

Consciousness level of women living in the countryside regarding food safety: the sample of Gozsuz village

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Abstract. Consumers are one of the most important components of the food safety chain. The most important responsibility in this chain which consumers must take on is to be conscious of the factors affecting food safety negatively and to obey hygiene and sanitary rules in each process from buying food and consuming it. In this study, knowledge levels of women living in the countryside in the face of health risks concerning food safety have been determined. The study was conducted with each female consumer from 280 houses residing in Malkara Town Gözsüz Village through face to face interviews. In addition to socio-demographic variables, a number of questions assessing their experience, knowledge and attitudes in relation to buying food, consumption, food safety and quality were also asked to the women. The factors that are effective on women's having knowledge regarding food safety were set forth by means of multivariate analysis methods. According to the analysis results, the finding that more than %70 of women have not heard the concept of food safety and that %95 of them have not had any knowledge concerning Alo 174 of food safety line was reached.

Key Words: food safety, countryside, nutrition, woman.

Aims and background. Nutrition is taking the items necessary to be grown, improve and live healthy and productive for a long time growth and using them in the body. It does not seem to be possible that a society who do not have adequate and balanced diet can live healthy and with operable power and the increase of economic and social prosperity (Topuzoglu et al 2007). The purpose of nutrition is to provide each of the energy and nutrition elements of which the individual is in need according to the individual's age, gender, working and private condition (Baysal 2002).

Along with the development level of the society, no matter what the expanded roles of the women, the value of traditional roles she carries continues with the entire importance and wideness. The most effective and traditional role of the women in the family in our country is the nutrition of family members. In the city, rural area, outside the house, this responsibility belongs to women whether she works or not (Malatyalioglu 1991). The developments in food technology and production and marketing of new products cause changes in the styles of the selection and buying food by the women who are primarily responsible for the adequate and balanced diet of the family members (Ersoy 1999).

Food safety and quality approach is complex and multi-dimensional. Food safety and quality include economic, social and cultural results and it is related not only in the first process of agricultural production but to new technologies such as production place, animal health, storing conditions, marketing, hygiene conditions and amendments, consumer awareness, eating habits and the products genetically modified. At the same time, the relationship between social actors and policies, social and cultural differences are also in close relationship with food safety and quality concept. For this reason, the countries are required to follow an integrative attitude considering the participants and gender in food safety and quality (Brewer & Prestat 2002). Following integrative approach is related to be conducted of the studies revealing gender differences and roles. Identifying gender viewpoint requires the analysis of the responsibility and roles of men and women in food production system. Women and men take over different roles depending on the socio-economic features and agricultural structure of the country. These roles may vary even among regions. As in all fields, men and women have different food perceptions. For this reason, on the subjects related to food security and quality, social gender differences cannot be ignored.

The participation level of the women in the production in agricultural sector varies according to the existence of land and animals owned by the family, to the income and product design. However, the mechanization process is getting increased in the agriculture, women are removed from the agricultural production and working potential inclines towards being housewife. In the families with little land, women participate in every stage of crop and livestock production, especially seasonal labor (TKB 2007).

In this study, Gözsüz village Malkara district was chosen due to the presence of active young population in agriculture and being important in terms of sustainable agriculture. The identification of socio-economic level of women living in this village was conducted with the aim of detecting the quality and reliability perceptions of them while producing food and buying it and revealing their awareness levels in food safety.

Experimental. The data used in this study was obtained by interviewing face to face with each women consumer of 280 houses living in Gözsüz village, Malkara district, Tekirdağ province. In the universe of Gözsüz village having nearly 280 houses, extremely detailed field research was conducted by using full census sampling technique. The surveys were performed by interviewing face to face with the women living in all houses in which individuals live in Gözsüz village at the last week of January in 2014. In this context, all of the 280 surveys conducted were taken to the evaluation and the data collected were loaded to the computer in the appropriate statistical package program and it has become an important data set related to the village.

The differences among the criteria considered by the women living in Gözsüz village while buying food product in food shopping were revealed by the help of Multivariate Variance Analysis (MANOVA) and Factor Analysis.

