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Meat consumption in Kosovo and consumer perception of animal welfare

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Abstract. Meat is an important source of nutrition and include fats, protein, vitamins B1, B6, B12, D, iron and zinc. The recommended amount of protein for adults is generally 0.8gr per kg of body weight. This research determines the quality and consumption of meat. The survey include 170 people were responded about animal welfare, meat quality and consumption. From 170 respondents, 64.7% are female, 35.3% are male, which 33.5% are under 25 years old, 60.5% are 25-45 years old, 4.8% are 45-65 years old and 1.2% are over 65 years old. 96.4% of them consume meat while only 3.6% are not consuming any kind of meat. And at the end of the results we saw that most of them (64.4%) consume white meat (chicken) which is included once a week in their diet while only 35.6% consume red meat (beef/veal) which is also included once a week in their diet.

Keywords: Meat, Consumption, Quality, Animal welfare

1 Introduction

Meat consumption is the inclusion of meat products in the diet. Household income has a positive correlation to meat consumption. This fact explains why the list of the world's highest meat consumers encompasses some of the most developed countries of the world. Animal welfare refers to the physical and emotional state that is impacted by the environment in which the animal lives. An animal is in a good state of welfare if it is healthy, comfortable, well-nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter. Ensuring animal welfare is a human responsibility that includes consideration for all aspects of animal well-being, including proper housing, management, nutrition, disease prevention and treatment.

1.1 Meat as food

The word *meat* comes from the old English word *mete*, which referred to food in general. Meat can be broadly classified as "red" or "white" depending on the concentration of myoglobin in muscle fiber. When myoglobin is exposed to oxygen, reddish oxymyoglobin develops, making myoglobin-rich meat appear red. The

redness of meat depends on species, animal age, and fiber type: Red meat contains more narrow muscle fibers that tend to operate over long periods without rest, while white meat contains more broad fibers that tend to work in short fast bursts. [1] All muscles tissue are very high in protein and is a good source of zinc, vitamin B₁₂, selenium, phosphorus, niacin, vitamin B₆, riboflavin and iron. Several forms of meat are also high in vitamin K. Muscle tissue is very low in carbohydrates and does not contain dietary fiber. [7] The most common sources of meat are domesticated animal species such as cattle, pigs and poultry and to a lesser extent buffaloes, sheep and goats. For thousands of years, poultry supplied meat and eggs, cattle, sheep and goats provided meat and milk, and pigs provided a source of meat. The meat derived from cattle is known as beef, meat derived from pigs as pork and from chickens as poultry. Pork is the most widely eaten meat in the world accounting for over 36% of the world meat intake. It is followed by poultry and beef with about 35% and 22% respectively. [2]

Table 1. Typical nutritional content of 110 grams (4 oz or .25 lb) of meat

Source	Calories	Protein	Carbs	Fat
Fish	110-140	20-25g	0g	1-5g
Chicken breast	160	28g	0g	7g
Lamb	250	30g	0g	14g
Steak(beef top round)	210	36g	0g	7g
Steak (beef T-bone)	450	25g	0g	35g
Dog (various cuts)	270	20g	0g	22g
Horse (strip steak)	140	25g	0g	7g
Pork loin	242	14g	0g	30g
Rabbit(domesticated)	215	32g	0g	9g

1.2 Consumption of meat and countries with highest consumption in the world

The worldwide meat consumption has increased in the last decades and this trend is expected to continue, especially because of population growth and economic improvement in developing countries.[3] Household income explains why the list of the world's highest meat consumers encompasses some of the most developed countries of the world.[4] Meat production is a very complex operation depending not only on demand but on many social and economic influences such as official policy, price support mechanisms and interrelations such as the interaction between beef and milk production.[5] Australians are the highest meat consumers in the world, followed closely by Americans.[4] According to the analysis of the FAO the overall consumption for white meat between 1990 and 2009 has dramatically increased. Poultry meat has increased by 76.6% per kilo per capita and pig meat by 19.7%. Bovine meat has decreased from 10.4 kilograms (23 lb) per capita in 1990 to 9.6 kilograms (21 lb) per capita in 2009.[6] People around the world consume an average of 75 pounds of meat (pork, beef, poultry, and sheep meat) per person, per year, according to research by the Organization for Economic Cooperation and Development. [8]

