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NUTRITIONAL QUALITY OF CHILDREN'S MENU

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Abstract

This thesis is about nutrient content of food for children. The quality and good content of nutrients are incredibly important things, because they affect on children's future life and their habits of food consumption. It is known that consumed food has an influence on development of an organism, especially in childhood, in that period when basic habits of food intake are formed. The children's food habit and relations of these habits with health are found out. How these habits are formed and what influence they have. This information are identified by literature review; also, during the literature review, common children's problems are found. Personnel real observation and questionnaire were applied.

The aim of this thesis is to find out quality of children's menus in different restaurants in two countries Finland and Russia. Some topics were covered to achieve this goal, such as: what is nutrition; what is children's eating behavior; what are children's habits in food; what recommendations food guides of different countries make for children to eat; comparison between Finnish and Russian guides.

One of the objects of this thesis is collecting information of offered meals for children in restaurants. What food for children is offered? Also, nutrient content was calculated and compared with recommendation.

For the practical part of project there is planning new menu for kids and providing Mother's day in Talli. Calculating of nutrient content of new offered food was counted as well. Additionally, surveys of children and parents were conducted to identify some points of thesis and to understand satisfaction of food on the Mother's day.

The study was limited to children aged from 4 to 12.

Subject headings, (keywords)

Children, food, habit, nutrient content, restaurant

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CONTENTS

1. INTRODUCTION

“Healthy meals for children are investment for the future”

Food is a big part of human life. It is a vital resource for a full life. People cannot do without food and water. Daily individuals worldwide consume varied food. They eat from the first days of life until the last days. There is such an opinion that "you are what you eat". One can agree with this expression, because what we eat directly affects our health. Hence the quality of the food, its nutrients play a central role.

“Nutrition is the most important condition for the preservation of health, normal growth and development of the human body. According to World Health Organization (WHO), human health only 15% depends on the organization of health services at the same rate - the genetic characteristics, and by 70% - from lifestyle and diet.” (Report of the WHO. 1992.)

According to WHO’s experts estimate, in 2001 about 60% of all deaths and 47% of the total number of diseases were caused by non-infectious diseases. In most countries of the world the factors related to malnutrition and lack of physical activity take the main place among all risk factors. These factors are many reasons for the major recognized non-infectious diseases, which include cardiovascular disease, diabetes and certain types of cancer. These diseases account for a large proportion of morbidity and mortality. Other diseases related to diet such as dental caries or osteoporosis, are widespread among the population. (Martinchik A.N.2005, 9.)

Some chronic diseases relate to malnutrition and nutrient deficiency. However, in the modern world many chronic diseases associate with over-eating and excessive energy consumption. This leads to the problem of obesity in adults and children. Thus, it is recognized that nutrition is a key factor determining human health. And good health is indicator of the quality of life of modern man. (Martinchik A.N.2005, 10.)

The base of eating behavior and preference for food are formed in early childhood. So it is important to put the proper habits in children in their childhood. In the future this behavior influences their choice. In the case with children, they eat just what they pre-

fer in food. As a result, children take just products they like, refusing to eat the food they do not like.

This bachelor's project tells about importance of healthy diet in human life. The subjects of the thesis are:

- to study out role of children's food intake and what problems related to their nourishment;
- to figure out the main food recommendations in Finland and in Russia;
- to find out what is offered in restaurants as a children's menu and what nutrients food contains.

The theoretical part presents the information that is necessary for good understanding of nutrient requirements in both countries. To do so, the different guides of recommendation and some research are used.

The empirical part includes two parts: analysis of children's menus of some restaurants and calculation of nutrients in it and create an own idea of children meals in the restaurant Talli.

2. NUTRITION OF CHILDREN

Consumed food has an influence on development of an organism, especially in childhood, in that period when basic habits of food intake are formed. In the first five years children have many physical changes. In this period, the food consumed by them can serve as a basis for future eating models. During this time, children learn what, when, and how much to eat. It is based on the relationship between cultural and familial beliefs, and practices concerning food and eating. (Savage J.S. 2008, 1.)

2.1. Nutrition of children, and their habits

Nutrition is a food intake in accordance with the dietary needs of the organism. The food should contain all the necessary nutrients to maintain the normal functioning and development of the organism, such as proteins, fats, carbohydrates, vitamins and minerals, and water in the required quantities. At the same time the needs are individual, and depend on the age, type of employment, living conditions and so on. Proper nutri-

tion is a well-balanced diet combined with regular physical activity, is the basis of good health. (Martinchik A.N.2005, 10-11.)

Habit is a behavior or course of action which is become constant and repeated regularly in ordinary life. This definition is determined by Ozhegov's dictionary. (Ozhegov S.I. 2008.)

Habit occurs after multiple repetitions of the same actions, when it ceases to require volitional and cognitive effort. When the process of action is as important as the result, people start having positive experiences. The behavior of the parents directly affects formation of habits of behavior in children as many habits begin to form in early childhood by imitation. Habits arise in all spheres of human activity, covering various parts and aspects of human behavior. (Druzhinina V.N. 2009, 93-97.)

That way, food or products that people habitually consume every day characterize their eating habits. There are different factors, internal and external to the organism, which have an influence on the formation of this kind of habit. But the eating habits are not the same with food preferences, i.e. people do not always eat only what they like. However, in the case with children, they eat just what they prefer in food. As a result, children take just the products they like, refusing to eat the food they do not like. (Birch LL.1998,128.)

According to Belton P. and Belton T. (2003, 1.) the food consumption in childhood can create states for eating behavior in adult life. Thus, what children consume during the first years of life may have a lifelong effect on well-being and health of a person.

Children get knowledge of food by observing the eating behaviors modeled by others. For example, research of Young EM (Department of Nutrition, University of Tennessee, USA) shows that children begin to consume fruits, vegetables, and milk more after they see adults consuming this foods. (Young E.M., Fors S.W., Hayes D.M. 2004, 36.)

By Leann Birch, children's preferences of vegetables depend on preferences of their peers. Their choices increase in favor of vegetables if they see their peers choose this. Earlier, children who didn't choose any vegetables during school lunches, after ob-

serving a peer model of taking food started to choose and eat more vegetables, even when there was served an alternative of highly preferred food. Preschoolers who were not influenced a peer model had no change in their food behavior. (Birch LL. 1980, 489-496.)

Food preferences develop early in the childhood and eating habits in childhood are saved in adulthood. So promoting healthy food habits in the childhood prevents health problems in the adulthood and reduces healthcare costs in the future. There are some guidance and recommendation to make food choices easier for children.

2.2. Common problems with children's nourishment

"Unbalanced diet and physical inactivity have severe consequences for the health and quality of life of the individual and pose a serious economic threat to welfare in the Nordic societies. There is also increasing evidence that an unbalanced diet and physical inactivity contribute to inequality in health. There is a clear social dimension to unhealthy diet and low levels of physical activity and there is a significantly higher prevalence of overweight, heart diseases and diabetes in lower socioeconomic groups and among those with lower levels of education. The Nordic countries have made it a priority to make healthy food choices easier for all and to enable children and youth to make healthy choices." (Nordic Nutrition Recommendations 2012.)

There are common children's problems with food such as food allergy, overweight, T1 diabetes, and food neophobia. There are also problems when children refuse to eat healthy food, but prefer eating food rich in salt, sugar and fat.

Food allergies in children

Many food allergies are temporary and can be passed by some age. But severe cases can cause anaphylactic shock or even death from eating. The most severe food reactions are caused by peanuts, tree nuts, soybeans, dairy products, eggs, wheat, fish, and shellfish. Some allergies tend to last a lifetime. In this case some actions are very important as identifying children with food allergies, preventing exposures and managing any reactions. It is important to be careful in the choice of food. (Sizer F.S., Whitney E. 2008.)

Overweight

There is an increasing trend of being overweight and obese in school-aged children, mainly attributable to reduced physical activity and consuming too many high energy food that is low in vitamins, minerals, protein or fiber. Nowadays, it is a big problem in many developed countries. So many countries focus on reducing obesity and improving diet and physical activity. Obesity is a nutritional disorder and is a major risk factor for cardiovascular disease in adulthood. Eating diets high in fat leads to positive energy balance which may be a predisposition to health problems as hyperlipidemia, cardiovascular problems, type 2 diabetes mellitus and obesity. (Fitzgerald A., Veugelers, P. 2005.)

Type 1 diabetes

Diabetes is a disorder of metabolism. To say more relevantly, it is how the body utilizes sodden food for growth and energy. This disease progresses most often in children and young adults but can develop in all ages. The majority of children who have diabetes suffer from Type 1 diabetes. Nutrition is a base of diabetes treatment. For children who have 1 type of diabetes extremely important to consume following nutrients in the required amount: carbohydrate, protein and fat. (Diabetes overview 2008.)

One more problem with child's nourishment – "food neophobia"

There is also a problem that children usually don't like and don't want to taste unfamiliar food. It relates to 'food neophobia'; it goes like the protection of a child from ingesting potentially harmful substances, when kids become able to explore their environment more independently. Food neophobia appears in all age groups. Because of these instinctive behavioral models decrease the probability that children will develop giving their preferences to a wide variety of healthy food, especially vegetables that children don't like eating. (Cooke L. 2007, 294–301.)

According to the definition "neophobia" is a tendency to dislike anything new; this fear can cause avoidance of new situations, places, or things, and particularly food. It

is common children unwillingness to try new food. As defined, neophobia influences food choice, preferences, and diet. (Preedy V.R. 2011, 707-724.)

There are some methods to reduce the effect of food neophobia of children. In general, these methods are based on the fact to introduce children to a lot of different products; give them more knowledge about food through taste, touch, smell, vision and hearing. With these tools, it allows the children to instill good eating habits. According to Birch, an effective tool of rising kid's acceptance of new products is familiarizing and teaching young children the taste of an unfamiliar or disliked food. The change in people's lifestyle and dietary life makes a need to increase awareness about taste education for preschoolers whose dietary habits start to grow. (Birch LL. 1999, 41-64.)

One of popular program to teach children about food is SAPERE – the method developed by Jacques Puisais . Sapere spreads the method of learning about food through taste. Jacques Puisais is a creator of the method and he started the first taste education classes. He was a chemist and a director of research laboratory in France during fifty years. He founded the French Taste Institute, which is dedicated to training and researching sensorial perception and eating habits.

