

GENERAL HEALTH SITUATION IN TURKEY

According to a burden of disease study in Turkey, perinatal causes and cardiovascular diseases, respiratory system diseases, cancer, osteoarthritis and psychological disorders defined as chronic diseases in Turkey. The most important reason especially for 0-14 age group children are perinatal causes we can group these low birth weight, asphyxia, birth trauma. Nutritional deficiencies related diseases and conditions especially for 0-14 age group children and at 15-59 age group iron deficiency anemia for females and the stunted that we can describe as chronic malnutrition for children can be seen that at the high rank. Stroke and osteoarthritis which are under the musculoskeletal and nervous system disease classification, treatment costs high amount is an expected situation because requires long term medical care and rehabilitation for 60 and over age group which has an important place in the burden of disease.

	Men	Women	P value
Age (years)	41.26 ± 14.43	40.88 ± 14.86	0.041
Height (m)	1.70 ± 0.18	1.57 ± 0.16	<0.001
Weight (kg)	74.33 ± 23.37	68.82 ± 21.48	<0.001
BMI (kg/m ²)	25.47 ± 4.58	27.45 ± 5.76	<0.001
Waist girth (cm)	90.03 ± 13.86	87.20 ± 14.61	<0.001
Hip circumference (cm)	101.47 ± 14.14	107.18 ± 16.19	<0.001
WHR	0.88 ± 0.10	0.81 ± 0.09	<0.001
sBP (mmHg)	119.41 ± 23.25	121.08 ± 22.66	<0.001
dBp (mmHg)	74.78 ± 14.42	75.12 ± 15.40	0.879
Pulse (beats/min)	77.36 ± 10.01	80.54 ± 9.66	<0.001
2-h BG (mmol/l)	5.46 ± 1.70	6.07 ± 2.36	<0.001
Smoking (%)			<0.001
Current smoker	50.9	10.9	
Ex-smoker	6.8	1.4	
Alcohol (%)			<0.001
Current user	18.1	0.5	
Ex-user	8.8	0.6	
Education (%)			<0.001
Illiterate	7.7	33.6	
Literate only	5.6	7.2	
Elementary school education	45.5	44.2	
Secondary school education	13.1	4.6	
High school graduate	18.2	7.6	
University education	9.9	2.8	

Data are means ± SD unless noted otherwise.

Table1. General characteristics of population according to TURDEP study.

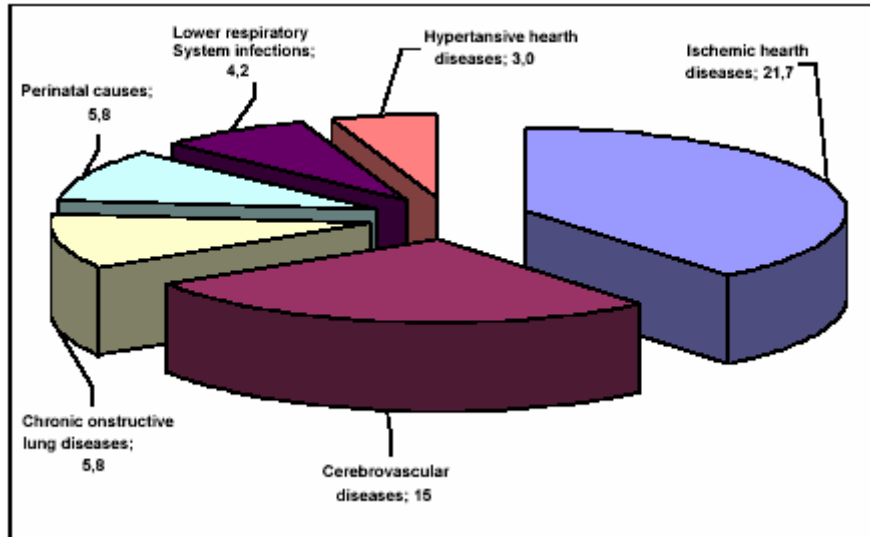


Fig. 1. the comparison of percentage distribution of some of the causes of death at national level in Turkey

It is a well-known fact that among causes of death cardiovascular system diseases, especially cerebrovascular events and ischaemic heart diseases, rank the first both in urban and in rural areas, and rank the second in terms of burden of disease, which poses a serious problem for Turkey. It is also known that services provided to prevent and treat these diseases are of a problematic nature. The mortality in ischaemic heart diseases has had adverse tendencies in the past two decades. While there has been an improving trend in many developed countries, this problem has reached a serious level in Turkey and it is believed that it will go on increasing in the following years. Obesity is one of the reasons of cardiovascular system diseases.

Obesity is a progressing problem in Turkey just like in developed or developing countries.

Relations between increased body fat and high mortality especially with cardiovascular diseases, diabetes mellitus, and hypertension are well known.

