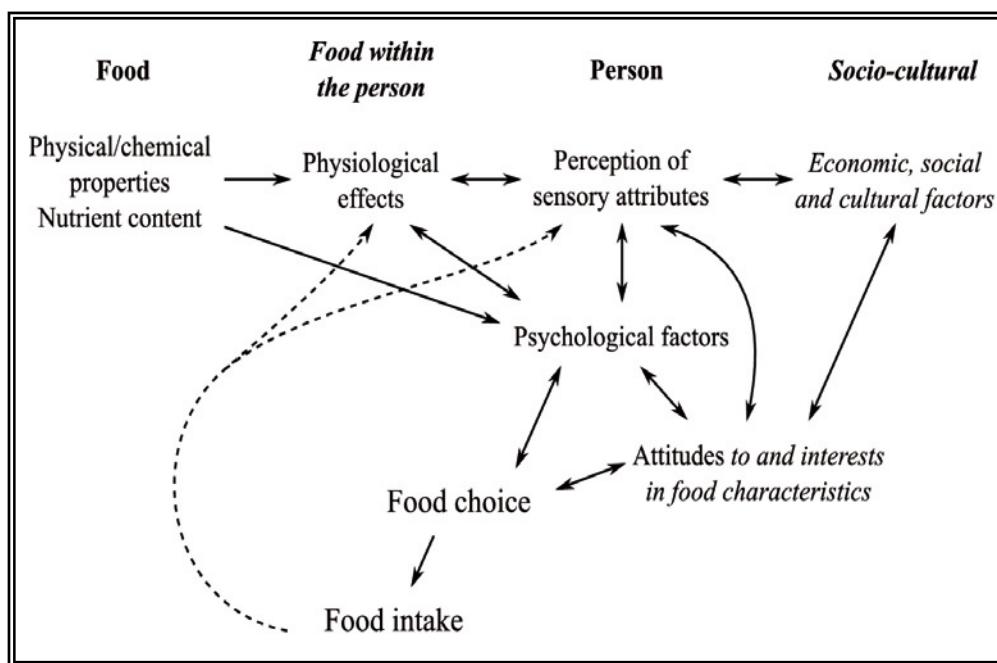


Figure 1. Scheme illustrating factors which influence our food choices (from Shepherd, 1985, modified by Landström)

The food

The physical and chemical properties of foods include several aspects, such as the nutrient content, for example, fat, carbohydrates, proteins, vitamins, antioxidants, and minerals but also sensory properties, such as sweetness and bitterness, crispiness and softness.

The physical and chemical properties of a certain kind of food affect the physiology of our bodies. However, the physical or chemical properties do not influence our food preferences unless these properties are detected or perceived by us and, via psychological, attitudinal and environmental factors, inform us of acceptance or rejection⁽²⁷⁾.

Food within the person

Physiological effects

Once the food enters the body it has several physiological effects. Apart from building up our bodies and giving us nutrients and energy, it affects our hunger, thirst, appetite, and satiety. Food can affect us differently depending on our state of health and age⁽²⁸⁾. Food can affect the internal biochemical and microbiological systems, for example the immune system causing allergic reactions⁽²⁹⁾ and hormone levels causing up or down regulation of genes⁽³⁰⁾.

The person

Perception of sensory attributes

How a person perceives for example, appearance, aroma, taste, and the texture of the food are important when they choose their food. The factor in Figure 1 is called “perception of sensory attributes”. The taste of the food is argued to be one of the main determinants of food choice⁽³¹⁻³³⁾.

They way the food is presented and, how it appears to our eyes is important, since the way it looks gives us clues as to its taste and texture⁽³⁴⁾. We will probably reject a chipped or brown-coloured apple in favour of one with the colour we think will give us the taste and texture we prefer.

On the other hand bitter tastes, such as coffee, are mostly rejected at first taste but we can come to learn to like them⁽²⁷⁾. On the other hand, sweet-tasting foods are commonly liked at first taste because of our innate preference for sweetness. In a pre-historic perspective, the preference for sweet foods was crucial since, to our ancestors, it meant safe foods with energy⁽³⁵⁾. Therefore, soft drinks, for example, are easily liked and consumed.

Furthermore, the food packaging and wrapping influence our liking of that food, something which is well understood and used within food marketing⁽³⁴⁾.

Psychological factors

The next factor affecting our food choices presented in Figure 1 is the one relating to psychology. It includes, for example, personality, identity, experiences, beliefs and trust in food and optimistic bias.

Consumers are a disparate and inhomogeneous group with diverse personalities and identities, which affect their food choices in different ways. According to Fischler⁽³⁶⁾ food choices are central to our identity. The saying that “you are what you eat”^(36: 279) does not only refer to the foods building up our bodies but also to a large extent to the way the food signifies our identities. The food we eat links our own selves to our social surroundings. Also, if we lack knowledge of what the food contains, where it comes from and how it was made, then we lack knowledge of how the food signifies us⁽³⁶⁾.

Beliefs and trust, or perceived risks of foods, affect our food choices⁽³⁷⁻³⁹⁾. When asking consumers, they express a need for a trustworthy, regulatory environment governing food safety and quality in order to build trust in food⁽³⁸⁾. What people perceive as healthy foods differ⁽³⁹⁾. People, however, seem to have a stronger belief in the healthiness of natural foods and additives as opposed to processed or novel foods⁽⁴⁰⁻⁴²⁾ or artificial additives⁽⁴³⁻⁴⁷⁾. On the other hand, one reason for the beliefs in the healthiness of natural foods is that natural, that is, unprocessed foods are considered pure and having a perfect balance of nutrients⁽⁴⁰⁾. On the other hand, processed and additive containing foods have unknown ingredients and “if we do not know what we eat, how can we know who we are”^(36: 282). Therefore, the consumer becomes sceptical of these foods⁽³⁶⁾. Furthermore, processed foods, as perceived by many consumers, lack inherited balance and perfection, which have been disturbed by human hands⁽⁴⁰⁾.

Within the field of how we perceive foods risks there is a phenomenon called optimistic bias⁽⁴⁸⁾. It explains our perception of others running a larger risk of health problems and food hazards than ourselves⁽⁴⁶⁾. This hinders people at real risk from changing their food intake and lifestyle because they do not perceive themselves at risk^(47, 48).

Socio-cultural

Economic, social and cultural factors

Beneath the heading *Socio-cultural* in Figure 1 there are the *economic, social and cultural factors*, including environmental factors. These factors play a major role when it comes to our food choices. The factors can include age and gender, education, social class, food prices, culture, religion and morals, local traditions, nationality, politics, advertising, media debate, availability, brand, degree of urbanization, people important to us, and situation.

Possibly, choices of foods are socially influenced by age and gender. According to Beardsworth⁽⁴⁹⁾ females are more aware of nutritional and caring aspects of food, and are therefore thought to have a more problematic relation to foods than men do. The women felt more controlled and inclined to regulate their food intake with health concerns in mind⁽⁴⁹⁾. Men, on the other hand, are more conservative in their food choices and feel less controlled by the food⁽⁴⁹⁾. Older consumers and women appear more attentive to healthy eating^(50, 51) and eat, for example, fruit and vegetables more often than younger consumers and men⁽⁵¹⁾.

When it comes to food choices and educational levels and socioeconomic class, then Swedish people with low education and those from a low socioeconomic class have lower consumption of fruit and vegetables^(51, 52). Certainly the economically affluent find a broader range of food items to choose from while the economically deprived have a more restricted selection of

cheaper food. The perception of food prices is often a reflection of one's cultural, religious and social belonging and, thus, identity⁽⁵³⁾ and is therefore highly individual.

Another factor in our environment which affects our food choices is the media debate. Frequent food scares – such as BSE, salmonella outbreak or potentially cancer-causing additives – and constantly contradicting research results confuse and scare consumers^(54, 55). Because of the contradictions and the debates of the danger of foods and additives, consumers become sceptical towards the food industry and food science^(54, 55).

Furthermore, other important people, such as friends, colleagues, idols, family members and peers, affect our food choices. Also included in other important people are health-care professionals. Medical and health-care sources, such as physicians, nutritionists, and dieticians are trusted providers of information regarding the health benefits of foods^(18, 56).

The rules and regulations set up by a country's government in relation to agriculture and food products, as well as food imports, have a large impact on which food is available in the stores. Further, new techniques in producing, transporting and preserving fresh foods affect the availability of foods. In today's western society we hardly notice seasonal variations in the food supplies in our stores, but it highly affected our diets only 40 years ago.

An extensive part of our food choices are predetermined by our culture, including factors such as religion and nationality. These factors decide what is the ideal, or right, food to eat and they set several norms in the eating situation^(40, 53, 57). The meaning attached to a certain food or ingredient and the intake thereof can make a person feel guilt, shame or personal reward^(40, 57, 58).

Further, the medical, nutritional, and food sciences influence our culture. It has brought forward knowledge both in the public and the scientific community of how individuals can eat and live in order to increase the possibility to remain healthy^(40, 57). In our culture it is a common belief that an individual who is healthy also has a balance in their diet with regard to, for example, healthy foods and foods for pleasure and the amount of foods⁽⁵⁷⁾. The rationality of eating, being derived from nutritional science, has brought with it an underlying meaning saying that if you know how to eat to stay healthy, you should act accordingly^(40, 57). Thus, the individual is thought to be personally responsible for their health^(40, 58). Those able to act upon this knowledge are regarded as civilized, balanced and controlled individuals^(40, 58).

Attitudes to and interests in food characteristics

Under the headings of *Socio-cultural* and *Person* in Figure 1 is the category *Attitudes to and interests in food characteristics*. How our attitudes to and interests in foods influence our food choices depend both on our personalities and our socio-cultural environment. We can have attitudes to or interests

in the sensory properties of foods; the price, value and quality of foods and the health or nutritional aspects of the food.

Interest in the sensory properties of food is important to everyone and it is highly influenced by our culture⁽³⁴⁾. Further, our attitudes to the price, value and quality of foods influence choice. Prices have a large impact on people's food purchase in the stores. For example, higher prices of organic foods make some consumers refrain from purchasing organic foods⁽⁵⁹⁾.

Consumers' attitudes to and interests in the health and nutritional characteristics of foods influence some consumers' choice of foods more than the taste of the product^(31, 60). A positive attitude to health in general predicts the choice of a healthy snack instead of a more palatable and less healthy one in an experimental situation⁽⁶⁰⁾. Thus, for those with interests in health, taste might be of second importance⁽⁶⁰⁾. Nutritional knowledge predicts choices of health foods and compliance with current recommendations of fruit, vegetable and fat intake⁽⁶¹⁾.

What influences choices of functional foods?

Below, the introduction continues to present the main focus of this thesis: the factors influencing choices of functional foods.

The Person – Psychological factors

Our needs to trust the food we consume also affect the choice of functional foods. Therefore, consumption of functional foods is affected by trust in the effects of functional foods and beliefs in the safety of the foods⁽⁶²⁻⁶⁴⁾. Since functional foods are processed foods and these foods are considered unnatural, artificial and unsafe, the consumer perceives functional foods in the same way^(64, 65). Functional foods are therefore thought to lack real wholesomeness and healthiness⁽⁶⁶⁾. The consumers who are more accepting towards functional foods are also more positive towards the use of technology in food production⁽⁶⁷⁾.

Consumers with a concern for their own and their family's health are more receptive towards functional foods⁽⁵⁶⁾ and willing to find out the meaning of the health claims⁽⁶⁸⁾. Also, consumers believing in health benefits of healthy and functional foods are more inclined to purchase functional foods^(67, 69-73). Further, consumers with diet-related diseases are more likely to consume functional foods than those without such health problems^(74, 75, 76, 77).

It is, however, quite common for individuals to perceive themselves to be of less risk than others and feel unrealistic optimism concerning health problems^(46, 78). Perceiving oneself as beside the risk of health problems could explain the reluctance to accept functional foods⁽⁷⁹⁾. Thus, functional foods

are thought to improve other people's health, that is, those at larger risk than oneself⁽⁶²⁾.

Socio-cultural – Economic, social and cultural factors

Older consumers and women are reported to be more receptive towards functional foods than younger consumers and men^(56, 69). There are, however, reports containing contradicting and opposing results^(77, 80-83). The age and gender difference of consumption is suggested by some researchers to be dependent on which functional food products the consumer is asked about^(76, 77, 84, 85).

The consumption of functional foods in relation to education shows contrasting results. Both higher and lower levels of education are related to greater consumption and acceptance of functional foods^(56, 74, 77, 80, 86). Some researchers claim that education, social class and socio-economic standards are related to attitudes to and consumption of functional foods^(56, 69, 74, 76) whereas others claim that there is no relation⁽⁸²⁾.

The contradicting and equivocal media and science reports on which food is healthy or even dangerous also concerns functional foods or similar products (technological foods and additive-containing foods). The contradicting reports make the consumers sceptical towards additive and processed foods and therefore, consumers also become sceptical towards functional foods^(55, 63).

Attitudes and interests in the characteristics of functional foods

Positive attitudes to functional foods have a great influence on people's intention to consume these products^(71, 87). Those interested in healthy eating have more positive experiences of functional foods than do those who do not consider healthy eating important⁽⁶⁷⁾. Also, positive attitudes towards functional foods are related to the awareness and knowledge of the health benefits of these foods⁽⁷³⁾.

Not surprisingly, the attitudes to the taste of functional food influence the willingness to consume the foods^(70, 72, 75, 88). Functional foods are often perceived as less tasty^(70, 75); however, the consumers who believed in the health benefits of functional foods could sometimes compromise about its taste^(72, 75). Nevertheless, functional foods need to have a quality and effect that match the price and the added value they can give in order to be accepted^(75, 88).

Health-care professionals' attitudes to functional foods

Health-care professionals are not solely professionals; they are also consumers with disparate attitudes to and beliefs in foods and in functional foods. Their attitudes towards the safety and the efficiency of functional foods could influence their attitudes on whether or not to recommend these foods⁽⁸⁹⁾. There are, however, few studies on health-care professionals' atti-

tudes towards functional foods, and they reveal incongruent results. Dieticians and physicians state that eating a balanced diet is the primary way of getting nutrients and, without further scientific information, they are reluctant to recommend functional foods to patients^(89, 90). In other studies, dieticians expressed positive attitudes toward functional foods⁽⁹¹⁾ and perceived them as effective and safe in the prevention and treatment of illnesses and, therefore, needed⁽⁹²⁾.

Though, in comparison with the consumers, dieticians, nurses and physicians practicing in Sweden are obliged to give the patients care and treatment alternatives in accordance with scientific research and well-known experiences⁽⁹³⁾. Health-care professionals must therefore keep up to date with scientific research, even nutrition science. The appropriate application of functional foods could enhance patients' physiological functioning and possibly decrease their use of pharmaceuticals and, thereby, decrease the medical costs.

Why do we need research on attitudes to functional foods?

In Sweden there are governmental and nutritional health care institutions serving for improved public health⁽⁹⁴⁾ and the food industry is interested in producing products wanted by the consumers⁽⁹⁾. One way of meeting these interests could be the production of foods, which – through epidemiological and clinical research – have been found to have the possibility to improve health or decrease the risk of diseases. The consumers should have the right to know the effect of these foods, but at the same time there should be no risk of consumers being misled.

However, the success or failure of functional foods will eventually be judged by the consumers. We therefore need to know if the consumers want functional foods. And if they do want these foods, how do they want them, and why? Since there are few studies on Swedish consumers' views and use of functional foods, this needs to be investigated.

There is little knowledge of the health-care professionals' perceptions of functional foods. Neither do we know if they are willing to use them in their dietary counselling and care of patients. Therefore, we need to know if the health-care professionals would consider recommending functional foods to patients.

Overall aims

The overall aim of this thesis is to investigate Swedish consumers' and health-care professionals' attitudes to functional foods. The aim is also to investigate demographics and health interests associated with the consumption of functional foods among Swedish consumers. Furthermore, the aim is to investigate health-care professionals' knowledge of and willingness to recommend functional foods to patients.

The specific aim for each study was:

Consumer studies

- Study I: ✓ to explore Swedish consumers' impressions and perceived need of functional foods
- Study II: ✓ to survey Swedish consumers' attitudes to and consumption of functional foods and;
✓ to investigate which variables (demographics, diet-related problems, attitudes to functional foods and interests in diet and health) predict the consumption of functional foods among Swedish consumers

Health-care professional studies

- Study III: ✓ to investigate practicing registered nurses', physicians' and dietitians' thoughts about functional foods and their attitudes to and willingness to recommend functional foods to patients
- Study IV: ✓ to survey the consumption and knowledge of and attitudes to functional foods among Swedish health-care professionals and;
✓ to investigate which variables (occupation, consumption and knowledge of and attitude to functional foods) predict willingness to recommend functional foods to patients

Methods

In this chapter the two main data collection methods and the data analysis methods will be presented. The functional food products used in the studies are presented in a table in Appendix 1. Included in the table are the types of health claim on the foods and the health claims as they were printed on the packages at the time of the data collections.

Table 1 gives a short summary of participants, data collecting and data analysis methods of all studies.

Table 1. Summary of participants, data collection and data analysis methods of Study I-IV and the years when the studies were conducted

Year	Study	Participants	Data collection method	Data analysis method
2003-2004	Study I – consumers	83 individuals from Uppsala were interested in participating; 46 participated	Focus groups	Content analysis
2004-2005	Study II – consumers	2000 individuals were approached; 972 participated	Questionnaire (Appendix 2)	Descriptive statistics Mann-Whitney <i>U</i> test Chi-2 test Factor analysis Logistic regression (crude and adjusted)
2003-2004	Study III – health-care professionals	Ca. 210 health-care professionals were approached (20 dieticians, 90 physicians and 90 registered nurses); 10 health-care professionals participated (3 dieticians, 4 registered nurses, 3 physicians)	Interviews in small groups*	Content analysis
2004-2005	Study IV – health-care professionals	500 health-care professionals were approached (100 dieticians, 200 registered nurses, 200 physicians); 250 participated (57 dieticians, 106 registered nurses, 78 physicians)	Questionnaire (Appendix 3)	Descriptive statistics Mann-Whitney <i>U</i> test Kruskal Wallis test Chi-2 test Logistic regression (crude and adjusted)

* for details see page 26

In Study I and Study III similar data collection (focus groups and interviews in small groups) and data analysis methods (content analysis) were used. Consequently, the methods used in these two studies are presented together. Study II and Study IV also had similar data collection (questionnaire) and data analysis methods (statistical analysis). The methods used in these two studies are also presented together.