The method relies on sensory practice and learning goes through experiences. It focuses on sensory perception of products during tasting and follows such objectives as:

- to develop the ability to taste, to verbalize feelings and choose foods;
- to develop curiosity to taste new products, contact with them;
- to develop analytical and critical thinking to make informed choices;
- to develop communication between participants of tasting and therefore exchange new information, impressions;
- to emphasize sustaining and listening to the child's own expression;
- to disclose understanding the origin of food linked to agriculture.

Sapere also is an international non-profit association. It already brings together France, Sweden, Switzerland, Finland, and Netherlands. Sapere unites together various experts from different fields; there are the social sciences, research, industry and educational sector. Their project is to provide taste education for children at school. Sapere method is implemented currently on a number of European countries to improve the nutrition of children.

2.3. Finnish nutritional recommendation

Nutrition policy in Finland has a long history of activities and it is based on common Nordic recommendation which is published since 1981. (Virtanen 2012.)

In the last years, changes in diet were helpful as the quantity of saturated fat and salt was decreased and the value of fruits and vegetables was increased. Finnish nutritional recommendations are based on the Nordic recommendations from Nordic co-operation. Nordic co-operation is one of the world's most vast forms of regional cooperation, including Denmark, Finland, Iceland, Norway, Sweden, and the Faroe Islands, Greenland, and Åland. They give a scientific ground for formulating dietary guidelines. Nordic Nutrition Recommendations work for the primary reference point for the different national nutrition recommendations in the Nordic countries. There are the recommendations for general population and the recommendation for special purposes like schools, hospitals, athletes, infants and so on. (Nordic Nutrition Recommendations 2012.)

Finnish nutrition policy is based on Nordic Nutrition Recommendations and affects on meals at school. The meals which are served at schools are model of nutritionally balanced diet which helps to develop healthy eating habits. It promotes pupil's growth and development (Virtanen 2012).

By the Valtion ravitsemusneuvottelukunta, in the food triangle (Figure 1) the biggest volume of food is vegetables, fruits and berries; on the next stage there is bread and wholegrain cereals, porridge, muesli, potato, leguminous plants; then fat-free and low-fat milk products go in less quantity. The vegetable oils and vegetable oil based spreads, nuts, seeds are on the same level in triangle but they are fewer. The fish and poultry are better to consume than red meats (beef, pig meat and sheep meat), processed meats and egg. The products with solid fats and added sugars are consumed in the least amount. In the food triangle the components of a good diet are presented according to their relative weight in the whole diet. (Valtion ravitsemusneuvottelukunta 2008.)

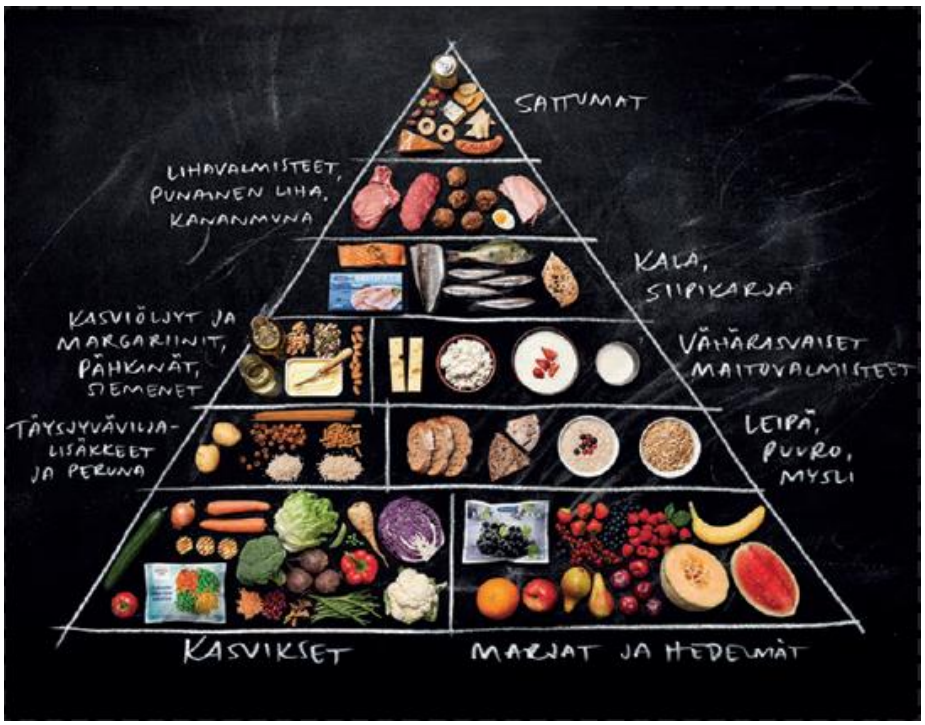

FIGURE 1. The food triangle

The plate model suggested by Valtion ravitsemusneuvottelukunta also helps to get the food in a suitable balance of nutrients and energy (Figure 2). As seen in figure 2, half a plate is full of vegetables (it can be a salad or warm cooked food with oil sauce). A quarter of the plate is potatoes, whole grain pasta or other whole grain cereals. The rest of the plate includes meat, fish, eggs or legumes, seeds or nuts. The fat-free milk, buttermilk or water are recommended as beverages for the dish. In addition, there is a piece of whole grain bread with vegetable margarine or vegetable oil. The berries or fruit desserts complement meal.

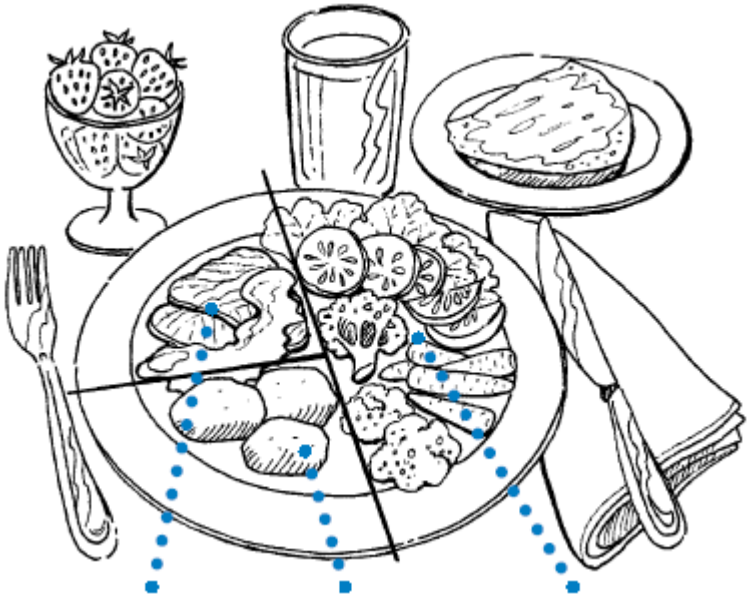

FIGURE 2. The plate model

According to Nutritional criteria for school lunches a student's lunch consists of one third of daily nutritional energy requirements. It is 550-860 kcal per lunch, depending on age. The quantity of energy nutrients for daily student's requirements is:

– Fat 30% of energy, saturated fat max 10% of energy

– Protein 15% of energy

– Carbohydrates 55% of energy

The menu also changes six times a week, adaptable quality of fat and salt, fish meal is recommended once a week by Nutrition policy in Finland. (Virtanen 2012).

Vitamins, minerals and fiber are recommended for nutrient density from Koulu-ruokailusuositus, 2008 by Valtion ravitsemusneuvottelukunta; it is shown in Tabel 1.

TABLE 1. Nutritional recommendation of vitamins, minerals and fiber (from Kouluruokailusuositus, 2008)

Nutrient	Recommendation / 1000 kcal	Recommendation/day
Thiamin, mg	0,5	0,75 - 1
Vitamin C, mg	34	51 - 68
Calcium, mg	420	630 - 840
Iron, mg	6,7	10,05 – 13,4
Fiber, g	12,6	18,9 – 25,2

In Table 2, is shown the amount of each nutrient for child for lunch. This following amount will be counted in menus of different restaurants to understand better quality of offered food.

TABLE 2. Nutritional recommendation for lunch

Nutrient	Recommendation/lunch/ for child from 4-12 years
Energy, kcal	550-860
Protein, g	20,12-31,46
Carbohydrates, g	73,78-115,37
Fiber, g	6,3-8,4
Fat, g	17,7-27,74

Fat saturated, g	5,91-9,25
Calcium, mg	210-280
Iron, mg	3,35-4,47
Thiamin, mg	0,25-0,33
Vitamin C, mg	17-22,67

These recommendations form the basis to evaluate nutrient content in restaurant kids' menu suggestion in this thesis.

Fat

Fat is the main storage of body for the energy from consumed food. Content of fat is a valuable survival mechanism for people. Fat guarantees most of the energy needed to implement mostly muscular work. The body is incapable of producing the linoleic acid and alpha-linolenic acid, so it must be delivered them from food. In addition, fat ferries vitamins A, D, E, and K, which are known as the fat-soluble vitamins; and fat provides them into and around the body. It must be remembered that excessive intake of fat in the food increases the risk of cardiovascular disease. But it does not mean to exclude the fat from food intake, because there is, also, a good fat such as lipids, which is absolutely necessary. It is serious to learn to acknowledge the fats in products and to differ saturated fats and trans fats, which must be kept to a minimum, from advantageous unsaturated fats that assure the required fatty acids. (Sizer F.S., Whitney E. 2008.)

Recommendation for fats:

- Fish dishes at least once a week;
- Sausages, fatty potatoes (e.g., fried potatoes, french fries), a full -fat cheese (fat by more than 17 %) less than once a week;
- Low-fat meat;
- Intake of saturated fat must be limited to less than 10% energy. (Valtion ravitsemusneuvottelukunta 2008.)

Salt

“Sodium is the main positively charged ion outside the body’s cells. Sodium attracts water. Thus, too much sodium (or salt) raises blood pressure and aggravates hypertension”. (Sizer F.S., Whitney E. 2008.)

Some requirements of salt content in food:

- It is essential that large-scale recipes are determined by the salt , spices, and broth preparations quantities;
- Consumption of salt should be reduced systematically;
- Potatoes and vegetables should be cooked without salt;
- Rice and macaroni can contain salt very little. (Valtion ravitsemusneuvottelukunta 2008.)

2.4. Russian nutritional recommendation

The government improves the health and physical condition of population by giving better knowledge of people in Russia. The requirement of organization and the recommendations of food intake are included in the SanPiN (СанПиН). It is a document called "Sanitary rules and norms", which includes all normative acts establishing safety criteria and safety for human factors of its environment and requirements to ensure for favorable conditions of human life. These sanitary rules are binding on all institutions, enterprises and public organizations.