Table 2. The most meat consuming countries of the world

Rank	Country	Annual meat consumption per capita (in lbs), 2013
1	Australia	205.00
2	United States	200.60
3	Israel	189.60
4	Argentina	186.70
5	Uruguay	182.80
6	Brazil	172.20
7	New Zealand	162.00
8	Chile	159.00
9	Canada	155.40
10	Malaysia	121.00
11	South Africa	111.80
12	Saudi Arabia	111.30
13	Russia	110.70
14	South Korea	110.70
15	China	107.60

1.3 Animal welfare, the impact on the quality of meat and the legislations

Animal welfare is the physical and emotional state that is impacted by the environment in which the animal lives.[9] Science of animal welfare uses different measures of welfare as longevity, disease, behavior, physiology and reproduction. Even though there are not enough information, there is debate about which of these indicators provide the best information.[10] Actions which cause poor welfare in the animals are when the animal is thought of as an object to be used. [11] Before an animal goes into slaughter, poor welfare of this animal present a detrimental effect on the quality of meat.[12] Compromise of healthiness and safety of food express the potential stress-induced immunosuppression and promotion of food borne pathogens, and genetic modifications. All of them are the threats to animal welfare.[13] The Farm Animal Welfare Council (FAWC) established the Five Freedoms of animal welfare : 1. freedom from hunger and thirst, 2. freedom from discomfort, 3. freedom from pain, injury or disease, 4. freedom to express normal behavior, 5. freedom from fear and distress.[14]

2 Methodology and the method used for research

This research is based on the survey method. The questionnaire was developed with the same structure for the different categories of respondents to facilitate the comparison of the answers. The questionnaire consists of 16 questions and the purpose was to ascertain opinions on: consumption of meat; animal welfare and importance of animal welfare on the quality of meat. Depending on the content of the question, some allow respondents to choose more than one answer if they need it and the answers were expressed as a percentage using different diagrams and charts. The

survey was developed in Kosovo with the different category of the respondents and the questions were the same for all. From their answers we understand how many of them consume meat and what kind of meat, how much they consume, what is the reason for not consuming them and how they understand the importance of animal welfare in meat quality. Based on 2014 statistics, the Republic of Kosovo is a new state with an area of 10908 km². Currently, there are 38 municipalities in Kosovo with 1469 settlements. The resident population is 1.78 million. [15]

