Members of Sporting Life Center to Investigate Eating Habits According to Income Level

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ABSTRACT

Eating habits of individuals, especially income level, culture, and so on may vary depending on the variables. The purpose of this research, members of healthy living and sports center to investigate eating habits according to income level. The aim was prepared according to the survey, were applied members of two different sports and the life center (62 men, 44 women) at the European side of İstanbul. The survey results were analyzed by SPSS 14.0 statistical program. Cronbach's alpha coefficient to determine the reliability of the questionnaire, the frequency and percent of surveyed members to determine the demographic characteristics of descriptive statistics, the income level of members' eating habits according to the chi-square (x2) test and Independent samples t-test have been employed to compare.In conclusion, the study of eating habits are similar to those of members according to income levels, differentiation was found to be related to the use of alcohol. Low-and high-income members to consume less oil, margarine and canola oil has been concluded.

Keywords: *Nutrition, Sports and Living Centers*

INTRODUCTION

Briefly, the life style is the set of the individual life habits unconsciously repeated everyday and their accepted results. These habits affect our health positively or negatively (Yıldırım 2005). In maintaining a healthy life, in other words, in improving the life quality, the nutritional habits play a crucial role. Proper nutrition and regular physical activity improve the physical as well as the mental health (Yücecan 2008).

Regular physical activity is essential for a healthy life. Physically inactive people are almost twice as likely to develop coronary heart disease as people who engage in regular physical activity. It also helps older adults remain independent and enhances the quality of life for people of all ages (Macera, www.cdc.gov/healthyyouth).

The importance of proper nutrition and physical activity in reducing rates of disease and death from chronic diseases has been well established. Poor diet and physical inactivity cause 310,000 to 580,000 deaths per year and are major contributors to disabilities that result from diabetes, osteoporosis, obesity, and stroke. The diets of many population subgroups contain too much total fat, saturated fat, and calories but not enough of other important elements such as calcium. Low fruit and vegetable consumption and high saturated fat intake are associated with coronary heart disease, some cancers, and diabetes (Macera, www.cdc.gov/healthyyouth).

The economic burden of poor diet, physical inactivity, and obesity is substantial. All are significant risk factors for developing coronary heart disease, certain types of cancer, stroke, and diabetes, conditions that involve considerable medical expense as well as lost work time, disability, and premature death (Macera, www.cdc.gov/healthyyouth).

The notion of the economic costs of obesity invariably refers to the costs of obesity and related diseases to society (Drewnowski and Specter 2004).

Adults from lower income groups are more likely to cite cost as an important influence on their eating habits. Results from The Low Income Diet and Nutrition Survey 2005 indicate that the cost of healthy food is a greater barrier for lower income households (Roberts and Marvin 2011). We can see a direct relationship in many areas of the country between income levels and health statistics for that area.

In several respects, adults' food consumption is associated with their household income. For example, the percentage of calories from fat tends to rise with income. While 25% of adults in the highest income households get more than 35% of their total calorie intake from fat, this was the case among 15% of those in the lowest income households (Garriguet. 2004).

This is a complex area of work in which much more research is needed to really understand how individuals can be motivated to make changes to their behaviour that will improve their health. It is clear that knowledge of and attitudes towards healthy eating and physical activity are significant determinants of eating and activity behaviour. Knowledge and attitudes ultimately impact on weight status, and may be central to the success of behaviour change interventions. The data also suggests that there are significant differences in barriers and motivators between those who are obese and those who are not (Roberts and Marvin 2011).

In this research, it has been studied whether the nutritional habits of the sporting life center members depend on the income level.

METHOD

The aim was prepared according to the survey, were applied members of two different sports and the life center (age range: 20-50, 62 men, 44 women) at the European side of Istanbul.

The questionnaire comprises of 34 questions. The first section of the survey includes demographical questions whereas the second section involves the nutritional habits.

The survey results were analyzed by SPSS 14.0 statistical program. Cronbach's alpha coefficient to determine the reliability of the questionnaire, the frequency and percent of surveyed members to determine the demographic characteristics of descriptive statistics, the income level of members' eating habits according to the chi-square (χ^2) test and Independent samples t-test have been employed to compare.

The results have been evaluated in 95% confidence interval with a significance level of $p \leq 0.05$ bi-directionally.

RESULTS

This section covers the facts about the demographical characteristics, healthy eating trends and habits of the sample group in the population respectively and the comments about these facts.