For example, SanPiN 2.4.1.3049-13 is about the sanitary and epidemiological requirements to the device, content and organization for preschool educational institutions. There are rules as:

- Terms of placement of preschool educational institutions;
- Equipment and maintenance of the territory;
- Natural and artificial illumination in rooms;
- Heating and ventilation, and so on.

There is also the rule for catering services for preschoolers; there is information of nutrient contents. in the chapter "XV. Requirements for the preparation of menus for catering services children of different ages", it is said that nutrition must meet the physiological needs of children in basic nutrients and energy and not be less than the values shown in Table 3 "Norms physiological needs for energy and nutrients for children".

TABLE 3. Norms physiological needs for energy and nutrients for children (from ”Requirements for the preparation of menus for catering services children of different ages”)

	Child, 3-7 years Recommendation/day
Energy, kcal	1800
Protein, g	54
Fat, g	60
Carbohydrates, g	261

Meals must be organized in accordance with an exemplary menu, designed by no less than 2 weeks, taking into account the physiological needs for energy and nutrients. In an exemplary menu of the protein content should provide 12-15%, fats 30-32% and carbohydrates 55-58% of calories.

Total volumes of meal should be in this quantity, as shown in table 4.

TABLE 4. The volume of meal (in grams) (table is from SanPiN 2.4.1.3049-13)

	Breakfast	Lunch	Snack	Dinner
Child, 3-7 years	400-550	600-800	250-350	450-600

The data of third table are from Ob utverzhdenii SanPiN 2.4.1.3049-13 "Sanitarno jepidemiologicheskie trebovanija k ustrojstvu, soderzhaniju i organizacii rezhima raboty doshkol'nyh obrazovatel'nyh organizacij” (On approval 2.4.1.3049-13 SanPiN "Sanitary epidemiological requirements to the device, content and organization of the operation mode of preschool educational institutions)

By the Federal Law (Federal'nyj zakon ot 30 marta 1999 g. N 52-FZ "O sanitarno-jepidemiologicheskom blagopoluchii naselenija"), the organization of nutrition in institutions is necessary to follow scientifically based physiological norms of nutrition of children. Physiological norms daily requirement for children of different age groups are presented in Table 5.

TABLE 5. Physiological norms of daily needs of children (Federal'nyj zakon ot 30 marta 1999 g. N 52-FZ)

	1-3 years	4-6 years	7-10 years
Vitamin C, mg	45	50	60
Thiamin (B1), mg	0,8	0,9	1,2
Calcium, mg	800	900	1100
Iron, mg	10	10	12
Fiber, g	10	15	20

Quantity of nutrients in food are recommended by methodological recommendation "Norms physiological needs for energy and nutrients for different groups of the Russian Federation" (Racional'noe pitanie. Normy fiziologicheskih potrebnostej v jenergii i pishhevyh veshhestvah dlja razlichnyh grupp naselenija Rossijskoj Feder-acii, MR 2.3.1.2432 – 08) published 18.12.2008. These recommendation for children between 3 and 11 years old are presented in Table 6.

TABLE 6. Recommended quantity of nutrient for day for children 3-11 years (Norms physiological needs for energy and nutrients for different groups of the Russian Federation)

Nutrient	Required amount/day
Energy, kcal	1400 – 2900
Protein, g	42 – 87
Carbohydrates, g	203 – 420
Fat, g	47 – 97
Saturated fat	10% from energy
Fiber, g	10 – 20
Vitamin C, mg	45 – 90
Thiamin, mg	0,8 – 1,5
Calcium, mg	800 – 1200
Iron, mg	10 - 18

According to principles of organization of children's nutrition at school, the following points are identified:

- Compliance energy consumption of child; compliance with the chemical composition of the diet (protein, fat, carbohydrates, vitamins, minerals) physiological needs in these substances for all ages;
- Balance of the main nutrients (proteins, fats, carbohydrates) to better their assimilation in the ratio 1: 1: 4, the proteins of animal must not be less than 60% and vegetable oils - about 20% of the total;
- Using of a wide range of products to meet the needs of the growing organism in all nutrients.
- Using ways of cooking and technological processing of food appropriate to the digestive system of children of this age with the preservation of biological and nutritional value;
- Stick to the diet, providing for the preservation of certain intervals between meals, as well as qualitative and quantitative distribution of food throughout the day;
- Compliance with all health requirements for the production, transport and storage of products, ready-to-cook foods and cooked meals.

(Canitarnye pravila "Organizacija detskogo pitanija". SanPiN 2.3.2.1940-05. 2005. Sanitary rules "Organization of children's food.)

3. RESEARCH OF KIDS' MENU

Children's food is regulated in home by parents, in school by government. But what about some other places, when parents go out with children to an event or when they travel. What they can get from restaurants or fast-food's chains. Actually, the restaurants have a selection of suggestions of food for children; even some of them have a special menu for kids. Usually, not high quality of food is offered there. Restaurants serve delicious and inspiring food portions for children but often there are processed food such as sausages, french fries and meatballs. This food is too heavy and fat for children.

This part of the paper contains information about the food that is offered in restaurants where children can be. Some restaurants which serve a separate menu for children are chosen to collect the data of meals. Then, each item of menu are studied to find out what nutrients included and what is the quantity of nutrients. Some simple interviews were conducted with personnel who work in those restaurants to get information about children behavior, "do they prefer the food of kid menu or regular", "what kind of

food they prefer to eat", etc. The information has been collected through an interview, calculating content of nutrients, and analysis.

Information of offered food in restaurants' menu is collected. Nutrient content of this food also is calculated to understand quality of these meals for children. There are some software and programs which already include the information about product's nutrient content. These programs allow calculating almost all kind of products that we have in this world. There are such as program as Jamix, Cron-o-metr, SelfNutritionData, etc. Also, it is possible to find nutrient's data of mixed food such as soups, sandwiches, and dishes. There is a problem that a recipe could have different quantity of ingredients inside, it can give different results of nutrient content. In this paper, the nutrient content was calculated by "Table of food composition" from book "Nutrition concepts and controversies, 11th edition." (Sizer F. S., Whitney E. 2008, Appendix A.)

3.1. Finland

During collecting of information, it was revealed that visiting a restaurant is quite expensive in Finland. So parents visit a restaurant with children very rarely. They visit a restaurant when they have some event, celebration. Not every restaurant has a separate menu for children.

The families also visit restaurant with children more often while traveling. Generally, these restaurants are chains of restaurants on a road or fast-foods. Eating in such places is cheap, quick, and rich in calories. It is good for travelers as it allows saving time and money.

The following restaurants in Mikkeli were selected for a more detailed examination for quality of nutrients in a children's menu:

- Huviretki, the restaurant in hotel chain Cumulus, they have a special menu for kids;
- ABC, a place where parents and children stay while traveling;
- Talli, a place where practical part of the thesis is provided;
- McDonalds, as place in which children appear more often.

3.1.1. Huviretki

Huviretki is a chain restaurant and there are 16 Huviretki restaurants around Finland. The restaurant is located in the center of Mikkeli, at Mikonkatu 9. Restaurant Huviretki is attached to Hotel Cumulus, and it is located on the first floor of it. Because the restaurant is a part of a hotel, it does not have its own building. The hotel is with a capacity of 136 rooms. The restaurant can seat 125 seats, 50 of them on the outdoor terrace, which operates in the warmer months.

The hotel offers services such as comfortable living rooms, providing conferences, a sports hall, a swimming pool, a sauna, a lobby bar, a restaurant Huviretki and Parnell's bar. The menu in the restaurant is available in Finnish, English, Russian and Swedish. It includes a wide selection of meats, lactose and gluten free foods, and vegetarian dishes. The restaurant offers breakfast for the guests every morning. There is a buffet with wide selection of foods, hot, cold dishes and so on. The restaurant offers also the special kid's menu and kid's corner. There is TV, a table with colorfully books and toys.

During the interview with the manager of restaurant it was revealed that number of children grows more in the summer time than at other time in the hotel. There is a water park in Mikkeli, which is popular with families with children. They usually live in the hotel and eat in the restaurant, which is there. The restaurant even has special various loyalty programs for the children's menu. The menu includes food that is popular among children. Usually, children like the food that is offered and eat it with pleasure.

The kid's menu in Huviretki includes five different dishes. The dishes are gluten-free, lactose-free or low-lactose.
There are:

1. Chicken & French fries (L,G)
2. Fried salmon & mashed potatoes (LL,G)
3. Minute steak & French fries (LL,G)
4. Sausages, meatballs, and mashed potatoes (L,G)
5. Pizza fantasia

The composition and quantity of ingredients are from the technical routings from restaurant, which are also located in the Appendix 1, "Technological card of kid's menu of Huviretki". A calculation of nutrients and their comparison with the recommendations is shown below, in the following figures.

Nutritional content of "Chicken & French fries" is depicted in Figure 3.

	A	B	C	D	E	F	G	H	I	J	K	L
1	1.Chicken & French fries (L,G)											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	chicken (fried)	150	340,59	44,12	12,35	1,59	12,35	2,86	33,53	1,85	0,14	0
4												
5	french fries	120	240	3,43	37,71	3,43	8,57	1,51	10,29	1,49	0,14	12
6												
7	pepper mayonnaise	30	198	0,6	2	0	22	3,2	4	0,14	0	0
8												
9	salad mix	10	1,79	0,18	0,36	0,18	0,07	0	3,39	0,09	0,01	2,5
10												
11	cucumber	30	4,4	0,32	1,2	0,28	0,12	0,02	4,8	0,08	0,01	0,8
12												
13	cherry tomato	30	6,35	0,35	1,41	0,35	0,23	0,01	1,41	0,13	0,02	5,65
14												
15	Total:	370	791,13	49	55,03	5,83	43,34	7,6	57,42	3,78	0,32	20,95
16												
17	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 3. Nutrition content of meal: Chicken & French fries

It can be seen the quantity of proteins and fat is more than the recommended amount. Carbohydrates' content, Fiber's content, and Calcium's content are much less than required. Iron, Thiamin, and Vitamin C are a little bit less than recommended. Content of Fat saturated is lower than recommended, but it is very good.

Nutrient of "Fried salmon & mashed potatoes" is shown in Figure 4.