Focus group Study I & III – participants

Study I - consumers

In this study the aim was to explore Swedish consumers' impressions and perceived need of functional foods.

The focus group participants were recruited through advertisements in newspapers and in public places, such as food-stores, gyms, university campus buildings and employment agencies in the city of Uppsala. The women were divided into five age groups: 18-19, 20-25, 26-35, 36-50 and over 51 years of age. There was one group per age span except for women over 51, of which there were two groups. The men were divided into four age groups: 18-25, 26-35, 36-50 and 51. There was also diversity among the participants regarding demographic characteristics, such as living area, family life, employment status, occupation and educational levels. Each group contained between four and six participants.

Study III – health-care professionals

The aim of the third study was to investigate the thoughts of practicing registered nurses, physicians and dieticians regarding functional foods and their attitudes to and willingness to recommend functional foods to patients.

The health-care professionals were recruited in the Uppsala County district for three separate group interviews. Physicians and registered nurses were firstly approached through an advertisement in the union paper (*Ronden*), available at all health-care settings in the district. Since this method proved to be unsuccessful, invitations were sent by post to all primary care centres in the district. Those interested to participate were asked to send their contact details to me. The dieticians were recruited through referrals⁽⁹⁵⁾. One dietician supplied me with electronic mail addresses to the other practising dieticians within the Uppsala County District, whom I then e-mailed and asked to participate.

The three professions, dieticians, registered nurse, and physicians, were interviewed separately. There were three dieticians, four registered nurses and three physicians taking part in the interviews. All participants were be-

tween 30 and 65 years old; the dieticians were slightly younger and the physicians were the oldest.

The participants of Study I and III were recruited during the autumn of 2003.

Data collection and data analysis methods

Data collection methods – focus groups and interviews in small groups

Data for Study I was collected with the help of 10 focus groups.

The primary intention of Study III was to collect data through focus groups. Because of the low number of participants in two of the three interviews, I have chosen to call the method “interviews in small groups”⁽⁹⁶⁾. The procedure was, however, the same in both the focus groups and the interviews in small groups.

Focus groups are applicable for explorative and hypothesis generating studies followed by hypothesis testing, quantitative studies^(97, 98). The results of the focus group and the interviews in small groups were used to develop the two questionnaires used in Study II and IV.

A few days before a focus group met, those booked received a confirmation letter. Enclosed were information about the aim of the focus group, a description of foods with health claims and the different claims existing in Sweden. This was intended to stimulate the discussions and ensure that all participants were familiar with the topic. The participants did not receive any further information during the focus groups.

The focus groups and interviews in small groups lasted one to two hours and were tape-recorded with the permission of the participants. The participants were served a light meal consisting of one to three different functional food products to taste, one portion of every food to each participant (see Appendix 1 for products used in the focus groups). The foods were served in their original packages, with the health claims and nutrition and ingredient lists. All focus groups and interviews in small groups were moderated by the same person, who introduced the groups, guided the participants through topics concerning functional foods, and stimulate everyone to express their thoughts. One person observed and noted the order of talking. The interview guides with consumers and health-care professionals were tested in pilot studies which resulted in the rephrasing of some of the questions. The interview guides are presented in the lists below.

Interview guide for consumers (Study I):

- participants' experiences of functional foods
- what they thought/knew about the physiological effects of the functional foods presented to them
- if they believed that the functional foods had any positive or negative properties
- their thoughts on the need for functional foods
- if they would consider buying the functional foods themselves.

Interview guide for health-care professionals (Study III):

- participants' experiences of the products presented to them
- what they thought or knew about the physiological effects of the products
- if they believed that the products had any positive or negative properties
- what they thought about the fact that the effects of some products had been scientifically documented
- their thoughts on the need for functional foods
- their feelings about recommending the products to patients.

Data analysis method – content analysis

The tape-recordings of the focus groups and interviews in small groups were transcribed word by word, including pauses, laughter and humming and hawing. The transcriptions (texts) were analysed using content analysis according to Graneheim & Lundman⁽⁹⁹⁾. The transcribed texts were read and re-read several times to sort out paragraphs, sentences or words which related to the research question. Once texts in relation to the research question were collected, this “new” text was read several times in order to find paragraphs, sentences and words containing similar topics, so-called “meaning units”. The meaning units were then condensed, that is; shortened while the meaning of the unit was kept intact. Thereafter all condensed meaning units were labelled with a code and the meaning units with the same or similar codes were grouped into a certain category. This grouping and coding of meaning units into categories is a dynamic process which goes back and forth until the categories are mutually exclusive. It means that no text ought to remain between two categories or fit into more than one category⁽⁹⁹⁾.

Once the categories were mutually exclusive, thus interpreted to contain similar underlying meanings, they were merged into a sub-theme. Following this, sub-themes with, again, similar underlying meanings, were merged into themes. The name of a theme or sub-theme reflects the underlying meaning of that theme⁽⁹⁹⁾.

Questionnaire Study II & IV– participants

Study II– consumers

The aim of Study II is to survey the attitudes to and consumption of functional foods among Swedish consumers. More specifically, the aim is to investigate which variables (demographics, diet-related problems, attitudes to functional foods and interests in diet and health) predict the consumption of functional foods among Swedish consumers.

During the spring of 2005, a questionnaire was mailed to a random selection of 2000 individuals aged 17 to 75. Those not responding received up to two reminders. Respondents could choose whether to receive a lottery ticket with the value of SEK 25 (approximately €2.5) or not.

A total of 972 individuals responded (response rate 48%). The mean age of the respondents was 45 years (Swedish Pop. mean: 40.2 years). There were more women (53%) responding to the questionnaire compared to the Swedish population (50.4%). More information on demographic characteristics of the respondents is presented in Table 2.

Table 2. Characteristics regarding demographics, use of dietary supplements and diet-related problems of respondents in comparison to the Swedish population.

	% of total (n)	% Swedish population*
Age categories (years)		
17-24	13 (131)	12
25-34	15 (151)	17
35-44	18 (173)	18
45-54	18 (176)	17
55-64	18 (178)	16
65-75	13 (125)	12
Civil status		
Single or separated	26 (244)	24
Cohabitants or living in other arrangements	74 (688)	74
Educational level		
Nine year compulsory school	19 (187)	21
Upper secondary school	43 (418)	47
Less than 3 years of university	12 (116)	14
More than 3 years of university	18 (176)	17
Dietary supplements or nutraceuticals		
Users	29 (277)	DA
Diet-related problems		
Diabetes	6 (57)	2‡
High blood pressure	17 (156)	7‡
High cholesterol	11 (102)	4‡
Food intolerance/allergy	11 (103)	5‡
Anorexia/bulimia	1 (6)	0.3‡
Other	4 (36)	2‡

* Data from Statistics Sweden 2004, 2005; DA, Data not available; ‡ Data from Becker & Pearson⁽¹⁰⁰⁾

Study IV – health-care professionals

The specific aim of Study IV was to survey consumption and attitudes to functional foods among Swedish health-care professionals. The aim was also to investigate their knowledge of functional foods and their willingness to recommend functional foods to patients. It also aimed to investigate which variables (occupation, consumption and knowledge of and attitude to functional foods) predict willingness to recommend functional foods to patients.

A questionnaire similar to the one used in Study II was mailed to a random selection of 100 dieticians, 200 physicians and 200 registered nurses during the spring of 2005. Eligible to participate were: all registered dieticians (n=715); primary or open care physicians (here called physicians, n=6922); and registered district nurses with or without the right to prescribe drugs and/or specialised in diabetics (here called registered nurses, n=12709). Respondents could choose whether to receive a voucher with a value of SEK50 (approximately €50) or not.

A total of 250 (50%) health-care professionals responded. The dieticians had the highest response rate (57%, n=57), physicians the lowest (39%, n=78) and registered nurses were in between (53%, n=106). Of all respondents, 82% (n=202) were female. The mean time in their occupation was 20 years (SD=10.7) and the mean age was 48.3 years (SD=10.1).

Data collection and data analysis methods

Data collection methods – questionnaires

Two questionnaires were constructed, one for Study II and another one for Study IV. The questionnaires (in Swedish) are presented in Appendix 2 (Study II) and Appendix 3 (Study IV). For descriptions of the questionnaires in English, see Study II and Study IV.

The questions in the questionnaires to both health-care professionals and consumers were partly based on results from the focus groups interviews. Pictures of functional foods available on the Swedish food market during the spring of 2005 (Appendix 1) were included in the questionnaire, as was a description of the Swedish definition of functional foods.

The two questionnaires differ to some extent. The consumers were asked more demographic questions than the health-care professionals. The health-care professionals were asked questions about their perceived knowledge of functional foods and willingness to recommend functional foods to patients.

Included in both questionnaires were two scales: the functional foods scale and the health attitude scale. The functional foods scale, developed by Urala and Lähteenmäki⁽⁸⁶⁾, measures the willingness to use functional foods. It contains 26 items rated on a 7-point Likert scale ranging from 1=completely disagree to 7=completely agree. The health attitude scale,

developed by Roininen⁽⁵⁰⁾, measures attitudes to healthy eating. It contains 20 items rated on a 7-point Likert scale ranging from 1=I completely disagree to 7=I completely agree. For more information about changes made to the scales see Study II.

Due to a relatively low response rate of both questionnaires (48% consumers and 50% health-care professionals), two short follow-up questionnaires were developed. The questionnaires contained a few demographic questions, questions about occupation and specialist education (to health-care professionals only), questions regarding the recognition of functional foods, and a question concerning why they had not responded. The questionnaires were sent to 50% of the non-responding consumers and 54% (n=135) of the non-responding health-care professionals.

Out of the non-responding consumers who received the short questionnaire 76 responded (15%). There were no significant differences between the respondents and the non-respondents regarding demographic variables such as educational level, gender and civil status. There was a higher, although non-significant, frequency of immigrants among the non-respondents (26%) than among those responding to the original questionnaire (17%).

Twenty-six (19%) of the 135 non-responding health-care professionals responded to the short questionnaire. There were no significant differences between the respondents and the non-respondents concerning the demographic variables and their recognition of functional foods.

Data analysis methods – statistics

The Statistical Package for Social Sciences (SPSS) version 14.0.1-16.0 was used to analyse the data. For each statistical analysis performed the chance of finding a significant difference increase. More than 100 statistical analyses were performed and in order to lower the probability of finding statistical significances, the level of significance was set to 0.001 according to Bonferroni⁽¹⁰¹⁾. At this level an overall alpha of 0.05 was obtained.

In Study II, a factor analysis (Principal Axis analysis, Equamax Rotation) was used to reduce the data from the functional foods scale and health attitude scale. In a factor analysis the SPSS performs correlations between all statements and then searches for the statements with the highest correlations, which are then merged into a factor. Optimally, statements with a similar content are merged into one factor. The factor analysis was only performed in Study II. In Study IV the factor solution found in Study II was used when conducting statistical analysis with the scales.

The factor analysis in Study II identified five interpretable factors in the *functional foods scale*:

1. personal reward from using functional foods
2. benefits of functional foods
3. safety of functional foods

4. confidence in functional foods
5. supporting functional foods

The factor analysis of the *health attitude scale* resulted in the three factors 1) “general health interest”, 2) “natural product interest” and 3) “light product interest”, labelled with the same names as those used by Roininen et al.⁽⁵⁰⁾. “Light product” is here defined as a product reduced in fat or sugar and, thereby, energy content, in English also known as “diet” products.

A reliability test was made to check if statements with the highest correlations were merged into one factor. In Study II this test was acceptable for all factors in both scales (functional food scale and health attitude scale) but not in Study IV. In Study IV the factor “confidence in functional foods” in the functional foods scale was excluded due to low reliability (for details see Study II and IV).

Before the statements in the two scales were used in any statistical analysis, the ratings of all negatively worded statements were reversed. In a negative statement such as “Foods with health claims are completely unnecessary” a rating of 1 (totally disagree) represents a positive attitude and a high rating of 7 (totally agree) represents a negative attitude. And opposite, in positive statements, such as “Foods with health claim promote my well-being” a rating of 1 represents a negative attitude and a rating of 7 represents a positive attitude. In order to make it possible to analyse the data, all ratings need to represent the same attitude. Therefore, all “7” was changed to “1”, all “6” changed to “2”, and so forth.

The Mann-Whitney *U* test, the independent sample t-test and the Kruskal Wallis test were used to investigate differences between independent groups. The Chi-2-test was mainly used to determine differences between groups in the consumption of functional foods.

Crude or unadjusted (univariate) logistic regression was used in Study II to examine which attitudes to functional foods and health eating, diet-related problems, use of dietary supplements and demographics predicted consumption of five different functional foods among consumers. Three functional foods were excluded due to too few consumers, thereby making the analysis inoperable. The logistic regression was also used to determine which of the respondents’ characteristics predicted consumption of no or several functional foods. The adjusted (multivariate) logistic regression was then used to control for covariates, that is, which of the attitudes and other characteristics that strongest predict the consumption of functional foods.

In Study IV, the crude logistic regression examined which of the variables: self-reported knowledge of functional foods; attitudes to functional foods and healthy eating; and occupation and perceived effect, predicted a willingness to recommend seven different functional foods among health-care professionals. The adjusted logistic regression then determined which variables that strongest predict a willingness to recommend functional foods.

For variables to be inserted into a logistic regression it is required for them to significantly contribute to the model in order to guarantee the strength of the analysis^(102, 103). Generally, more variables can be included in a crude logistic regression than in an adjusted regression because in the crude regression only two variables at a time are being analysed. In both adjusted regressions all variables were inserted simultaneously and only those responding to all variables were included, leading to a reduction of respondents inserted in the analysis. Due to the lower number of respondents in the adjusted analysis, some variables were included in the crude logistic regression but not in the adjusted regression. For more detailed descriptions of which variables were inserted into the crude and adjusted logistic regression in the studies, see Study II and IV.

Results

In this chapter the results of the studies will be presented in their numerical order, thus firstly Study I followed by Study II, III and then IV.

Consumer studies

Study I: “Functional foods compensate for an unhealthy lifestyle”

The aim of this study was to explore Swedish consumers’ impression of functional foods. The consumers’ impression was that functional foods are probably healthy but the unknown substances, and their artificiality, made the consumers distrust the healthiness and safety of the foods. Therefore, the consumers felt a lack of control of what they eat. The consumers were worried that functional foods are being used by those with an unhealthy lifestyle as a compensation for their lifestyle. The consumers thought people should instead learn how to eat what is naturally healthy.

The focus groups contained informative discussions with disparate views on functional foods. When analysing the text three major themes were identified: 1) comparing and defining; 2) distrust or trust in functional foods and; 3) the necessity of functional foods. All themes contain sub-themes presented below.

Quotations from the focus groups are referred to by the age and gender group which the person or persons quoted participated in. For example, a quotation from a discussion in the women’s group of age above 51 will be marked (women +51) and a quotation from a single person from the same group will be marked (woman +51).

Comparing and Defining

Functional versus “natural” foods

All focus groups contained discussions on what the functional foods are, what substances and ingredients they contain, what effects they have and how they might be dissimilar to other foods.

The consumers were convinced that functional foods contain substances identical with those in “normal” or “natural” foods. It was not quite clear, however, what made functional foods more functional than “natural” foods.

Functional foods were thought merely to be more refined or artificial versions of natural or normal foods, or almost a medicine. Functional foods are artificial and unnatural because they are highly processed and contain artificial additives such as “*thickener, emulsifier, preservatives and acidity regulators*” (woman +51).

In comparisons of taste, functional foods and other healthy foods were thought to taste worse, more like medicine and more artificial, compared to “*natural*” foods.

Unknown substances

The numerous unknown substances in the extensive ingredient lists of the functional foods perturbed the consumers. Discussions of what the ingredients were and which of the ingredients or substances affects your body, were frequent. The consumers wondered if the products would affect their bodies, and, if so, how it would affect them. Among the consumers the uncertainties of the ingredients and their effects led to discussions of trustworthiness and a feeling of losing control.

Distrust or trust in functional foods

Deluding effect

Overall, functional foods were regarded as probably healthy. However, there were disbeliefs as to their physiological effects. The absence of explanations of the physiological effects on the packages annoyed the consumers. Functional foods were believed to delude consumers by claiming to have effects which fail to appear. Thus, the manufacturers were suspected to mislead the consumer. The manufacturers and the commercials were accused of creating a need for functional foods: “*The commercials make us believe that we must have these products to, well, be able to live a decent life at all*” (man 36-50).

Dangerous effects or substances

Most consumers had disbeliefs in the healthiness of health foods (for example functional foods). Hazardous substances and chemicals were associated with healthy foods, so, therefore they are unhealthy. Apparently, “*It’s rather hard as a consumer to know when you’re on safe grounds, health-wise*” (man 36-50). The consumers saw risks connected to the unknown effects when combining health foods. They thought perhaps the lack of nutritional awareness or knowledge made people consume more than they need or combined the wrong foods, thereby creating negative side-effects of over-dosage.

On the package of a cholesterol-lowering margarine the text explained that the margarine is not a miracle boost, but other lifestyle changes are required in order to achieve an effect. This text and the information on the food package of cholesterol-lowering margarine made some consumers perceive the manufacturers as honest and “*scientific*”. This was considered posi-

tive and increased the trustworthiness of the manufacturers. The consumers who trusted functional foods had themselves experienced physiological effects, or had nutritional knowledge. They did not find risks with functional foods but perceived them as healthy and reliable.

Losing control

Due to the unknown substances in the foods, the issue of control or lack of control of what you ingest was highlighted from different perspectives by the focus groups. Some consumers wanted functional foods to be marketed through trusted authorities, such as physicians or dieticians, knowledgeable in nutritional science: because, you “*don’t just blindly buy these strange things*” (woman +51).

Other consumers felt a loss of control and responsibility for their health because the manufacturers nowadays master this responsibility for our health; “*they think for me and then I become dependent on it*” (woman 26-35). To regain control you yourself could cook foods with the same effect yourself. Still other consumers expressed their reluctance to become aware of everything they eat in order to control their health, as our health is already predetermined by our genes.

The manufacturers only are responsible for the knowledge and control of food contents. But the consumers thought that the manufacturers were driven by unethical principles and they were therefore not to be trusted.

The necessity of functional foods

The discussions in the focus groups of the insecurity and disbeliefs about the effects in the focus groups resulted in debates of the necessity of functional foods.

