УНИВЕРСИТЕТ ПО ХРАНИТЕЛНИ ТЕХНОЛОГИИ - ПЛОВДИВ

UNIVERSITY OF FOOD TECHNOLOGIES - PLOVDIV

SCIENTIFIC WORKS
Volume LVIII, Issue 1
Plovdiv, October 14-15, 2011

НАУЧНА КОНФЕРЕНЦИЯ С МЕЖДУНАРОДНО УЧАСТИЕ

"ХРАНИТЕЛНА НАУКА, ТЕХНИКА И ТЕХНОЛОГИИ 2011"

'FOOD SCIENCE, ENGINEERING AND TECHNOLOGIES 2011'

НАУЧНИ ТРУДОВЕ

Том LVIII, Свитък 1

Пловдив, 14 - 15 октомври 2011

ВЛИЯНИЕ НА КОНСУМИРАНЕТО НА МЕСО ВЪРХУ ЛИПИДНИЯ СТАТУС НА ХОРАТА

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Резюме

В статията са дадени резултатите од изследванията при консумирането на месо од здрави хора (мьже и жени) на различна възраст върху липидния им статус в крвта (количеството на холестерол в рвта).
Установихме, че има по-голямо количество на холестерол в кръвта на хората, които никак не консумират месо, от хората които повремено или ежедневно консумират месо. Не съществуват статистически значими различия в нивото на холестерол в кръвта при всичките групи изследвани хора.

IMPACT OF MEAT CONSUPTION ON LIPID STATUS IN HUMANS

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Abstract

The article gives the results the studies in eating meat healthy people (men and women) of different lipid age between un paid domestic status in blood (the amount of cholesterol in blood).Found that greater amounts of cholesterol in blood to have people vo did not consume meat occasionally people who meat of daily. No statistical significant differences in holesterol levels between the studied groups.

Introduction

People have always aspired to build up principles for eating alimentary products and decrease the negative consequences which arise by it.With the optimal entry of alimentary products in the human organism, people satisfy the alimentary needs which are the basic condition of conserving people's health and to improve their working abilities.The irregular, irrational, insufficient and abundant nutrition, sooner or later causes different pathological conditions of the organism. Today, there are modern trends of nutrition by which the standards and norms of the required alimentary products are defined and good health is provided.

The alimentary products dissolve in the organism to simpler elements through the digestion process in the digestive tract. After it gets in the intestines they go to the cells in which the sub cell organs are synthesized and transformed into different specific substances according to the needs of the cells and organs. Food is the source of all the alimentary matters and is closely linked to the vitality and the functioning of the cells.

Lately, the trend of cardiovascular diseases, cancer changes are linked to consuming animal fat and their products produces by their dissolving (oxidation).A number of authors think that the animal fat in our nutrition should be decreased. They think that the meat is not good for people's health because it is full of fat and cholesterol and over consummating leads to increasing the lipid parameters in the blood serum or it increases the number of cardiovascular diseases as is arteriosclerosis. (Scot et.all.1994, Beauchesne et.all.2003;Chisatto et.all.1998; Rosengren et.all.1999; HataY,Nakajama K,Life 2000;). The latest analysis proves that the cholesterol from the animal fat is difficult to dissolve in the human organism or maximum of 50% of the amount which is digested. This proves that the reason for cardiovascular diseases is not the meat if it is digested carefully, carefully prepared and used. (Aston et.al 2000) .Around 75% of the coronary cardiovascular diseases are explained by inadequate nutrition, low level of physical activity, smoking, alcohol, life style etc. and it is primarily shown by the adverse lipid level in the serum concentration, high index of body weight and increased blood pressure. Of all the reasons, only the age, gender and genetic factor cannot be controlled. (Velkovski 2002).

The increased consumption or the use of meat is characteristic for Western Europe along with the carbon hydrates and fat. When we talk about meat, it is about different types of meat derived from slaughtered animals which is rich in alimentary matters. For example, the fat of the meat can be variable, 2% with the low fat meat and up to 40% with the meat which is consisted of different types of fat. (Lepsanovic et al 2002).

The purpose of this analysis is so we could be able to see the influence of consummating different types of meat and the change of the lipid status in the blood serum analyzing people with different age and gender. For that purpose we analyze and compare the lipid components of the blood depending on the amount and type of meat used in the everyday nutrition and the content of the cholesterol.

Materials and methods

We used 300 healthy examinees as material for our research from both genders (male and female), they are of different age. The examinees from both genders were divided in groups of: 20-30, 30-40, 40-50, 50-60, 60-70, and over 70 years old. From all the examinees who were the subject of the research the following parameters were taken: age, body height, body weight, how many times a week they consume meat, what kind of meat do they consume (pork, beef, chicken, sheep) and the level of cholesterol in their blood. People who don't consume meat were used as a control group. The results that were received by the research were cultivated by using the computer technology for varied statistical methods which are used for researching purpose

Results and discusion

People who often consume meat, people who occasionally use meat (2-3 times a week) and those who rarely consume meat (1-2 times a week) were involved in the research groups, as well as people who never consume meat. They were compared with the control group.

Table 1. Average values of the total cholesterol in the blood with the male population who often consume meat.