	A	B	C	D	E	F	G	H	I	J	K	L
1	2.Fried salmon & mashed potatoes											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	salmon butterfly	90	157	24	0	0	7	1,17	17	1,06	0,16	2,67
4												
5	mashed potatoe	120	136	2,29	20,57	2,29	4,58	1,2	24	0,31	0,11	12,57
6												
7	salad mix	10	1,79	0,18	0,36	0,18	0,07	0	3,39	0,09	0,01	2,5
8												
9	cucumber	30	4,4	0,32	1,2	0,28	0,12	0,02	4,8	0,08	0,01	0,8
10												
11	cherry tomato	30	6,35	0,35	1,41	0,35	0,23	0,01	1,41	0,13	0,02	5,65
12												
13	lemon(+skin)	25	5,09	0,23	2,78	1,16	0,01	0	15,28	0,18	0,01	19,21
14												
15	Total:	305	310,63	27,37	26,32	4,26	12,01	2,4	65,88	1,85	0,32	43,4
16												
17	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 4. Nutrition content of meal: Fried salmon & mashed potatoes

“Minute steak & French fries” is shown in the Figure 5

	A	B	C	D	E	F	G	H	I	J	K	L
1	3. Minute steak & French fries											
2		weight, g	Energy,ca	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Cacium,m	Iron,mg	Thiamin,n	Vit C, mg
3	beef	75	242,65	18,12	0	0	17,65	7,2	7,06	1,56	0,06	0
4												
5	herb butter	15	108	0,6	0,74	0	12	6,13	4	0	0	0
6												
7	french fries	120	240	3,43	37,71	3,43	8,57	1,51	10,29	1,49	0,14	12
8												
9	salad mix	10	1,79	0,18	0,36	0,18	0,07	0	3,39	0,09	0,01	2,5
10												
11	cucumber	30	4,4	0,32	1,2	0,28	0,12	0,02	4,8	0,08	0,01	0,8
12												
13	cherry tomato	30	6,35	0,35	1,41	0,35	0,23	0,01	1,41	0,13	0,02	5,65
14												
15	ketchup	30	28	1,2	8	1,35	1,46	0,02	6	0,16	0	4
16												
17	Total:	310	631,19	24,2	49,42	5,59	40,1	14,89	36,95	3,51	0,24	24,95
18												
19	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 5. Nutrition content of meal: Minute steak & French fries

In this menu item, the quantity of Calcium is incredibly lower than it is needed. And, quantity of Fat is too much, including Fat saturated.

The quantity of nutritional content of 4th menu item ("Sausages, meatballs, and mashed potatoes") is shown below, in Figure 6.

	A	B	C	D	E	F	G	H	I	J	K	L
1	4. Sausages and meatballs & mashed potatoes (L,G)											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	small sausage	40	76	6,8	0,32	0	5,2	1,56	22,8	0,88	0,02	0,4
4												
5	meatball	40	51,6	5,8	0,72	0,16	2,84	1,12	5,6	0,5	0,03	1,4
6												
7	mashed potato	120	136	2,29	20,57	2,29	4,58	1,2	24	0,31	0,11	12,57
8												
9	salad mix	10	1,79	0,18	0,36	0,18	0,07	0	3,39	0,09	0,01	2,5
10												
11	cucumber	30	4,4	0,32	1,2	0,28	0,12	0,02	4,8	0,08	0,01	0,8
12												
13	cherry tomato	30	6,35	0,35	1,41	0,35	0,23	0,01	1,41	0,13	0,02	5,65
14												
15	ketchup	30	28	1,2	8	1,35	1,46	0,02	6	0,16	0	4
16												
17	Total:	300	304,14	16,94	32,58	4,61	14,5	3,93	68	2,15	0,2	27,32
18												
19	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 6. Nutrition content of meal: Sausages, meatballs, and mashed potatoes

Calculation of nutritional content of "Pizza fantasia" is in the Figure 7.

	A	B	C	D	E	F	G	H	I	J	K	L
1	5. Pizza fantasia											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,n	Vit C, mg
3	pizza base	170	477,32	11,85	82,68	3,85	10,39	1,62	19,41	4,95	1,09	0
4												
5	pizza sauce	55	23	1	4,34	1,19	0,54	0,09	10,5	0,54	0,03	7,53
6												
7	grated cheese(a	70	250	17,5	2,07	0	20	12,3	512,5	0,3	0,03	0
8												
9	pineapple	35	18,33	0,23	4,72	0,28	0,17	0,003	5	0,14	0,03	2,5
10												
11	ham	35	116,9	4,38	0,74	0	10,61	3,78	2,1	0,25	0,13	0,35
12												
13	Total:	365	885,55	34,96	94,55	5,32	41,71	17,793	549,51	6,18	1,31	10,38
14												
15	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 7. Nutrition content of meal: Pizza fantasia

Calcium's nutrient quantity is too much than it is required, it goes from grated cheese ("Adam"). The quantity of Fat, Fat saturated, and Energy is higher than recommended.

In conclusion, all food is cooked on a range with olive oil. It is extremely bad to intake such food. The quantity of salt could be also reduced.

3.1.2. ABC

ABC is a big chain of restaurants. These restaurants, usually, are located on a big road. So this place is very comfortable to visit for families, while they are traveling.

The information about kid's food at ABC was collected while visiting one of them and interviewing from personnel.

ABC offers a special menu for children, which includes seven different meals. Some menu items are divided into two age groups of children: small children (3-7 years old) and young children (8-12 years old). These items have different portion size and price for each different age group of children. Some photos of visiting are presented in the following figures.

In the Figure 8, the menu for children is presented; there are pictures of meals, some information of contents, and price for different portion size. It looks attractive for children.

FIGURE 8. Kid's menu. ABC

The menu includes:

1. Meatballs & mashed potatoes (L)
2. Sausages & chips (L,G)
3. Chicken fillet, sausage, meatball & chips (L)
4. Chicken fillet & chips (L)
5. hamburger & chips (L)
6. beef steak, chips & spicy butter (L,G)
7. pizza

There is buffet which can be used by children to choose to eat something, in the Figures 9, 10. Hot dishes, different garnishes, assortment of salads are included in this buffet.

FIGURE 9. Variety of salads. ABC

FIGURE 10. Garnishes. ABC

As well, there is pretty good selection of bread, toppings, sauces, in the Figure 11.

FIGURE 11. Buffet, breads. ABC

Different beverages are offered in the restaurant such as various lemonades (Figure 12), milk, juices (Figure 14), suggestion of tea and coffee. There is a special glass for beverages for children, which has a volume of 0.33 ml (Figure 13). Kids can drink as much as they want.

FIGURE 12. Lemonades. ABC

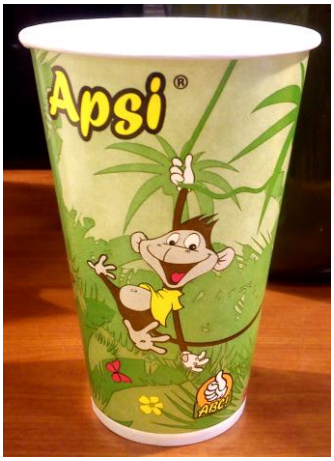

FIGURE 13. Glass. ABC

FIGURE 14. Automat of juice. ABC

Some items of food were bought to calculate a weight of every ingredient to subsequently calculate nutrient content. Some pictures of weighing process are in Figures. Two different portions of chicken fillet with chips are presented in the Figure 15. Bigger one on the left side is for young children (8-12 years old); smaller one for small children (3-7 years old) is on the right side of the picture.

FIGURE 15. Chicken fillet and chips. ABC (on the left side - for young children, on the right – for small children)

The dish of chicken fillet, sausage, meatball and chips is presented in the Figure 16. The portion of this meal is for small children.

FIGURE 16. Chicken fillet, sausage, meatball & chips. ABC (portion for small child)

Another item of food can be seen in the next figure (Figure 17); it is sausages and chips, serving for young children (8-12 years old).

FIGURE 17. Sausages and chips. ABC (portion for young child)

Some positions in kid's menu such as hamburger and chips (Figure 18), beef steak with chips, and pizza (Figure 19) have just one size for both small and young children; there is difference in the quantity of chips. They are shown in the following figures.

FIGURE 18. Hamburger and chips.ABC

FIGURE 19. Pizza. ABC

Each item from meal was weighted separately, for example the chips, (in the Figure 20) excluding hamburger and pizza. They were weighed how it was possible. For example hamburger is composed of bread, meat, mayonnaise and ketchup; bread and meat were weighted separately, but it was impossible to weight quantity of mayonnaise and ketchup inside, therefore, some data are approximate.

FIGURE20. Separately chips. ABC

In the following figures, the total nutrient content of each meal can be seen.

Next four figures (Figure 21-24) show items of small portions for small children (3-7 years old). The nutritional content of “Meatballs and mashed potatoes” for small children is presented in the Figure 21

	A	B	C	D	E	F	G	H	I	J	K	L
1	1. Meatballs & mashed potatoes											
2		weight, g	Energy,ca	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	meatball	80	103,2	11,6	1,44	0,32	5,68	2,24	11,2	0,99	0,06	2,96
4												
5	mashed potato	150	170	2,86	25,71	2,86	5,72	1,5	30	0,39	0,14	15,71
6												
7	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	345	333,53	17,4	43,95	5,84	13,65	3,78	54,2	1,78	0,23	30,43
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 21. Nutrition content of meal: Meatballs and mashed potatoes

The second menu item for small children is in the Figure 22, it is Sausages and chips. The photo of this meal is in the Figure 17 (above in the text).

	A	B	C	D	E	F	G	H	I	J	K	L
1	2. Sausages & chips											
2		weight, g	Energy,kca	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	sausage	60	114	10,2	0,48	0	7,8	2,34	34,2	1,32	0,02	0,6
4												
5	french fries	80	160	2,29	25,14	2,29	5,71	1	6,86	0,99	0,09	0,8
6												
7	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	255	334,33	15,43	42,42	4,95	15,76	3,38	54,06	2,71	0,14	13,16
12												
13	Recommendation:		550 - 860	20,12-31,4	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 22. Nutrition content of meal: Sausages and chips

The nutrition content of portion of “Chicken fillet, sausage, meatball & chips” for small child is in the Figure 23. There is the photo of this meal in the Figure 16 (above in the text).