Ethical dilemma

The consumers discussed ethical dilemmas in connection with the use of functional foods, both with regard to the manufacturer and the consumer. The manufacturers were perceived as unethical because they make profits on the existence of public health diseases.

The consumers were concerned about the higher prices of functional foods as public health diseases were mostly thought to affect the economically vulnerable and the low-educated. The consumers thought that functional foods were consumed by the “*health freaks*”, the knowledgeable or the affluent; those in least need of functional foods. Therefore, functional foods were perceived counterproductive in a health perspective, increasing the health of the healthy and failing to help equalizing health between social classes. Contradictory to this, the existence of functional foods was argued ethical if functional foods could decrease one individual’s risk of cardiovascular disease, despite making a profit.

Compensation for an unhealthy lifestyle

The consumers were convinced that functional foods were unnecessary both if the public ate a proper, varied diet with an abundance of fruit and vegetables, and if they exercised like our ancestors did. A woman (+51) said: *"If you live healthily and exercise you won't need all this"*.

The consumers thought that individuals with risk behaviours should primarily change their lifestyle because there are no short-cuts to health and a healthy lifestyle. Only one functional food cannot contribute to health enhancement for someone at risk of diet-related diseases: because *"one parameter does not make a difference"* (man 18-25). However, when a healthy lifestyle is incapable of effectively alternating dangerous biomarkers, such as high cholesterol, then the use of functional foods are justified.

Despite this, the consumers thought that there are no short-cuts to health and a healthy lifestyle. The consumers thought life is about achieving a balance. The balance and control of life should be achieved by natural means, not by artificial foods, such as functional foods. Thus: *"We shouldn't use these things [functional foods] just to get a grip of our public health diseases"* (woman 36-50). Functional foods falsely compensate for unhealthy lifestyles and diets and delude people to believe in simple solutions; *"like a fake diet"* (woman 36-50).

Nevertheless, the consumers also perceived the production of functional foods to be caring for peoples' health. There are those who, because of handicap or inherited genes, cannot alter their biomarkers or lifestyles. Functional foods facilitate active choices; individuals can merely exchange one or two unhealthy foods for healthier alternatives.

The need among others

A distinction between "we" and "them" was made among the consumers. Thus, the need of functional foods was perceived to be larger among others than the consumers themselves. Functional foods are produced for individuals in undoubted need, those without perfect lives and balance, who are ignorant of their health. One man (36-50) phrases it: *"Really, it is mainly people with problems, isn't it, I mean, with food digestion or nutrition balance or, well... diabetics or, and so on, that should be attentive to these things?"*

The younger consumers thought that functional foods are for old diseased individuals needing to change their lifestyle. Therefore, cholesterol-lowering margarine was called *"the pensioner butter"* (man 26-35). The older consumers thought that functional foods were mostly for the young, those without time or interest to cook and care for their health.

The men could consider buying functional foods if it was *"a matter of life or death"* (man 36-50) while the women preferred to make lifestyle and dietary changes before they would start using functional foods. Most con-

sumers consider themselves to have a healthy diet and lifestyle, or too few health problems, to use functional foods.

Personal preferences

If the functional food was a less preferred or more disliked type of food, it did not appeal to the consumers. They could buy a functional food if there was proof of a guaranteed effect, if the taste was not worse and the price not higher than the conventional counterparts. Unless the prices mirrored the extra physiological effect of the functional foods, the higher prices were not justified.

An elderly man stated that he bought cholesterol-lowering margarine, although he preferred the taste of butter. Another man said he could consider buying a probiotic fruit-drink because its taste of blueberries felt natural, and therefore brought "*you straight into the blueberry forest*" (man 26-35). The young consumers found functional foods useful as quick and healthy foods in our fast-moving society, with lack of time to consider our health. The quote below, from the end of the interview with males 36-50 years of age, tells us that the tastiest foods are preferred until illness comes.

- I buy the tastiest, you know.

- Yes, I do that too. As long as I don't have a problem, I do that (men 36-50).

Study II: The health-conscious consume functional foods

The aim of Study II was to survey the attitudes to and consumption of functional foods among Swedish consumers. The aim was also to investigate which variables (demographic, diet-related problems, attitudes to functional foods and interest in diet and health) predict the consumption of functional foods.

Most respondents were familiar with functional foods and a majority had consumed one or more of the eight products presented in the questionnaire. The consumption of and positive attitudes to functional foods was related to health-consciousness and having perceived an effect of a functional food. Consumption was also related to high education. However, other characteristics than demographics, tend to be more influential when predicting the consumption of functional foods. Different functional food products attract consumers with diverse characteristics.

Consumption of functional foods

A majority of the respondents (n=675, 71%) had consumed between two and eight different functional foods products. Among those who had consumed a functional food product between 83 and 100% would consider consuming the product again. Nearly 15% of the respondents claimed that they ate other foods with health claims than the foods presented in the questionnaire.

Among those who had eaten a functional foods product (n=811), about one out of four had observed an effect of the food item, but almost 45% had not observed an effect or did not know if the food had had an effect. One third did not expect the food item to have an effect at all. Almost one out of three wanted more functional foods on the market. Among the non-respondents significantly fewer had heard or read about functional foods before the original questionnaire.

Attitudes to functional food and to healthy eating in relation to the consumption of functional foods

In the crude logistic regression, respondents scoring high on the five factors in the functional foods scale – 1) personal rewards from using functional foods, 2) benefits of functional foods, 3) safety of functional foods, 4) confidence in functional foods, and 5) supporting functional foods – were more likely to have consumed fibre-rich bread with omega-3 fatty acids, as well as three or more functional food products, than those scoring low. When comparing non-consumers and consumers of all functional food products, the consumers were more likely to perceive benefits of functional foods and supporting functional foods, than were the non-consumers.

Also according to the crude logistic regression, respondents perceiving personal reward from using functional foods, benefits of functional foods and those who were supporting functional foods were more inclined to have consumed cholesterol-lowering products. Further, those supporting functional foods were more inclined to have consumed probiotic milk-products than those not supporting the foods.

Respondents with a general health interest according to the health attitude scale were more likely to have consumed probiotic milk-products and fibre-rich bread with omega-3 than those without an interest in health. Those having an interest in light products were more likely to have consumed cholesterol-lowering products than those with no interest in light products.

Thus, it appears that those consuming functional foods are more positive towards functional foods and have interests in health and light products. However, of all the associations relating to the functional food and health attitude scale, one remained significant in the adjusted logistic regression: those supporting functional foods were more inclined to consume more than three different functional food products than those not supporting these foods (see Table 3, page 40). This implies that the attitudes most important for the consumption of functional foods are both to perceive them as necessary and a positive food market trend.

Respondents perceiving an effect of a functional food were more likely to have consumed probiotic products than those not perceiving an effect. This association was significant in both the crude and the adjusted regression (Table 3). Thus, perceiving an effect of a functional food is important for the consumption.

According to both the crude and the adjusted regression, those with a diet-related problem were more likely to have consumed cholesterol-lowering products than the ones without a diet-related problem (Table 3). However, these consumers did not score higher on the five factors in the functional food scale than did those without a problem. This indicates that the consumers with a diet-related problem did not have positive attitudes towards functional foods.

Respondents in Study II using dietary supplements or nutraceuticals were more inclined to have consumed probiotic products than those not using dietary supplements or nutraceuticals. This was seen both in the crude and adjusted regression (Table 3). Also, those using dietary supplements perceived a greater personal reward from using functional foods and they were more supportive of the foods and believed in their benefits. This implies that those defined as “*health freaks*” in the focus groups are more positive towards functional foods.

Consumer demographic characteristics associated with the consumption of functional foods

In the crude regression, respondents with upper secondary school education were more likely to have consumed at least one of the seven functional food products and were more likely to have consumed probiotic products than those with the nine year compulsory school education. Among the demographic variables only university education of more than 3 years was associated with use of probiotic products in the adjusted regression (Table 3).

The female respondents consumed on average more functional foods products than did the males. Results from the crude logistic regression demonstrated a significantly larger proportion of females than males consuming probiotic fruit-drinks and milk-products and fibre-rich bread with omega-3 fatty acids. However, these gender differences did not remain in the adjusted logistic regression. Thus, gender is not an important characteristic for functional food consumption, according to these results.

In the crude logistic regression elderly respondents were less inclined than the youngest ones (17-24 years old) to consume juice with extra vitamins and minerals. However, this relation did not persist in the adjusted regression, which means that age did not have a major impact on the consumption of functional foods in this investigation.

Table 3. Adjusted odds ratios (OR, 99.9% CI) for supporting functional foods; perceived effect; diet-related problems; use of dietary supplements; and educational level, in relation to: not consumed or consumed any of the three functional food products below; and consumed 0-2 or 3-7 functional foods.

	df	Cholesterol-lowering products				Probiotic fruit-drinks		Probiotic milk-products		Consumed 0-2 or 3-7 products	
		OR		OR		OR		OR		OR	
Supporting functional foods (from the functional foods scale)		Low score								1.00♦	
		High score		1						2.09 *	
Perceived effect of functional foods products		No				1.00‡		1.00‡			
		Yes		1				2.40 *			
Diet-related problems (High blood pressure, High cholesterol, Diabetes)		No			1.00‡						
		Yes		1	2.29 *						
Using supplements/nutraceuticals		No				1.00‡					
		Yes		1		1.96 *					
Educational level		Nine year compulsory school		3				1.00‡			
		Upper secondary school		1							
		Less than 3-year university		1							
		More than 3-year university		1				3.32 *			

* represents significant different OR to the reference (1.00) on the level of $p < 0.001$

‡ 1.00 is the reference and refers to those who had not consumed cholesterol-lowering products, probiotic fruit-drinks and milk-products. The other numbers refer to those who had consumed the products. For example, those who had perceived an effect of a functional food were 2.55 times more likely to consume probiotic fruit-drinks.

♦ 1.00 is the reference and refers to those who had consumed zero to two products out of the seven in the questionnaire. Therefore, the respondents who had high scores on supporting functional foods were 2.09 times more likely to have consumed 3-7 different products.

Health-care professional studies

Study III: Dieticians trust but physicians and registered nurses distrust functional foods

The aim of this study was to investigate dieticians', registered nurses' and physicians' thoughts about functional foods and their attitudes to and willingness to recommend functional foods to patients.

The dieticians trusted and were convinced of the need for functional foods while the physicians and registered nurses had more doubts regarding the trust and need for these foods. The analysis of the texts identified two major themes: 1) trust in and doubts about functional foods and 2) need for functional foods. Both themes contain sub-themes, which are presented below. Interview quotations are referred to by the profession of those in the interview group. No single person will be recognised.

Trust in and doubts about functional foods

Health effects

Albeit the dieticians were proficient in nutrition and curious about functional foods, they sometimes perceived the effects of functional foods as complex and abstract; *"and no one can really explain this anti-inflammatory effect and what's in those plant sterols"*(dietician).

The physicians and registered nurses stated their insufficient knowledge of functional foods and expressed their scepticism regarding the physiological effects of functional foods. They did not believe that functional foods have an additional physiological effect compared to *"natural"* foods. The registered nurses and physicians, in contrast to the dieticians, doubted the safety of functional foods and they had heard of adverse effects of some functional foods.

Research and sources of information

The dieticians trusted the clinical tests of the functional foods and they were positive towards foods being clinically tested. The registered nurses and physicians perceived the research, which documents the physiological effects, as advertising arguments possibly misleading the consumers, rather than trustworthy.

The registered nurses and physicians perceived the health claims on the packages of the functional foods as something alluring and not to be trusted. One registered nurse expressed: *"A health claim is just a claim, and then it's not scientifically proven"*. On the food packages all professionals wanted more information – more than just the health claim – about the physiological effects. The nurses and physicians expressed a need for more information

provided through scientific reports of clinical trials for them to be able to judge the trustworthiness of the claimed physiological effects.

Need for functional foods

Professionals' views

Among the three interviewed groups, only the dieticians were convinced of the need among their patients for functional food products, in particular the cholesterol-lowering margarines and products with lactic acid bacteria. The dieticians had higher proficiency in the physiological effects of functional foods, which did possibly influence their positive attitudes toward such foods.

The registered nurses and physicians thought that functional foods are try to create a need among the consumers. The physicians thought that people presumably use functional foods as a compensation for an unhealthy lifestyle and eating, because people neither exercise nor eat enough of healthy foods.

- *We have a bad conscience, we are all a bit... well, chubby or this and that in our [lives], and we exercise too little and everything. And then we have this guilt, most people, which they [producers] appeal to. That's why they can sell this.*

- *You buy the forgiveness of your sins. (physicians)*

The nurses and physicians thought that more substantial diet and lifestyles changes would be required than just the adding or changing of conventional foods to one or two functional foods.

The dieticians talked about the difficulty associated with changing eating habits or lifestyles among the patients. They thought that their patients sometimes preferred to make smaller changes in their diets, such as exchanging one or two food items instead of a whole diet. This gave the dieticians another reason to recommend functional foods: [by eating cholesterol-lowering margarine] *"you can lower your cholesterol without changing your food habits. That's the beauty of it!"* (dietician).

Professionals' willingness to recommend

The dieticians did recommended functional foods to their patients as they regarded functional foods products as something tangible to recommend and, mostly, physiologically effective. *"It works absolutely. I've seen it so many times that I can't help myself recommending it"* (dietician regarding cholesterol lowering margarine).

The registered nurses and physicians were generally reluctant to recommend functional foods to patients. The registered nurses reasons for not recommending the products were limited knowledge about the products and their physiological effects and lack of trust in the logotype. The physicians recommended general lifestyle changes to patients rather than functional foods.

Study IV: Recommendation of functional foods is related to perceived knowledge and benefits

The aim of this study was to survey the consumption and knowledge of and attitudes to functional foods among Swedish health-care professionals. The aim was also to investigate which variables (occupation, consumption and knowledge of and attitude to functional foods) predict willingness to recommend functional foods to patients.

The results generally demonstrated that being a dietician and perceiving benefits of functional foods and perceived knowledge of functional foods were the strongest predictors of the willingness to recommend functional foods among health-care professionals. The health-care professionals were familiar with the functional food concept and most of them had consumed and recommended at least one of the eight functional foods presented in the questionnaire. The health-care professionals' most preferred information source in the present study was scientific papers and education.

Table 4. Adjusted odds ratios (OR, 99.9% CI) regarding: perceived knowledge of six functional foods; occupation; and perceiving benefits of functional foods in relation to: not willing to recommend (0) or willing to recommend (1) any of six functional foods below.

			Recommend probiotic fruit-drink	Recommend yoghurt with muesli smoothen- ing out blood sugar level	Recommend cholesterol- lowering milk	Recommend cholesterol- lowering margarine	Recommend juice with vitamins and/or miner- als	Recommend fibre-rich bread with omega-3 fatty acids
		df	OR	OR	OR	OR	OR	OR
Knowledge of probiotic fruit-drink	Low		1.00‡					
	High	1	9.12*					
Knowledge of yoghurt with muesli smoothening out blood sugar level	Low			1.00‡				
	High	1		9.01*				
Knowledge of cholesterol-lowering margarine	Low					1.00‡		
	High	1				6.84*		
Knowledge of juice with vitamins and/or minerals	Low						1.00‡	
	High	1					15.00*	
Knowledge of fibre-rich bread with omega-3 fatty acids	Low							1.00‡
	High							10.42*
Occupational category	Dietician	2	1.00‡	1.00‡	1.00‡			
	Physician	1	0.09*	0.16*	0.22*			
	Registered nurse	1	0.37	0.42	0.19*			
Benefits of functional foods	Low score		1.00‡	1.00‡	1.00‡			1.00‡
	High score	1	8.50*	5.52*	3.68*			3.09*

* represents significant different OR to the reference (1.00) on the level of $p < 0.001$

‡ 1.00 is the reference and refers to those who had not recommended probiotic fruit-drinks, yoghurt with muesli, cholesterol-lowering milk and margarine, juice with vitamins and /or minerals and fibre-rich bread. All the other numbers refer to those willing to recommend these products. For example, those who perceived themselves to have high knowledge of probiotic fruit-drink were 9.12 times more likely to be willing to recommend this product to patients.

Consumption of functional food

The health-care professionals had consumed probiotic products or fibre-rich bread with omega-3 fatty acids to a larger extent and cholesterol lowering milk to a lesser extent. This consumption pattern possibly reflects the availability or the products' durability on the food market.

One out of four of those who had consumed a product had perceived an effect and about one of three had not perceived an effect or did not know if the product had had an effect. About one of three did not expect the food item to have an effect. Less than one of three wanted more functional foods on the food market.

Knowledge of functional food and willingness to recommend

Dietitians reported overall higher knowledge of all the functional foods than did physicians but not more so than registered nurses. Dietitians reported higher knowledge than did the physicians of all seven functional foods but higher than the registered nurses of only four foods (probiotic fruit-drink, yoghurt with muesli smoothening out blood sugar level and cholesterol-lowering margarine and milk). In general, the respondents who had consumed a functional food reported higher knowledge of that functional food than those who had not consumed the food. Also, the health-care professionals who had previously consumed a functional food product more often reported a willingness to recommend that particular food to patients.

According to the crude logistic regression those reporting high knowledge of a functional food were significantly more likely to recommend that functional food, and often a similar product, than those reporting low knowledge of that functional food. According to the adjusted logistic model high knowledge, compared to low, of most functional food predicted recommendation of that functional food (Table 4, page 44). This implies that self-perceived knowledge is important for the willingness to recommend functional foods.

Occupation and willingness to recommend

Almost all health-care professionals (89%, n=214) were willing to recommend one or more of the seven functional foods. The percentage of dietitians, physicians and registered nurses willing to recommend a specific product are presented in Figure 2 (page 46).

According to the crude logistic regression, physicians were significantly less willing than were dietitians to recommend probiotic products, yoghurt with muesli smoothening out blood sugar level and cholesterol-lowering milk. This difference remained in the adjusted logistic model, apart from probiotic milk products (Table 4). Thus, dietitians were more likely than physicians to recommend probiotic fruit-drink and yoghurt with muesli smoothening out blood sugar level. In both the crude and adjusted logistic

regression, more dieticians were willing to recommend cholesterol lowering milk than were physicians and nurses (Figure 2).

