

Meat Consumption and Buying Behaviors of Consumers Living in Manisa City Center, Turkey

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Abstract: This study presents results of the data analysis and the results of a consumer questionnaire of 41 questions into meat and meat products carried out in Manisa city center among September 2008 and May 2009. Responds of 1200 consumers from different ages, genders and jobs were analyzed. Survey showed that despite recent food tendencies and new consumption behaviors, consumers living in Manisa still prefer red meat to poultry meat and fish. Also data related to consumption frequencies of meat kinds and meat products were conducted in the study.

Key words: Meat, meat products, consumer, questionnaire, food tendencies, consumption, Turkey

INTRODUCTION

Due to the ongoing globalization of international markets, meat has become a major product among all agricultural goods with a very large of exchanges and high consumption rates, all around the world (respectively 7% and 3% share of the world trade and world demand for agricultural products) (Radman *et al.*, 2005). Since, meat is an important source of protein, consumers should consume 100-150 g meat in a day to establish a healthy diet. Since, meat is a central element in the eating and the role of meat has therefore been also prominently discussed when talking about food trends (Grunert, 2006).

Animal breeding and husbandry is an important industry and mainstay in Turkey. Today, approximately 11 million cattle, 24 million sheep, 5 million goats were bred in Turkey. Total of red meat consumption amount of Turkish people was 482 million kg, this amount was 1.1 billion kg for poultry meat (Anonymous, 2009).

Conducting researches on determination of the structure of meat products consumption, tendencies of consumers in terms of animal products and reasons affecting consumer preferences are important for planning the animal breeding facilities in the near future. Also, Food Marketing Institute has documented that a majority of consumers consider taste, nutrition, product safety and price as very important factors in food selection (Roeber *et al.*, 2009).

The culture, traditions, customs, taboos are influencing the consumption of meat, especially in Turkish society. Rather limited information is available on the meat consumption patterns of Turkish consumers. In this study, it was aimed to identify the trends in consumer

lifestyles with regard to meat and to outline which those factors were or were not important in the consumer's decision making process.

MATERIALS AND METHODS

The survey process was made up of personal interviews. The questionnaire consisted of 41 questions was applied to 1200 consumers living in Manisa with different sex, age and educational level. Consumers were chosen randomly. Questions of the survey are given as in Table 1.

Consumers were asked about their buying and consumption behaviors with respect to meat products. Respondents had to evaluate, the importance of different factors taken into consideration when purchasing meat and meat products such as quality and price. Consumers were also asked to answer yes/no questions in order to determine several important factors, affecting their consumption decisions. Consumers were asked for their opinions on ISO and HACCP certificates and about the impacts of these certificates on their meat consuming habits.

Table 1: Results of the questionnaire used in the survey (n = 1200)

Questionnaire	Percentage
Which meat do you prefer to consume?	
Red meat	34
Poultry meat	22
Fish	23
All of them	21
I don't like to consume meat	0
Why do you prefer red meat / poultry meat / fish?	
Tastier	54
More nutritious	12
Healthier	22

Table 1: Continued

Questionnaire	Percentage
Cheaper	4
I used to consume	7
Can be purchased easily	1
What is your priority criteria to purchase meat?	
Type	12
Freshness	45
Low fat content	13
Cheapness	4
Healthiness	26
Which type of meat is more risky in terms of health?	
Red meat	74
Poultry meat	15
Fish	11
Where do you purchase meat?	
I hunt/I slaughter	6
Butcher/Fishery	43
Slaughter house/Fish farm	1
Super markets	42
Can buy anywhere	8
Which one of the following is more healthier?	
Red meat	10
Poultry meat	19
Fish	71
Do you believe that poultry meat you consume is healthy?	
Yes	82
No	18
Do you believe that red meat you consume is healthy?	
Yes	76
No	24
Do you believe that fish you consume is healthy?	
Yes	86
No	14
Which one of the poultry meat do you prefer to consume	
Chicken	94
Turkey	3
Others	3
How do you purchase poultry meat?	
Whole chicken/Tuekey	35
Thigh meat	37
Breast meat	28
How often do you consume poultry meat?	
Once a month	18
Once a week	42
1-3 times in a week	32
3-5 times in a week	7
Everyday	1
How do you consume poultry meat?	
Boiled	10
Fried	27
Cooked in oven	29
Grilled	22
Meat meal with vegetables	12
How do you purchase red meat?	
Carcass/half carcass	4
Flaked	84
Bony (thigh, arm)	12
How often do you consume red meat?	
Once a month	33
Once a week	35
1-3 times in a week	24
3-5 times in a week	5
Everyday	3
Which type of red meat do you prefer?	
Beef	60
Lamb-sheep	27
Goat	3
All of them (type is not important)	10
How do you consume red meat?	
Boiled	10
Fried	17
Cooked in oven	13