Table 3. Population by age

Age	Percentage
0-14 years	28%
15-64 years	65%
65 years and over	7%

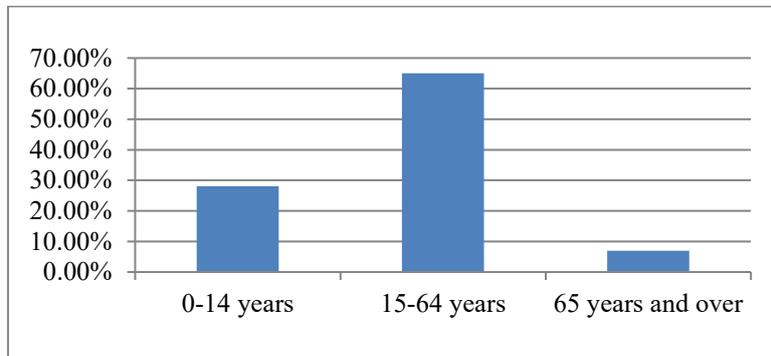


Fig 1. Percentage of population by age

2.1 Results from the questionnaire

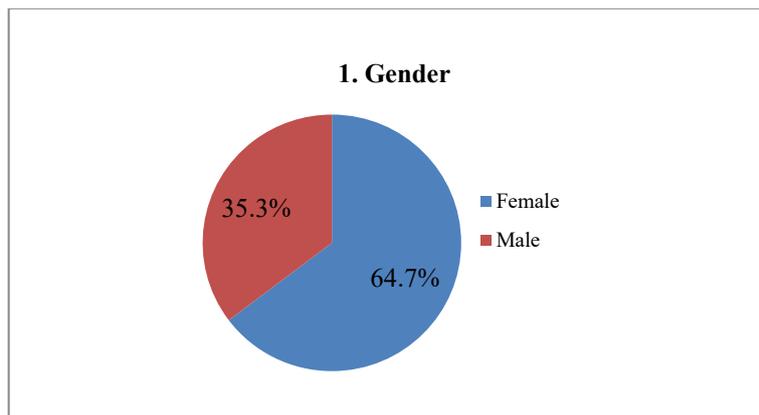


Fig 2. Percentage of gender of the respondents

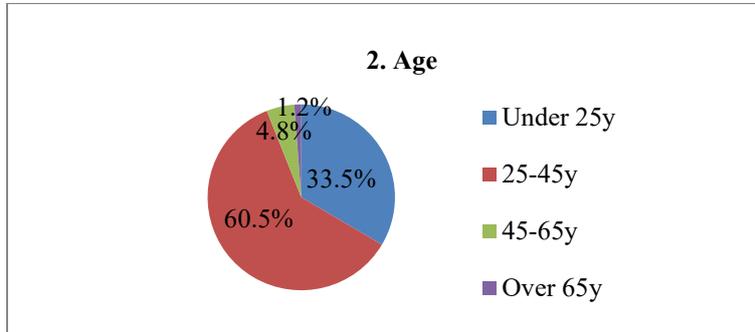


Fig. 3. Age percentage of respondents

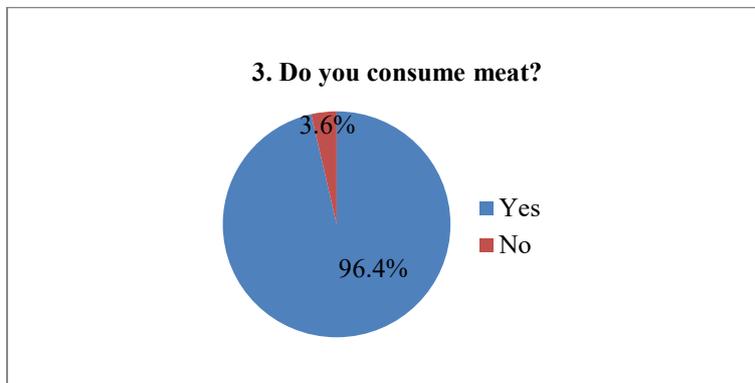


Fig 4. Percentage of answers for meat consumption

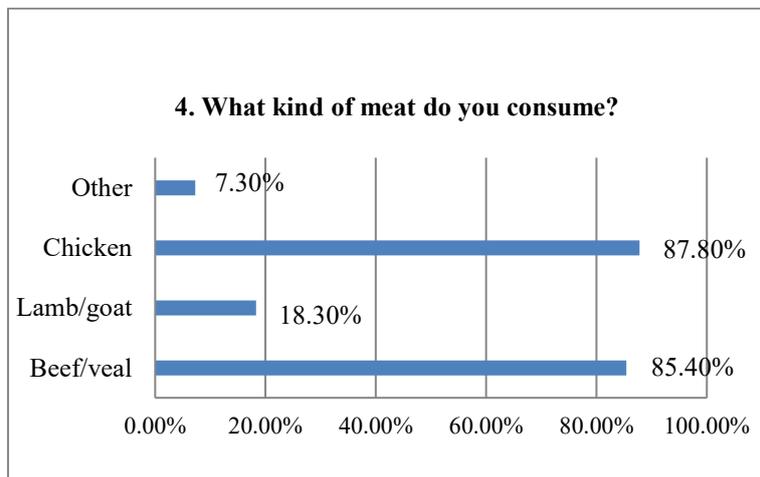