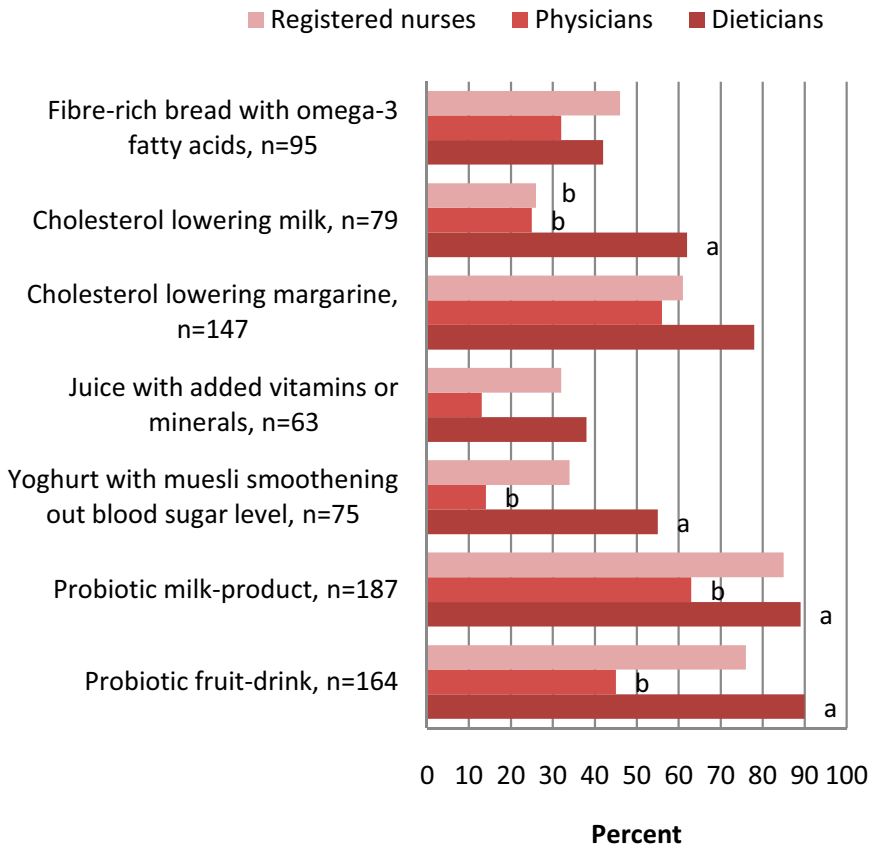


Figure 2. Willingness to recommend functional foods among registered nurses, physicians and dieticians. “n” refers to the total number of health-care professionals willing to recommend the functional food. The different letters (a, b) refers to significant differences between the percentage of registered nurses, physicians and dieticians who were willing to recommend on the level of $p > 0.001$.

Attitudes to functional foods and willingness to recommend

The health-care professionals who were willing to recommend functional foods had, on average, higher scores on four of the five factors in the functional foods scale – (1) personal rewards from using functional foods, 2) benefits of functional foods, 3) safety of functional foods, and 5) supporting functional foods) – than the ones who were not willing to recommend functional foods. Thus, those willing to recommend the foods had more positive attitudes towards them.

The health-care professionals who perceived a personal reward from using functional foods were, in the crude logistic regression, more willing to recommend yoghurt with muesli smoothening out blood sugar level, juice with vitamins/minerals and fibre-rich bread with omega-3 fatty acids compared to those who did not perceive a personal reward from using functional food. However, these predictions were not significant in the adjusted model. Thus, the health-care professional's personal reward from using these foods is of no importance for the recommendation.

In the crude logistic regression, the ones supporting functional foods and perceiving the foods as beneficial and safe were more likely to recommend all functional foods, except probiotic milk-products and cholesterol lowering milk, than those not perceiving functional foods as safe and beneficial. In the adjusted model (Table 4), those perceiving benefits of functional foods were more willing to recommend all functional foods except juice with added vitamins or minerals. This suggests that the health-care professionals who think that the development of functional foods are beneficial and that these foods can prevent diseases and make it easier to follow a healthy lifestyle are more willing to recommend almost all functional foods.

Discussion

In this chapter I start by presenting the methodological strengths and weaknesses of the studies that should be taken into consideration before going into the discussion of the results.

Methodological discussion

This methodological discussion begins with considerations in regard to the two qualitative studies (I and III) followed by considerations in regard to the two quantitative studies (II and IV). Finally, there is the consideration in regard to the two scales used in Study II and IV.

Study I and III

One of the purposes of Study I was to gather extensive information on impressions of and attitudes to functional foods among consumers. The total number of consumers and how they can be generalised with regards to others are of minor importance⁽¹⁰⁴⁾. Therefore, it was important to achieve informative discussions and diversified thinking and reflections concerning functional foods in the focus groups. All focus groups had long discussions which revealed disparate opinions of the functional food concept and products. The disparate opinions indicated that the consumers expressed their opinions freely⁽⁹⁶⁾. Further, the consumers' focus groups reached informational redundancy which gives strength to the trustworthiness of the results⁽¹⁰⁴⁾.

There is, however, a risk that the few interviews in small groups with health-care professionals, one with each profession, failed to reach informational redundancy. More interviews would have been needed until no new opinions and thoughts emerged. Due to resource limits no more interviews were held. Therefore, these results need to be verified by more studies. Also, there were fewer interviewees in the planned focus groups with health-care professionals than had been recommended for focus groups⁽⁹⁷⁾. Despite this there were still substantial discussions among the consumers and the interviews were informative⁽¹⁰⁴⁾.

The fact that there were men and women in separate focus groups in Study I may have enhanced and suppressed the discussions⁽⁹⁷⁾. Some of the male groups were less informative, whereas the corresponding female groups contained extensive discussions. Perhaps a mixture of genders could

have balanced the discussions in both groups. However, the rather quiet males could also have been more suppressed by dominating and argumentative females. All participation was voluntary, and those participating were presumably more interested in food than the average Swedish consumer.

The choice of method could affect the results. The generally more negative attitudes pronounced in the focus groups compared to responses in the questionnaire, for both consumers and health-care professionals, call for a discussion whether focus groups invite to critical thinking and negative attitudes. The most extreme difference was seen between registered nurses answering the questionnaire and those participating in the small group interviews. Possibly, the voluntary consumers were more interested in “natural” foods and thereby more negative to functional foods than those responding to the questionnaire. However, the questionnaire with limited response alternatives gave less space to express these negative attitudes. The answers you get depend to a larger extent on the question in the questionnaire than in the focus group discussions.

The analyses of the interview texts and the categorisation of the texts were discussed several times with the co-authors and in different research seminars. These discussions resulted in changes of the contents of some of the codes and the distinction of the themes and sub-themes. Further, two fellow researchers, one in Study I and another one in Study III, who were familiar with the analysis method read 30% of the analysed text to verify the themes and sub-themes⁽⁹⁹⁾. These activities were considered to strengthen the trustworthiness of the analyses and results⁽⁹⁹⁾.

The functional food products chosen as stimulus during the interviews did possibly affect the results. Products with less distinct physiological advantages, such as the yoghurt with muesli, made the consumers more sceptical. The muesli was perceived by most consumers to be strange tasting, which possibly caused less positive attitudes^(72, 75).

The cholesterol-lowering margarine had, according to the dieticians, demonstrated sufficient results in patients; they were therefore positive towards this product. The other health-care professionals and the consumers expressed scepticism towards the margarine, though, which they perceived as artificial. Fibre-rich bread is customary in the Swedish diet, but omega-3 fatty acids (i.e., fish oil) in bread are not. Therefore, the added fish oil presumably caused more sceptical thoughts, possibly due to the unnatural addition of fish oil in bread.

Study II and IV

In Study II 52% did not respond. The non-respondents did not differ in demographic variables compared to the respondents. However, only 76 of the 500 non-responders returned the follow-up questionnaire. The most frequently stated reasons for not completing the questionnaire were “did not have time” (18%) and “a too long questionnaire” (13%). Four percent were not interested in the topic and 3% did not know about the topic and could

therefore not answer. Perhaps a larger proportion of the respondents were concerned with healthy eating than is the Swedish population in general and therefore they were more acquainted with the concept of functional foods. More studies could help generalising the functional food consumer.

A large proportion of respondents reported having high blood pressure, high cholesterol and/or diabetes than did respondents in another Swedish study⁽¹⁰⁰⁾. An explanation of the different results is that Becker and Pearson⁽¹⁰⁰⁾ asked the respondents if they did personally have the diet-related problems named, whereas, the question in this study was about whether someone in the family had any of the named diet-related problems. Another explanation for the different results is that more consumers with diet-related problems replied to the questionnaire.

Also in Study IV 50% did not respond. The percentage of non-responders was lower among dieticians (43%) and registered nurses (47%), but higher among physicians (61%). Results of the non-response follow-up indicated neither differences in demographic variables nor factors related to the topic of the questionnaire. The most frequently stated reasons for not filling out the questionnaire were “did not have time” (19%), “too long a questionnaire” (11%) and “do not know the topic and therefore cannot answer” (8%). None of the non-responders refrained from filling out the questionnaire due to lack of interest in the topic.

The sample could be biased towards respondents with higher knowledge and more positive attitudes to the concept of functional foods. However, if the sample of physicians and registered nurses would have been larger, hence including those with less knowledge of the topic, perhaps the difference between dieticians, physicians and registered nurses would have been greater.

The dilemma of low response rate in this type of studies is difficult to avoid. Perhaps shorter questionnaires than those used in Study II and IV would have increased the response rate.

The functional food scale and the health attitude scale – Study II and IV

The change made to the scales (changing negative sentences to positive and the addition of statements) could have affected the outcome of the scales. However, the loading of the statements in the health attitude scale did not differ from the original⁽⁵⁰⁾, indicating that the changes made to the scales did not affect the outcome.

The factors emerging from the factor analysis of the functional foods scale in Study II and IV and in a previous study⁽⁸⁶⁾ differed from the original⁽⁷¹⁾. Reasons for the different loading in the functional foods scale could be vaguely defined dimensions in the scale, different food cultures in Sweden and Finland and also different populations with diverse views on health and diet. The scale was developed in Finland where attitudes to functional foods among the consumers seem to be approaching that of conventional foods⁽⁸⁶⁾.

Discussion of results

The sections in this discussion of results will follow the structure of the scheme of factors influencing our food choices presented on page 16. The focus of this discussion is, however, on important results of the studies and not primarily on the categories in the scheme.

The results from the consumer studies will be discussed first, and then the results from the health-care professional studies. Last is a discussion of implications of the results in our culture.

Consumer studies

The functional food within the person

The physiological effect is one of the factors of a food which may affect not only the individuals' physiology, but also psychological factors within the person and, furthermore, attitudes to the food and future intake of this food⁽²⁷⁾. The results in Study II revealed that having perceived an effect of a functional food predicted consumption of probiotic products. However, the consumers' responses neither revealed if there was a true physiological nor a placebo effect.

Nevertheless, the physiological effect, whether it is physiologically true or not, is important for future choices since the functional foods are claimed to have a physiological effect. As mentioned by the consumers in Study I, the lack of effect, or adverse effects, is one of several factors which could endanger the trustworthiness of these foods. Trust in food will be further discussed below, in connection with psychological influences on functional foods.

The person – psychological influences on functional food consumption

The results of Study I reveal the difficulty for the consumers to understand what functional foods are and what they contain. The ingredients and substances in the foods were unknown and perceived as artificial, which lead to distrustful attitudes and scepticism towards the foods. Therefore, the willingness to define and understand what the foods are and what they contain were highlighted in the focus groups. In general, the consumers perceive functional foods as probably healthy but unnecessary.

The urge to define the functional foods in the focus groups probably stem from wanting to know what we eat⁽³⁶⁾. When we lack the understanding of what we eat we feel a loss of control over the food we consume and thereby our bodies and identities⁽³⁶⁾. Consumers have to rely on the manufacturers' honest purposes because the manufacturers are solely responsible for the knowledge and control of the food contents. But the consumers in Study I thought that the manufacturers were driven by unethical principles, wanting

to profit on the existence of public health diseases, and therefore not to be trusted. Trust will be further discussed below.

The consumers in Study I thought that the functional foods were artificial due to the contents of unknown and artificial ingredients and additives. They thought that pure butter was more natural than the cholesterol-lowering margarine. As mentioned in the introduction other researchers^(45, 57, 66, 105) claim that foods containing additives and artificial substances are not perceived as healthy by consumers because processed foods are unnatural and therefore per se not healthy.

Consumers' reluctance to consume unnatural and processed foods may be explained by a belief that unnatural foods are more difficult for the body to break down than natural foods⁽⁴⁰⁾. Natural foods are thought to be meant for us because we are natural beings and by eating natural we can identify ourselves as being closer to nature⁽⁴⁰⁾. Lupton⁽⁴⁰⁾ also claims that we believe that we know what we eat if the food is natural and free from treatment, additives and processes. By eating the unnatural and processed foods we lack control of what we eat and thereby, again, we do not know who we are⁽³⁶⁾. According to recent studies consumers believe that enriched foods, such as functional foods, could cause dangerous side effects⁽⁶⁶⁾, such as cancer or allergy⁽¹⁰⁶⁾. Furthermore, recent marketing reports from AC Nielsen⁽¹⁰⁷⁾ claim that Swedish consumers prefer naturalness instead of light products. The processed functional foods have recently been discussed in a Finnish study and the result was that they have problems being perceived as natural and essentially healthy⁽⁶⁶⁾. It seems to be the issue for Swedish consumers in Study I as well. The consumers perceived the products as probably healthy but because of their unknown ingredients and artificial additives the consumers could not recognise them as essentially healthy.

The consumers in the focus groups perceived their own diet and health to be too good for them to need functional foods. Apparently, other Europeans have a similar attitude and perceive their own diet to be good and without need of adjustment⁽¹⁰⁸⁾. Lappalainen and co-workers find this surprising because of constant reports on increased frequency of overweight and obesity⁽¹⁰⁸⁾. In the focus groups, the consumers considered other people, especially those with nutritional problems, in larger need of functional foods than they themselves. This phenomenon, optimistic bias⁽⁷⁸⁾, described in the introduction, is acknowledged within research on consumers' risk perception of food^(44, 45, 47). Factors perceived to be in our control are of less concern for us and therefore without need of adjustment^(44, 48). Risks from food manufacturing technology, such as processes and additives, are perceived as out of our control, whereas lifestyle and dietary risks are perceived to be in our control^(46, 47). Several consumers in the focus groups in Study I expressed that they were in control of their diets and lifestyles and said that this was why they were reluctant to recognise themselves in need of functional foods.

Further, in the focus groups in Study I, there were two pronounced stereotypes who were thought to consume functional foods; the interested, healthy

“health freak” or the “unhealthy” one with a sedentary lifestyle in need to compensate for bad habits. In the science of social psychology, there is an explanation of this stereotypical idea among lay people regarding who is in risk of health problems⁽⁴⁸⁾. If people do not mirror themselves with the stereotype who is at risk, they think the health problems will not happen to them^(48, 79). Not perceiving oneself at risk of a health problem prevents people from apprehending health information and from changing their lifestyle^(47, 48, 62, 79). Frewer and co-workers argue that perceiving oneself at out of health risk hinders the acknowledgement of functional foods⁽⁷⁹⁾. In the focus groups there were two extreme stereotypes, one extremely healthy and one extremely unhealthy. Neither extreme was regarded as balanced, nor healthy. Since the consumers in the focus groups perceived themselves as healthy enough they did not mirror themselves with these stereotypes, and, thus, they did not consume functional foods.

Socio-cultural influences on functional foods consumption

Results from the consumer questionnaire reveal that women consume more functional foods than men do and that women have tried more products than men have. However, gender was not, in this study, found to be the most important demographic factor influencing the choice of functional foods. The research regarding the importance of age and gender in functional food consumption is diverse. Some researchers claim that women are more likely to consume functional foods than men are^(69, 77), whereas others state that the influence of gender is minor⁽⁸²⁾ or absent⁽⁵⁶⁾. As shown by the results in Study II, and also found by others^(76, 85), the role of gender is indicated to be dependent on which product the consumer is inquired about.

In the focus groups in Study I the women thought their diets were healthy and pristine and therefore they did not need functional foods. The men thought they felt healthy, they did not know if they were ill and therefore they did not need any functional foods. According to Beardsworth⁽⁴⁹⁾, mentioned in the introduction, women more actively regulate and control their food intake with health concerns in mind than men do. And women are, compared to men, more likely to eat health-enhancing foods and foods in line with the dietary recommendations^(51, 69). Women’s higher awareness of health issues is argued to be caused by the responsibility they feel of the health of their family members⁽⁸²⁾. The more lively discussions in the women’s focus groups compared to the men’s groups in Study I confirm the women’s larger engagement in food and health.

Regarding the age of the functional food consumer, the younger respondents (Study II) were more likely to consume juice with added vitamins and/or minerals than the older ones. In other studies, consumers of different ages appear to accept or consume different functional foods^(76, 85). Or, the acceptance increases with age^(56, 74, 109). Verbeke suggests that elderly people are more aware of health issues due to their own, or family members’, experiences with lifestyle related problems⁽⁸²⁾. However, the likeliness of con-

suming functional food did not, in the present study, primarily depend on age.

A worry expressed in Study I was that functional foods are mostly consumed by the healthy-conscious and the economically affluent. Results of the questionnaire revealed that it is primarily the health-conscious who have positive attitudes to functional foods and consume them. Though, income levels did not predict the consumption of functional foods, whereas university education did. As described in the introduction, our socio-economic standard influences our food choices^(49, 51). The role of socio-economic and educational factors in the acceptance of functional foods is contradicting. Both high and low socio-economic standard and education are claimed to increase the likeliness of accepting functional foods^(56, 69), though, other factors than the socio-demographic are claimed to explain the acceptance of functional foods^(76, 77, 82). As revealed in the present study, and previously by others^(69, 71, 76, 77), different functional food products attract consumers with diverse characteristics. This is not surprising as most functional food products focus on a specific diet-related disease^(3, 19). In Study II, university education was the only socio-economic factor which clearly predicted the consumption of functional foods.

Attitudes to and interest in health and functional foods

The questionnaire study revealed that consumption of dietary supplements was related to more positive attitudes towards functional foods. Similarly to Niva and Mäkelä⁽⁶⁷⁾, dietary supplement users more easily accept foods with health-enhancing ingredients. Also, having more positive attitudes towards functional foods and primarily supporting these foods was related to consumption in Study II. According to this and to other studies the acceptance of functional foods among consumers is primarily associated with beliefs in the health benefits of the foods^(72, 73, 82). Previous research^(67, 110) support that consumers with an interest in functional foods and their health effects are also interested in healthy eating.