	A	B	C	D	E	F	G	H	I	J	K	L
1	3. Chicken fillet, sausage, meatball & chips											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	chicken fillet	35	79,47	10,29	2,88	0,37	2,88	0,67	7,82	0,43	0,3	0
4												
5	sausage	24	45,6	4,08	0,19	0	3,12	0,94	13,68	0,53	0,01	0,24
6												
7	meatball	32	41,28	4,64	0,58	0,13	2,27	0,9	4,48	0,4	0,03	1,18
8												
9	french fries	80	160	2,29	25,14	2,29	5,71	1	6,86	0,99	0,09	0,8
10												
11	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
12												
13	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
14												
15	Total:	286	386,68	24,24	45,59	5,45	16,23	3,55	45,84	2,75	0,46	13,98
16												
17	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 23. Nutrition content of meal: Chicken fillet, sausages, meatballs, and chips

The nutrition calculation of Chicken fillet and chips is shown in Figure 24. There is also photo of this dish in the Figure 15 (above).

	A	B	C	D	E	F	G	H	I	J	K	L
1	4.Chicken fillet & chips											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	chicken fillet	70	158,94	20,59	5,76	0,74	5,76	1,33	15,65	0,86	0,07	0
4												
5	french fries	80	160	2,29	25,14	2,29	5,71	1	6,86	0,99	0,09	0,8
6												
7	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	265	379,27	25,82	47,7	5,69	13,72	2,37	35,51	2,25	0,19	12,56
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 24. Nutrition content of meal: Chicken fillet and chips

The nutrition calculation of Hamburger and chips is shown in the Figure 25. There is also a photo for this meal (in the figure 18).

	A	B	C	D	E	F	G	H	I	J	K	L
1	5. Hamburger & chips											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	hamburger	112	280	14	36	1	9	3,5	80	2,7	0	1
4												
5	french fries	80	160	2,29	25,14	2,29	5,71	1	6,86	0,99	0,09	0,8
6												
7	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	307	500,33	19,23	77,94	5,95	16,96	4,54	99,86	4,09	0,12	13,56
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 25. Nutrition content of meal: Hamburger and chips

	A	B	C	D	E	F	G	H	I	J	K	L
1	6. Beef steak, chips & spicy butter											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Cacium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	beef	70	226,47	18,12	0	0	16,47	6,72	6,59	1,56	0,06	0
4												
5	spicy butter	15	108	0,6	0,74	0	12	6,13	4	0	0	0
6												
7	french fries	80	160	2,29	25,14	2,29	5,71	1	6,86	0,99	0,09	0,8
8												
9	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
10												
11	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
12												
13	Total:	280	554,8	23,95	42,68	4,95	36,43	13,89	30,45	2,95	0,18	12,56
14												
15	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 26. Nutrition content of meal: Beef steak, chips, and spicy butter

The seventh menu item has one size for both small and young children. It is “Pizza” in the Figure 27. And, the photo for “Pizza” is shown in the Figure 19.

	A	B	C	D	E	F	G	H	I	J	K	L
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	pizza base	250	701,94	17,24	121,59	5,66	15,28	2,39	28,54	7,27	1,61	0,01
4												
5	pineapple	70	36,66	0,46	9,44	0,56	0,34	0,006	10	0,28	0,06	5
6												
7	ham	50	167	6,25	1,05	0	15,15	5,4	3	0,36	0,18	0,5
8												
9	cheese(adam)	60	214,2	14,99	0,86	–	16,68	10,54	438,6	0,26	0,02	–
10												
11	cherry tomato	50	9,9	0,48	2,14	0,66	0,11	0,02	5,5	0,15	0,02	7,54
12												
13	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
14												
15	Total:	520	1167,03	41,52	145,75	8,75	48,9	18,386	493,64	8,53	1,89	18,38

FIGURE 27. Nutrition content of meal: Pizza

The calculation of nutrient content for young children is in the Figure 28.

	A	B	C	D	E	F	G	H	I	J	K	L
1	1. Meatballs & mashed potatoes											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	meatball	112	144,48	16,24	2,02	0,45	7,95	3,14	15,68	1,39	0,09	4,14
4												
5	mashed potato	200	226,67	3,81	34,29	3,81	7,62	2	40	0,51	0,19	20,95
6												
7	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	427	431,48	22,99	53,11	6,92	17,82	5,18	68,68	2,3	0,31	36,85
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 28. Nutrition content of meal: Meatballs and mashed potatoes

	A	B	C	D	E	F	G	H	I	J	K	L
1	2. Sausages & chips											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	sausage	85	161,5	14,45	0,68	0	11,05	3,32	48,45	1,87	0,03	0,85
4												
5	french frie	120	240	3,43	37,71	3,43	8,57	1,51	10,29	1,49	0,14	12
6												
7	watermelo	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	320	461,83	20,82	55,19	6,09	21,87	4,87	71,74	3,76	0,2	24,61
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 29. Nutrition content of meal: Sausages and chips

	A	B	C	D	E	F	G	H	I	J	K	L
1	3. Chicken fillet, sausage, meatball & chips											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	chicken fille	50	113,53	14,71	4,12	0,53	4,12	0,95	11,18	0,62	0,5	0
4												
5	sausage	36	68,4	6,12	0,29	0	4,68	1,4	20,52	0,79	0,01	0,36
6												
7	meatball	48	61,92	9,96	0,86	0,19	3,41	1,34	6,72	0,6	0,04	1,78
8												
9	french fries	120	240	3,43	37,71	3,43	8,57	1,51	10,29	1,49	0,14	12
10												
11	watermelor	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
12												
13	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
14												
15	Total:	369	544,18	37,16	59,78	6,81	23,03	5,24	61,71	3,9	0,72	25,9
16												
17	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 30. Nutrition content of meal: Chicken fillet, sausages, meatballs, and chips

There is nutrient calculation of Chicken fillet and chips in the Figure 31, also, in Figure 15, there is the photo of this dish (above in text).

	A	B	C	D	E	F	G	H	I	J	K	L
1	4.Chicken fillet & chips											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	chicken fille	100	227,06	29,41	8,26	1,06	8,26	1,91	22,35	1,24	0,09	0
4												
5	french fries	120	240	3,43	37,71	3,43	8,57	1,51	10,29	1,49	0,14	12
6												
7	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	335	527,39	35,78	62,77	7,15	19,08	3,46	45,64	3,13	0,26	23,76
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 31. Nutrition content of meal: Chicken fillet and chips

	A	B	C	D	E	F	G	H	I	J	K	L
1	5. Hamburger & chips											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	hamburger	112	280	14	36	1	9	3,5	80	2,7	0	1
4												
5	french fries	120	240	3,43	37,71	3,43	8,57	1,51	10,29	1,49	0,14	12
6												
7	watermelon	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
8												
9	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
10												
11	Total:	347	580,33	20,37	90,51	7,09	19,82	5,05	103,29	4,59	0,17	24,76
12												
13	Recommendation:		550 - 860	20,12-31,4	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 32. Nutrition content of meal: Hamburger and chips

	A	B	C	D	E	F	G	H	I	J	K	L
1	6. Beef steak, chips & spicy butter											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	beef	70	226,47	18,12	0	0	16,47	6,72	6,59	1,56	0,06	0
4												
5	spicy butte	15	108	0,6	0,74	0	12	6,13	4	0	0	0
6												
7	french fries	120	240	3,43	37,71	3,43	8,57	1,51	10,29	1,49	0,14	12
8												
9	watermelo	75	23	0,84	6,13	0,79	0,91	0,01	5	0,19	0,03	6,43
10												
11	ketchup	40	37,33	2,1	10,67	1,87	1,34	0,03	8	0,21	0	5,33
12												
13	Total:	320	634,8	25,09	55,25	6,09	39,29	14,4	33,88	3,45	0,23	23,76
14												
15	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 33. Nutrition content of meal: Beef steak, chips, and spicy butter

Overall the food offered at ABC is very heavy and rich in fat. The meal is also rich in salt, the quantity of salt is too much to consume for children. ABC offers food, such as sausages, ready cooked meatballs and chips. This kind of food is so attractive and tasteful for children. It is sure that kids would consume it with pleasure and a lot.

3.1.3. Talli

Restaurant Talli is located at Mikkeli University of Applied Sciences campus and serves as a lunch restaurant. It also works as the teaching restaurant for hospitality management students. The restaurant operates as a lunch, meeting, a la carte and private booking restaurant.

Every year the Mother's Day is provided in this restaurant. The nutrient calculation of kid's menu from previous year is in Figure 34.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Buffet											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	meatball	80	103,2	11,6	1,44	0,32	5,68	2,24	11,2	0,99	0,06	2
4												
5	laughing frankfurte	80	264,89	8,89	3,56	0	23,11	9,35	10,67	1,21	0,04	0
6												
7	mashed potato	80	90,67	1,52	13,71	1,52	2,04	0,8	11,2	0,21	0,7	8,4
8												
9	Total:	240	458,76	22,01	18,71	1,84	30,83	12,39	33,07	2,41	0,8	10,4
10												
11	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 34. Nutrition content: Kid's buffet

It is seen that quantity of Fat and Fat saturated is so heavy than recommended. It is definitely too much to consume for little children, almost it is twice more than recommended. This food offered is poor in Carbohydrates, Fiber, Calcium, Iron and Vitamin C.

3.1.4. McDonalds

McDonalds is a place, which children like and famalies with children appear there more often than another places. Food suggestion for kids in McDonalds is "Happy Meal'. It is chosen for analyzing of nutritional content.

Calculation of nutrient content is in Figure 35

	A	B	C	D	E	F	G	H	I	J	K	L
1	Happy meal											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	1% Low Fat Mill	236	100	8	12	0	2,5	1,5	320	0	0,05	2
4												
5	Kids Fries	31	100	1	13	1	5	0,5	6	0,5	–	2
6												
7	Apple Slices	34	15	0	4	0	0	0	20	0	0,01	94
8												
9	Hamburger	100	250	12	31	2	9	3,5	120	2,5	–	120
10												
11	Total:	401	465	21	60	3	16,5	5,5	466	3	0,06	218
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 35. Nutrition content of meal: Happy Meal

It was unexpected that this food of McDonalds is not rich in fat. By the data in the figure 35, it is seen that quantity of Fat and Fat saturated is minimum. There is high content of Calcium and Vitamin C, it goes much more from Hamburger.

3.2. Russia

In Russia, it is quite common that people go to restaurant with children, especially it is popular in Moscow and Saint-Petersburg. The data for this study was collected in Saint-Petersburg. The segment of the market is well developed and full of different suggestions. Families go to restaurant with their children, that is why restaurants try to organise lot of activities for child. They suggest special menu, coloring book, toys, games; there are even more facilities as a special area or room and there can be babysitter or clown who can look after and amuse children while parents are eating. Through these services parents can spend their time more free and easier and do not be worried about their children. It really attracts people to go to a restaurant with children.