The definition of Obesity

Although, Hippokrat set forth the negative effects of obesity for health 2000 years ago, the importance of the fact was realized only towards the end of the 20th century. Obesity, which comes from the word obese”, is defined as the large quantity of fat stocked in the body. Obesity appears when energy intake is more than energy consumption so the fat cumulates in cells and causes it to become larger and bigger in number. Such cells accumulate in various parts of the

body and in internal organs. Also the defection of the center in the brain that controls nutrition, some hormonal illnesses, genetic reasons, obsession, psychological illnesses, and taking some medicines, all cause obesity. On the whole, fatness is an illness which shortens the span of life, affects the quality of living in a negative way and causes many important illnesses. Doctors use Body Mass Index (BMI) to define obesity. BMI is a simple and widely used method for estimating body fat. It is calculated by dividing the subject's weight in kilograms by the square of his/her height in metres. According to this, adults whose BMI is above 25 are overweight and whose BMI is above 30 are obese.

The interpretation of Body Mass Index is as follows:

<u>Body Mass Index</u>	<u>Interpretation</u>
< 20	Underweight
20 – 25	Normal range
25 – 30	Overweight
30 – 40	Obese
> 40	Severely Obese

This classification is for adults and it differs according to the ages of children. The method which can be used at every age depends upon the calculation of relative weight. To do this the ratio of a person's real weight to the ideal weight according to his height is multiplied by 100. Ideal weight is obtained from the weight and height graphics and tables designed for age. The obtained numbers are interpreted as follows:

<u>Relative Weight</u>	<u>Interpretation</u>
< % 90	Undeweight
% 90-110	Normal range
% 110-120	Overweight
% 120-140	Obese
> % 140	Severely Obese

The Reasons of Obesity

Although obesity can be related to genetic and hormonal illnesses, most of it is caused by risk factors related to body, environment and way of living. Such factors as fatness in the family, social problems in the household, fatty nutrition, watching TV too much, shortage of sleeping, retardation, high birth weight, being the only child or only parent may cause obesity. During childhood there are three critical stages for the obesity to occur.

Prenatal Stage: In the babies, whose mothers have been subject to famine during expectancy, whose mothers are diabetic, and who have been big babies (more than 4 kilos) the probability of being fat in later ages is high.

Early fatness stage: During the first year of life Body Mass Index increases. It lessens between the ages of 1-4 and it reincreases after the age of 5. In the children when this reincrease is seen before the age 5 the probability of been fat in later ages is high.

Adolescence: The weight which is gained at this stage exists throughout life.

Why is Obesity is Increasing?

During the last 35 years, the ratio of obese people in Turkish society has increased rapidly and the Western world seems to have found at least some of the reasons causing it. The latest research led by Alabama University by 20 researchers is the base of it. The reasons have been studied under 5 headlines.

Shortage of sleep comes first. Eighty years ago, the duration of sleep was 8.77 hours whereas, it is 6.85 hours in our time. Sleep increases the levels of leptin and ghreli hormones which cause to rise appetite. According to Chaput study, researchers found that the babies who sleep for 10.5 hours are fatter than those who sleep for 13 hours.

One can hardly guess the second main reason. Chemical poisoning. Poisonous material coming from plastic wares and sources of energy, cause hormonal changes and this increase appetite so the fat accumulates.

The third reason is the changes in temperature. Heat kills the feeling of appetite whereas, cold weather increases it. So lying under the air conditioner has a cost to be paid.

The other reason is the endeavor to quit bad habits such as quitting cigarettes. Taking medicine is another factor. Some medicines such as antidepressives, antihypertensives, oral antidiabetics, and vitamins are among the most important causes of weight gain.

The Results of Obesity

- The risk of heart diseases increases
- The risk of atherosclerosis increases
- The risk of high blood pressure increases three times more in comparison with those who are not obese
- The risk of having diabetes-type 2 increases
- It can cause depression and gut
- Obesity increases the risk of fatal paralysis
- Obese have a high risk of gall bladder and prostate cancer
- Steatosis and steatohepatitis are seen more often
- Sclerotic defects may occur
- Polycystic ovary syndrome may be seen
- Fertility may lessen
- Libido and potency may lessen
- In men the risk of colon, rectum and prostate increases
- Reflux, oesophagitis and hiatal hernia are seen often
- Gall bladder stone is 7 times often in obese

The Problems Obesity Creates

It is known that overweight may bring a lot of illnesses along with psycho-social problems. Socially being humiliated and externalized, the person's mental health is affected badly. Its effects on physical health are as follows:

Obstructive apnea: Breathing difficulty and holding the breath while asleep, may be seen.

Cardiomyopathy: Both the breathing difficulty, due to the increase in the burden of heart and metabolic changes owing to overweight may defect the functions of the heart.

Pancreatitis: Infection of pancreas may be seen.