The more frequent use of cholesterol-lowering products among consumers with high cholesterol, high blood pressure and diabetes in Study II is supported by other researchers^(75, 76). However, the low support, belief and confidence in functional foods as well as lack of personal reward among those with diet-related diseases in Study II contradict results from a Finnish study⁽⁶⁷⁾. The Finnish consumers inclined to lower their cholesterol and/or blood pressure had good experiences of and confidence in functional foods⁽⁶⁷⁾.

Consumers in the focus groups thought that the quality and taste of the functional foods need to be as high as that of the conventional counterpart in order for them to consume the foods. Similarly, there is the importance of keeping the quality in functional foods as high as in conventional foods for the success of functional foods which is also acknowledged elsewhere^(88, 111). According to Verbeke⁽⁷²⁾ only strong beliefs in the health benefits of func-

tional foods can make people compromise on the taste of a food. Furthermore, others have shown the importance of the taste of functional food for consumers' willingness to consume the product⁽⁷⁵⁾. Recently, the price which the consumers were willing to pay decreased after having tasted the product, despite the health claim⁽⁷⁵⁾.

The consumers in Study I expressed different attitudes to the taste of some functional foods. For example, the probiotic fruit-drink with blueberries was considered to taste both like medicine and as recently picked blueberries, that is, natural. Further, particularly the muesli in the portion sized yoghurt with muesli smoothening out blood sugar level was considered to look like animal feeding stuff and taste strange. Also, the consumers expressed that for them to buy the functional foods, the price of the functional foods could not be much higher than their counterparts. However, a higher price was also considered to reflect the quality of a product and higher prices were thought to increase beliefs in the effect of the products.

Health-care professional studies

As the discussion of the results of the consumer studies in part followed the scheme presented in Figure 1 (page 16), the discussion of the results of health-care professionals studies starting with "Food within the person" will do likewise.

The functional food within the person

There were some functional food products which more health-care professionals in the present study were willing to recommend. For example, more professionals were willing to recommend probiotic products and cholesterol-lowering margarine than juice with added vitamins or minerals. This could reflect the scientifically proven effect of some functional foods or differences in perceived values of effects. One of the probiotic fruit-drinks and the cholesterol-lowering products presented in the questionnaire had been approved for product-specific health claims and thus proven in clinical tests to give a significant effect^(4, 6, 7). Thereby, these products could be regarded by the health-care professionals as more legitimate to recommend. The juice with added vitamins and minerals and the fibre-rich bread used in the studies had not been clinically tested and were therefore possibly perceived to be less legitimate to recommend.

The need for scientific evidence of the health effects of functional foods in order to recommend them to patients is confirmed by previous studies^(89, 90). According to a recent study, Dutch dieticians perceived phytosterol-enriched margarines as most useful whereas vitamin-enriched products were regarded as useless⁽⁸⁹⁾. Increased awareness of the scientifically based physiological effects and safety of functional foods could support the understanding among health-care professionals of how functional foods could be useful to patients.

The person – psychological factors influencing willingness to recommend functional foods

The diverse willingness to recommend functional foods between the professions may reflect different understandings of and education in nutrition and, thereby, beliefs and trusts in functional food. The diverse willingness to recommend also depends on the different professional focuses. Dietitians are expected to have more extensive nutritional knowledge of the use of foods and diets in the treatment of patients than do physicians and registered nurses. Even though primary care practitioners agree on the importance of nutrition in disease prevention, their nutritional knowledge is limited⁽¹¹²⁾. Previously, a review concluded that dietitians were more successful than physicians at making patients lower their blood cholesterol levels⁽¹¹³⁾. However, there was no evidence that dietitians were better than nurses in this respect⁽¹¹³⁾.

Other studies reveal that physicians experience barriers, such as lack of time, poor knowledge of nutrition and limited results when dietary advice is given in practice^(92, 114-116). Primary care practitioners in the UK agree on the importance of nutrition in disease prevention and the majority of the practitioners are also confident of their ability to give dietary advice⁽¹¹²⁾. The physicians and registered nurses in Study III agreed on the importance of nutritional counselling and advice of lifestyle changes, although they were not familiar with the effects of the functional foods. The physicians thought there were no additional effects while the registered nurses were uncertain. Therefore, they said, they were not willing to recommend functional foods. The registered nurses responding to the questionnaire seemed more knowledgeable than the ones in the interview and, thus, more willing to recommend.

The health-care professionals who had consumed a functional food also perceived themselves to have more knowledge of and were more willing to recommend that product to patients. However, it is not known whether the health-care professionals had personally chosen to buy the product or had been offered free tasting and samples of the product by the producers. The professionals could therefore state that they had “ever consumed or purchased” the functional foods in the questionnaire. Furthermore, the professionals presented to and informed of functional foods by producers possibly consider themselves to have higher knowledge of those foods.

Other studies reveal that the knowledge of the nutritional effects of foods does influence beliefs about and trust in functional foods both positively and negatively^(82, 117). Wansink and co-workers⁽¹¹⁷⁾ conclude that having knowledge of both the health attributes of a food and the health consequences of eating this food increase the possibility of consuming it. Thus, in order to consume a functional food it seems important to know why the food is healthy and how that food will affect someone consuming it⁽¹¹⁷⁾.

Not surprisingly, high knowledge of and familiarity with the functional food products and their physiological effects among the health-care profes-

sionals in Study IV was important for them in order to recommend these products. Also, I believe that the higher the health-care professionals' knowledge appeared to be before they were willing to recommend the foods to patients, the more it increased their trustworthiness towards the patients.

Socio-cultural – governmental regulations influencing willingness to recommend functional foods

How our socio-cultural belonging influences our food choices depends on our cultural history but also on the present government and regulations. The Swedish government establishes rules in connection with obligations within the health-care professions. These rules could influence the health-care professionals' attitudes to, for example, functional foods. The obligations of Swedish health-care professionals require, for example, the professionals to give patients evidence based treatment alternatives and the treatment preferred by the patients^(93, 118). Diets, functional foods or other foods, which are clinically and scientifically proven to have an effect, are included in these evidence based treatments. These foods could therefore be offered to patients as an alternative to drugs. In order to be able to give these nutritional treatments, health-care professionals have been advised by others to achieve higher knowledge in nutrition^(92, 119, 120). I assume, and others with me^(119, 120), that health-care professionals' nutritional knowledge is important for the patients' confidence in them. Lack of nutritional knowledge among health-care professionals could cause strain in the relation to the patient, especially if the patient has high knowledge of nutrition and interested is in nutritional treatments. Further, the consumers both in Study I and II stated that they were more willing to consume a functional food if it was recommended by a health-care professional. Some consumers even required a dietician's or physician's recommendation before consuming a functional food.

However, the physicians in the interviews seemed unwilling to learn about and recommend the functional foods. Also, when answering the questionnaire, fewer physicians than dieticians thought it was acceptable to recommend specific food products to patients. Assumingly, the physicians' focus is on curing diseases, primarily by the use of pharmaceuticals. In the eyes of the physicians and registered nurses in Study III single food items have no large impact on curing diseases. This is apparent in the Swedish culture. In other cultures, however, such as Japan and China, foods and medicines are of the same origin and cannot be separated. In these cultures both foods and medicines are important for the prevention and maintenance of health or the cure of diseases⁽¹³⁾.

Attitudes to functional foods among health-care professionals

Just like consumers food choices are affected by their attitudes to food characteristics, health-care professionals' choices of functional foods in the care of patients are affected by their attitudes. A recent study found that oncology nurses with a personal interest in functional foods and nutrition are more

likely to discuss these issues with patients and to search information about nutrition and cancer⁽¹²¹⁾. European physicians' health promotion counselling to patients is associated with their personal health behaviours and attitudes to preventative activities⁽¹¹⁶⁾. Recently, Scottish general practitioners approved of their role of giving advice to patients with diet-related diseases, though preventative work was approached depending on personal preference⁽¹¹⁵⁾.

The health-care professionals in the questionnaire study perceiving benefits of functional foods were more likely to recommend the foods. Possibly, personal interests in nutrition and consumption of functional foods among the health-care professionals influence how important they regard nutrition advice in patient consultation.

Implications of the results in the Swedish culture

Trustworthiness influence acceptance of functional foods

The discussions of the lack of safety and of risking adverse effects of the functional foods that emerged in all focus groups revealed the distrust in these foods. The consumers need to trust the foods in order to consume them and the health-care professionals need to trust the foods in order to recommend them. Both consumers and health-care professionals thought the producers, and the way the foods are marketed, try to delude the consumers.

Trust in food is crucial for consumption of the food⁽³⁸⁾. The trust in the food is related to both its artificial ingredients and their effect in the body, and the foods' claimed physiological effect. Perceiving an effect of a functional food is also crucial for the trust in and consumption of the foods⁽⁷⁹⁾. In the focus groups most consumers expressed scepticism of the claimed effects of the foods. Perceiving the package information as credible has a positive effect on the attitudes to functional foods⁽⁷³⁾. Unless the effect is obvious and not exaggerated, the health claims will be accused of deluding the consumer and, thus, I think, the trust of these foods will decline.

Previous research claims that frequent food scares and reports on cancer-causing additives result in difficulties to trust the healthiness of new and additive containing foods, such as functional foods^(54, 55). Other studies reveal consumers' anxiety of food consumption and scepticism towards information sources due to inconsistencies regarding what is healthy or not, or even dangerous^(54, 55). This distrust causes individuals to adhere to personal experiences of dieting or exercise regimes in order to take back the control of their food ingestion and body^(36, 39, 55). Functional foods are possibly not consumed, due to this distrust.

The consumers in Study I wished for information about functional foods through trusted, authoritative sources; health-care professionals, such as dieticians and physicians, were mentioned as examples. Others have also revealed the importance of influences and information by authorities, such as health-care professionals, for the trust in and accordingly consumption of functional^(56, 62) and other foods⁽³⁸⁾.

The self-regulating program of health claims on food – the Swedish Code of Practice in the labelling of foods with health claims – did not impose trustworthiness among all consumers in the focus groups. Previously, Australian consumers thought that trusted governmental authorities, for example the National Food Administration, should take a larger regulating role in the labelling of functional foods in order to improve the trust in such foods⁽³⁸⁾. Also some consumers in Study I expressed a need for trusted authorities, such as the Swedish National Food Administration, to take larger responsibilities in the labelling of functional foods.

Within the new EC regulation, the European Food Safety Authority (EFSA) will independently review and verify the health claims used on foods in Europe⁽²⁵⁾. All health claims will be verified with sufficient and substantial scientific evidence and it is believed that the consumers will, thereby, trust the health claims^(26, 122).

However, according to Bech-Larsen and Scholderer⁽¹²³⁾ researcher on attitudes to foods, the new EC regulation will hinder the future market of functional foods. They argue⁽¹²³⁾, that the new EC regulation will not accept the foods with well-established, more general health claims. Instead newly produced and invented foods with more complex claims will primarily enter the functional food market⁽¹²³⁾. The functional food product which caused the most discussions of its effect and the meaning of the health claim (Primaliv, Appendix 1) in the consumer focus groups has now been withdrawn from the Swedish food market due to sales which were too low. This supports previous research which states that more complex and product-specific health claims will have a hard time to reach acceptance and trustworthiness among consumers in general⁽¹²⁴⁾. In accordance with Bech-Larsen and Scholderer⁽¹²³⁾, I assume that in order for consumers to accept new functional foods and understand their product-specific health claims the consumers need extensive knowledge in nutrition. As of today, few consumers obtain this requirement.

The health-care professionals, in particular the registered nurses and physicians, expressed a need for scientific reports in order to trust the effects of functional foods. The reason for the dieticians not to express this as strongly was that they had, according to themselves, already been exposed to these scientific reports and further information from what the dieticians' perceived as, trusted sources. Recently, Dutch dieticians⁽⁸⁹⁾ stated that if the safety of functional foods was made clear, functional foods would have the potential to be incorporated into a healthy diet.

Perhaps the future of functional foods depends on nutritional educated health-care professionals with the permission to recommend foods. This was wished by some consumers in Study I who thought it was too risky to buy the functional foods without a prescription.

Our culture and moral influence acceptance of functional foods

Health promotion strategies, such as the development of functional foods, rely on the moral perceptions of the controlled, rational person who has made the right decisions according to his/her body⁽⁸⁾. Today the medical, nutritional and food sciences have linked several health problems to our diets and lifestyles, such as gut problems due to stress, high cholesterol and blood pressure and overweight due to the wrong diet and lack of exercise^(40, 53, 58). Furthermore, the medical and nutritional science has brought forward the knowledge of how individuals can eat and live to increase the likeliness of remaining healthy^(40, 58). The awareness of what is rationally healthy to eat has also increased among people in general⁽⁵⁷⁾. The rationality of eating has brought with it an underlying meaning that if you know how to eat to stay healthy, you should act accordingly⁽⁴⁰⁾. Thus, the individual is the one personally responsible for his/her health^(40, 58). People able to act upon this knowledge are regarded as civilized, balanced and controlled individuals^(40, 58). Therefore, a person's diet and, further, bodily appearance is a sign of how civilised, knowledgeable and controlled he/she is^(40, 58), because "we are what we eat"⁽⁴⁰⁾. Thus, there are moral meanings and judgments of what is perceived as a healthy or unhealthy individual^(40, 57).

The moral aspects of eating emerged in the interviews with physicians, registered nurses and consumers. The physicians did not find any real need of functional foods while the consumers thought that the consumption of functional foods was justified if a healthy lifestyle and diet were incapable of improving risk factors, such as high cholesterol. Functional foods were only for those in true need. The physicians and nurses also thought, like the consumers, that the consumption of functional foods were falsely compensating for an otherwise unhealthy diet. The consumers and physicians in the focus groups were worried that functional foods would become a "quick fix". There was common thought that people with these health problems would primarily change their diets and lifestyles substantially, not just replace one or two foods in their diets. These moralistic views have also emerged in previous focus groups and interviews with consumers^(40, 57). An explanation of the rather low acceptance of functional foods as substitutes in an unhealthy diet could be the attitude towards the unbalanced or uncontrolled body and the self⁽⁴⁰⁾. Thus, the consumers, physicians and nurses thought that people ought to be able to control their bodies and health by "natural" means, such as a healthy diet and regular exercise, and not by functional foods.

Other studies reveal that both dieticians and physicians express the eating of a balanced diet as the primary way of getting nutrients^(89, 90), whereas yet other dieticians are positive towards functional foods and perceived them as effective in the prevention of diseases and, thus, needed⁽⁹¹⁾. Dutch dieticians find these foods useful in cases of specific health or intake problems⁽⁸⁹⁾. An explanation of the different attitudes to the use of functional foods between the dieticians in these studies is the different levels of knowledge of functional foods^(89, 91), where those with higher knowledge of functional foods

perceive them as more justified. However, I also think that these attitudes may depend on the health-care professional's attitude towards individuals with diet-related health problems and also their professional role in providing dietary advice. If – as I interpret that some physicians and nurses did in the interviews – the health-care professionals perceive these individuals as irrational, perhaps the professionals' attitude will be that the individuals should primarily alter their diet by eating natural foods instead of using the artificial, functional foods.

Another, somewhat diverging, opinion that evolved in the focus groups with consumers and dieticians was that the existence of functional food is convenient for individuals required to alter their diet. The consumers and dieticians expressed that individuals can exchange merely one or two unhealthy foods to healthier alternatives. This was thought to be easier for an individual than to try to change the whole diet – and thereby the chance of success was thought to be greater. This attitude is also found among British consumers who think that the consumption of functional foods is a convenient way to meet the requirements of a healthy diet^(105, 125). However, in the consumer focus groups this was not the most pronounced attitude, possibly because it is not the most moralistically correct one.

According to the previous discussion, people with diet-related health problems can be accused of not having made the “right” choices in their lives in order to take proper care of their bodies^(40, 58). As Fischler⁽³⁶⁾ argues, the food we eat signifies who we are through our bodies and identities. With these moral attitudes in mind, I interpret some of the results of the focus groups that the consumers indirectly identified those in need of functional foods as sedentary and unhealthy individuals with immoral lifestyles. I assume that as long as dietary health problems are being explained by immoral lifestyles⁽⁵⁸⁾, thus giving people a bad conscience, functional foods will not be regarded as everyday food but as something to fix your health or clean your bad conscience.

Also, as Frewer and co-workers mention⁽⁷⁹⁾, if there is a certain stereotype that we believe to go with the functional food consumers, we are unwilling to be identified with this stereotype. The reluctance of perceiving oneself in need of functional foods, as mentioned by the consumer, could be – with the influence of Fischler⁽³⁶⁾ – interpreted as: “We don't want to eat what we don't want to be”.

I, therefore presume that functional foods which promote the health of rational consumers with an accepted lifestyle will have a better chance to survive on the market than those appealing to “irrational” consumers, for example those with high-cholesterol. Probiotics, aiming for example to “calm worried stomachs” or “decrease flatulence”⁽²¹⁾, will, I think, continue to have a high degree of acceptance. This is because these gut problems could, for example, be the consequences of a hectic lifestyle. And a hectic lifestyle imposes a hard working person with a busy, active, and thereby, morally

accepted lifestyle. Consequently, the consumption of probiotics will be more morally accepted without appeals to a bad conscience.

Conclusions and future studies

The results of the interview and questionnaire studies revealed some common themes, but some apparently diverging results emerged.

- ✓ The consumers in the focus groups wondered what functional foods are; medicines or normal foods, and what they contain.
- ✓ The consumers also revealed a belief that functional foods are consumed by those already in advantage of healthy lives.
- ✓ Contradicting, the above, the consumers were worried that these foods will be used as a compensation for unhealthy lifestyles. This attitude also emerged in the interviews with physicians.
- ✓ The results of the questionnaire study with consumers indicate that those being health-conscious, those having a diet-related disease and a higher education, and those having noticed an effect of the foods are more inclined to have positive attitudes to and consume functional foods. Thus, some of the predictions and speculations in the focus groups were verified in the questionnaire study.
- ✓ Finally, being health-conscious and being positive towards the development of functional foods increase the likeliness among consumers to choose functional foods.
- ✓ Perceiving high knowledge and having experiences of functional foods appeared to increase the health-care professionals' trust in and willingness to recommend functional foods to patients.
- ✓ Furthermore, finding functional foods beneficial increased the likeliness of recommending them to patients.
- ✓ The disparate knowledge and beliefs of functional foods among the professions should be of concern, not least because confusion could result among patients.
- ✓ Scientific reports of physiological effects are required if the health-care professionals are to consider recommending functional foods.