Fig 5. Percentage of meat consumption

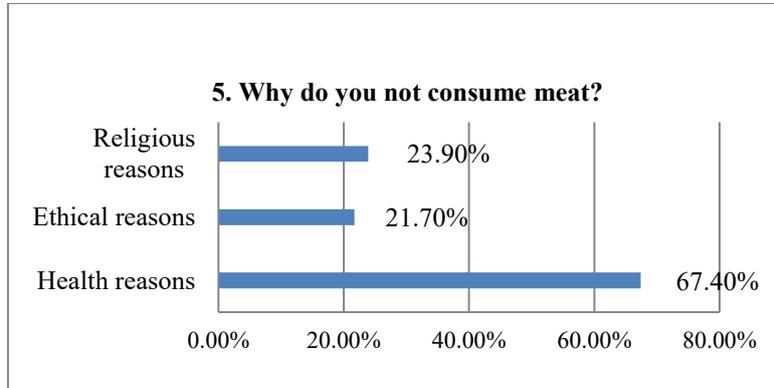


Fig 6. Percentage of reasons why do they not consume meat

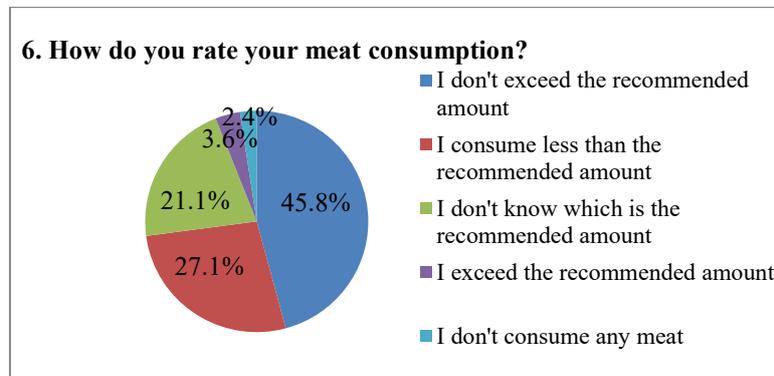


Fig .7 Percentage how respondents rate their meat consumption

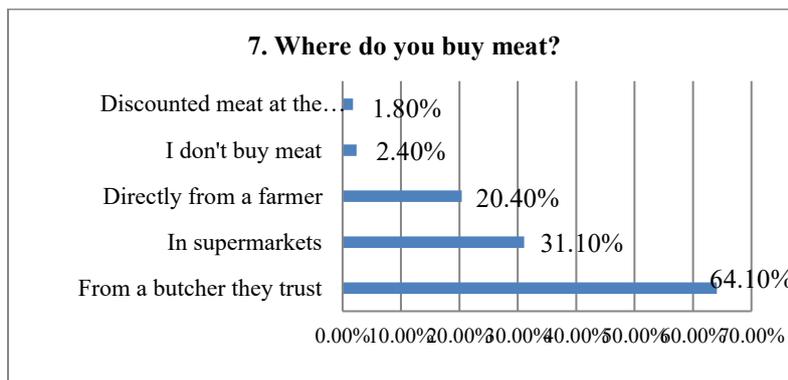


Fig 8. Percentage of answers for question of where do respondents buy meat

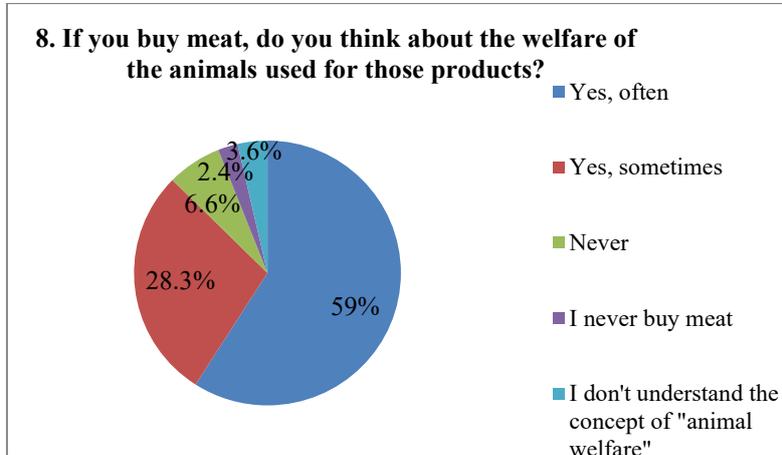


Fig 9. Percentage of how respondents are thinking about animal welfare while they buy meat

