

## CONSUMER HABITS AND QUALITY OF THEIR DIET

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### Abstract

Nutrition depends on numerous factors. Nutrition habits, customs and environmental impact can often be crucial act on the diet and food choices. These factors often depend on region or city where people are living.

This paper presents the results of research carried out in Bosnia and Herzegovina (BiH) on the impact of consumer habits on the quality of their nutrition. 1338 respondents were included in the survey. The study involved subjects who were of different ages, different levels of education and different social status. Respondents answered on 21 questions. The questionnaire was developed and tested on a small number of respondents. After correction of the questionnaire, it was offered to respondents. Respondent groups (10-15 people) met the questionnaire within 20 minutes. After that, the results were statistically analyzed by calculating  $\chi^2$ -test and z-test.

80% of men consider that the amount of vegetables in your diet should be reduced, while women feel that pasta (221 respondents), fat (482) and sugar (286) from their meals should be excluded. 42% of respondents eat sweets "whenever you are ready at hand", and 34% of them eat sweets every day. 784 respondents eat 3-5 times a day, 482 participants consumed less than three times, and only 70 participants consumed more than 5 times. 67% of respondents believe that they should eat less than 6 times a day, while 8% of respondents believe that they should eat 11 times a day. 73% of respondents (1086) maintain body weight through physical activity, while only 9% of them starve to maintain body weight.

Based on gathered data we can make conclusion that respondents in BiH showed good level of knowledge on rational nutrition and the effects of nutrition on their health.

**Key words:** Consumer habits, Quality of diet, Bosnia And Herzegovina.

### 1. Introduction

People are no longer old-fashioned when it comes to nutrition, and they no longer have opinion that nutrition is only providing your body ingredients for living but also it affects health in general. Food that they eat can improve or jeopardize their health. Growing and body developing, feelings and ability of reproduction depends from complex processes of metabolism which take part in organism that are in direct link with what we put in it. Consumption of food was not only linked to hunger satisfaction. Amount, frequency and food options are affected with big number of variables like: hunger, appetite, expences, food availability (time and ways of making), culture, emotions [1].

Former investigations [2, 3] that refer to concern about food quality are applicable only for structure factors, especially on consumers gender. Women are more aware of different risks because they have more responsibility for complex decisions regarding everyday food preparation and consumption. Food choice is a complex phenomenon, depending from a lot of factors that affect human behavior which results on the end with choosing or rejecting certain food products. There are many models that describe factors important for food choosing and their mutual relations. Different authors bring up several procedures on food choice and they separate them in a couple main groups. Most of them approve Shepher's approach. He separated factors that influence food choice and divided them in three groups:

- Factors that rely on physico-chemical and organoleptic characteristics, functional and nutritional factors.
- Factors directly connected to consumers psychological and physiologic factors.
- Economical, cultural and social factors.

Food choice can be placed in context of current situation that determines time, place, circumstances, habits and what and with whom person eats. In big

industrialized countries, where food shortages are not a problem, health problems that concern food intake are linked to two factors: food safety and alimentary risks. "White book about food safety", which was released by Commission of the European Communities, provides us central role about consumers informing regarding food safety and alimentary aspects. Data about them is really important precondition for good awareness before final choice.

Men and women perceive danger differently regarding to dangers connected with food. During 2008 a research was conducted in Australia, which covered citizens from 38 to 79 years [4, 5]. This was one research in a row about health habits in nutrition of middle-aged people. Research showed that men and women which have lower level of education show more concern about food safety. These discoveries were made by earlier researches [6, 7].

During 2008 one research was conducted in Poland which covered 9339 respondents with age from 13 to 75 years. It showed that 33.2% of respondents are very sensitive on ways of food advertising and that they are constantly looking for something new, healthier products, while 25.4% respondents said that they don't take care about their health. Persons with different habits in nutrition, who choose food on different ways, differed in tendency towards analyzed group of products (cereals, milk products, fats, fish, fruits, meat, sweets, vegetables). Population from cluster "pro-health motivated" compared to cluster "consumers that don't take care about their health" showed more tendencies towards next products: fruits, milk products, cereals with high content of fibers and vegetables.

Several researches that were conducted in EU countries, America, Australia, (concerning consumers expectation) showed that consumer becomes more selective and wants more information about quality and food safety.