Future studies

In the future it would be interesting to further investigate aspects on the rationality, moral and bodily control in relation to the use and needs of functional foods. Also, it would be interesting to gather more knowledge about attitudes to functional foods and eating among those with a diet-related problem who did not have positive attitudes to functional foods. When health

claims have been accepted according to the new EC regulation it would be interesting to study how the consumers perceive these foods and their health claims.

In order to verify the attitudes among the health-care professionals more interview studies of their impressions of and experiences with functional foods are needed.

Svensk sammanfattning

Bakgrund och syfte

Livsmedel med hälsopåståenden kallas de livsmedel som marknadsförs med påståenden om sina hälsoeffekter. Dessa livsmedel kallas ibland för functional foods. Livsmedlen är vanlig mat som förutom sitt naturliga innehåll av näringsämnen innehåller extra ämnen som kan bidra till förbättrad hälsa eller minskad risk för sjukdomar. De livsmedel med hälsopåståenden som använts i undersökningarna är bland annat probiotiska fruktdrycker (t.ex. ProViva fruktdryck), probiotisk mjölkprodukt (t.ex. Cultura yoghurt), kolesterolsänkande margarin (t.ex. Becel Pro.activ), PrimaLiv yoghurt med müsli och det fiberrika brödet Leva med omega-3-fettsyror.

Syftet var att ta reda på vad konsumenter och hälso- och sjukvårdspersonal tycker och känner till om dessa livsmedel, samt om de använder dem. Dessutom undersöktes viljan bland hälso- och sjukvårdspersonal att rekommendera livsmedel med hälsopåståenden till patienter. Undersökningen genomfördes med hjälp av enkäter och fokusgrupper där dels konsumenter, dels hälso- och sjukvårdspersonal deltog.

Konsumenterna är skeptiska men de hälsomedvetna köper livsmedlen

Enkätundersökningen bland konsumenter visade att det framför allt är hälsomedvetna personer som köper livsmedel med hälsopåståenden. Viktigt för att konsumera livsmedlen var att man hade känt en effekt av att äta dem. Dock attraheras olika konsumenter av olika livsmedel med hälsopåståenden. De som hade ett kostrelaterat problem, såsom högt blodtryck/kolesterol eller diabetes, åt i större utsträckning kolesterolsänkande produkter och de som tog kosttillskott drack i större utsträckning probiotiska fruktdrycker. Hög utbildning var den enda bakgrundsfaktorn som hade någon större inverkan på konsumtionen och då bara av probiotiska mjölkprodukter.

I motsats till enkätundersökningen framgick det i fokusgrupperna med konsumenter att många tyckte att livsmedel med hälsopåståenden var onödiga. Flera trodde dessutom att dessa livsmedel framför allt används för att kompensera för en ohälsosam livsstil. Denna typ av användning sågs framför allt som negativ. De flesta tyckte att användandet av livsmedel med hälsopåståenden endast var berättigat om man var sjuk eller på annat sätt oförmögen att förändra sina kostvanor eller livsstil. Några deltagare tyckte dock att livsmedlen var bra eftersom det är lättare att byta ut ett livsmedel i sin kost i stället för att ändra hela ens livsstil. Deltagarna själva tyckte inte att de be-

hövde livsmedlen – de var för friska eller åt redan hälsosamt. Generellt var konsumenterna under fokusgrupperna osäkra på vad dessa livsmedel egentligen var för något – om det var vanlig mat eller om det var medicin. De var också osäkra på om livsmedlen skulle ge någon effekt. Eftersom ingredienserna ansågs artificiella och var okända blev konsumenterna skeptiska till om livsmedlen verkligen var hälsosamma.

Kunskap och positiv attityd viktigt för att rekommendera livsmedlen

I fokusgrupperna med hälso- och sjukvårdspersonalen framkom att dietisterna hade en mer positiv inställning till livsmedel med hälsopåståenden än läkarna och sjuksköterskorna. Dietisterna uppfattade livsmedlen som något konkret att rekommendera till patienterna. Dietisterna hade sett effekterna av livsmedlen och var villiga att rekommendera dem till patienter. De ansåg att livsmedlen kunde underlätta för patienter som behöver lägga om sin kost. Läkarna och sjuksköterskorna hade svårt för att förstå effekterna av livsmedlen och uttryckte tvivel inför livsmedlens påstådda effekter. Därför var de tveksamma inför att rekommendera dem. De tyckte att patienterna hellre skulle lägga om sin livsstil än att byta ut ett livsmedel i kosten. Sjuksköterskorna kunde tänka sig att rekommendera livsmedlen om de hade mer kunskap om dem. Information om produkterna ville personalen få från vetenskapliga studier.

I enkäterna skattade dietisterna sin kunskap högre om alla produkterna än läkarna och högre om vissa produkter än sjuksköterskorna. Det var överlag fler dietister och sjuksköterskor än läkare som kunde tänka sig rekommendera. De flesta kände till konceptet och nio av tio kunde tänka sig att rekommendera minst en produkt. De som tidigare själva hade ätit ett visst livsmedel med hälsopåstående skattade sin kunskap högre angående det livsmedlet. De som ansåg sig ha hög kunskap om ett specifikt livsmedel var mer villiga att rekommendera det livsmedlet till patienter. Att ha positiv attityd till, men framför allt att se fördelar med, livsmedel med hälsopåståenden var avgörande för om personalen skulle rekommendera livsmedlen till patienter.

Metoder

Först samlades data in med hjälp av 13 fokusgrupper (10 med konsumenter och tre med hälso- och sjukvårdspersonal). Kvinnor och män deltog i separata grupper. De var i åldrarna 18 år och uppåt. Sjuksköterskor, läkare och dietister deltog i separata grupper. De var mellan 30 och 65 år. Texterna från fokusgrupperna analyserades med innehållsanalys. Innehållsanalys innebär att text som svarar mot syftet plockas ut och sedan kategoriseras utifrån innehållet.

Efter fokusgrupperna samlade vi in data med hjälp av enkäter. En för konsumenter och en för hälso- och sjukvårdspersonal. Ett slumpmässigt urval av 2000 konsumenter i Sverige mellan 18 och 75 år fick enkäten med posten. Niohundra och trettio besvarade enkäten. Ett slumpmässigt urval av sammanlagt 500 hälso- och sjukvårdspersonal (200 läkare, 200 sjuksköters-

kor och 100 dietister) fick också en enkät. Läkarna och sjuksköterskorna valdes ut utifrån deras möjligheter att rekommendera livsmedel med hälsopåståenden till patienter. Totalt besvarades 250 enkäter (57 av dietister, 78 av läkare och 106 av sjuksköterskor).

I enkäten fick konsumenterna frågor om de hade ätit vart och ett av dessa livsmedel samt frågor om sin attityd till livsmedel med hälsopåståenden i allmänhet. Konsumenterna fick även frågor om sin generella inställning till kost och hälsa. Dessa frågor fick också vårdpersonalen. Vårdpersonalen fick dessutom frågor om de kunde tänka sig att rekommendera livsmedlen till patienter och vad de ansåg att de hade för kunskap om livsmedlen. Olika statistiska metoder användes för att analysera dessa data.

Sammanfattning

Samtidigt som konsumenterna i fokusgrupperna uttryckte osäkerhet inför vad livsmedel med hälsopåståenden är och vad de gör i kroppen, så konsumeras livsmedlen av de hälsomedvetna och välutbildade samt av de som känt en effekt.

Fokusgrupperna med hälso- och sjukvårdspersonalen indikerade att dietisterna var mer positiva än sjuksköterskorna men framför än allt läkarna. Detta bekräftades genom enkätundersökningen. Störst sannolikhet att rekommendera har de som har provat ett livsmedel, som tror sig ha hög kunskap och som ser fördelar med livsmedel med hälsopåståenden.

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Appendix

Appendix 1 Products used in Study I-IV

Functional foods products, type of health claim and examples of health claims (at the time of the studies) on the packages of functional foods used in the studies

Functional food product	Food applied in Study I-IV	Type of health claim	Example of product	Examples of health claim on the packages
Portion sized yoghurt with muesli smoothening out blood sugar level	I, II, III, IV	PSC & RDC	Primaliv ®, Scania Dairy Factory	PSC: Smoothenes out blood sugar level after meal RDC: Soluble fibres may, as part of a nutritious diet, promote healthy cholesterol levels.
Cholesterol lowering margarine	I, II, III, IV	PSC	Becel pro.activ ®, Unilever Bestfoods, Helsingborg; Benecol ®, Carlshamn Mejeri, Karlshamn	PSC: Lowers total- and LDL cholesterol Contains plant stanols for reduced cholesterol uptake.
Fibre-rich bread with omega-3 fatty acids	I, II, III, IV	RDC	Pågen Leva ®, Pågen AB, Malmö	RDC: This tasty wholemeal bread contains the type of dietary fibres that may contribute to lowering the cholesterol level. Those fibres are abundant in this bread.
Probiotic fruit-drinks	I, II, IV	PSC, NFC	ProViva ®, Scania Dairy Factory, Malmö	PSC: This fruit-drink decreases flatulence NFC: The drink contains LGG, the most documented lacto acid bacteria. LGG positively affects your bowel and contribute to the balance and well-being of your whole body.
Cholesterol lowering milk	II, IV	PSC	Becel pro.activ ®, Unilever Bestfoods	PSC: Lowers total- and LDL cholesterol

Functional food product	Food applied in Study I-IV	Type of health claim	Example of product	Examples of health claim on the packages
Probiotic milk-products	I, II, IV	PSC	Cultura Dofilus ®, Arla Foods, Stockholm; Verum ® Häl-soyoghurt, Norrmejerier, Umeå	PSC: This yoghurt contains lactic acid bacteria which, through its' unique qualities, helps restore or regain the balance in your bowels.
Juice with added vitamins and/or minerals	II, IV	RDC	Godmorgon ® Apelsin + järn, Arla Foods	RDC: Iron deficiency is common among women, but may be prevented through a good diet. This juice is enriched with a type of iron easily absorbed by the body.
Egg with omega-3 fatty acids	II, IV	NFC	Må-Bra ägg, Adelsö ägg, Adelsö	NFC: "Feeling Good"-eggs
PSC, product-specific health claim; RDC, reduction of disease risk claim; NFC, nutrient function claim				

Appendix 2 Questionnaire to consumers [in Swedish]

Vad tycker du om
livsmedel med hälsopåståenden?



Livsmedel med hälsopåståenden

Livsmedel med hälsopåståenden är vanlig mat som förutom deras naturliga innehåll av näringsämnen även innehåller extra näringsämnen eller andra tillsatta ämnen. Dessa ämnen kan ge hälsosamma fördelar som att minska risken för vissa sjukdomar som hör ihop med kosten. En del livsmedel med hälsopåståenden kan även ge direkta hälsoeffekter, som till exempel att minska gasbildning i magen.

Hälsopåståendena är beskrivningar av livsmedlens hälsomässiga fördelar. Det finns två typer av hälsopåståenden, produktspecifika och allmänna.

Produktspecifika hälsopåståenden

Den här typen av hälsopåståenden finns på livsmedel som kan ge direkta hälsoeffekter. Dessa livsmedel har testats vetenskapligt på människor för att visa att de har denna effekt. Livsmedlen får ett märke (hp-info-märket) på förpackningen samt ett påstående som är specifikt för produkten. Ett livsmedel som fått märket är Proviva fruktdryck och det specifika påståendet är: "minskar gasbildning i magen".



Hp-info-märket:

Produkternas
dokumentation granskad
enl. livsm. branschens regler för
hälsopåståenden.
hp-info.nu

Allmänna hälsopåståenden

Den andra typen av hälsopåståenden kallas för allmänna hälsopåståenden. Dessa finns på livsmedel som bidrar till en näringsriktig kost och som kan minska risken för sjukdomar som är kopplade till kosten. Det finns inga krav på att dessa produkter ska ha testats på människor. Däremot så måste näringsämnena eller de tillsatta ämnena i livsmedlen ha bevisad effekt på människor. Dessa livsmedel får inget märke.

Brödet Leva från Pågen är ett livsmedel med ett allmänt hälsopåstående.



Hälsopåståendet på Levas förpackning ser ut så här: "Vissa lösliga, gelbildande typer av kostfibrer som finns i både rågmjöl och havrekli kan bidra till att sänka kolesterolhalten i blodet. Pågen Leva innehåller rikligt med sådana fibrer."

Livsmedel med hälsopåståenden

Här ser du några exempel på livsmedel som har hälsopåståenden. Vissa livsmedel är godkända för märkning och har påståenden specifika för produkten. Dessa är Proviva fruktdryck, yoghurten Primaliv, smörgåsmargarinet samt mjölken Becel pro.activ. De andra livsmedlen har allmänna hälsopåståenden.

Fruktdryck med aktiv bakteriekultur



Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu

Primaliv, enportionsyoghurt med müsli som utjämnar blodsockernivån



Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu

Kolesterolsänkande mjölk



Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu

Kolesterolsänkande margarin

Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu



Mjölksprodukt med aktiv bakteriekultur



Juice med extra tillsatta vitaminer eller mineraler



Fiberrikt bröd med omega-3-fettsyror



Ägg med omega-3-fettsyror



På följande sidor ställer vi frågor som bland annat handlar om livsmedel med hälsopåståenden, vad du tänker på när du handlar och vad du tycker om mat och hälsa i stort. För det mesta är det frågor som du svarar på genom att kryssa i ett eller flera svarsalternativ. Ibland ber vi dig skriva ett svar. Det är viktigt att du svarar på alla frågor, då blir slutresultatet mer pålitligt.

Frågor om livsmedel med hälsopåståenden

- 1) a) Har du tidigare läst/hört talas om livsmedel med hälsopåståenden (före du läste om dem i den här enkäten)? ☐ Ja
☐ Nej
- b) Om ja, ange var du såg eller hörde talas om det? ☐ Reklam på tv
☐ Reklam i tidningar
☐ På livsmedelsprodukter
☐ I broschyrer
☐ I din familj
☐ Bland dina vänner
☐ Hos din dietist
☐ Hos din läkare
☐ Hos din sjuksköterska
☐ Annat _____
- Kryssa för det/de alternativ som stämmer bäst in på dig.
- 2) Har du tidigare sett hp-info-märket? ☐ Ja
☐ Nej
(Se sidan 2 eller 3)

Har du köpt eller ätit något livsmedel med hälsopåstående?

Här följer frågor som handlar om du någon gång köpt eller ätit ett livsmedel med hälsopåstående. Kryssa i det svarsalternativ som stämmer bäst in på dig. Om du har köpt eller ätit ett livsmedel med hälsopåstående, ange varför. Om du har köpt eller ätit ett livsmedel med hälsopåstående så kryssar du också i om du kan tänka dig att köpa eller äta livsmedlet igen. Se gärna bilderna på sidan 3 för exempel på livsmedel.

3) Har du köpt eller ätit något av följande livsmedel med hälsopåstående?

Fruktdryck med aktiv bakteriekultur (t ex proviva fruktdryck, cultura fruktdryck)	Om ja, varför köpte eller åt du den? <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div>
<input type="checkbox"/> Ja Om ja → <input type="checkbox"/> Nej	<input type="checkbox"/> Ja <input type="checkbox"/> Kanske <input type="checkbox"/> Nej
Mjölksprodukt med aktiv bakteriekultur (t ex a-fil, cultura naturell fil, eller cultura drickyoghurt, proviva yoghurt, verum hälsoyoghurt)	Om ja, varför köpte eller åt du den? <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div>
<input type="checkbox"/> Ja Om ja → <input type="checkbox"/> Nej	<input type="checkbox"/> Ja <input type="checkbox"/> Kanske <input type="checkbox"/> Nej

<p>Primaliv (enportionsyoghurt med müsli som utjämnar blodsockernivån)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du den?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta den igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Juice med extra tillsatta vitaminer och/eller mineraler (t ex God morgon apelsinjuice +järn eller +multivitamin)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du den?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta den igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Kolesterolsänkande smörgåsmargarin (t ex benecol och becel pro.activ, alltså inte "vanliga" becel)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du det?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta det igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Kolesterolsänkande mjölk (becel pro.activ)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du den?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta den igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Fiberrikt bröd med omega-3-fettsyror (fiskolja) (t ex Pågen Leva)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du det?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta det igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>

<p>Ägg med omega-3-fettsyror (t ex Må Bra ägg)</p> <p><input type="checkbox"/> Ja Om ja \longrightarrow</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du dem?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta dem igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
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4) Du som inte har provat någon produkt, förklara varför?

5) Du som har provat någon eller några av produkterna men inte vill äta eller köpa den/de igen, varför då? Ange vilka produkter.

6) Du som har provat någon eller några produkt/produkter

- a) gav produkten/produkterna de effekter du förväntade dig?
- ☐ Ja
☐ Nej
☐ Förväntade mig ingen effekt
☐ Vet ej

b) Om ja, vilka effekter hade de? Ange effekterna för varje produkt.

- 7) a) Använder du någon/några andra livsmedel, som har ett hälsopåstående?
- ☐ Ja
☐ Nej
☐ Vet ej

b) Om ja, vilken/vilka? _____

- 8) a) Skulle du vilja att det fanns fler livsmedel med hälsopåståenden att köpa?
- ☐ Ja
☐ Nej
☐ Vet ej

b) Om ja, vilken typ av hälsoeffekt skulle du vara intresserad av i så fall?

Vad tycker du om livsmedel med hälsopåståenden?

Här följer några frågor som handlar om vad du tycker och tänker om livsmedel med hälsopåståenden. När du besvarar frågorna nedan, ha i åtanke både de livsmedel som har blivit godkända för märkning och de som har allmänna hälsopåståenden.

Läs varje påstående nedan och ringa in det svarsalternativ som du tycker stämmer bäst in på din uppfattning. Observera att detta inte är kunskapsfrågor utan vi är intresserade av att veta vad just du tycker.

9) Hur väl tycker du att följande påståenden stämmer in på din uppfattning?