Some restaurants have gone further so that they have special cook-teaching class; it is popular and fashionable. They use simple recipes like pizza, pasta, lasagna,pelmeni, homemade cookies and so on. Kids can cook, have fun and study more about products, food there.

Some examples of this kind of restaurant:

Culinary school "Bambini Dolci" is located in one of the restaurants of chain "Italy". Lessons are held in the restaurant "ITALY South" on every Sundays from 12.00 to 14.00; the duration of lesson is 1 hour. Classes are for the age group from 5 to 12 years. Each lesson is themed.

The professional chef tells the stories of various dishes and together with the children preparing pizza, carpaccio, pasta and tiramisu cake. While having not used knives, forks and other piercing and cutting items. The young cooks talk about the products and their use, and focus on table serving (in the Figure 36). Parents can attend the class or spend time in the restaurant.

FIGURE 36. Children are on the lesson in the restaurant “Italy”

A lot of programs for kids are offered in restaurants of popular chain in Russia in "Ginza project". They have a particular service line; it is called "Ginza for Kids". Ginza for Kids' project includes a series of entertaining, creative and educational activities on the basis of the restaurants in this chain. Most restaurants have a separate children's room or space. There can be a nanny or a special person, who works there some hours by schedule.

There are different programs such as performance on various subjects. Most activities are about food; there are master-classes, competitions between children, families. Under the direction of chef-animator, children prepare simple meals. Preference is given to a simple and delicious recipe for pasties, sandwiches, salads, chuchvara (Uzbek dumplings) and pizza; also, children cook homemade cookies, sweets, pies, and many other things. All classes are taught by experienced teachers, actors and entertainers, top chefs, and bartenders. In this chain, there is a new project; it is TV show on the Saint-Petersburg's channel, "Поварята" (Povotyata); where children will cook on the small special kitchen and compete.

So, ‘children in restaurant’ is special market segment of restaurant business in Russia. This segment is very popular among the population, is developing dynamically, entrepreneurs try to find more new ways to attract new customers and retain, create more facilities to make more comfortable the pastime at the restaurant for families with children.

Two restaurants in Saint-Petersburg were selected for a more detailed examination for quality of nutrients in a children's menu. There are:

- the restaurant "Траттория Grato" (trattoria Grato)
- one of the restaurants of chain "Марчеллис" (Marcellis)

3.2.1. “Траттория Grato" (trattoria Grato)

"Trattoria Gatto" is a family restaurant with italian cuisine. It is quite big place with two big dining rooms and one small dining room, and it has a capacity of 85 seats. Because it is a place where families with children often visit; there are some facilities to make the time more pleasant. There are toys, books, games, small TV, child's seats and menu; but there is not a special room, only a space in the small dining room, where children can seat on the floor. The restaurant's service does not include any nanny's service.

In the "Trattoria Gatto", the administrator was interviewed and as a result of this the following points were identified:

- It is a popular place between families with children, every day it is visited by them for lunch and dinner;
- The menu for kids attracts child's attention to make a choice, but kids often order a meal from normal menu (as the administrator said "to look like adult"), in this case a cook cuts portion in half, that does not allow consuming too much calories and fat;
- Most of parents really care about food intake of their child ("they don't order any sweets before the main course will be finished", "the parents make kids eat all vegetables");
- Most of children don't like eating; they are capricious with food, try to exclude the vegetable;
- The parents complain that there is not a nanny and the room for kids (for this the administrator answered "the problem is that they do not have free space to make this room. They have to exclude tables, that is about money; but in the same time it is necessary to keep their clients, so they are trying to handle it as soon as possible");

The kid’s menu includes:

1. Chicken cutlets & mashed potato
2. Italian Panini (it goes as sandwich)

3. Pizza

In the Figure 37, the nutrient content of the first meal is calculated

	A	B	C	D	E	F	G	H	I	J	K	L
1	Chicken cuttlets & mashed potatoes											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,m	Iron,mg	Thiamin,m	Vit C, mg
3	Chicken cutlets	80	200,86	19,4	4,89	0,27	11,05	4,78	20,23	1,01	0,1	0,72
4												
5	mashed potatoe	100	83	1,91	17,57	1,5	0,57	0,3	24	0,27	0,09	6,2
6												
7	tomato	30	5,4	0,26	1,17	0,36	0,06	0,01	3	0,08	0,01	4,11
8												
9	cucumber	30	4,8	0,2	1,09	0,22	0,03	0,01	4,8	0,08	0,01	0,84
10												
11	Total:	240	294,06	21,77	24,72	2,35	11,71	5,1	52,03	1,44	0,21	11,87
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 37. Nutrition content of meal: Chicken cutlets & mashed potato

The second meal's nutrients were calculated in the following figure (Figure 38)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Italian panini											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	bread	100	271	8,8	50	2,7	3,5	0,86	78	2,94	0,47	–
4												
5	ham	50	167	6,25	1,05	0	15,15	5,4	3	0,36	0,18	0,5
6												
7	cheese	50	178	12,47	1,11	–	13,72	8,81	350	0,12	0,02	–
8												
9	tomato	50	9	0,44	1,95	0,6	0,1	0,01	5	0,14	0,02	6,85
10												
11	Total:	250	625	27,96	54,11	3,3	32,47	15,08	436	3,56	0,69	7,35
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 38. Nutrition content of meal: Italian Panini

The last menu's item is shown in the Figure 39, and all nutrients are there.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Pizza with chicken & pepper											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	pizza base	150	421,16	10,45	72,95	3,4	9,17	1,43	17,12	4,36	0,96	0,01
4												
5	tomato sauc	40	9,6	0,53	2,15	0,6	0,07	0,01	5,2	0,41	0,01	2,8
6												
7	chicken brea	50	82,5	15,51	–	–	1,79	0,51	7,5	0,52	0,04	–
8												
9	pepper	40	12,4	0,4	2,41	0,84	0,12	0,01	2,8	0,17	0,02	51,08
10												
11	Total:	280	525,66	26,89	77,51	4,84	11,15	1,96	32,62	5,46	1,03	53,89
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 39. Nutrition content of meal: Pizza

3.2.2. "Марчеллис" (Marcellis)

"Marcellis" is a chain of italian restaurants in Saint-Petersburg and Moscow. There are already ten restaurants which are located in different zones of city (in downtown and on the periphery). "Marchellis" pays particular attention to children. All restaurants, except two of them, have a children's room, there is babysitter who works everyday from 18.00 until last customer and works also on weekends from 12.00; and it is for free. Every weekend good entertainments are organized for the kids. There are cooking, painting, sculpting classes; and active games are held. Some photos of kid's room are presented in the Figures 40, 41

FIGURE 40. Studying kitchen for children.

FIGURE 41. Children's room.

FIGURE 42. Teaching kitchen for kids.

FIGURE 43. Children's room with teaching kitchen.

The two last rooms have a teaching kitchen for children, the lessons and master-classes of cooking are held there.

The menu for children includes following dishes:

1. Pasta with batter and cheese
2. Penne with ham
3. Chicken nuggets & mashed potato
4. Chicken cutlets, mashed potato and ketchup
5. Pizza

The dishes are served in small plates with funny pictures on it. A vegetable salad goes with each meal, excluding pizza. The salad contains tomato, cucumber, lettuce, corn and olive oil; the total nutrient content of the salad is shown in the Figure 44. As a beverage, it can be juice, homemade lemonade, fruit-drink; and also there are tea, cacao, hot chocolate, milkshake, fresh juice.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Vegetable salad											
2		weight, g	Energy,kca	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,m	Iron,mg	Thiamin,mg	Vit C, mg
3	tomato	45	8,1	0,4	1,75	0,54	0,09	0,01	4,5	0,12	0,02	6,17
4												
5	cucumber	45	7,2	0,29	1,63	0,33	0,05	0,02	7,2	0,13	0,01	1,26
6												
7	lettuce	20	3	0,27	0,57	0,26	0,03	0,001	7,2	0,17	0,01	1,84
8												
9	corn	30	25,8	0,98	5,61	0,6	0,41	0,1	0,6	0,16	0,05	2,04
10												
11	olive oil	10	88,4	0	0	0	10	1,38	0,1	0,06	0	0
12												
13	Total:	150	132,5	1,94	9,56	1,73	10,58	1,511	19,6	0,64	0,09	11,31

FIGURE 44. Nutrition content of meal: The nutrients of salad

In the Figure 45, the nutrient content of first dish is shown

	A	B	C	D	E	F	G	H	I	J	K	L
1	Pasta with butter & cheese											
2		weight, g	Energy,ca	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,m	Iron,mg	Thiamin,m	Vit C, mg
3	pasta	100	124	5,33	26,54	3,23	0,54	0,1	15	1,06	0,11	0
4												
5	butter	10	71,7	0,09	0,01	0	8,11	5,14	2,4	0,01	0,01	0
6												
7	cheese(parmesan)	40	176	10	7,79	0	8	7,13	440	0,4	0	0
8												
9	salad	150	132,5	1,94	9,56	1,73	10,58	1,511	19,6	0,64	0,09	11,31
10												
11	Total:	300	504,2	17,36	43,9	4,96	27,23	13,881	477	2,11	0,21	11,31
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 45. Nutrition content of meal: Pasta with butter and cheese.

In Figure 45 it is seen that most of nutrients are in smaller amounts than it is recommended, excluding fat and fat saturated. A lot of this fat goes more from olive oil; it is monounsaturated fat which is good for body. But saturated fat has to be reduced; by the recommendation it should be not more than 10% of energy; and more this kind of fat is in Parmesan cheese and butter. Calcium is twice more; most of calcium is contained in cheese.

The calculation of nutrients of the second meal “penne with ham” is shown in the Figure 46.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Penne with ham											
2		weight, g	Energy,ca	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,m	Iron,mg	Thiamin,m	Vit C, mg
3	penne	100	136,4	5,86	29,19	3,55	0,59	0,11	16,5	1,17	0,12	0
4												
5	ham	60	133,6	5	0,84	0	12,12	4,32	2,4	0,29	0,15	0,4
6												
7	cheese(pa	40	176	10	7,79	0	8	7,13	440	0,4	0	0
8												
9	salad	150	132,5	1,94	9,56	1,73	10,58	1,511	19,6	0,64	0,09	11,31
10												
11	Total:	350	578,5	22,8	47,38	5,28	31,29	13,071	478,5	2,5	0,36	11,71
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 46. Nutrition content of meal: Penne with ham

Amount of fat, fat saturated and calcium are exceeded.