Results and Discussion. In this research, the target group was chosen as the women living in rural area to contribute to the researches correlating food safety awareness with gender and education the women was evaluated with this aspect. In this research, some demographic and socio-economic indicators belonging to the women who participated in the survey were primarily examined (Table 1).

Table 1
Demographic and socio-economic features of women

<i>Features</i>	<i>Frequency</i>	<i>%</i>	
<i>Age</i>	26-35	43	15.4
	36-45	55	19.6
	46-55	128	45.7
	55-+	54	19.3
<i>Education</i>	Illiterate	17	6.1
	Primary school	245	87.5
	Secondary school	12	4.3
	High school	6	2.1
<i>Marital status</i>	Married	277	98.9
	Single	3	1.1
<i>Family type</i>	Nuclear	139	48.6
	Extended	144	51.4
<i>Monthly income level</i>	Less than 750	201	71.8
	750-1500	79	28.2
	1501-+	-	-

When the demographic structures of the women living in Gözsüz village, Malkara district are examined, it was seen that generally in the middle age group, they were married (45.7%), they had low income level (98.9%) and they were generally graduated from the primary school (87.5%). Considering the children number of the women, most of them are seen to have two children (65.0%).

95.0% of the women who participated in the study are not aware of Alo 174 food safety line. 29.3% of women stated to have heard the concept of food safety beforehand.

The ones aware of the concept of food safety stated that they heard this concept from mostly the newspapers and televisions.

In a study conducted in the rural area of Tokat province, 38.20% of them stated that they have heard the concept of food safety beforehand and 91.18% of them who have heard this concept stated that they knew what food safety means in general framework and they could describe it. The ones who have heard the concept of food safety stated that they heard this concept mostly from the televisions and especially from women and food programs broadcasting during daytime and utilized them (Uzunoz et al 2008).

In food safety, the most important criteria is staying away from physical, chemical and biological risks in the process passing from the primary production stage of the food products until the submission of the consumer's access to the latest with the main lines. One of the issues highlighted is that men and women living in rural areas must be sensitive to the threats of environmental degradation to food safety. Especially women intensively and actively participate in the issues like crop production, livestock production, homemade food, take-home food procurement, cooking, cleaning the house.

92.9% of the women who participated in the research stated to participate in crop production and 91.1% of them stated to participate in livestock production. In the village, the participation of women in crop production intensifies mostly on hoeing, maintenance work and harvest phases. The usage of chemicals such as pesticides, fertilizers etc. is mostly the activity carried out by men. For this reason, the women were asked questions about livestock production and they were evaluated. The women joined in livestock production are performing the works such as milking, irrigation, feeding, and stall cleaning and distributing milk. 95.0% of the women making livestock production stated that they were careful about human health while making this production and the rate of the ones being careful about this matter partly is 5.0%. The rate of the ones being careful about hygiene rules in milking the cows and the production of dairy products is 95.4% and of the ones not being careful about them is 4.6%.

Among the most important issues about the provision of food safety in livestock production, the usage of drugs allowed for animal health by the Ministry of Agriculture in recommended dose and with the veterinarian's prescription and performing vaccines regularly and on time come in the first row (Uzunoz et al 2008). All 255 women engaged in livestock production stated that they often used drugs suggested by veterinarians and they did not give drugs or etc. to the animals without veterinary control and they apply them in dose recommended by the veterinary and on time.

When the women participated in the research were asked which of the dairy products they bought and which of them they made on their own, 96.8% of them stated to make yoghurt, 90.4% of them made skim milk, 44.6% of them made cheese, 34.4% of them made butter on their own.

The women were asked from where they buy food products they consumed in winter, they stated that they mostly made pickles, tarhana soup, tomato paste, jam, macaroni, couscous, pastry productions on their own and while producing these products, they were stated to comply with the hygiene rules.

The participants in the survey were asked whether any poisoning were seen originated from the food in them or in their family and 9.2% of them stated to have food source poisoning in them or in their family.