	Stämmer inte alls	Stämmer mycket dåligt	Stämmer dåligt	Stämmer varken bra eller dåligt	Stämmer bra	Stämmer mycket bra	Stämmer helt och hållet
Friska personer har ingen nytta av att använda livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Min prestationsförmåga höjs när jag äter livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Överkonsumtion av livsmedel med hälsopåståenden kan skada hälsan.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden är en total bluff.	1	2	3	4	5	6	7
Ämnen som ger hälsoeffekter kan gärna få finnas i delikatesser.	1	2	3	4	5	6	7
Det är meningslöst att tillsätta ämnen som ger hälsoeffekter till annars ohälsosamma livsmedel.	1	2	3	4	5	6	7
Det är fullständigt säkert att använda livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden kan reparera skador orsakade av ohälsosamma matvanor.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden gör det lättare att hålla en hälsosam livsstil.	1	2	3	4	5	6	7

	Stämmer inte alls	Stämmer mycket dåligt	Stämmer dåligt	Stämmer varken bra eller dåligt	Stämmer bra	Stämmer mycket bra	Stämmer helt och hållet
Det är verkligen bra att den moderna teknologin tillåter utvecklingen av livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Jag blir på bättre humör när jag äter livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden konsumeras mest av människor som verkligen behöver dem.	1	2	3	4	5	6	7
Jag söker aktivt efter information om livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Tanken på att jag kan vårda min hälsa genom att äta livsmedel med hälsopåståenden gör mig glad.	1	2	3	4	5	6	7
Säkerheten hos livsmedel med hälsopåståenden har studerats mycket noggrant.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden ökar mitt välbefinnande.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden är helt onödiga.	1	2	3	4	5	6	7
I vissa fall kan livsmedel med hälsopåståenden vara skadliga för friska människor.	1	2	3	4	5	6	7
Jag kan förebygga sjukdomar genom att regelbundet äta livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Informationen om hälsoeffekter i livsmedel med hälsopåståenden överdrivs ofta.	1	2	3	4	5	6	7
De nya egenskaperna i livsmedel med hälsopåståenden innebär oförutsedda risker.	1	2	3	4	5	6	7
Jag är beredd att acceptera en sämre smak om ett livsmedel har ett hälsopåstående.	1	2	3	4	5	6	7

	Stämmer inte alls	Stämmer mycket dåligt	Stämmer dåligt	Stämmer varken bra eller dåligt	Stämmer bra	Stämmer mycket bra	Stämmer helt och hållet
Det växande antalet livsmedel med hälsopåståenden på marknaden är att gå fel väg.	1	2	3	4	5	6	7
Jag äter gärna livsmedel som har läkemedelsliknande effekter.	1	2	3	4	5	6	7
Jag tror att livsmedel med hälsopåståenden uppfyller vad de lovar.	1	2	3	4	5	6	7
Det växande antalet livsmedel med hälsopåståenden på marknaden är att gå fel väg.	1	2	3	4	5	6	7
Jag betalar gärna ett högre pris för ett livsmedel med hälsopåstående.	1	2	3	4	5	6	7
Jag skulle köpa ett livsmedel med hälsopåståenden om någon läkare/sjuksköterska/dietist rekommenderade det.	1	2	3	4	5	6	7

Har du några kommentarer till frågorna du besvarat ovan?

Vad letar du efter när du handlar mat?

Här följer några frågor som handlar om vad man kan tänkas leta efter när man handlar mat.

10) Hur ofta letar du efter livsmedel med dessa märken när du handlar mat i en livsmedelsbutik?

Kryssa för det alternativ som bäst stämmer in på dig.



a) KRAV-märkningen?

- ☐ varje gång
- ☐ mer än hälften av gångerna
- ☐ hälften av gångerna
- ☐ mindre än hälften av gångerna
- ☐ aldrig

☐ känner inte till märket



b) nyckelhålet?

- ☐ varje gång
- ☐ mer än hälften av gångerna
- ☐ hälften av gångerna
- ☐ mindre än hälften av gångerna
- ☐ aldrig

☐ känner inte till märket



c) hp-info-märket?

- ☐ varje gång
- ☐ mer än hälften av gångerna
- ☐ hälften av gångerna
- ☐ mindre än hälften av gångerna
- ☐ aldrig

☐ känner inte till märket

Frågor om din inställning till mat och hälsa

Här följer några frågor som handlar om vad du tycker och tänker om mat och hälsa. Ringa in det svarsalternativ som stämmer bäst in på dig. Observera att detta inte är kunskapsfrågor utan vi är intresserade av att veta vad du tycker.

11) Hur väl stämmer följande påståenden in på dig?

	Stämmer inte alls in på mig	Stämmer mycket dåligt in på mig	Stämmer dåligt in på mig	Stämmer varken bra eller dåligt in på mig	Stämmer bra in på mig	Stämmer mycket bra in på mig	Stämmer helt och hållet in på mig
Jag är mycket noga med att maten jag äter är hälsosam.	1	2	3	4	5	6	7
Jag äter alltid en hälsosam och balanserad kost.	1	2	3	4	5	6	7
Det är viktigt för mig att maten som jag äter dagligen har låg fetthalt.	1	2	3	4	5	6	7
Det är viktigt för mig att maten jag äter dagligen innehåller rikligt med vitaminer och mineraler.	1	2	3	4	5	6	7
Jag äter vad jag vill och bekymrar mig sällan över om maten är hälsosam.	1	2	3	4	5	6	7
Att maten är hälsosam har stor betydelse när jag väljer mat.	1	2	3	4	5	6	7
För mig är det väsentligt att mellanmål är hälsosamt.	1	2	3	4	5	6	7
Jag undviker livsmedel som jag tror kan öka mitt kolesterolvärde.	1	2	3	4	5	6	7
Jag tror att man kan hålla kolesterolvärdet i schack genom att äta lättprodukter.	1	2	3	4	5	6	7
Jag anser att man kan äta mer när man äter lättprodukter utan att få i sig för många kalorier.	1	2	3	4	5	6	7
Jag anser att lättprodukter bidrar till att sänka kolesterolvärden.	1	2	3	4	5	6	7

	Stämmer inte alls in på mig	Stämmer mycket dåligt in på mig	Stämmer dåligt in på mig	Stämmer varken bra eller dåligt in på mig	Stämmer bra in på mig	Stämmer mycket bra in på mig	Stämmer helt och hållet in på mig
Jag anser att användningen av lättprodukter befrämjar hälsan.	1	2	3	4	5	6	7
Jag anser att lättprodukter är mer hälsosamma än vanliga produkter.	1	2	3	4	5	6	7
Jag avstår från långt bearbetade produkter eftersom deras innehåll är okänt för mig.	1	2	3	4	5	6	7
Jag försöker äta livsmedel som är fria från tillsatser.	1	2	3	4	5	6	7
Jag skulle endast vilja äta ekologiskt odlade grönsaker.	1	2	3	4	5	6	7
Jag anser att livsmedel som är sötade med sötningsmedel är skadliga för min hälsa.	1	2	3	4	5	6	7
Jag anser att ekologiskt odlade produkter är bättre för min hälsa än traditionellt odlade.	1	2	3	4	5	6	7
Jag struntar i om det finns tillsatser i livsmedlen som jag äter dagligen.	1	2	3	4	5	6	7
Jag anser att det är bra att man försöker göra maten hälsosammare med modern teknologi.	1	2	3	4	5	6	7
Jag anser att det allt större utbudet av livsmedelsprodukter gör det svårare att välja vad man ska köpa	1	2	3	4	5	6	7

Frågor om din inställning till ny mat

Människor kan ha olika inställning till ny mat och dryck. Här följer några påståenden om hur man kan reagera på ny mat.

12) Hur väl stämmer följande påståenden in på dig? Ringa in det svarsalternativ som bäst beskriver din inställning.

	Stämmer inte alls in på mig	Stämmer mycket dåligt in på mig	Stämmer dåligt in på mig	Stämmer varken bra eller dåligt in på mig	Stämmer bra in på mig	Stämmer mycket bra in på mig	Stämmer helt och hållet in på mig
Jag provar gärna nya och olika sorters maträtter.	1	2	3	4	5	6	7
Jag är skeptisk till livsmedel jag aldrig ätit förut.	1	2	3	4	5	6	7
Jag äter nästan vilken mat som helst.	1	2	3	4	5	6	7

Vad du tror har störst betydelse för att du ska ha en god hälsa?

Nedan ser du sju faktorer som kan påverka din hälsa. Rangordna de 3 faktorerna som du tror har störst betydelse för att du ska ha god hälsa. Sätt 1 framför den faktorn som du tror är viktigast, 2 framför den faktorn du tror är näst viktigast och 3 framför den faktorn som kommer på tredje viktigaste plats. Observera att du inte behöver leva så som du rangordnar.

13) Vilka faktorer har störst betydelse för att du ska ha god hälsa?

Sätt en siffra (1, 2 eller 3) fram för de 3 faktorer som du tycker är viktigast för att du ska ha en god hälsa.

	Sätt en siffra i rutorna här nedan
Inte röka	
Dricka lite eller ingen alkohol	
Ha god sömn	
Äta en hälsosam kost	
Ofta äta livsmedel med hälsopåståenden	
Motionera ofta och regelbundet	
Ha "bra gener"	

Till sist några frågor som handlar om dig

14) Hur gammal är du? _____ år

15) Är du ☐ Kvinna
☐ Man

16) Är du ☐ Ensamstående
☐ Särboende (har partner som du inte delar hushåll med)
☐ Sammanboende
☐ Annat _____

17) Hur många personer finns det totalt i ditt hushåll? _____ st

18) Finns det några barn i ditt hushåll? ☐ Ja i åldrarna _____
☐ Nej

19) Vilken kommun är du folkbokförd i just nu? _____

20) Har du eller någon i din familj invandrat till Sverige? ☐ Ja. Ange land _____
☐ Nej

Om ja, vem eller vilka i din familj har invandrat?

☐ jag ☐ syskon
☐ mamma ☐ mormor/morfar
☐ pappa ☐ farmor/farfar

21) Vilken skolutbildning har Du? ☐ Folkskola/grundskola eller liknande
Kryssa för den högsta ☐ Realskola/folkhögskola/2-årigt gymnasium eller liknande
helt genomförda utbildningen. ☐ Minst 3-årigt gymnasium eller gymnasieskola
☐ Universitet/högskola upp till tre år
☐ Universitet/högskola längre än tre år

22) Vilken ungefärlig månadsinkomst har ditt hushåll före skatt?
☐ mindre än 15 000 kr/månad ☐ 35 001 – 45 000 kr/månad
☐ 15 001 – 25 000 kr/månad ☐ 45 001 – 55 000 kr/månad
☐ 25 001 – 35 000 kr/månad ☐ mer än 55 001 kr/månad

23) Har du ett yrkesarbete med anknytning till livsmedel? ☐ Ja
☐ Nej

Om ja, vilket?

☐ Lantbrukare/Lantarbetare ☐ Butiksbiträde i matvarubutik
☐ Trädgårdsmästare ☐ Dietist/Nutritionist
☐ Kokerska/kock/kallskänka ☐ Lärare i hemkunskap/kostkunskap/
livsmedelsteknik
☐ Ekonomiföreståndare/kostekonom ☐ Annat _____
☐ Livsmedelsindustriarbetare/Arbetsledare i Livsmedelsindustri

- 24) Har du gått någon kurs eller utbildning
som helt eller delvis handlat
om livsmedel eller matlagning?

☐ Ja
☐ Nej

Om ja, ange vilken: _____

- 25) Följer du någon specialkost?
Med specialkost menar vi till exempel vegetarisk,
gluten- eller laktosfri kost.

☐ Ja
☐ Nej

Om ja, vilken? _____

- 26) Följer någon i din familj en specialkost?

☐ Ja
☐ Nej

Om ja, påverkar det din kost?

☐ Ja
☐ Nej

Om ja, hur? _____

- 27) Har du eller någon i ditt hushåll någon
eller några av följande hälsotillstånd?

☐ Diabetes
☐ Högt blodtryck
☐ Höga kolesterolvärden
☐ Laktosintolerans
☐ Glutenintolerans
☐ Matallergi
☐ Anorexi/bulimi
☐ Annat hälsotillstånd som gör att
jag inte kan äta all mat

- 28) a) Äter du kosttillskott
och/eller naturläkemedel?

☐ Ja
☐ Nej

b) Om ja, hur ofta?

☐ Varje dag
☐ Flera gånger i veckan
☐ En gång i veckan
☐ Några gånger i månaden
☐ En gång i månaden
☐ Några gånger per år

c) Om ja, vilka slags kosttillskott och/eller naturläkemedel äter du vanligtvis?

Har du några sista kommentarer om enkäten du just fyllt i, eller vill du tillägga något?

STORT TACK FÖR DIN HJÄLP!!

Appendix 3 Questionnaire to health-care professionals [in Swedish]

Livsmedel med hälsopåståenden

Livsmedel med hälsopåståenden är vanlig mat som förutom deras naturliga innehåll av näringsämnen även innehåller extra näringsämnen eller andra tillsatta ämnen. Dessa ämnen kan ge hälsosamma fördelar som att minska risken för vissa sjukdomar som hör ihop med kosten. En del livsmedel med hälsopåståenden kan även ge direkta hälsoeffekter, som till exempel att minska gasbildning i magen.

Hälsopåståendena är beskrivningar av livsmedlens hälsomässiga fördelar. Det finns två typer av hälsopåståenden, produktspecifika och allmänna.

Produktspecifika hälsopåståenden

Den här typen av hälsopåståenden finns på livsmedel som kan ge direkta hälsoeffekter. Dessa livsmedel har testats vetenskapligt på människor för att visa att de har denna effekt. Livsmedlen får ett märke (hp-info-märket) på förpackningen samt ett påstående som är specifikt för produkten. Ett livsmedel som fått märket är Proviva fruktdryck och det specifika påståendet är: "minskar gasbildning i magen".



Hp-info-märket:

Produktens
dokumentation granskad
enl. livsm. branschens regler för
hälsopåståenden.
hp-info.nu

Allmänna hälsopåståenden

Den andra typen av hälsopåståenden kallas för allmänna hälsopåståenden. Dessa finns på livsmedel som bidrar till en näringsriktig kost och som kan minska risken för sjukdomar som är kopplade till kosten. Det finns inga krav på att dessa produkter ska ha testats på människor. Däremot så måste näringsämnena eller de tillsatta ämnena i livsmedlen ha bevisad effekt på människor. Dessa livsmedel får inget märke.

Brödet Leva från Pågen är ett livsmedel med ett allmänt hälsopåstående.



Hälsopåståendet på Levas förpackning ser ut så här: "Vissa lösliga, gelbildande typer av kostfibrer som finns i både rågmjöl och havrekli kan bidra till att sänka kolesterolhalten i blodet. Pågen Leva innehåller rikligt med sådana fibrer."

Livsmedel med hälsopåståenden

Här ser du några exempel på livsmedel som har hälsopåståenden. Vissa livsmedel är godkända för märkning och har påståenden specifika för produkten. Dessa är Proviva fruktdryck, yoghurten Primaliv, smörgåsmargarinet samt mjölken Becel pro.activ. De andra livsmedlen har allmänna hälsopåståenden.

Fruktdryck med aktiv bakteriekultur



Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu

Primaliv, enportionsyoghurt med müsli som utjämnar blodsockernivån



Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu

Kolesterolsänkande mjölk



Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu

Kolesterolsänkande margarin

Produkts dokumentation granskad enl. livsm. branschens regler för hälsopåståenden.
hp-info.nu



Mjölksprodukt med aktiv bakteriekultur



Juice med extra tillsatta vitaminer eller mineraler



Fiberrikt bröd med omega-3-fettsyror



Ägg med omega-3-fettsyror



På följande sidor ställer vi frågor som bland annat handlar om livsmedel med hälsopåståenden. Frågorna handlar även om du kan tänka dig att rekommendera livsmedlen och vad du tycker om mat och hälsa i stort. För det mesta är det frågor som du svarar på genom att kryssa i ett eller flera svarsalternativ. Ibland ber vi dig skriva ett svar. Det är viktigt att du svara på alla frågor, då blir slutresultatet mer pålitligt.


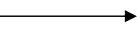
Frågor om livsmedel med hälsopåståenden

- 1) a) Har du tidigare läst/hört talas om livsmedel med hälsopåståenden (före du läste om dem i den här enkäten)? ☐ Ja
☐ Nej
- b) Om ja, ange var du såg eller hörde talas om det? ☐ Reklam på tv
☐ Reklam i tidningar
☐ På livsmedelsprodukter
☐ I broschyrer
☐ I din familj
☐ Bland dina vänner
☐ Annat _____
- 2) Har du tidigare sett hp-info-märket? (Se sidan 1) ☐ Ja
☐ Nej

Har du köpt eller ätit något livsmedel med hälsopåstående?

Här följer frågor som handlar om du någon gång köpt eller ätit ett livsmedel med hälsopåstående. Kryssa i det svarsalternativ som stämmer bäst in på dig. Om du har köpt eller ätit ett livsmedel med hälsopåstående, ange varför. Om du har köpt eller ätit ett livsmedel med hälsopåstående så kryssar du också i om du kan tänka dig att köpa eller äta livsmedlet igen. Se gärna bilderna på sidan 2 för exempel på livsmedel.

- 3) Har du köpt eller ätit något av följande livsmedel med hälsopåstående?