In the following picture, the nutrient content is presented (Figure 47)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Chicken nuggets & mashed potato											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,m	Iron,mg	Thiamin,m	Vit C, mg
3	chicken nuggets	150	453	23,69	22,64	–	29,72	4,89	16,5	1,34	0,24	1,8
4												
5	mashed potato	100	83	1,91	17,57	1,5	0,57	0,3	24	0,27	0,09	6,2
6												
7	salad	150	132,5	1,94	9,56	1,73	10,58	1,511	19,6	0,64	0,09	11,31
8												
9	Total:	400	668,5	27,54	49,77	3,23	40,87	6,701	60,1	2,25	0,42	19,31
10												
11	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 47. Nutrition content of meal: Chicken nuggets & mashed potato

Amount of minerals, vitamins and fiber are low, excluding thiamin. Fats' quantity is too much than it is recommended, that makes the meal heavy.

The quantity of nutrients of the fourth dish "Chicken cutlets, mashed potato and ketchup" is on the next Figure 48.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Chicken cuttlets, mashed potato & ketchup											
2		weight, g	Energy,kc	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	chicken cuttlets	170	401,72	38,81	9,77	0,54	22,11	9,57	40,46	2,03	0,19	1,45
4												
5	mashed potato	100	83	1,91	17,57	1,5	0,57	0,3	24	0,27	0,09	6,2
6												
7	ketchup	30	29,1	0,52	7,55	0,09	0,09	0,01	5,4	0,15	0,01	4,53
8												
9	salad	150	132,5	1,94	9,56	1,73	10,58	1,511	19,6	0,64	0,09	11,31
10												
11	Total:	450	646,32	43,18	44,45	3,86	33,35	11,391	89,46	3,09	0,38	23,49
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 48. Nutrition content of meal: Chicken cutlets, mashed potato and ketchup

Dish is poor in calcium, fiber and carbohydrate, but it is rich in fats.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Pizza margarita											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calcium,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	pizza base	90	252,7	6,27	43,77	2,04	5,5	0,86	10,27	2,62	0,58	0
4												
5	cheese mazarella	45	143,1	9,72	1,11	0	11,09	7	258,75	0,09	0,01	0
6												
7	tomato	45	8,1	0,4	1,75	0,54	0,09	0,01	4,5	0,12	0,02	6,17
8												
9	basil	15	3,45	0,47	0,4	0,24	0,01	0,001	26,55	0,48	0,01	2,7
10												
11	Total:	195	407,35	16,86	47,03	2,82	16,69	7,871	300,07	3,31	0,62	8,87
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 49. Nutrition content of meal: Pizza

Quantity of nutrients are lower than recommended, except calcium and fats.

In sum, "Marcellis" has good facilities for children to entertain them. It attracts families with children and they often visit this place and spend a lot of time there. The menu for children contains five different meals, which goes with vegetable salad that can create the impression of healthy food. But during the calculation it was identified that food is rich in fats and poor of vitamins and minerals.

4. MOTHER'S DAY IN TALLI

The practical part of this study is making children menu as a part of Mother's Day in Talli. The goal of making a menu is to find out recepies, which will be helthier than what is usually offered. At the same time, food should be attractive for children.

4.1. Food choices

The following dishes are chosen for children's menu:

1. Vegetable kebab
2. Smoky mixed-potatoes
3. Meatballs
4. Chicken nuggets

Vegatable kebab includes courgette, cherry tomato, yellow and red pepper. All vegetables are cut and put on skewers. Using the skewers can attract kid's attention

and give them a reason to eat it. Salt is not used in the preparation. Olive oil is used but in an incredibly small amount, not to spoil vegetables when cooking them in the oven.

Smoky mixed-potatoes is a mix of two types of potatoes: ordinary and sweet potatoes. This recipe involves use of spices in a few amount. It goes to oven.

Meatballs are not ready cooked from supplliers, they are homemade.

Chicken nuggets are also cooked by cook.

4.2. Nutritional content

The children's food is served in buffet. People choose the quantity of meal themselves, it depends on preferences and the age. But, there is the average amount of food per each, it is 80 grams of each course. Hence, a child can get 320 gramms of eating in average.

Calculation of nutritional content is shown in the Figure 50.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Together											
2		weight, g	Energy,cal	Protein,g	Carb,g	Fiber,g	Fat,g	Fat sat, g	Calc,mg	Iron,mg	Thiamin,mg	Vit C, mg
3	Vegetable kebab	80	18,53	1,05	4,77	1,11	0,88	0,021	7,13	0,98	0,228	34,65
4												
5	Smoky mixed-potat	80	73,2	1,58	16,9	1,92	0,1	0,02	17,2	0,42	0,08	12,96
6												
7	Meatballs	85	231,8	23,22	0,19	0	10,6	3,7	11,91	2,02	0,053	0
8												
9	Chicken nuggets	92	214,57	26,37	7,48	0,57	7,26	2,62	76,38	1,12	0,074	0
10												
11	Total:	337	538,1	52,22	29,34	3,6	18,84	6,361	112,62	4,54	0,435	47,61
12												
13	Recommendation:		550 - 860	20,12-31,46	73,78-115,37	6,3-8,4	17,7-27,74	5,91-9,25	210-280	3,35-4,47	0,25-0,33	17-22,67

FIGURE 50. Nutrition content of meal: Suggestion of children's food

The amount of carbohydrates, fiber and calcium is lower than required. The quantity of protein, iron and thiamin is higher. Unfortunately, the quantity of Fat and Fat saturated is, also, higher. Can not be argued that the recipes perfectly matched. But, there are positive points such as use of salt and oils minimize.

Ii is important to note, that the use of high technical equipment in a professional kitchen promotes preparing healthier food. It promotes the use of a much smaller amount of oil in cooking.

4.3. Event

In the Mother's day after cooking, the food was served in dining room. The children had a separate buffet, it was smaller, than buffet for adult. It was more comfortable to take for children and it was better seen what was offered. The lunch was provided three times, it was refreshed each two hours. In general, there were about 300 customers including 30 children. The children were of different ages, from 1 years old till 17 years old. The photos from event can be seen in the following figures (Figures 51, 52,53)

FIGURE 51. Children's buffet

FIGURE 52. Chicken nuggets and meatballs

FIGURE 53. Smoked potatoes and vegetable kebabs

The short questionnaires were located on the tables where guests sat. The questionnaires were made for both adults and children. The questionnaries are shown in the Appendices. Appendix 5 is questionnaire for adult; and Appendix 6 is questionnaire for children.

The questionnaires with pencils were put on the every tabel in dining room; the questionnaires for adult were on one side of table, and the questionnaires for kids were on the other side of table. Meanwhile people were coming, they were asked to fill up these forms. All completed questionnaires were collected after event. In general, about 30 answers were from adults and 22 answers from children. About half of all

interviewees has a child or children. Some of interviewees are younger than 25 years and they do not have any children (they are about 7 people). Most of them visit restaurant, but not so many people visit restaurant with children. Overwhelming number of respondents were dissatisfied with the quality of food offered in restaurants. Many of them think that the food in restaurant usually is too heavy and fatty for children. And, the nice thing is that many people loved the food offered in the children's menu on Mother's Day in Talli.

The personnel who also worked on this day, they got feedback from customers about event. They said that adult customers were really satisfied with meal for kids.

From children's responses to the questionnaire, it was found out that children rarely eat fast food. And, most of children know that fast food is a bad choice for health. Only a half of kids liked food on this event.

5. CONCLUSION

One statement of thesis was that food habits come and are formed in the childhood. It was confirmed by the research of relevant literature and scientific articles. The food preferences are shaped in this part of human life; and it has influence on the habit of food intake and further life of adult person. That is why it is quite important to form it in proper way. The food guides help to get more information about the required nutrients, the quantity of them. For this study to identify proper recommendations for children between 4-12 years old were reviewed the school recommendations from two countries, Finland and Russia. For both countries the recommendations are quite similar. But in Finnish version the given information is easy to understand and apply to life; whereas Russian recommendations are in rules and norms of organisation of nutrition in institutions, it is just a part of it and it is a little information.

Also, during the literature review common children's problems were found. Nowadays it is allergy, overweight, T1 diabetes, and food neophobia. The last one decreases the probability that children will develop sympathy of a wide variety of healthy foods, especially vegetables, that children don't like eating. Overcoming this problem can help to create good food preferences and avoid some health problems in the future.

By analysing restaurants' suggestions of menu for kids was detected that a lot of dishes have less energy than it is recommended. But quantity of fats, including saturated fat, are higher. The dishes are also poor of vitamins and minerals.

By observing and collecting information about restaurants, especially their suggestions for kids, in both countries was found out that Finnish families rarely visit restaurants with children. It is quite expensive and not popular. While in Russia it is very popular to spend time in a restaurant with children. That is why this sector of restaurant business in Saint-Petersburg is full of different offers. Restaurants care more about entertainment for kids, but don't pay attention to quality of nutrient content; they make food to attract child eat it.

One of the goals of the paper was to find good recipes for children and providing Mother's day in Talli. It didn't succeed perfectly because nutrient content did not match the recommendation completely. Some of nutrients have higher quantity, some of them have less quantity than it is needed.

This paper started from phrase: “Healthy meals for children are investment for the future”. At the end of this paper is appropriate to say; “Education for children in nutrition is an important tool to invest in the future”. Because healthy eating habits create a good base for full life and reduce the risk of chronic diseases in adulthood.

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Appendix 1 (1).

Technological card of kid's menu of Huviretki.

Chicken & French fries

RESTEL

Kanaa Lapsi

Raaka-aineet:

broilerinfile	150	g
ranskanperuna	120	g
paprikamajoneesi ®	30	g
salaattimix ®	10	g
kurkku	30	g
kirsikkatomaatti puolikkaat	30	g

ALLERGIAMERKINNAT
L, G

LAADUNVARMISTUS
Mehevää broileria

VALMISTUSOHJE

Paista broilerinfilee kypsäksi, mausta suolalla ja mustapippurilla. Friteeraa ranskanperunat ja mausta suolalla. Lisää salaattimix, kirsikkatomaatti puolikkaat ja kurkut. Kepaprikamajoneesi dippikipossa.
ISO ala carte lautanen.

KOKOAMISOHJE

Ranskanperunat, broilerfilee, salaattimix, kirsikkatomaati, kurkut ja paprikamajoneesidippi.