Metabolic problems: The level of blood, cholesterol, sugar, and blood pressure may increase and these problems cause coronary artery diseases.

Orthopedic problems: Extra kilos may cause some musculoskeletal problems, especially osteoarthritis.

Hormonal problems: Hormonal disorders may cause obesity and also obesity may cause hormonal disorders. Obese children are usually tall and they enter adolescence early. In obese people the level of insulin is high and the reaction of the tissues against insulin is weak and there is a probability of diabetes.

The Cure of Obesity

Obesity may come from various diseases so the treatment of obesity should be a scientific cure. Without finding the cause of illness, it isn't possible to make people lose weight just by giving the patient less and low-calorie foods.

For the treatment of obesity there are some medicines approved by the Ministry of Health. But generally they are sold in pharmacies without a prescription and can be harmful if they aren't used properly.

If there are no health problems which cause obesity then the solution is an efficient diet and exercise. First of all, the goals should be set forth and the weight loss more than 500 g a week shouldn't be aimed at. It is important to lose weight slowly and steadily. The weight which is lost soon, is gained soon and every time it gets harder to lose weight. Apart from this, losing weight unconsciously, and in a short time may cause some metabolic and psychological problems and it slows the growth of children. The support and the cooperation of the family is necessary

for motivation and success. For this, the eating habits and life style of the family may have to be changed. With a method of treatment, called “Behaviour forming”, some small changes in daily life may succeed in controlling weight. Among these are not using the lift, walking to where possible, eating slowly, etc.

Some important points relating to diet and exercise may be summarized as follows:

DIET

- A suitable food consumption diet should be applied
- Eating should be limited with main and interval meal hours
- Healthy foods should be consumed
- Even they are light, the drinks with carbonate shouldn't be drunk
- The patient shouldn't be rewarded with food
- Some arrangements may be necessary when dined out.

EXERCISE

- Regular exercise and physical exercise should be advised.
- Time spent in front of TV and computer should be limited.
- Hobbies should be created.
- Being healthy and fit should be emphasized by public training programs.

The suggestions above are the rules to be obeyed not only for the treatment of obesity but also for good health.

After reaching the ideal weight it is very important to keep it. “Watching Weight” is having the control of one's own body and pursue the right eating habits throughout his life.

Food consumption is one of the important subject in order to prevent obesity and to keep good health.

FOOD CONSUMPTION

Whereas, lighting a coal stove needs some knowledge, people consume foods without being trained how to do so. No one gets any formal training about food consumption if he isn't going to be an expert on the field. Consuming foods is done by habits, traditions, personal and environmental choices. But food consumption is a matter to be considered from the view point of the quality of foods and needs of the person who is going to consume them.

Alternating the habits of food consumption is difficult even when vital risks exist; for instance, diabetics can not give up sweets while the patients of high blood pressure can't avoid the habit of consuming salt. In our culture there are proverbs expressing this fact "Let the death of a horse be from the barley", "The more you eat, the longer you live". But at present the needs of life have changed so much that people may lose their lives because of eating unconsciously.

Therefore, individuals should be trained to form the right eating habits from the very early ages. To achieve this goal the training should be given at the same time by family, school and society.

The subjects of food consumption are:

1. Nutrition
2. The preparation and keeping of foods.

NUTRITION

Nutrition is the consumption of foods that the beings need for reproduction, good health and growing up. Foods supply the materials necessary for the renovation of the cells along with the chemicals needed for chemical energy for the living to go on with their lives. Special nutrition diets must be supplied for the sports men to have enough energy or for the obese people or diabetics to lose weight. In a balanced diet the calories that a person gets should be in accordance with the needs of his body. The main substances of the nutrition are proteins, fats, carbohydrates, water, vitamins, salt and some other elements. If these aren't consumed properly and in a balanced diet, some illnesses caused by malnutrition occur. The foods that a person needs for a balanced nutrition can be studied in five groups:

- a) grain and bread group
- b) milk and yogurt group

- c) meat group
- d) vegetable and fruit group
- e) fat and sugar group

CARBOHYDRATES

They are the main source of energy of the body. %55-60 of the energy requirement of the body should be supplied by carbohydrates. Carbon, hydrogen and oxygen are available in the foods in the form of sugar and starch. For instance, the glucose which is called grape sugar is a simple carbohydrate and starch is a complicated carbohydrate.

In the foods rich with carbohydrates there are sugar and starch which are more complex than glucose. But during digestion all of these become glucose and all the carbohydrates enter blood as glucose and cumulate in the liver in the form of glycogene. When energy is needed, the glycogene in the liver changes into glucose and carried to the cells by blood circulation. Therefore, glucose which is called blood sugar, as it is found in the blood, is the main source of energy of the body.