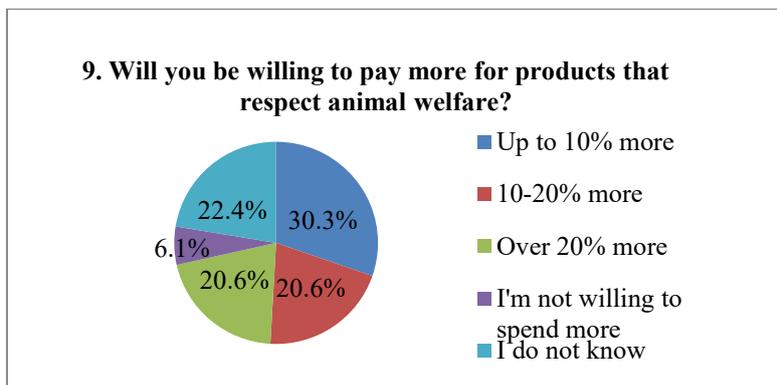


Fig 10. Percentage of respondents if they are willing to pay more for products that respect animal welfare

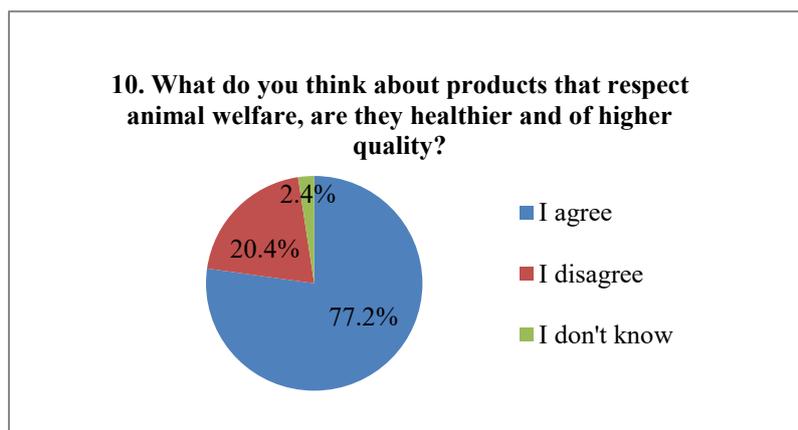


Fig 11. Percentage of respondents about the quality of products that respect animal welfare