Table 1: Continued

Questionnaire	Percentage
Grilled	25
Meat meal with vegetables	35
How do you purchase fish?	
Big fish (tuna fish, salmon)	33
Little fish (sardine, anchovy)	63
Canned fish	4
How do you consume fish?	
Fried	60
Cooked in oven	30
Steam cooked	10
How often do you consume fish?	
Once a month	44
Once a week	42
1-3 times in a week	11
3-5 times in a week	3
Everyday	0
Which one of the following has more cholesterol?	
Red meat	90
Poultry meat	2
Fish	4
I don't know	6
I don't know what the cholesterol is	1
Do you consume offals?	
Yes	51
No	49
Consuming offal is	
Not healthy	60
Healthy	21
I don't know	19
Which offal do you prefer to consume?	
Lamb/cattle liver	31
Chicken liver	15
Heart of lamb/cattle	8
Spleen	7
Kidney	6
Tongue	2
Kokorec (grilled sheep intestine)	31
How often do you consume offal	
Everyday	3
Once a week	20
1-3 times in a week	5
3-5 times in a week	1
Once a month	71
Which one of the followings do you consume more?	
Fermented sausage	43
Salami	5
Sausage	8
Pastrami	2
Dried meat	2
Doner	13
Meatballs and hamburger	27
I prefer fermented sausage/salami/sausage/doner made from	
Red meat	72
Poultry meat	16
Meat kind is not important	12
When you purchase sausage/salami/pastrami/doner, most influencing criteria is...	
Price	17
Trade mark	69
I have no criteria	14
How often do you consume fermented sausage?	
Everyday	5
Once a week	34
1-3 times in a week	18
3-5 times in a week	6
Once a month	26
Once in 2 months	11

Table 1: Continued

Questionnaire	Percentage
How often do you consume pastrami?	
Everyday	1
Once a week	3
1-3 times in a week	2
3-5 times in a week	0
Once a month	13
Once in 2 months	12
Once a year	69
How often do you consume sausage/salami?	
Everyday	3
Once a week	26
1-3 times in a week	13
3-5 times in a week	6
Once a month	23
Once in 2 months	29
How often do you consume doner?	
Everyday	2
Once a week	26
1-3 times in a week	12
3-5 times in a week	4
Once a month	37
Once in 2 months	19
How do you purchase meatballs?	
I purchase minced meat and prepare meatballs at my kitchen	90
I purchase cooked meatballs	10
Do you believe that lowering the amount of red meat in diet is important for a healthy life?	
Yes	58
I do not know	19
No	23
Did you ever try soyfoods instead of meat?	
Yes	13
No	85
I prefer soy meat instead of meat	1
I tried once but I did not like	1
Did mad-cow disease make a negatory affect on your red-meat consumption?	
Yes	63
No	37
Did bird-flu disease make a negatory affect on your meat consumption?	
Yes	72
No	28
Have you ever heard about the HACCP system	
Yes, I only heard about it	18
I know the concept of the system	28
No	54
While purchasing a food, do you check whether the manufacturer has HACCP certification or not?	
Yes	18
No	82
Have you ever heard about the ISO quality system?	
Yes, I only heard about it	32
I know the concept of the system	62
No	6
While purchasing a food, do you check whether the manufacturer has ISO quality system certification or not?	
Yes	49
No	51

Table 2: Demographical characteristics of respondents (n = 1200)

Characteristics	Values
Gender	
Male	613 (51.1%)
Female	587 (48.9%)
Marital status	
Married	500 (41.7%)
Single	700 (58.3%)
Age	
<20	115 (9.6%)
20-30	633 (52.7%)
30-40	239 (19.9%)
40-50	140 (11.7%)
>50	73 (6.1%)
Educational status	
Primary school	135 (11.3%)
High school	241 (20.1%)
University	802 (66.8%)
Master and PhD	22 (1.8%)

aimed to interview with equal numbers of male and female respondents. Number of male and female consumers were 613 (51.1%) and 587 (48.9%), respectively. About 500 (41.7%) of the respondents declared that their marital status was married and approximately 58.3% of the consumers were single.

About 9.6% of the respondents were under the age of 20 whereas, nearly the half (52.7%) of the respondents ages were among 20 and 30. Ages of 239 (19.9%) consumers were among 30 and 40. About 66.8% of the respondents were university graduates whereas, 135 of them (11.3%) were primary school graduates.

Results of the survey were shown as Table 2. As shown from the Table 1, red meat (34%) is the most preferred meat in the region. Red meat is followed by fish (23%) and poultry meat (22%). 21% of the consumers revealed that the type of the meat was not important. It is obvious that 45% of the consumers prefer white meat than the red meat.