PROTEINS

They are the main elements of the body. They form bones, muscles, skin, nerves; in short, a large part of the body. During digestion proteins become amino acids, and the body chooses, among these, suitable elements to make the proteins that make its tissue. The main animal foods rich with protein are: eggs, meat, fish, cheese and milk and the plant foods are bread, potatoes, nuts, wallnuts, beans, peas and lentils. 1 g of protein supplies 4 calories of energy. 10-15 % of the daily energy is obtained from proteins. During our nutrition, consuming of the foods rich with protein more or less than necessary is bad for our health.

FATS

They are another group of foods necessary for the energy of the body. Fats consist of carbon, hydrogen and oxygen. Animal fats such as, butter, fatty meat, cream, cheese and vegetable oils like those that are obtained from the seeds of corn, nuts, wallnuts etc. play an important part in a balanced diet. But too much consumption of these may be harmful. Many doctors believe that

some fats increase heart diseases; thus, they advise not to consume them too much. 1 g of fat supplies 9 calories of energy.

VITAMINS

They cause some biochemicals in the body to be active. They increase the resistance of the body and some vitamins prevent the oxidation of fat acids. The early found vitamins were named by various letters of the alphabet. Later when the construction of these chemicals were defined they were given the scientific names such as; ascorbic acid, thiamin, or riboflavin. But even today they are generally called vitamins A, B, C. Since a little quantity of vitamins is sufficient for the body, no lack of vitamins is seen in the people who have a balanced nutrition. But for some illnesses doctors advise to get more vitamins than usual till the patients recover completely. In normal conditions taking more vitamins than necessary is useless. Because most of the vitamins aren't stocked in the body. They are expelled by urine.

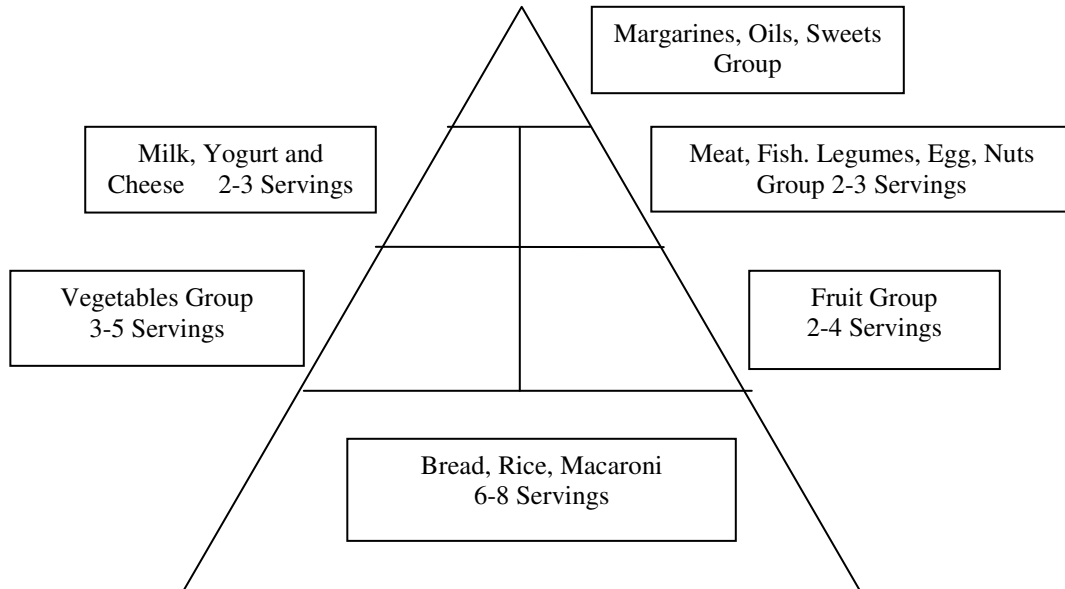
MINERALS

Minerals are chemical elements and the inorganic substances of these elements that are necessary for the body to stay healthy. Every mineral strengthens and completes the effects of other nurturing elements. Calcium which exists in the milk and milk products plays an important part in the well being of bones and teeth. Phosphor that exists in dairy products, egg yolk, nuts, dried beans is the main element of bones, teeth, muscle and nerve tissues. It has been proved that fluoride which exists in drinking water prevents decay in the tooth.

GOOD NUTRITION

Good nutrition is a sufficient and balanced nutrition. Sufficient quantities of fats, carbohydrates, proteins, vitamins and minerals should be taken to help the cells that make our bodies work well and properly. Body needs all these elements. It is wrong to nurture only on proteins or carbohydrates. By balanced nurturing vitamins, minerals, and fibre are taken.

FOOD GUIDE PYRAMID



Food Guide Pyramid consists of five main groups of food. Pyramid starts with carbohydrates that should be consumed frequently and goes towards the food that should be consumed less frequently. These groups of foods are carbohydrates, minerals, proteins, fat and sugar. Nutrition pyramid should be a guide for the right choice of the foods. Everyone needs a certain amount of calorie. The following table can be used for this purpose. According to the activities you do, multiply the number of your body weight with the shown number. The result will show you the amount of calories you need.