Table 1. Demographical distribution of the research participants

		Frequency	Percent (%)
Sex	Male	62	58.5
	Female	44	41.5
	Total	106	100.0
Age	20 and under	6	5.7
	21-30	36	34.0
	31-40	37	34.9
	41-50	18	17.0
	51 and over	9	8.5
	Total	106	100.0
Marital status	Married	56	52.8
	Single	44	41.5
	Divorced/Widowed	6	5.7
	Total	106	100.0

The male/female and married/single distribution of the participants being similar, they are predominately from the 20-50 years old age interval.

Table 2. Main meal number by the income level

Number of the daily main meals		Low income level	High income level	Total	x^2	sd	p
2	Number	6	10	16	3.407	2	0.182
	Percent	27.3 %	12.5 %	15.7 %			
3	Number	13	62	75			
	Percent	59.1 %	77.5 %	73.5 %			
4 and more	Number	3	8	11			
	Percent	13.6 %	10.0 %	10.8 %			
Total	Number	22	80	102			
	Percent	100.0 %	100.0 %	100.0 %			

The number of the daily main meals does not change by the income level ($p>0.05$). However, maximum “3 main meal” number and minimum “4 and more” main meals number have been observed for the high income level group.

Table 3. Meal skipping by the income level

Meal skipping		Low income level	High income level	Total	x^2	sd	p
Yes	Number	13	26	39	4.793	2	0.091
	Percent	56.5 %	31.7 %	37.1 %			
No	Number	6	31	37			
	Percent	26.1 %	37.8 %	35.2 %			
Sometimes	Number	4	25	29			
	Percent	17.4 %	30.5 %	27.6 %			
Total	Number	23	82	105			
	Percent	100.0 %	100.0 %	100.0 %			

Meal skipping does not change by income level (p>0.05). However, the maximum number for meal skipping is observed in the low income group.

Table 4. Meal skipping by the income level

Skipped meal		Low income level	High income level	Total	x^2	sd	p
Breakfast	Number	2	9	11	3.886	3	0.274
	Percent	15.4 %	25.0 %	22.4 %			
Launch	Number	9	21	30			
	Percent	69.2 %	58.3 %	61.2 %			
Dinner	Number	1	6	7			
	Percent	7.7 %	16.7 %	14.3 %			
All	Number	1	0	1			
	Percent	7.7 %	0.0 %	2.0 %			
Total	Number	13	36	49			
	Percent	100.0 %	100.0 %	100.0 %			

Among the meal skippers, the rate of the skipped meal does not change by the income level (p>0.05). However, it has been observed that the most frequently skipped meal is launch for both income groups.

Table 5. Daily water consumption by the income level

	Low income level		High income level		t	p
	Mean	Sd	Mean	Sd		
Daily water consumption	7.636	5.206	8.157	5.606	-0.393	0.695

Upon conducting a t-test in order to determine whether the average water consumption points of the participants depend on the income level, it has been observed that the difference between the group averages is not statistically significant (p>0.05).

Table 6. Eating manner by the income level

Eating manner		Low income level	High income level	Total	x^2	sd	p
Salted	Number	6	21	27	0.458	2	0.796
	Percent	27.3 %	25.6 %	26.0 %			
Low salted	Number	14	49	63			
	Percent	63.6 %	59.8 %	60.6 %			
No salt	Number	2	12	14			
	Percent	9.1 %	14.6 %	13.5 %			
Total	Number	22	82	104			
	Percent	100.0 %	100.0 %	100.0 %			

The eating manner does not change by the income level (p>0.05). However, low salted eating manner has been observed in both income groups.

Table 7. Alcohol consumption by the income level

Alcohol consumption		Low income level	High income level	Total	x^2	sd	p
No	Number	21	63	84	4.155	1	0.042
	Percent	95.5 %	75.9 %	80.0 %			
Yes	Number	1	20	21			
	Percent	4.5 %	24.1 %	20.0 %			
Total	Number	22	83	105			
	Percent	100.0 %	100.0 %	100.0 %			

It has been observed that the alcohol consumption rate is higher in the high income level group (p<0.05).