Main reason of the preference of any meat to others is its taste (54%). Second criterion affecting the choice of the consumer is the health concern (22%). Also, the priority criterion of the consumers while purchasing meat was stated as freshness (45%). Healthiness is another factor, affecting the choice of the consumer while purchasing (26%). Consumers believe that fish meat is the healthiest one among all meat types (71%).

When it comes to health, consumers find red meat is more risky than the others in terms of consumer health (74%). Consumers are thinking that consuming red meat affects the health adversely. In spite of that they still prefer consuming red meat (34%).

Consumers purchase meat generally from butchers (43%) and supermarkets (42%), only 1% of them purchase their meat from slaughter houses or fish farms. Results are not surprising because it is known that there is a current trend to shop in super and hyper markets. Most of the consumers believe that poultry meat, they consume is healthy (82%). Also, they declare that red meat and fish, they consume are found healthy (76 and 86%,

RESULTS AND DISCUSSION

Behavior of meat and meat products consumers was studied with the purpose to find out the real structure of meat and meat products consumption (that is to say the actual consumption of these commodities) as well as the purchasing frequency. Demographical characteristics of the consumers who were attended to the questionnaire were shown as Table 2. As shown from the Table 2, it was

respectively). About 94% of the consumers prefer chicken meat than the other poultry meat kinds. About 37% of the consumers prefer chicken thigh whereas, 35% of consumers prefer purchasing whole chicken and 28% prefer breast meat. About 42% of the consumers consume poultry meat once a week whereas, only 1% of them consume everyday.

Consumers generally cook their poultry meat in oven (29%) or they prefer frying (27%). About 12% of them consume poultry meat in a vegetable meal. In questionnaire, it was asked to consumers that how did they prefer to purchase red meat. About 84% of the consumers revealed that they preferred to purchase flaked red meat. About 12% of the consumers prefer bony (thigh or arm) meat whereas, 4% of them prefers to purchase carcass or half carcass. Consumers purchasing carcass, declare that they cut carcass at kitchen and stored at their freezers until cooking.

About 35% of the consumers, consume red meat once a week, on the other hand, 33% of them consume red meat only once a month and 24% consume 1-3 times a week. Only 3% of the consumers, consume red meat everyday. When the high prices of red meat in Turkey are taken into account, answers are not surprising. Consumers in Turkey can not purchase red meat whenever they want. For a well established healthy diet and for consuming high quality protein, consumers should eat approximately 100-150 g red meat day⁻¹. It is obvious that, high cost of red meat also affects the diet adversely.

About 60% of the consumers prefer beef as red meat whereas, the 27% prefer lamb or sheep. Consumers in Manisa, prefer eating red meat in vegetable meals (35%). Also, 25% of them consume red meat after grilling. About 63% of the consumers prefer purchasing little fish like sardine or anchovy whereas, 33% of them prefer big fish like tuna or salmon. Only 4% of the group prefers buying canned fish. Consumers in Manisa generally cook their fish by frying in pan (60%) or in oven (30%).

Steam cooking method which is known as the healthiest way of fish cooking is preferred by only 10% of the consumers. In steam cooking, there is no additive oil is used. Most of the people interviewed, consume fish once a month (44%) or once a week (42%). No one declared that they were eating fish everyday. Although, red meat is generally preferred and consumed in Manisa, nearly all of the consumers know that red meat has the highest cholesterol content than poultry meat or fish (90%). About 1% of the consumers declared that they did not hear anything about the term cholesterol. It is seen that 6% of the consumers do not have any idea about the cholesterol levels of meat kinds. About 51% of the consumers interviewed purchase offal. But, it is found surprising that 60% of the consumers declare that offal is not healthy in terms of consumer health. Lamb or cattle

liver (31%) and kokorec (31%) are the most preferred offal among the others given in questionnaire. Kokorec is a traditional offal product, widely consumed in all regions of Turkey. It is also known as grilled sheep intestine.

There is no national standard established for kokorec in Turkish Food Standards. Because of the manufacturing technique and the hygienic concerns on raw material, kokorec is not found suitable in terms of food safety and consumer health. On the other hand, selling kokorec is not restricted in any region of Turkey.

About 71% of the consumers purchase and consume offal once a month whereas, 20% of the people interviewed purchase offal once a week.

Fermented sausage is the most preferred processed meat product (43%) among sausage, salami, pastrami, dried meat, doner and meatballs and hamburger. Turkish type fermented sausage (sucuk or soudjouk) is one of the most known and consumed traditional meat product in Turkey (Kundakci *et al.*, 2007). When compared to other fermented sausages consumed in many countries of the world, sucuk is more spicy, dry and aromatic because of garlic used in formulation.