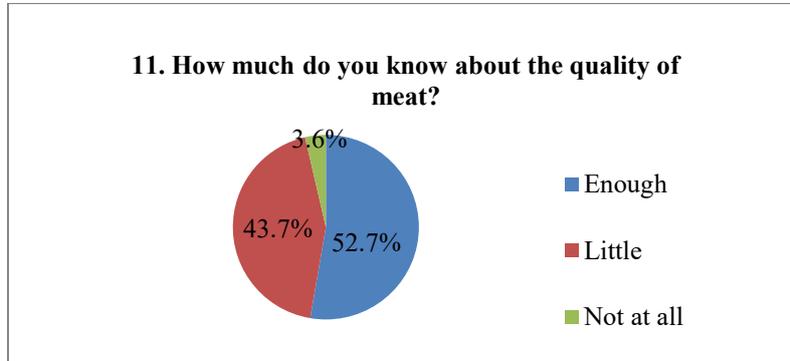


Fig 12. Percentage of responses about meat quality

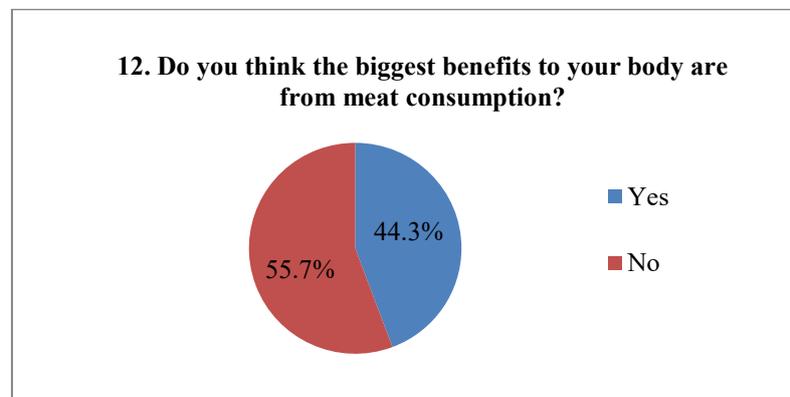


Fig 13. Percentage of answers about the benefits of meat consumption

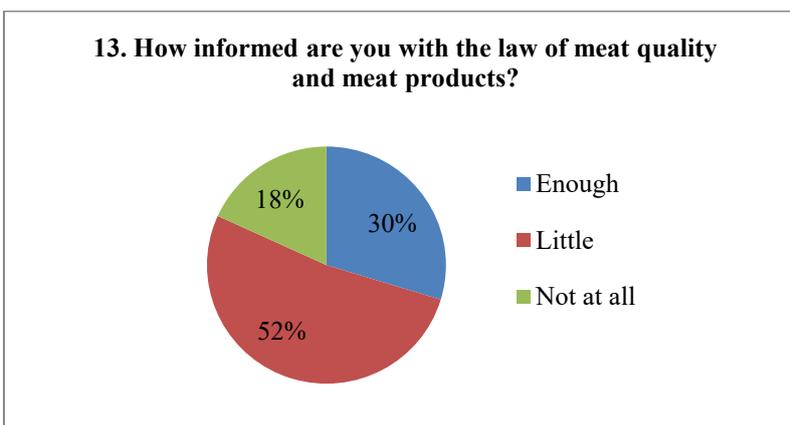


Fig 14. Percentage of how respondents are informed with the law of meat quality and meat products