Goals of this work are to determine:

- Wishes of buyers when it comes to nutrition.
- Awareness level of buyers about terms quality and food safety.
- Awareness level of consumers about influence of nutrition on their health.

## 2. Materials and Methods

Relation between factors that affect food choice, social and economical characteristics, habits in nutrition and frequency of food intake were covered in this work. This study covered 1338 people, from which 54% women and 46% men. Most of the population, 49% were from high school. Poll was filled on BiH territory. The poll covered three parts: healthy nutrition, data from declaration and habits in diet and food safety.

This work shows part of answers collected during the inquiry. Respondents were marking products that they should eat more or less on the list. Also, the goal of this study was to show how often respondents eat sweets, how often do they eat and how do they maintain their body weight. This poll covered respondents from different ages, different professions, different levels of education and different social status. It was anonymous and groups of 30 people from the same category were polled at the same time. Answering time lasted 45 minutes, after which data was processed statistically. Results of the inquiry are shown in upcoming tables and diagrams. Fault possibility was 5% ( $p = 0.05$ ). Dividing and data preparing started after polling. Processing and data analyzing were based on statistical analysis ( $\chi^2$ -test, z-test), which covered: graphical presentation of the results and determining relevant statistic indicators. After that condition evaluation was done and guidelines were given for preventive measure enforcement and correction measures (correcting ingrained fallacy regarding nutrition).

## 3. Results and Discussion

Results are showed in 5 following Tables.

**Table 1. Answer analysis on question "What should you eat more than usual?"**

"What should you eat more than usual?"	Total respondents	Women		Men	
		number	%	number	%
Sugars	29	9	31	20	69
Fats	30	14	47	16	53
Fruits	999	572	57	427	43
Vegetables	827	483	58	344	42
Bread, pasta, potato, rice	129	65	50	64	50
Milk and milk products	624	344	55	280	45
Meat	182	74	40	108	60
Fish	464	268	58	196	42
Salt	32	18	56	14	44
Confectionery products	64	26	40	38	60
<b>Total answers</b>	<b>3380</b>	<b>1873</b>		<b>1507</b>	

Based on calculated value from  $\chi^2$  test ( $\chi^2 = 36.355$ ;  $p = 0.0000$ ), we can make conclusion that there is statistically significant difference ( $p < 0.01$ ) in disposition of respondents between gender, regarding the question "What should you eat more than usual?". Both man and woman think that they should eat more fruit and vegetables. 572 (30%) women answered that they should eat more fruit, 483 (26%) think that they should eat more vegetables, and 344 (18%) think that they should eat more milk and milk products. Men said: 427(28%) of them that they should eat more fruit, 344 (23%) more vegetables and 280 (19%) think that they should consume milk and milk products more.

**Table 2. Answer analysis on question "What should you eat less than usually?"**

"What should you eat less than usually?"	Total respondents	Women		Men	
		number	%	number	%
Sugars	520	286	55	234	45
Fats	836	482	58	354	42
Fruits	6	2	33	4	67
Vegetables	5	1	20	4	80
Bread, pasta, potato, rice	361	221	61	140	39
Milk and milk products	14	8	57	6	43
Meat	168	101	60	67	40
Fish	20	11	55	9	45
Salt	360	180	50	180	50
Confectionery products	321	176	55	145	45
<b>Total answers</b>	<b>2611</b>	<b>1468</b>		<b>1143</b>	

Based on calculated value of  $\chi^2$  test ( $\chi^2 = 15.587$ ;  $p = 0.0761$ ), we can make conclusion that there's no statistically big difference ( $p > 0.05$ ) in disposition of respondents by gender. Both man and women think that they should lower their fat intake. Women answered like this: 482 of them think that they should eat less food that contains fat, 286 women think that they should eat less food that contains sugar and 221 think that they should eat less bread, pasta, potato, rice. Men answered: 354 of them think that they should eat less food that contains fat, 234 food that contains sugars

and 180 men think that they should eat less salt. 57% women think that they should eat more fruit, 335 of them think that they should eat less. 61% women think that they should eat less bread, pasta, potato, rice, but from total number of respondents there was 50% women and 50% men. 55 % women think that they should eat milk and milk products and 14 % respondents think that they should eat it rarely from which 57% were women.