ACTIVITY	MEN	WOMEN
Little	Weight × 37	Weight × 35
Average	Weight × 42	Weight × 37
Too Much	Weight × 51	Weight × 44

How are the foods consumed?

Three slices of bread	: 79 min. walk or 45 min. housework
A toast with cheese	: 18 min. physical exercise or 11 min. skipping
One bowl of lentil soup	: 44 min. walk or 12 min. skipping
A slice of cheese cake	: 65 min. physical exercise or 39 min. skipping
One banana	: 25 min. walk or 5 min. skiing
One slice of cake with dried grapes	: 17 min. physical exercise or 22 min. housework

The habit of eating starts from childhood. Children should be made to like different kinds of foods. Moreover, food consumption should be balanced with physical activities. Their diets should include different kinds of grains, fruits, and vegetables. They should not be given the food with high levels of fat. We should take care that the level of sugar and salt in the foods they take should be balanced. For their bodies to grow apace, the level of calcium and iron of the foods they take should be in the desired quantity.

It is also important to set good examples for the children. The correct eating habits of the other members of the family will affect the children and it will help them to form right habits of good nutrition.

To count calories is the first step for a balanced nutrition. The following table shows the amount of calories children should take in accordance with their ages. But it should be kept in mind that this is an average table and it may differ from one child to another.

<u>AGE - DAY</u>	<u>DAILY EVERAGE CALORIE</u>
0 – 5 Months	650 cal
6 – 12 Months	850 cal
1 – 3 Years old	1300 cal
4 – 6 Years old	1800 cal
7 – 6 Years old	2000 cal

An example of a 1500 cal diet ;

Breakfast:7:30 a.m

- *Tea or herbal teas (without sugar)*
- *Low fat cheese (matchbox size)*
- *Salad (unlimited/without oil)*
- *1 slice of bread (25gr)*

10 a.m: *½ glass of milk and 2 crackers*

Lunch 1 p.m:

- *3 small pieces of meat or chicken or fish*
- *½ a bowl of yogurt (made of skim milk)*
- *4 spoonfuls of vegetable dish*
- *Salads (with lemon juice, without oil)*
- *1 slice of bread (25gr.)*

3 p.m: *1 portion of fruit (a small apple or a peach or 12 cherries)*

5 p.m: *1 slice of bread or 4 crackers and lowfat cheese (matchbox size)*

Dinner 7- 8 p.m :

- *Same with lunch*

At night: *2 portions of fruit (1,5 hrs after dinner),and ½ glass of milk and 4 crackers (before sleep)*

Our eating habit is one of the things that effects our intellectual and physical activities. Malnutrition lessens our thinking and understanding abilities and causes memory loss. If we feel tired in our physical and mental activities and if we have weaknesses in our memory and thinking capacity, although we sleep 8 hours a day, we should think over our eating habits.

12 STEPS IN GOOD NUTRITION

12 articles that World Health Organization (WHO) set forth for the things to be done for a good nutrition are below:

- A nutritious diet should consist of various vegetables and fruits instead of meat and other animal products.
- Several times a day grains (bread, macaroni, rice, potatoes) should be eaten.
- Several times a day fresh vegetables and fruits should be eaten.
- Body weight should be kept at the normal level by means of physical activities.
- Consumption of fat should be limited. The ratio of the energy from fat shouldn't be more than 30 %. (Instead of butter and fat, olive oil and soybean oil should be preferred.)
- In place of red fatty meat and meat products, dried beans (lentil, beans, chick peas) fish, chicken and plain meat should be preferred.
- Skim milk and milk products should be preferred.
- Consumption of sugar and sweets should be limited.
- Less salty foods should be preferred. The consumption of salt shouldn't be more than 6 g daily.
- If alcohol is taken, it shouldn't be more than two glasses and the level of alcohol in every glass shouldn't be more than 10 g.
- Foods should be prepared with care and cooked by boiling, baking or grilling in order that the level of oil or fat could be lessened.
- Babies should be nursed during the first six months. After six months some extra feeding should be included in their diet. Mothers should go on breast feeding throughout the first year of the lives of their babies.

The Necessity of Water for the Body and Use of Water

The daily consumption of water is also a part of good nutrition. The quantity of water that is taken by food differs from 0.5 to 1.5 liter according to the diet. There may be some water exposed at the end of the construction and loss process in the body. In a grown up person the amount of such water may rise up to 200-300 ml. Water is expelled from the body by means of kidneys, skin lungs and by urine and excrement. An adult expels 1-2 l urine daily. The air expelled from the lungs is wet so another 0.5 l water is lost in a day.