Fruktdryck med aktiv bakteriekultur (t ex proviva fruktdryck, cultura fruktdryck)	Om ja, varför köpte eller åt du den? <hr/>
<input type="checkbox"/> Ja Om ja  <input type="checkbox"/> Nej	Om ja, kan du tänka dig att köpa eller äta den igen? <input type="checkbox"/> Ja <input type="checkbox"/> Kanske <input type="checkbox"/> Nej
Mjölksprodukt med aktiv bakteriekultur (t ex a-fil, cultura naturell fil, eller cultura drickyoghurt, proviva yoghurt, verum hälsoyoghurt)	Om ja, varför köpte eller åt du den? <hr/>
<input type="checkbox"/> Ja Om ja  <input type="checkbox"/> Nej	Om ja, kan du tänka dig att köpa eller äta den igen? <input type="checkbox"/> Ja <input type="checkbox"/> Kanske <input type="checkbox"/> Nej

<p>Primaliv (enportionsyoghurt med müsli som utjämnar blodsockernivån)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du den?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta den igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Juice med extra tillsatta vitaminer och/eller mineraler (t ex God morgon apelsinjuice +järn eller +multivitamin)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du den?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta den igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Kolesterolsänkande smörgåsmargarin (t ex benecol och becel pro.activ, alltså inte "vanliga" becel)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du det?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta det igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Kolesterolsänkande mjölk (becel pro.activ)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du den?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta den igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>
<p>Fiberrikt bröd med omega-3-fettsyror (fiskolja) (t ex Pågen Leva)</p> <p><input type="checkbox"/> Ja Om ja →</p> <p><input type="checkbox"/> Nej</p>	<p>Om ja, varför köpte eller åt du det?</p> <hr/> <hr/> <p>Om ja, kan du tänka dig att köpa eller äta det igen?</p> <p><input type="checkbox"/> Ja</p> <p><input type="checkbox"/> Kanske</p> <p><input type="checkbox"/> Nej</p>

Ägg med omega-3-fettsyror (t ex Må Bra ägg) <input type="checkbox"/> Ja Om ja \longrightarrow <input type="checkbox"/> Nej	Om ja, varför köpte eller åt du dem? <hr/> <hr/> Om ja, kan du tänka dig att köpa eller äta dem igen? <input type="checkbox"/> Ja <input type="checkbox"/> Kanske <input type="checkbox"/> Nej
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4) Du som inte har provat någon produkt, förklara varför?

5) Du som har provat någon eller några av produkterna men inte vill äta eller köpa den/de igen, varför då? Ange vilka produkter.

6) Du som har provat någon eller några produkt/produkter

- a) gav produkten/produkterna de effekter du förväntade dig? ☐ Ja
☐ Nej
☐ Förväntade mig ingen effekt
☐ Vet ej

b) Om ja, vilka effekter hade de? Ange effekterna för varje produkt.

- 7) a) Använder du någon/några andra livsmedel, som har ett hälsopåstående? ☐ Ja
☐ Nej
☐ Vet ej

b) Om ja, vilken/vilka? _____

- 8) a) Skulle du vilja att det fanns fler livsmedel med hälsopåståenden att köpa? ☐ Ja
☐ Nej
☐ Vet ej

b) Om ja, vilken typ av hälsoeffekt skulle du vara intresserad av i så fall?

Vad tycker du om livsmedel med hälsopåståenden?

Här följer några frågor som handlar om vad du tycker och tänker om livsmedel med hälsopåståenden. När du besvarar frågorna nedan, ha i åtanke både de livsmedel som har blivit godkända för märkning och de som har allmänna hälsopåståenden.

Läs varje påstående nedan och ringa in det svarsalternativ som du tycker stämmer bäst in på din uppfattning. Observera att detta inte är kunskapsfrågor utan vi är intresserade av att veta vad just du tycker.

9) Hur väl tycker du att följande påståenden stämmer in på din uppfattning?

	Stämmer inte alls	Stämmer mycket dåligt	Stämmer dåligt	Stämmer varken bra eller dåligt	Stämmer bra	Stämmer mycket bra	Stämmer helt och hållet
Friska personer har ingen nytta av att använda livsmedel med hälsopåståenden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Min prestationsförmåga höjs när jag äter livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Överkonsumtion av livsmedel med hälsopåståenden kan skada hälsan.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden är en total bluff.	1	2	3	4	5	6	7
Ämnen som ger hälsoeffekter kan gärna få finnas i delikatesser.	1	2	3	4	5	6	7
Det är meningslöst att tillsätta ämnen som ger hälsoeffekter till annars ohälsosamma livsmedel.	1	2	3	4	5	6	7
Det är fullständigt säkert att använda livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden kan reparera skador orsakade av ohälsosamma matvanor.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden gör det lättare att hålla en hälsosam livsstil.	1	2	3	4	5	6	7
Det är verkligen bra att den moderna teknologin tillåter utvecklingen av livsmedel med hälsopåståenden.	1	2	3	4	5	6	7

	Stämmer inte alls	Stämmer mycket dåligt	Stämmer dåligt	Stämmer varken bra eller dåligt	Stämmer bra	Stämmer mycket bra	Stämmer helt och hållet
Jag blir på bättre humör när jag äter livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden konsumeras mest av människor som verkligen behöver dem.	1	2	3	4	5	6	7
Jag söker aktivt efter information om livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Tanken på att jag kan vårda min hälsa genom att äta livsmedel med hälsopåståenden gör mig glad.	1	2	3	4	5	6	7
Säkerheten hos livsmedel med hälsopåståenden har studerats mycket noggrant.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden ökar mitt välbefinnande.	1	2	3	4	5	6	7
Livsmedel med hälsopåståenden är helt onödiga.	1	2	3	4	5	6	7
I vissa fall kan livsmedel med hälsopåståenden vara skadliga för friska människor.	1	2	3	4	5	6	7
Jag kan förebygga sjukdomar genom att regelbundet äta livsmedel med hälsopåståenden.	1	2	3	4	5	6	7
Informationen om hälsoeffekter i livsmedel med hälsopåståenden överdrivs ofta.	1	2	3	4	5	6	7
De nya egenskaperna i livsmedel med hälsopåståenden innebär oförutsedda risker.	1	2	3	4	5	6	7
Jag är beredd att acceptera en sämre smak om ett livsmedel har ett hälsopåstående.	1	2	3	4	5	6	7
Det växande antalet livsmedel med hälsopåståenden på marknaden är att gå fel väg.	1	2	3	4	5	6	7

	Stämmer inte alls	Stämmer mycket dåligt	Stämmer dåligt	Stämmer varken bra eller dåligt	Stämmer bra	Stämmer mycket bra	Stämmer helt och hållet
Jag äter gärna livsmedel som har läkemedelsliknande effekter.	1	2	3	4	5	6	7
Jag tror att livsmedel med hälsopåståenden uppfyller vad de lovar.	1	2	3	4	5	6	7
Det växande antalet livsmedel med hälsopåståenden på marknaden är att gå fel väg.	1	2	3	4	5	6	7
Jag betalar gärna ett högre pris för ett livsmedel med hälsopåstående.	1	2	3	4	5	6	7
Jag skulle köpa ett livsmedel med hälsopåståenden om någon läkare/sjuksköterska/dietist rekommenderade det.	1	2	3	4	5	6	7

Har du några kommentarer till frågorna du besvarat ovan?

Att rekommendera livsmedel med hälsopåståenden till patienter

Här följer frågor som handlar om din patientkontakt samt din inställning till att rekommendera livsmedel med hälsopåståenden till patienter.

10) Hur ofta har du patientkontakt?

- ☐ Varje dag
- ☐ Några gånger i veckan
- ☐ Några gånger i månad
- ☐ Några gånger per år
- ☐ Aldrig

11) Ger du kostråd till dina patienter?

- ☐ Varje dag
- ☐ Några gånger i veckan
- ☐ Några gånger i månad
- ☐ Några gånger per år
- ☐ Aldrig

12) a) Om du har gett kostråd, har du då rekommenderat specifika livsmedelsprodukter, till exempel Becel pro.activ?

- ☐ Ja
- ☐ Nej
- ☐ Minns ej

b) Om ja, vilken eller vilka produkter?

13) Har du fått frågor av patienter om olika livsmedels hälsomässiga effekter?

- ☐ Ja
☐ Nej
☐ Minns ej

14) Har du fått frågor av patienter om livsmedel med hälsopåståenden?






- ☐ Ja
☐ Nej
☐ Minns ej

Vilka livsmedel skulle du rekommendera?

Här följer frågor som handlar om vilka livsmedel med hälsopåståenden du skulle kunna tänka dig att rekommendera och till vem du skulle rekommendera dem. Om du skulle rekommendera ett livsmedel med hälsopåstående, ange av vilka skäl du skulle rekommendera livsmedlet. Ange också till vilken patientgrupp du skulle rekommendera livsmedlet. Se gärna bilderna på sidan 2 för exempel på livsmedel.

15) Vilka av följande livsmedel med hälsopåstående skulle du kunna tänka dig att rekommendera till patienter? Kryssa i det svarsalternativ som stämmer bäst in på dig.

<p>Fruktdryck med aktiv bakteriekultur, så kallad probiotika (t ex proviva, cultura fruktdryck)</p> <p><input type="checkbox"/> Ja Om ja \longrightarrow <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>
<p>Mjölksprodukt med aktiv bakteriekultur, så kallad probiotika (t ex a-fil, cultura dofilus, eller cultura drickyoghurt, proviva yoghurt, verum hälsoyoghurt)</p> <p><input type="checkbox"/> Ja Om ja \longrightarrow <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>
<p>Primaliv (enportionsyoghurt med müsli som utjämnar blodsockernivån)</p> <p><input type="checkbox"/> Ja Om ja \longrightarrow <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>

<p>Juice med extra tillsatta vitaminer och/eller mineraler (t ex God morgon apelsinjuice +järn eller +multivitamin)</p> <p><input type="checkbox"/> Ja Om ja  <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>
<p>Kolesterolsänkande smörgåsmargarin (t ex benecol och becel pro.activ, alltså inte "vanliga" becel)</p> <p><input type="checkbox"/> Ja Om ja  <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>
<p>Kolesterolsänkande mjölk (becel pro.activ)</p> <p><input type="checkbox"/> Ja Om ja  <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>
<p>Fiberrikt bröd med omega-3-fettsyror (fiskolja) (t ex Pågen Leva)</p> <p><input type="checkbox"/> Ja Om ja  <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>
<p>Ägg med omega-3-fettsyror (t ex Må Bra ägg)</p> <p><input type="checkbox"/> Ja Om ja  <input type="checkbox"/> Nej</p>	<p>Om ja, av vilka skäl skulle du rekommendera dem? Ange ett eller flera skäl.</p> <hr/> <hr/> <p>Om ja, till vilken eller vilka patientgrupper skulle du kunna tänka dig att rekommendera livsmedlen?</p> <hr/> <hr/>

16) Tycker du att det är acceptabelt att rekommendera specifika livsmedelsprodukter (t ex Proviva, Becel pro.activ) för patientens behandling?

- ☐ Ja
☐ Nej
☐ Vet ej

17) Finns det möjlighet för dig att vidareutbilda dig om kost och mat inom ditt yrke?

- ☐ Ja
☐ Nej
☐ Vet ej

Din kunskap om livsmedel med hälsopåståenden

Nedan får du själv skatta din kunskap om olika livsmedel med hälsopåståenden. Kryssa i den ruta som bäst stämmer överens med din uppfattning.

18) Hur uppskattar du själv din kunskap om nedan nämnda livsmedel med hälsopåstående?

	Mycket dålig	Dålig	Ganska dålig	Ganska bra	Bra	Mycket bra
Kolesterolsänkande smörgåsmargarin (t ex benecol och becel pro.activ, alltså inte "vanliga" becel)						
Kolesterolsänkande mjölk (becel pro.activ)						
Primaliv (enportionsyoghurt med müsli som utjämnar blodsockernivån)						
Fruktdryck med aktiv bakteriekultur (t ex proviva, cultura fruktdryck)						
Mjölksprodukt med aktiv bakteriekultur (t ex a-fil, cultura dofilus, eller cultura drickyoghurt, proviva yoghurt, verum hälsoyoghurt)						
Juice med extra tillsatta vitaminer och/eller mineraler (t ex God morgon apelsinjuice +järn eller +multivitamin)						
Bröd med omega-3-fettsyror (fiskolja) (t ex Pågen Leva)						
Ägg med omega-3-fettsyror (t ex Må Bra ägg)						

19) Skulle du vilja ha mer utbildning om livsmedel med hälsopåståenden?

- ☐ Ja
☐ Nej

20) Söker du själv efter information om livsmedel med hälsopåståenden?

- ☐ Ja
☐ Nej

21) Om ja på fråga 20, var får du information ifrån om livsmedel med hälsopåståenden?

- ☐ Kollegor
☐ Vetenskapliga artiklar
☐ Produktinformatör från företag
☐ Media (tv, tidningar, radio)
☐ Utbildning
☐ Annat _____

22) Om du inte själv söker men vill ha information om livsmedel med hälsopåståenden, var skulle du då vilja få information ifrån?

- ☐ Kollegor
☐ Vetenskapliga artiklar
☐ Produktinformatör från företag
☐ Media (tv, tidningar, radio)
☐ Utbildning
☐ Annat _____

23) Om du inte vill ha information om livsmedel med hälsopåståenden, ange varför?

Nu kommer vi in på frågor som handlar om din personliga inställning till mat.

Din inställning till ny mat

Människor kan ha olika inställning till ny mat och dryck. Här följer några påståenden om hur man kan reagera på ny mat.

24) Hur väl stämmer följande påståenden in på dig? Ringa in det svarsalternativ som bäst beskriver din inställning.

	Stämmer inte alls in på mig	Stämmer mycket dåligt in på mig	Stämmer dåligt in på mig	Stämmer varken bra eller dåligt in på mig	Stämmer bra in på mig	Stämmer mycket bra in på mig	Stämmer helt och hållet in på mig
Jag provar gärna nya och olika sorters maträtter.	1	2	3	4	5	6	7
Jag är skeptisk till livsmedel jag aldrig ätit förut.	1	2	3	4	5	6	7
Jag äter nästan vilken mat som helst.	1	2	3	4	5	6	7

Frågor om din inställning till mat och hälsa

Här följer några frågor som handlar om vad du tycker och tänker om mat och hälsa. Ringa in det svarsalternativ som stämmer bäst in på dig. Observera att detta inte är kunskapsfrågor utan vi är intresserade av att veta vad du tycker.

25) Hur väl stämmer följande påståenden in på dig?

	Stämmer inte alls in på mig	Stämmer mycket dåligt in på mig	Stämmer dåligt in på mig	Stämmer varken bra eller dåligt in på mig	Stämmer bra in på mig	Stämmer mycket bra in på mig	Stämmer helt och hållet in på mig
Jag är mycket noga med att maten jag äter är hälsosam.	1	2	3	4	5	6	7
Jag äter alltid en hälsosam och balanserad kost.	1	2	3	4	5	6	7
Det är viktigt för mig att maten som jag äter dagligen har låg fetthalt.	1	2	3	4	5	6	7
Det är viktigt för mig att maten jag äter dagligen innehåller rikligt med vitaminer och mineraler.	1	2	3	4	5	6	7
Jag äter vad jag vill och bekymrar mig sällan över om maten är hälsosam.	1	2	3	4	5	6	7
Att maten är hälsosam har stor betydelse när jag väljer mat.	1	2	3	4	5	6	7
För mig är det väsentligt att mellanmål är hälsosamt.	1	2	3	4	5	6	7
Jag undviker livsmedel som jag tror kan öka mitt kolesterolvärde.	1	2	3	4	5	6	7
Jag tror att man kan hålla kolesterolvärdet i schack genom att äta lättprodukter.	1	2	3	4	5	6	7
Jag anser att man kan äta mer när man äter lättprodukter utan att få i sig för många kalorier.	1	2	3	4	5	6	7
Jag anser att lättprodukter bidrar till att sänka kolesterolvärden.	1	2	3	4	5	6	7

	Stämmer inte alls in på mig	Stämmer mycket dåligt in på mig	Stämmer dåligt in på mig	Stämmer varken bra eller dåligt in på mig	Stämmer bra in på mig	Stämmer mycket bra in på mig	Stämmer helt och hållet in på mig
Jag anser att användningen av lättprodukter befrämjar hälsan.	1	2	3	4	5	6	7
Jag anser att lättprodukter är mer hälsosamma än vanliga produkter.	1	2	3	4	5	6	7
Jag avstår från långt bearbetade produkter eftersom deras innehåll är okänt för mig.	1	2	3	4	5	6	7
Jag försöker äta livsmedel som är fria från tillsatser.	1	2	3	4	5	6	7
Jag skulle endast vilja äta ekologiskt odlade grönsaker.	1	2	3	4	5	6	7
Jag anser att livsmedel som är sötade med sötningsmedel är skadliga för min hälsa.	1	2	3	4	5	6	7
Jag anser att ekologiskt odlade produkter är bättre för min hälsa än traditionellt odlade.	1	2	3	4	5	6	7
Jag struntar i om det finns tillsatser i livsmedlen som jag äter dagligen.	1	2	3	4	5	6	7
Jag anser att det är bra att man försöker göra maten hälsosammare med modern teknologi.	1	2	3	4	5	6	7
Jag anser att det allt större utbudet av livsmedelsprodukter gör det svårare att välja vad man ska köpa	1	2	3	4	5	6	7

Vad du tror har störst betydelse för att du ska ha en god hälsa?

Nedan ser du sju faktorer som kan påverka din hälsa. Rangordna de 3 faktorerna som du tror har störst betydelse för att du ska ha god hälsa. Sätt 1 framför den faktorn som du tror är viktigast, 2 framför den faktorn du tror är näst viktigast och 3 framför den faktorn som kommer på tredje viktigaste plats. Observera att du inte behöver leva så som du rangordnar.

26) Vilka faktorer har störst betydelse för att du ska ha god hälsa?

Sätt en siffra (1, 2 eller 3) fram för de 3 faktorer som du tycker är viktigast för att du ska ha en god hälsa.

	Sätt en siffra i rutorna här nedan
Inte röka	
Dricka lite eller ingen alkohol	
Ha god sömn	
Äta en hälsosam kost	
Ofta äta livsmedel med hälsopåståenden	
Motionera ofta och regelbundet	
Ha ”bra gener”	

Till sist några frågor som handlar om dig

27) Hur gammal är du? _____ år

28) Är du ☐ Kvinna
☐ Man

29) Är du ☐ Ensamstående
☐ Särboende (har partner som du inte delar hushåll med)
☐ Sammanboende
☐ Annat _____

30) Hur många personer finns det totalt i ditt hushåll? _____ st

31) Finns det några barn i ditt hushåll? ☐ Ja i åldrarna _____
☐ Nej

32) Vilken kommun är du folkbokförd i just nu? _____

33) Vad arbetar du som idag? ☐ Dietist
☐ Läkare
☐ Sjuksköterska

34) Hur många år har du varit yrkesverksam
som dietist/läkare/sjuksköterska? _____ år

35) Har du någon specialistutbildning? ☐ Ja
☐ Nej

Om ja, vilken eller vilka? _____

36) Har du någon annan inriktning i ditt yrke? _____

Har du några sista kommentarer om enkäten du just fyllt i, eller vill du tillägga något?

STORT TACK FÖR DIN HJÄLP!!