Appendix 1 (2).

Technological card of kid's menu of Huviretki.

Fried salmon & mashed potatoes

RESTEL

Paistettua lohta Lapsi

Raaka-aineet:

lohiperhonen		90	g
perunasose		120	g
salaattimix ®		10	g
kurkku		30	g
kirsikkatomaatti puolikkaat		30	g
sitruuna	1lohko	25	g
tilli		1	g

ALLERGIAMERKINNAT
VL, G

LAADUNVARMISTUS
Ruodoton kala.

VALMISTUSOHJE

Leikkaa iso 180g lohiperhonen 2 osaan ja leikkaa vielä puolikas lohi perhos muotoon. Paista lohiperhonen, mausta suolalla ja pippurilla. Lämmitä perunasose. Lisää salaatti, kirsikkatomaatti puolikkaat ja kurkut. Lisää sitruunlohko ja tilli. ISO ala carte lautanen.

KOKOAMISOHJE

Perunasose, lohiperhonen, salaattimix, kirsikkatomaatit, kurkut, sitruuna ja tilli.

Ruokatuotanto-ohje

Lastenruoka 2013

Appendix 1 (3).

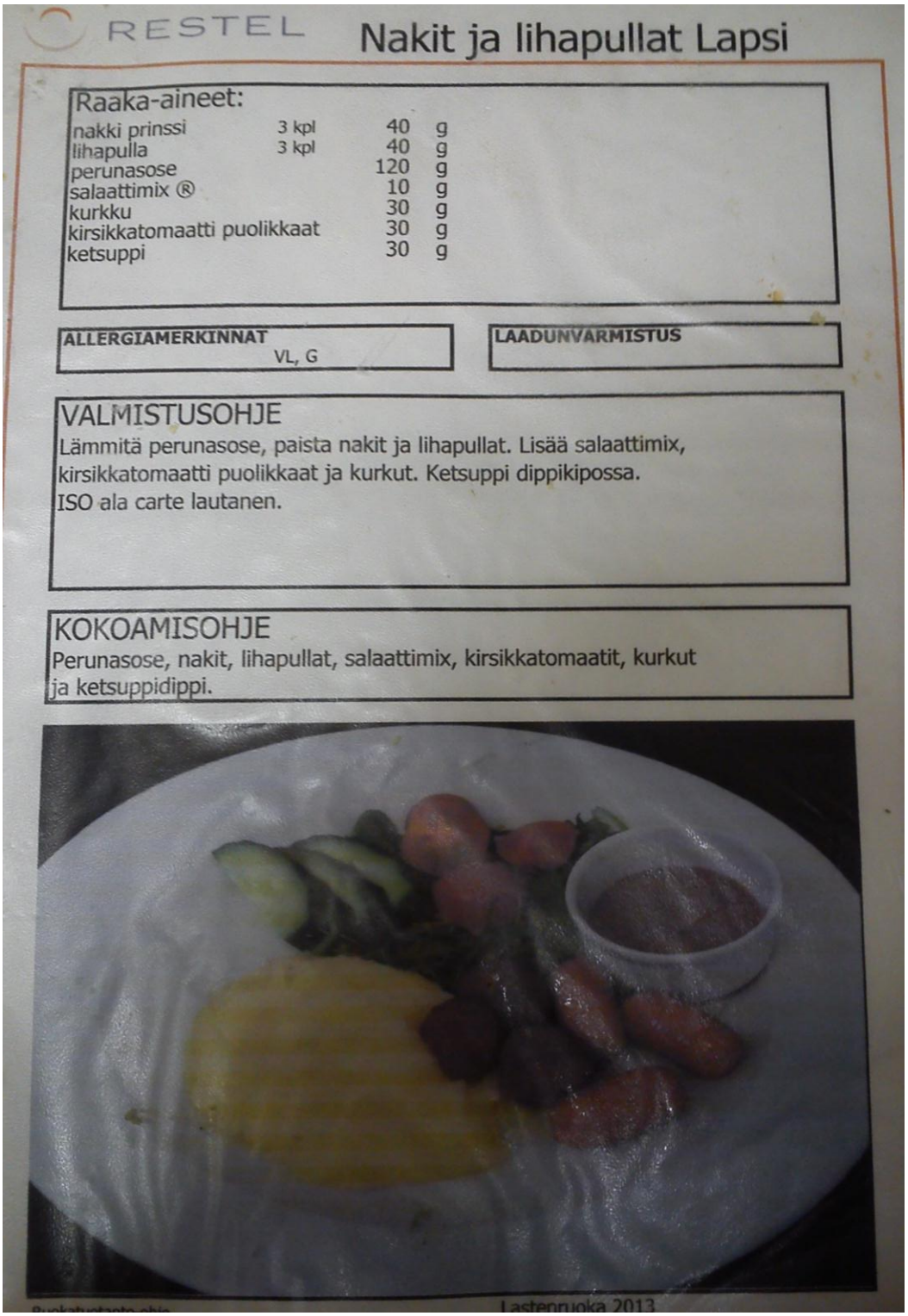
Technological card of kid's menu of Huviretki.

Minute steak & French fries

Appendix 1 (4).

Technological card of kid's menu of Huviretki.

Sausages, meatballs, and mashed potatoes



RESTEL

Nakit ja lihapullat Lapsi

Raaka-aineet:

nakki prinssi	3 kpl	40	g
lihapulla	3 kpl	40	g
perunasose		120	g
salaattimix ®		10	g
kurkku		30	g
kirsikkatomaatti puolikkaat		30	g
ketsuppi		30	g

ALLERGIAMERKINNAT
VL, G

LAADUNVARMISTUS

VALMISTUSOHJE
Lämmitä perunasose, paista nakit ja lihapullat. Lisää salaattimix, kirsikkatomaatti puolikkaat ja kurkut. Ketsuppi dippikipossa.
ISO ala carte lautanen.

KOKOAMISOHJE
Perunasose, nakit, lihapullat, salaattimix, kirsikkatomaatit, kurkut ja ketsuppidippi.

Lastenruoka 2013

Appendix 1 (5).

Technological card of kid's menu of Huviretki.

Pizza fantasia

RESTEL

Fantasia-pizza lapsi

Raaka-aineet:

pizzapohja	170	g
pizzakastike ®	55	g
juustoraaste	70	g
kahdella täytteellä		

ALLERGIAMERKINNÄT

LAADUNVARMISTUS
Pohjan oltava tasaisen pyöreää.

VALMISTUSOHJE

Leivo pizzapohja käsin pyöreäksi, n. 31 cm halkaisijaltaan. Leikkaa pohjasta 1/4 osa pois ja "liimaa" pizzapohja taas pyöreäksi. Levitä kastike n.2cm päähän reunasta, lisää juustoraaste n.1,5cm päähän reunasta. Lisää täytteet. Paista n. 300 asteessa n. 4 min.

KOKOAMISOHJE

Pohja, pizzakastike, juustoraaste ja täytteet.

Ruokatuotanto-ohje

Lasten ruoka 2013

Appendix 2

Questionnaire for adult

Hello! Please donate a couple of minutes of your time to do a short interview ☺

How old are you?

☐ less than 25 ☐ 26-30 ☐ 31-40 ☐ more than 41

Do you like visiting a restaurant?

☐ yes ☐ no

How often do you visit a restaurant?

☐ once a month ☐ twice a month ☐ very week ☐ twice a week ☐ more than 3 time a week

Do you have a child?

☐ yes ☐ no

Do you visit a restaurant <u>with your children</u>?

☐ yes ☐ no

Are you satisfied with food <u>for children</u> in a restaurant?

☐ yes ☐ no

In your opinion the food for children in restaurant, usually, is:

☐ good quality food and healthy

☐ good quality, but not healthy

☐ normal quality and nutrient content

☐ not good quality, too heavy and fat

Do you like food suggestion for children today?

☐ yes ☐ no

Thank a lot for your time!! Have a nice day =)

Appendix 3

Questionnaire for child

You are: /Olet:

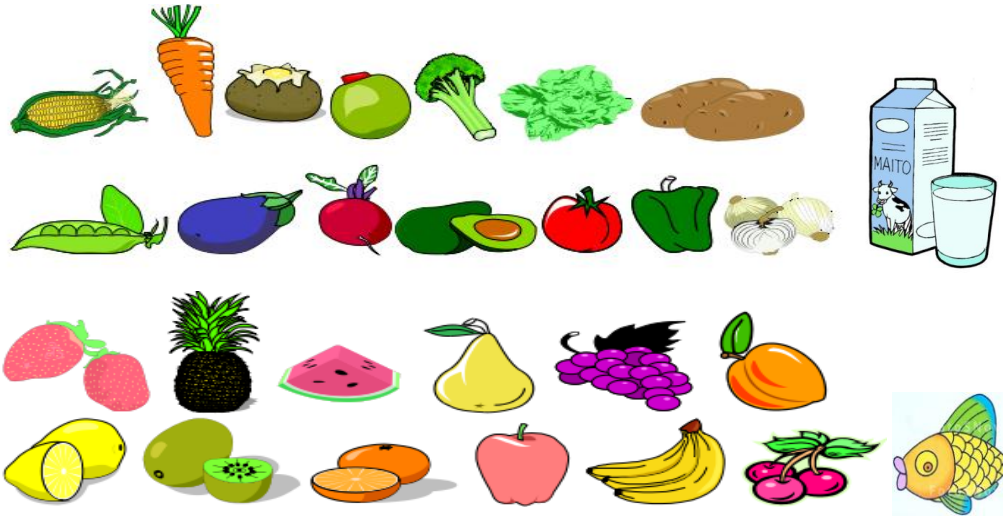

Do eat it? Circle what you eat / Älä syö sitä? Circle mitä syöt



How often? / Kuinka usein?

☐ less than once a week/ harvemmin kuin kerran viikossa ☐ once a week/ kerran viikossa 2-3 ☐ time a week/ 2-3 kertaa viikossa ☐ 4 time a week / 4 kertaa viikossa ☐ every day/ joka päivä

Do you eat these?/ Älä syö sitä? Circle mitä syöt



How often?

☐ less than once a week ☐ once a week ☐ 2-3 time a week ☐ 4 time a week ☐ every day

Do you know that this is  better than this  / Tiedätkö, että tämä on parempi kuin tämä

☐ Yes/ kyllä ☐ no/ ei

Do you like food today? / Pidätkö ruokaa tänään?

☐ yes ☐ no