Water is expelled by skin in two forms. The first one is evaporating and the quantity of it is nearly 0.5 liter daily. The second is by sweating. That changes according to seasons and physical activities. When sweating is too much the amount of urine lessens. The quantity of water which is expelled by excrements is nearly 150-200 ml daily. In healthy people the ratio of expelled and taken water is the same, that is to say the stock of water is balanced.

PREPARING and COOKING of FOODS

While preparing and cooking, the nutritious value of foods should be saved. At this stage all the hygienic precautions should be taken. There are important aspects in the raw and cooked presentation of foods. There may be some nutritious lost during washing, peeling, and chopping. Therefore, these steps should be lessened as much as possible.

Principles of preparing foods:

- If milk and yogurt are left in the light, they lose their vitamins.
- If the salads made from green and yellow vegetables are kept in lemon juice or vinegar, they lose vitamins A and C.
- If fruits are kept long after being cut or squeezed, the value of vitamin C lessens.
- Canned foods out of date are harmful for health. They may cause food poisoning.
- Foods should be thawed in the fridge after being taken out of the deep - freezer.
- Thawed food shouldn't be frozen again.

Some foods need to be cooked to soften, to taste better, to be safer, or to be digested easily. But still foods should be eaten as raw as possible. They shouldn't be cut into very small pieces as they will lose value while being cooked. When cooking in pans, pressure cookers or in frying pans the food should be put directly in boiling water or hot oils instead of having the water or oil boil with the food in it.

The Art of Cooking

We cook and eat our food in various ways. Every food has a different method of cooking. These methods affect the taste and nutritious value of the food. Foods undergo some changes by cooking. According to the groups of food, the effects of cooking in some foods are as follows.

Meat and Poultry: During the cooking of these, protein stiffens and there is water loss. In the meat which is cooked on dry heat, the higher the heat the drier the meat becomes. In boiling water collagen hydrolizes, so the meat softens. By the changes in myoglobin the colour of the meat changes from red to brown.

Fish: It dissolves easily as it has few connection tissues. When it is cooked on light fire dissolving lessens. Fatty fish is usually cooked on grills or in its own water. Fish which are not fatty are fried.

Dried Legumen seeds: They are kept in water, boiled and the outer skins are taken out so they become ready to serve. The water in which legumen seeds are boiled shouldn't be thrown away because group B vitamins and some minerals go into this water. If the water is thrown away they lose their nutritious value. On the other hand, gaseous elements go into this water and it becomes gaseous. Those with gas problems shouldn't use this water. If carbonate is added in the water in which leguminous seeds are wetted, it causes the loss of group B vitamins. So it is more convenient to cook them in pressure cooker.

Egg: The protein of eggs stiffen by boiling. By boiling too much outside of the yolk becomes greenish and this hinders the absorption of the iron in it. Egg is cooked either by boiling or by frying or mixing with other foods.

Vegetables and Fruits: Vegetables should be cooked for a short time in pans with lids on not to lose their green colour by being oxidized. Carbonate or lemon juice shouldn't be added to keep their colour. They should be cooked right after being chopped and cut. While cooking vegetables in order to protect their shapes; such tasters as sauce and unions and water should be prepared

beforehand and the vegetables should be added later and they should be cooked at the boiling degree in a short time. Adding too much water causes the vegetables to soften too much and lose their shapes. If several vegetables are going to be cooked at the same time, those which take longer to cook should be put in first. If fruits are to be cooked, they should be put in boiling water. If all these are taken into consideration, the loss of the vitamins that dissolve in water is hindered. Furthermore, the boiling and cooking water of the vegetables should never be thrown away. It is entirely wrong to boil and squeeze spinach when it is cooked. It should be cooked raw after being washed and cut.

Fats/Oils: As soon as the margarine is melted other foods should be added. It shouldn't be subject to too much heat. The oil which is used for frying shouldn't be used for the second time. But as some oils are produced for this purpose, they can be used a second or third time. While frying in deep oil, the frying pan shouldn't be full and the heat should be suitable for the degree of frying. In frying refined vegetable oils (refined olive oil, sun flower oil etc.) or margarines should be used. Stainless steel or teflon frying pans are for this purpose. The oil in fritozes shouldn't be used more than three or four times. While frying; first the oil is heated then the vegetables are added. To understand the degree of the oil a small piece of bread is put into it. If the bread fries then the degree of heat is right.

The Methods of Cooking Foods

Cooking by the method of boiling: Cooking by the way of boiling is the cooking of foods in water at the boiling degree. The boiling liquid may be water, broth, chicken broth, or milk. There are two ways of boiling:

- 1-Foods are put into boiling water, are boiled, the heat is decreased and cooking continues.
- 2-Foods are put into cold water, are boiled, the heat is decreased and cooking continues.

The purposes of cooking foods by the way of boiling are; keeping their aromas, making them easy to digest and having them be safe from the view point of nutritious value.