Table 8. Most frequently used household cooking methods by the income level

Most frequently used household cooking method		Low income level	High income level	Total	x^2	sd	p
In the pot with closed lid, without water addition	Number	4	27	31	2.441	5	0.785
	Percent	57.1 %	57.4 %	57.4 %			
Cooking after browning in fat	Number	1	5	6			
	Percent	14.3 %	10.6 %	11.1 %			
Frying in fat	Number	1	3	4			
	Percent	14.3 %	6.4 %	7.4 %			
Roasting/baking	Number	0	7	7			
	Percent	0.0 %	14.9 %	13.0 %			
Grill and barbecue	Number	1	3	4			
	Percent	14.3 %	6.4 %	7.4 %			
Boiling and eliminating the water	Number	0	2	2			
	Percent	0.0 %	4.3 %	3.7 %			
Total	Number	7	47	54			
	Percent	100.0 %	100.0 %	100.0 %			

The cooking methods do not change by the income level ($p>0.05$). However, it has been observed that "In the pot with closed lid, without water addition" method is more frequently used in both income groups.

Table 9. Most frequently used cooking fat type by the income level

Most frequently used cooking fat		Low income level		High income level		x^2	*sd*	*p*
		N	%	N	%			
Butter	Do not use	13	56.5%	61	73.5%	2.462	1	0.117
	Use	10	43.5%	22	26.5%			
Margarine	Do not use	19	82.6%	75	90.4%	1.078	1	0.299
	Use	4	17.4%	8	9.6%			
Olive oil	Do not use	8	34.8%	28	33.7%	0.009	1	0.925
	Use	15	65.2%	55	66.3%			
Hazelnut oil	Do not use	19	82.6%	77	92.8%	2.177	1	0.140
	Use	4	17.4%	6	7.2%			
Other vegetable oils	Do not use	13	56.5%	37	44.6%	1.031	1	0.310
	Use	10	43.5%	46	55.4%			
Canola oil	Do not use	23	100.0%	81	97.6%	0.565	1	0.452
	Use	0	0.0%	2	2.4%			

The most frequently used cooking fat does not change by the income level ($p>0.05$). However, it has been observed that the rate of those who do not use the margarine and hazelnut oil is high in both income levels and the canola oil is used in the high income level group, though the usage is limited.

Table 10. Vitamin/mineral tablet usage in addition to the daily nutrition by the income level

Vitamin/mineral tablet usage in addition to the daily nutrition		Low income level	High income level	Total	x^2	sd	p
Yes	Number	3	10	13	0.033	1	0.856
	Percent	13.6 %	12.2 %	12.5 %			
No	Number	19	72	91			
	Percent	86.4 %	87.8 %	87.5 %			
Total	Number	22	82	104			
	Percent	100.0 %	100.0 %	100.0 %			

The rate of vitamin/mineral tablet usage in addition to the daily nutrition does not change by the income level ($p>0.05$). However, it has been observed in both income groups that the rate of those who do not use "vitamin/mineral tablets in addition to the daily nutrition" is high.

DISCUSSION

The challenges individuals face can be specific to the area in which they live, be it an urban, suburban or rural environment. Low income individuals might live in areas with restricted access to affordable, healthy/fresh foods. Another study, which investigated people's attitudes, concluded that motivation to participate in physical activity is correlated with perceptions of local surroundings. People are less motivated to be physically active if they perceive their local surroundings to be unsafe or unpleasant (Sallis et al. 2006).

The problems associated with poor diet, physical inactivity, and obesity affect most population segments; however, there are marked disparities in the impact that these problems have on various groups of people, particularly by race/ethnicity and by education level (Macera, www.cdc.gov/healthyyouth).

The nutritional habits of the individuals may depend on diverse variables such as, predominately the income level and culture, etc. and we can see a direct relationship in many areas of the country between income levels, socioeconomic status and health statistics for that area.

In one study, it has been observed that having health insurance, lower perceived susceptibility to cancer, and higher levels of social support were significantly related to healthy eating habits. Exposure to domestic violence, lower income and knowledge of risk factors, and lower perceived efficacy in changing health outcome were associated with lower levels of intent to change eating habits (Sanders-Phillips 1994). Adults in the highest income households were significantly more likely than those in any other income group to report having eaten something from a fast-food outlet the day before their interview. Adults in the highest income households are less likely than those in the lowest to have fewer than five daily servings of vegetables and fruit: 41% versus 58% (Garriguet. 2004). Also, Drewnowski and Specter (2004) have reported that among women, higher obesity rates tend to be associated with low incomes and low education levels. The association of obesity with low socioeconomic status (SES) has been less consistent among men (Drewnowski and Specter 2004).