In the consumers who were poisoned, the primary reason of poisoning is the expiration (42.2%). In the second row, raw meat comes (27.3%), and in the third row, fresh fruit and vegetable come (16.8%) and at the fourth row, milk and dairy products come (11.4%). The rate of the ones stating to be poisoned due to other reasons is 2.3%.

To the question asked as Yes / No related to knowing what the consumers must do when they feel ill and suspect from any food item they consumed, 77.9% of the consumers stated to know what they must do when they feel ill and suspect from any food item they consumed.

In a study conducted in the province of Samsun 86.09% of the consumers stated that they didn't know what they must do when they feel ill and suspect from any food item they consumed (Yalçın 2012).

When it is asked to the consumers who stated to know what they must do when they feel ill and suspect from any food item they consumed what they do in such case 87.9 of them were detected to apply to the nearest health foundation in such case and 2.6% of them to apply to the Provincial Directorate of Agriculture with the health report taken from the health institution, and food sample. 9.5% of the consumers were detected to be applied to other ways.

When the attitudes and behaviors of the consumers towards the food with GMO, 93.2% of women in Gözsüz Village gave the answer “yes” to the question whether they saw the products with GMO as dangerous or not and 6.8% of them stated not to see them as dangerous. In similar research conducted in the province of Muğla, it is seen that approximately 93% of the consumers do not find right to consume foods with GMO certainly and 71.8% of them states that that can consume foods with GMO whose safety was approved by Food, Agriculture and Livestock Ministry; 89.1% of them do not buy foods with GMO (Bekar 2013).

In the study conducted by Sorgo & Ambrozic-Dolinsek (2009), it is stated that the consumers are extremely strict about not taking food with GMO to their body in anyway and even they do not want to meat of the animals that may fed by the products with GMO.

The women participated in the study were asked to evaluate the questions asked according to five-point Likert scale in order to detect the information levels attitudes about food products they buy. Factor analysis was (PCA) conducted to test whether 15 jurisdiction sentences prepared with this aim are gathered under more definite factors.

In order to detect whether the variables to be used are convenient for the application of factor analysis, Kaiser-Meyer-Olkin scale was used. As it is seen in Table 2, KMO test result was calculated to be 0.785. Besides, Barlett’s Test of Sphericity value and significance test whether the variables display correlation with each other or not and show the convenience of making factor analysis with used data. As it is seen in Table 2, the data to be used in both values are convenient for factor analysis.

Table 2

KMO and Bartlett's test results

<i>Kaiser-Meyer-Olkin measure of sampling adequacy</i>	<i>Bartlett's test of sphericity</i>	
0.785	Approx. Chi-Square	2315.946
	df	105
	Sig.	0.000

The main scale in the evaluation of statistical results of factor analysis is factor loads defined as correlations in the scale and between the variables and the factors. That factor loads are high means that the variable is placed under the mentioned factor.

The factors examined to explain the features that were regarded by the women in Gözsüz village for their food shopping were gathered under four main groups (Table 3). Factor naming was performed due to the groups emerging under these factors. The first factor is considering the food safety and preparing it suitably and it explains 28.843 of the variant. Conscious purchase that is the second factor explains 16.816 of the variant, the third factor that is quality and package explains 14.528 of the variant and healthy food that is forth factor explains 9.818% of the variant.

At the first stage of MANOVA test, the homogeneity of the covariant matrixes belonging to the groups was tested. In the study, covariant matrixes homogeneity test of Box was used (Table 4). According to test result, it was reached to the conclusion of being homogenous of the group covariance matrixes (probability = 0.388). Accordingly, MANOVA analysis results will be used in the analysis of the importance of the groups.

In the study, the mean vectors belonging to the education groups discussed (0.05) are seen to be significantly different from each other (Wilks’ Lambda=0.783, probability = 0.000) (Table 5). According to this result, at least one of the factors that the women living in Gözsüz village take into account in food shopping according to their education levels show difference compared to the ones in other groups.