Only 2% of the respondents prefer consuming pastrami. About 1% of them consume pastrami everyday. Since, pastrami is made from valuable meat parts (like *L. dorsi*) of the carcass (Kilic, 2009), it is found too expensive by the consumers. About 69% of the consumers can purchase pastrami only once a year. On the other hand, Turkish fermented sausage (sucuk) is consumed by consumers at least once a week (34%). About 5% of the consumers purchase sucuk everyday. Respondents interviewed prefer meat products manufactured from red meat (cattle or lamb) (72%). For 12% of the consumers meat kind is not important they declare that they can consume meat products manufactured by using both red or poultry meat.

It is determined that trade mark significantly influences consumers decisions on purchasing processed meat products (69%). Respondents generally, purchase meat products which they always used to consume. Sausage and salami are cheaper meat products when compared to fermented sausage. About 26% of the consumers purchase salami and sausage once a week whereas, 6% of them consume 3-5 times a week. Doner which has been known by some other names like gyro, doner-kebab, dona-kebab, chawarma or shawirma is a traditional middle Eastern meat product widely consumed in many countries of the world (Ergonul and Kundakci, 2007). Doner kebab slices are served to consumer either on a plate or on bread in many buffets and restaurants (Kayisoglu *et al.*, 2003). Also, sliced doner meat is widely sold in packaged polystyrene plates in supermarkets and butchers. About 26% of the respondents, declare that they consume doner once a week whereas, 37% of the consumers prefer to consume doner only once a month.

It is thought that, although this product can be easily purchased from markets, consumers find it expensive to consume frequently.

One of the most popular and widely consumed meat products in Turkey is meatball (kofte). Traditional Turkish kofte is also known as kasap kofte (butchers kofte). For manufacturing Turkish kofte, bread moisturized by tap water and added into kofte dough. Also, onion and egg are added into formulation. Turkish people find traditional kofte more preferable than the others. As seen from the respondent answers, 90% of them purchase minced meat and prepares their own kofte at their kitchens. Only 10% of them purchase cooked (ready to eat) kofte from markets in their packages.

Although, about 34% of the consumers in Manisa, prefer red meat to others they believe that lowering the amount of red meat in diet is important in terms of establishing a healthy diet and healthy life. About 19% of the respondents declare that they do not know about the importance of red meat amount in a diet. Soy meat alternatives, also called meat analogs are made primarily from soy proteins, wheat gluten and may contain carbohydrates (Anonymous, 2009). Soy meat alternatives are made specifically to resemble meats, poultry or fish products in taste, texture, color and form. We asked to respondents for their opinions about soy meat.

About 85% of the respondents declare that they do not prefer meat analogs instead of consuming meat. About 1% of the consumers declare that they regularly use soy meat in their diet.

In the past decade, two important diseases mad-cow disease and bird-flu significantly influenced the meat purchasing and consuming habits of consumers all over the world. About 63% of the respondents living in Manisa agree that mad-cow disease affected their meat consuming habits and they did not consume red meat at that period. Also, 72% of the consumers stopped consuming poultry meat in 2006 because of bird-flu disease. The HACCP system which is science based and systematic, identifies specific hazards and measures for their control to ensure, the safety of food and consumer health (Anonymous, 2008). It is a big concern that consumers really prefer products having HACCP label or not. 54% of the 1200 respondents declare that they did not hear anything about the HACCP system and its importance in food safety. About 28% of the consumers know the concept of the system whereas, 18% of the respondents heard only the name HACCP. It is concerning that 82% of the respondents do not control whether a meat product has HACCP label or not. When compared to HACCP is O Quality System is rather familiar to respondents. About 62% of them know the concept of ISO and approximately half of the respondents (49%) check whether a meat product has ISO label on its package or not.

CONCLUSION

According to findings of the questionnaire, red meat is still preferred by most of the respondents. Although, they know cholesterol content of red meat is higher than poultry meat or fish, consumers living in Manisa, prefer processed meat products manufactured from red meat. Meat is bought generally from butchers or supermarkets and the priority criteria taken into account while purchasing meat was freshness. Red meat is usually consumed as meat meal (with vegetables) whereas poultry meat is consumed after frying or cooked in oven.

Nearly, half of the consumers prefer consuming offal and they know that consuming offal is not healthy. Most of the respondents prefer consuming liver or kokorec. Respondents declare that diseases in the past decade, significantly affected their meat consumption habits adversely. They have concerns on food safety but, half of them did not hear anything about the system HACCP and most of them do not control the packages whether they have HACCP label or not. It is obvious that consumers should be conscious about the food safety systems.

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