**Table 3. Answer analysis on question "How often do you eat sweets?"**

"How often do you eat sweets?"	Number of respondents	%
Not every day	456	34
Once a day	250	19
Three times a day	60	5
Whenever I can	563	42
<b>Total</b>	<b>1329</b>	<b>100</b>

On asked question 1329 respondents answered; 536 respondents eat sweets whenever they can and 456 of them do not eat sweets every day. 59% think that one apple makes portion, and 66% respondents think that they should eat 2 to 4 portions of fruit every day. 42% respondents think that one portion contains 5 tablespoons. 57% respondents think that they need 3 to 5 portions of vegetables daily. Only 24% respondents think that biscuit portion is around 30 g. Most numerous are the ones who think that 100g of biscuit makes one portion (53%). 42% respondents eat sweets whenever they can. When it comes to cereal, bread and rice portions that needs to be eaten, most of respondents (67%) think that they need less than 6 portions daily. 8% respondents think that they need more than 11 portions daily.

**Table 4. Answer analysis on question "How often do you eat per day?"**

"How often do you eat per day?"	Total	Women		Men	
		number	%	number	%
Less than three times	482	309	64	173	36
Three to five times	784	389	50	395	50
More than five times	70	29	41	41	59
<b>Total</b>	<b>1336</b>	<b>727</b>	<b>54</b>	<b>609</b>	<b>46</b>

Based on calculated values  $\chi^2$  test ( $\chi^2 = 55.379$ ;  $p = 0.0000$ ) we can make conclusion that there's statistically significant difference ( $p < 0.01$ ) in disposition of respondents by gender regarding to asked question. Both men and women said that they eat 3 to 5 times per day. On asked question 1336 respondents answered, 727 women and 609 men. Most of women (389) eat 3 to 5 per day just like men (395). From total number that answered this question 54% are women and 64% of them eat less than 3 times. From total number of men that answered this question, 59% eat more than 5 times.

**Table 5 . Answer analysis on question "How do you maintain body weight? "**

How do you maintain body weight?	Number of respondents	%
Starvation	138	9
By throwing out carbohydrates from meal	142	9
By throwing out fats from animal origin	85	6
By throwing out every type of meat	44	3
Physical activity	1086	73

Based on calculated value  $\chi^2$  test ( $\chi^2 = 2611.237$ ;  $p = 0.0112$ ) we can make conclusion that there's statistically significant difference ( $p < 0.05$ ) in disposition of respondents, regarding to way of maintaining body weight, where most of them maintain their body weight with physical activity. On this question 1086 respondents answered that they maintain their bodyweight with physical activity (73%), 142 respondents (9%) maintain their body weight by throwing out carbohydrates from their meals, 138 respondents (9%) by starvation, 85 respondents (6%) by throwing out fats from animal origin out of their meals and 44 of them (3%) by throwing out every type of meat from their meal.

#### 4. Conclusions

Based on answers from research we can make next conclusions:

- This poll covered 1338 people from BiH.
- Different groups of people were questioned (based on gender, marital status...).
- Most people, men and women, agreed that they should eat more fruit and vegetables than usually. 30.5% of women and 28.5 of men said that they should eat more fruit and 25.8% women and 23% men said

that they should eat more vegetables. Based on calculated value of  $\chi^2$  test we can make conclusion that there is, statistically, big difference in disposition of respondents between genders, on question "What should they eat more than often?" In regards to total number of respondents, related to answer on question "What should you eat less than usually?", there's no statistically significant difference in disposition of respondents by sex. Both, man and women, agree that they should lower their fat, sugar and pasta intake.

- Most respondents, regardless of gender, said that they eat sweets on a daily basis.
- There's statistically significant difference in question „How much do you eat daily?“ in disposition of respondents by gender. 53.5 women and 65% men said that they take 3 - 5 meals daily.
- 73% from total respondents maintain their body weight with physical activities, and only 9% of them with starvation.
- Based on gathered data we can make conclusion that respondents in BiH showed good level of knowledge. In certain subjects respondents from BiH showed that they have more knowledge than respondents from Great Britain and America, where similar polls were done.

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