Cooking on light fire: By this method the foods that have been cut into small pieces are cooked in little liquid (water, sauce, broth) on low heat and they are served with the liquid in which they have been cooked. This is the safest method from the view point of saving its nutritious value.

Cooking on low heat is done with the lid of the pan on ,in the oven or on the gas cooker. In this method the ideal heat is 82°C on the cooker, and 170°C in the oven.

Cooking on steam: In this method the foods are cooked on steam. In this method the loss of nutritious value is very little and the foods are easy to digest. As there is no loss of colour and shape they look beautiful. To cook on steam, water is put in a large pan and is boiled. On it a dish with holes or a special steam dish is put and the food is put on this dish. It is covered with a lid and is cooked until it becomes soft. After being cooked on steam the food can be cooked with other methods as well. For example, after the vegetables are cooked on steam they can be sauteed.

Cooking in the oven: In this method the foods are cooked in the oven. The cooking degree of every food is different and the oven must be heated at the desired heat for every food, beforehand.

Cooking by frying: In this method foods are fried in vegetable oils. It can be done by two ways, frying in little oil or frying in deep oil. It shouldn't be preferred because it causes the loss of nutritious value of the foods and also it may be the reason of heart and vein diseases.

Cooking by grilling: In this method the foods are cooked by being subject to heat directly. It is done on grills or in the upper heating part of the ovens. The foods cooked in this way are delicious. The degree of cooking is adjusted according to the preference.

Cooking in microwave: In this method foods are cooked by the help of sound waves. Cooking is done in a very short time. Cooking time of every food is different. It can be used when cooking must be done in a short time.

STORAGE of FOODS

Hygienic rules should be applied when foods are still raw and suitable foods should be pasteurized. This is the best way to prevent infection. To keep the foods in fridges that are not cold enough and eating the foods heating over and over again is the main reason of poisoning where crowds dine. Therefore, the eggs that are the source of “*Salmonella*” should be used up in three weeks and be kept under 8°C. Boiling the foods in 70°C for ten minutes is sufficient to kill most of the parasites and bacterial pathogens.

Important Points of Keeping Foods:

- Bacterias grow slowly in low temperature. When the quantity of bacterias is little it is less probable to make diseases.
- Cooked and raw foods must be kept in different parts of the fridge.
- Cooked meal, chicken, fish, milk and poultry products should be put in to the fridge in two hours the latest.
- Meals should be heated only once and the left over should be used up in 2 or 3 days.
- The meals whose cooking time has been forgotten should not be eaten.
- The heat of the fridge should be 4°C or lower.
- Cooked foods should be cooled under 5°C and before serving they should be heated above 60°C .
- The water that is going to be used while cooking should be boiled.
- The meat products that have been unpacked can be kept in the fridge for 3 days utmost. If they aren't going to be used up in three days they can be frozen and kept for up to 6 months.
- From the materials in the cupboard or fridge the ones bought first should be used up first.
- For the foods in the fridge not to lose colour, taste and aroma, they should be kept in folios or glassware. For instance, if a cooked meal is kept in an aluminium pan in the fridge for a few days, there will be material exchange between the dish and the food and this is harmful for health.
- The foods that have been bought in large quantities and will be used in a long time should be divided into smaller portions and kept in different dishes and the date of production should be written on them before they are frozen.

THE GAINS of LOOSING WEIGHT

The advantages of only 10 % weight loss:

- 20 % lessening in deaths caused by various reasons
- 30 % lessening in deaths caused by diabetes mellitus
- 50 % lessening in blood sugar
- 40 % lessening in deaths in cancer relating to diabetes mellitus

THE CASE IN TURKEY

Obesity is spreading widely in Turkey. About 25 percent of Turkish population is suffering from obesity. Above the age of 40, it has reached a ratio of 15 %. According to a research made by Turkish Diabetes Foundation with the Ministry of Health and World Health Organisation there are nearly 8.5 million obeses in Turkey. Prof. Dr. Kubilay Karşıdağ, the head of internal diseases of the Faculty of Medicine of İstanbul University, stated that Turkey will be an obese country due to the inappropriate obesity treatments and incorrect way of life. In the country, the ratio of obesity is 6.3 % at high social level, and it is 3.2 % at low social level. In developed countries, on the contrary, fatness is the problem of low socio-economic class. It is said that 25 % of fat babies and 80 % of fat adults stay fat. 30 % of all fat adults have become fat beginning from adolescence.