This situation is also observed in the studies conducted on different populations in our country. For instance, in a research conducted on 1120 students with an average age of 21.6±1.9 years old, it has been found that 87.4% of the students skip meals and the most frequently skipped meal is the breakfast. The score of nutritional habit is higher for men whereas the nutritional information score is higher among women. It has been seen that the students living in urban areas before attending university have higher nutritional information scores and the difference is significant. It has been observed that the marital status, family type and the living place do not affect the nutritional information scores significantly. And a positive correlation has been established between the body-mass indexes and the nutritional habit scores and the individual monthly income of the students (Vançelik et al. 2007).

In another study conducted among the university students (1374 students), it has been concluded that the students care about consuming healthy food and prefer them, but they are not stable in terms of behaviors such as adopting a balanced and healthy diet as well as eating only during the meals. It has been seen that although the students know the right thing to do, they do not practice it in their lives; that they have a common attitude against the additive containing foods; that the female students prefer low fat food and that this may be due to the fact that the physical appearance and health are more important for the female students and thus more emphasized (*Sezek et al.* 2008).

In a study conducted on the academic members of the two universities in different regions, it has been reported that the food selection and consumption models of the academic members are physiological and also depends on their social and psychological satisfaction, traditional habits, education level and economical resources. The results of this research have revealed that the academic staff constituting an important section of the society are influenced by the consumption culture and adapt their life style in accordance with the current consumption culture of the society (Özdemir 1999).

Turkey is among the countries where the primary income distribution inequality is significant. This reveals itself also in the nutritional condition of the society. Our country seems both developing and experiencing the problems of the developed countries in terms of nutrition, at the same time. It has been officially announced that approximately 15% of our population is under starvation line and near to half eat inadequate and imbalanced. The groups affected by the inadequate and imbalanced nutrition issues are growing children, young people, fertile women, workers doing heavy jobs with low wages and unemployed people. Nevertheless, the level of fatness and related chronic diseases due to the over and malnutrition in the adult population is same with the level of the developed countries (Baysal 2003). While getting thin is an important problem among those working hard physically in the absence of adequate nutrition, in the adult population (30 years old and over) 21% of the males and 43% of the females are fat (BKİ over 30). 53% of the males and 38% of the females suffer dyslipidemia due to the over and malnutrition. The percentage of those having metabolic syndromes, where the insulin resistance, hypertension, dyslipidemia and type 2 diabetes are observed together, is similar to that in the developed Western populations (Onat et al. 2000).

As a result, this research has revealed that the nutritional habits of the people from different income groups are similar; that the higher income levels increase the alcohol consumption and change the fat consumption levels. Although two different sporting life centers have been selected from two different regions, the income classification among the research participants helps to explain the conflicting literature knowledge proposing that the nutritional habits of the low income group are not healthy. Also, the fact that these individuals attending the sporting life centers exercise at least three days a week may be accepted as an indicator of their healthy living awareness.

CONCLUSION AND RECOMMENDATIONS

The results obtained from the research investigating the nutritional habits of the individuals attending sporting life centers by high and low income levels are as follows:

- When the daily main meal numbers of the research participants have been analyzed, it has been seen that they eat 2, 3 or 4 meals a day. Analyzing the variation of the main meal numbers by the income level has revealed that the income level does not affect the number of the meals.
- The analysis regarding the meal skipping habits showed that meal skipping does not change by the income level. The income level does not affect meal skipping.
- The eating manner of the participants does not change by the income level. The income level does not affect the eating manner. It has been found that participants from various income levels eat salted, low-salted or no salt.
- Analyzing the daily water consumption of the sporting life center members has revealed that the daily water consumption is not affected by the income level.
- Analyzing the alcohol consumption of the members has revealed that the participants in the 31-40 years old age interval from the high income level group consume more alcohol.
- Analyzing the cooking methods used by the participants in terms of their nutritional attitude has revealed the income level does not affect the cooking methods.
- Analyzing the nutritional habits of the participants with regard to the various fat types has revealed that the type of fat used for cooking does not change by the income level. Also, it has been found that the margarine and canola oil consumptions are very limited among the participants in general.
- It has been observed that the additional vitamin/mineral supplement usage among the participants is low and not affected by the income level.

As the result of the research, the following is recommended to the subsequent researchers, members and managers of the sporting life centers:

- The different aspects of the members' nutritional habits can be analyzed on larger samples with diverse questions by the new researchers.
- The members of the high income group are suggested to reduce alcohol consumption and keep it at the reasonable level.
- The members are also suggested to consume a lot of water and to eat each meal without skipping, even if limited.
- The sporting life center managers are suggested to create the relevant forms and conduct surveys about the nutritional habits of the members and follow up these nutritional information.

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