14. Which do you prefer more to consume?

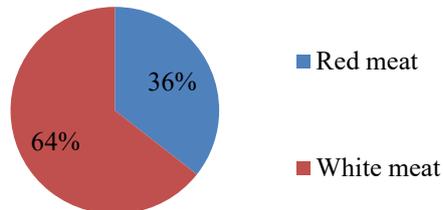


Figure 15. Percentage of two different kind of meat that respondents consume

15. How much is chicken meat included in your diet?

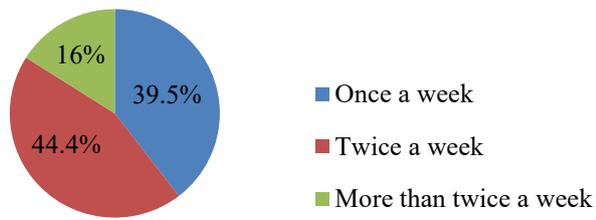


Fig 16. Inclusion of chicken meat in the diet of the respondents

16. How much is beef and veal included in your diet?

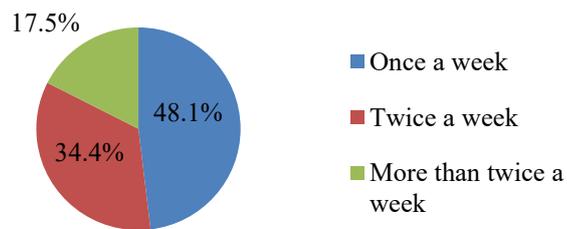


Fig 17. Inclusion of beef and veal in the diet of the respondents

3 Discussion of the results

To see how different generations consume meat and whether they are aware of animal welfare and meat quality, was done a survey where 170 people were responded. The questions were about weekly meat consumption, how they are informed about animal welfare and meat quality. After the survey we obtain different results were from 170 respondents, 64.7% are female and 35.3% are male, which 33.5% are under 25 years old, 60.5% are 25-45 years old, 4.8% are 45-65 years old and 1.2% are over 65 years old. Regardless of age and gender, 96.4% of them consume meat while only 3.6% are not consuming any kind of meat. Of those who consume meat, 85.4% consume beef/veal, 18.3% consume lamb/goat meat, 87.8% consume chicken meat while 7.3% consume any other kind of meat and most of them (64.1%) buy meat from a butcher they trust while only 1.8% buy discounted meat. From the results we saw that most respondents know the value of buying meat, so they were asked if they think about animal welfare when buying meat and how much they are able to pay for meat where animal welfare is respected. 59% of them said they often think about animal welfare when buying meat and that 30.3% are able to pay up to 10% more for meat and products where is respected animal welfare because they say these products are healthier and with the highest quality. And at the end of the results we saw that most of them (64.4%) consume white meat (chicken) which is included once a week in their diet while only 35.6% consume red meat (beef/veal) which is also included once a week in their diet. According to the Kosovo Agency of Statistics, the main food that Kosovo citizens feed on is meat, while the most favorite is chicken, and this product accounts for 20% of total consumer food. Even import data from Kosovo Customs show that within a year over 40 million kg of meat of all kinds enter Kosovo. During 2018, in Kosovo, meat imports were 45 million kg meat of all kinds, while from the beginning of 2019 until July, about 31 million kg of meat. It is clear from the data that Kosovars prefer more chicken meat.

4 Conclusions

At the end of the analysis and survey we found that 64.4% of the respondents consume white meat (chicken) which is included once a week in their diet while only 35.6% consume red meat (beef/veal) which is also included once a week in their diet. According to the Kosovo Agency of Statistics, the main food that Kosovo citizens feed on is meat, while the most favorite is chicken, and this product accounts for 20% of total consumer food. From this we can say that the results obtained from the survey are almost in line with the data from the Kosovo Agency of Statistics. Even though the trend of vegetarian dieting style is increasing, from the responses of the respondents we find that they still like meat consumption because of their nutritional values, are aware of the place of buying meat, appreciate the importance of animal welfare in the quality of meat. The results obtained give us a conclusion that people value more a high quality meat and 30.3% of them are able to pay up to 10% more for meat and products where is respected animal welfare because they say these products are healthier and with the highest quality.

References

1. Lawrie, R. A., Ledward, D. A., (2006), *Lawrie's meat science* (7th ed.). Cambridge: Woodhead Publishing Limited
2. FAO., (2014), Agriculture and Consumer Protection Department, *Animal Production and Health*
3. Helder A.R.Gomes, Leonora R.S.Moreira, Edivaldo X.F.Filho, (2018), *Advances in Biotechnology for Food Industry*
4. Pariona, A., (2017), *Top meat consuming countries in the world*
5. Bender, A., (1992), *Meat and meat products in human nutrition in developing countries*, Rome
6. Henchion, M., McCarthy, M., Resconi, C. V., Troy, D., (2014), *Meat consumption: Trends and quality matters*
7. Schurgers, L.J., Vermeer, C., (2000), "Determination of phylloquinone and menaquinones in food. Effect of food matrix on circulating vitamin K concentrations"
8. Gould, S., Friedman, F. L., (2015), *The countries where people eat the most meat*
9. AWIN., (2014), *Animal Welfare Indicators project*
10. Broom, D. M., (1991), "Animal welfare: concepts and measurement", *Journal of Animal Science*
11. Broom, D. M., (2006), *Introductions-Concepts of animal protection and welfare including obligations and rights*
12. Gregory, N. G., (2008), *Meat quality and animal welfare*
13. Boyle, L. A., O' Driscoll, K., (2011), *Animal welfare: an essential component in food safety and quality*
14. Vapnek, J., Chapman, M., (2010), *Legislative and regulatory options for animal welfare*
15. ASK (Agjencia e Statistikave te Kosoves), (2015), *Statistikat e pergjithshme, Kosova ne shifra 2014*