Several large studies suggest that abdominal obesity is closely related to cardiovascular risk. In a cross-sectional study, 21.7% of the males and 31.0% of the females have BMI=30 kg/m² and an additional 43.4% of the males and 28.8% of the females were over weighted. Android obesity was also very frequent in both sexes. In a self reported study it has been reported that obesity prevalence is nearly 10% and overweight prevalence is 36.6% and 25.6% among males and females among in 15 European Union countries. Also in different studies around the world whether designed rational or national, the obesity prevalence has been found ranging between 1 and 59% while overweight prevalence has been found ranging between 4 and 34% in different countries. In a study to find out the prevalence of obesity indicated as BMI and investigate some of the epidemiologic risk factors: Certain socio-economic and demographic

features, physical activity levels, and some life style features of the 1936 subjects aged 18-65 years old were asked by face-to-face interview and their weight, height, and waist circumferences were measured, waist/hip ratios and body mass index were calculated. 699 (36.1%) subjects were over weighted and 529 (27.3%) subjects were obese.

The epidemiologic risk factors for obesity (Body Mass Index = 30 kg/m²) were; age (Odds Ratio [OR]=1.06), female gender (OR=1,38), marital status (to be married) (OR=2,77), to be never smoker (OR=1,40); sedentary life style, having diabetes mellitus disease, regular exercises, alcohol use and habitation had no effect.

In two major studies; TEKHARF (Turkish Adults Hearth Disease and Risk Factors Study) and TURDEP (Turkish Diabetes Epidemiology Study) the obesity is studied as an independent risk factor for CVD and DM nationwide. In TURDEP study the obesity prevalence (BMI>29.9 kg/m²) is found 22% while in TEKHARF study it is found 21.1% among males and 43.0% in females. According to the results of TURDEP study, male subjects had mean BMI, waist hip ratio (WHR) and waist circumference (WC) of 25.47±4.58 kg/m², 0.88±0.10, 90.03±13.86 cm and females had 27.45±5.76 kg/m², 0.81±0.09, 87.20±14.61 cm respectively. In TEKHARF study among male subjects mean BMI, WHR, WC are found 26.8±3.9 kg/m², 0.93±0.07, 91.8±10.6 cm and in females 29.2±5.3 kg/m², 0.86±0.70, 89.4±12.1 cm respectively. In TEKHARF study BMI was found as an independent risk factor for CVD in men and the cardiovascular event risk were found to be increasing 9% in every 1 kg/m² BMI increment. Also in TURDEP study it was found that prevalence of DM and impaired glucose tolerance increased with increment in BMI, WHR or WC.

The overall prevalence of obesity in 1990 was 18.6% The same cohort (age>20 years) was followed for 10 years, hence yielding a study population with the age group>30 years in the year 2000. When re-screened for obesity a prevalence rate of 21.9% (data provided by A Onat personal communication, August 2004) was found and this shows a relative increase rate of 17.7%. In the 1990 survey 17.7% of the urban population and 19.9% of the rural inhabitants were obese. In TEKHARF 2000 16.8% of men and 55.8% of women had central obesity. In onclusion, obesity is an alarming health issue in Turkey and it has shown an increasing trend over time according to the TEKHARF study.

As a result of TURDEP study the frequency of diabetes and impaired glucose tolerance (IGT) were comparable and both were moderately high by international standards. Compared to

other surveys that used WHO diagnostic criteria in the Mediterranean, Central and Eastern Europe and Middle East regions, prevalence of diabetes in Turkey is higher than Malta, Tunisia and Spain; lower than in Egypt, Oman, Sudan and Bahrain and similar to that in the Turkic population of Central Asia. It appears that in Turkey diabetes is more common in women than in men. Lack of employment outside the home may contribute to the higher frequency of obesity and glucose intolerance among Turkish women. Physical activity is restricted to house work, and women have no tradition for sporting activities. According to this survey, 29% of Turkish women are obese and an additional 27% are overweight. It appears that obesity, glucose intolerance, and hypertension become very common beyond child bearing age. Extrapolating these results to the recent population census nearly 2.6 million adults in Turkey may have diabetes, of whom 0.8 million may be unaware of their disease. An additional 2.4 million may have IGT. Persons with undiagnosed diabetes or IGT are at risk of cardiovascular disease.

References

1. "Sağlık Bakanlığı, RSHMB, Hıfzıssıhha Mektebi Müdürlüğü, Ulusal Hastalık Yüğü ve Maliyet Etkililik Çalışması, (National Burden of Disease and Cost Effectiveness Project Burden of Disease Final Report December 2004), Ankara.
2. Satman, İ. et. al. Population-Based Study of Diabetes and Risk Characteristics in Turkey Results of the Turkish Diabetes Epidemiology Study (TURDEP). *Diabetes Care* **25** (9), 2002.
3. Yalçın, B. M. et al. Prevalence and Epidemiological Risk Factors of Obesity In Turkey. *Middle East Journal of Family Medicine* **6** (6), 2004.
4. Yumuk, V.D. National Prevalence of Obesity Prevalence of obesity in Turkey. *Obesity reviews* **6**, 2005.
5. Tokgözoğlu, L. Obezite, Koroner Risk ve Risk Faktörleri. *Anadolu Kardiyol Derg.* **3**, 2002.