Table 3

Factor analysis results

<i>Factors and variables</i>	<i>Factor loads</i>	<i>Variant %</i>	<i>Eigen value</i>
Factor 1 (pay attention to the food content and to prepare appropriate)		28.843	4.326
Being naturally pure product	0.917		
Content part on the label	0.876		
Nutritional value	0.857		
Storage and preparation conditions	0.824		
Calorie of food products	0.761		
Additive	0.702		
Factor 2 (conscious purchase)		16.816	2.522
Shelf life	0.879		
Expiry date	0.857		
Price	0.677		
Factor 3 (quality and package)		14.528	2.179
Being open sold of the product	0.907		
Being in glass jar of the food product	0.874		
Package control	0.553		
The name and brand of the product	0.376		
Factor 4 (food that doesn't threat the human health)		9.818	1.473
Whether being with GMO or not	0.836		
Permission of the Ministry of Agriculture and Livestock	0.736		

Table 4

The homogeneity test of covariance matrixes

<i>Box's M</i>	<i>F</i>	<i>df₁</i>	<i>df₂</i>	<i>Probability</i>
91.251	4.034	20	3601.300	0.388

Table 5

Test results of the group average vectors

<i>Effect</i>	<i>Test value</i>	<i>F statistics</i>	<i>SD hypothesis</i>	<i>SD error</i>	<i>Probability</i>
Stable					
Pillai's Trace	.044	3.128	4.000	273.000	.015
Wilks' Lambda	.956	3.128	4.000	273.000	.015
Hotteling's Trace	.046	3.128	4.000	273.000	.015
Roy's widest root	.046	3.128	4.000	273.000	.015
Group					
Pillai's Trace	.229	5.692	12.000	825.000	.000
Wilks' Lambda	.783	5.819	12.000	722.582	.000
Hotteling's Trace	.260	5.888	12.000	815.000	.000
Roy's Widest Root	.161	11.055	4.000	275.000	.000

MANOVA test results must be scanned to detect which reason or reasons are different according to the groups belonging to education status of the factors that the women living in Gözsüz village take into account in food shopping according to their education levels (Table 5). Before passing to MANOVA test, the homogeneity of error variances of the variables must be tested. According to the results of Levene's test given in Table 6, the error variants of the variables given below are homogenous (probability > 0.05).

According to MANOVA analysis results, the attitude difference of the factors considered by the women in food shopping according to the education status, the difference between the education groups can be said to be resulted from the attitudes

towards the jurisdiction in factor 1 and factor 2 (Table 7). Factor 1 ($p = 0.000$) and Factor 2 ($p = 0.000$) show significant difference according to education groups. For the jurisdictions in Factor 3 and 4, there is no significant difference among the groups.

Table 6

The homogeneity test of error variants (Levene's test)

	<i>F statistics</i>	<i>sd1</i>	<i>sd2</i>	<i>Probability</i>
Factor 1	12.909	3	276	.639
Factor 2	2.128	3	276	.122
Factor 3	4.267	3	276	.746
Factor 4	2.911	3	276	.352

Table 7

MANOVA test results

<i>Dependent variables</i>	<i>Type III The total of the squares</i>	<i>sd</i>	<i>Mean of the squares</i>	<i>F statistics</i>	<i>Probability</i>
Factor 1	37.374	3	12.458	14.230	.000*
Factor 2	21.396	3	7.132	7.641	.000*
Factor 3	2.361	3	.787	.785	.503
Factor 4	2.867	3	.956	.955	.414

Conclusions. Women in rural areas are important in terms of food safety since they are both producers and consumers. The women living in Gözsüz village, Malkara district participate in livestock production more and they are also important in terms of food safety as consumers. 29.3% of the women stated that they had heard the concept of food safety beforehand and they heard this concept from mostly the newspapers and televisions. 95.0% of the women participated in the study are not aware of Alo 174 food safety line. The solutions that will increase the education and income levels of women living in rural areas and education and broadcast activities about food safety are required to be increased. For this reason, it will be extremely beneficial to make effective programs for women about food safety in various publications and primarily on TV.

In order to make more reliable and healthier food production, the consumers should adopt the matter of food safety as a life philosophy. In order to ensure this, it should be given importance to be trained of the ones especially living in rural areas from the early age.

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