Gender	age	minimum	maximum	average	Sd	Cv
male	control gr.	4,22	5,20	4,58	0,12	3,12
	20-30	4,52	5,48	4,24	0,29	2,18
	30-40	4,58	5,82	4,32	0,32	4,12
	40-50	4,42	5,55	4,45	0,48	2,88
	50-60	4,18	5,12	4,48	0,54	4,20
	60-70	4,28	5,58	4,52	0,22	4,22

The male examinees compared by the age, and by the difference in consuming meat, the lowest level of cholesterol is noticed between the examinees of age 20-30 4,24 mmol/l, and the highest level of cholesterol is noticed with the examinees of age 40-50, 4,45 mmol/l. The highest limit of total cholesterol in average have the examinees that never consume meat (control group) where the average level of cholesterol is 4,58 mmol/l. The relative value is 7,42% higher concentration of cholesterol with the examinees that never consume meatcompared with the examinees that consume meat (age 20-30). The received difference is not statistically relevant.

Table 2. Average values of the total cholesterol with the male population that occasionally consume meat.

gender	age	minimum	maximum	average	Sd	Cv
male	control gr.	4,52	5,72	4,58	0,12	3,12
	20-30	4,18	5,52	4,42	0,18	4,02
	30-40	4,44	5,98	4,48	0,52	3,08
	40-50	4,58	5,95	4,43	0,20	4,55
	50-60	4,78	5,55	4,40	0,32	3,28
	60-70	4,22	5,82	4,28	0,38	4,02

If we compare the group of examinees which consumes meat occasionally where the total concentration of cholesterol is 4,40 mmol/l in average, with the examinees that never consume meat (control group) we will see that the control group (which never consumes meat) has a higher level of cholesterol from the rest of the age groups which occasionally consume meat in 3,16%, (table 2) The female examinees that consume meat differently, the lowest level of cholesterol is present with the examinees at the age of 20-30 4, 455 mmol/l and the highest level of cholesterol is present with the examinees at the age of 40-50 – 4,58 mmol/l. The highest limit of the total cholesterol in average has the examinees that never consume meat (control group) where the average level of cholesterol is 4,72 mmol/l. Presented as a relative value we get 3,60% higher concentration of cholesterol with the examinees that never consume meat compared with the examinees that consume meat (age 20-30). The difference is not statistically significant.

Table 3. Average values of the total cholesterol with the female population that often consumes meat.

gender	age	minimum	maximum	average	Sd	Cv
female	control gr.	4,52	5,78	4,72	0,54	3,12
	20-30	4,22	5,28	4,55	0,32	5,20
	30-40	4,38	5,73	4,58	0,28	7,12
	40-50	4.19	5,88	4,68	0,32	5,18
	50-60	4,13	5,12	4,62	0.25	4,09
	60-70	4,22	5,28	4,60	0,18	7,52

If we compare the group of examinees that occasionally consumes meat where the concentration of total cholesterol is 4,43 mmol/l in average we will see that this group has a lower level of cholesterol from the group that never consummates meat in 3,50%. (table 4)

Table 4. Average values of the total cholesterol with the female population that occasionally consumes meat.

gender	age	minimum	maximum	average	Sd	Cv
female	control gr.	4,09	5,82	4,72	0,22	4,28
	20-30	4,14	5,28	4,29	0,28	5,12
	30-40	4,19	5,55	4,34	0,52	4,20
	40-50	4,72	5,95	4,27	0,25	4,10
	50-60	4,42	5,58	4,29	0,70	5,12
	60-70	4,62	5,70	4,10	0,29	5,22

Table 5. Analysis of variance of cholesterol levels between the studied groups

Source of Variation	SS	Df	Ms	F	P-value
Between Groups	0,266317	3	0,088772	4,900932	0,23892*ns
Within Groups	0,362267	20	0,018113		
Total	0,628583	23			

Legends:

Ss- Sum of squares

Df- degrees of freedom

V- Variance

*ns-Non significant

The table 5 shows no statistical significant differences between the groups the amound of holesterol obtained (p>0,05).

Our results are in accordance with the results given by Morgan Sinclair (1993), Morgan Odea (1997) who researched different groups of people to determine the influence of the meat consummation over the human lipid composition. They have determined that there is a higher level of cholesterol present with the examinees that never consume meat with both the male and female population.Our research has shown that the meat as a basic part of human nutrition with the examinees in this research is not a factor that would influence the increasing of the total cholesterol concentration. The results received by the male and female population compared with the control group did not show significant differences.(Anderson JW, Johnstone, BM Cook-Newell, 1995 Yamashita T, Sasahara T, Pomeroy SE 1998;) have determined that the nonfat meat and soya have an effect over the lipid parameters of the population, or that they are not an influence over the increasing of the blood cholesterol. Vots et all 1988 in his researches declare that if there is 185 grams of meat a day in the human nutrition with 8,5% fat, it can decrease the level of cholesterol.

Conclusions

By the given research we can conclude that the consuming of the meat cannot influence over the increasing of the cholesterol with both male and female population, and the meat as a basic part of human nutrition with the examinees in this research had no effect on the concentration of the total cholesterol.

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