

## **NUTRITION RESEARCH AMONG 13-16 YEAR-OLD TEENAGERS - ASSESSMENT OF THEIR DIET AND KNOWLEDGE ON PROPER NUTRITION PRINCIPLES**

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### **Keywords:**

- education,
- nutritional habits,
- dietary mistakes.

### **Abstract:**

The research was held in order to characterise secondary school students' elementary nutritional habits as well as to examine breadth of knowledge about proper nutrition principles. Analysis was based on and includes survey results gathered among secondary school students from Małopolska Voivodeship in 2013.

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### **INTRODUCTION**

Nutritional habits, as a type of health behaviours, belong to a wide range of consumer behaviours determined by numerous factors, actions and practices satisfying nutritional needs. Nutritional habits are influenced primarily by geographical, cultural, social and economic, and psychological factors. Nevertheless, the first environment in which children are exposed to new eatables is home and family [8]. Many children, youths, as well as adults emphasize that family home remains the core source of nutritional knowledge. From the point of view of nutrition, parents not only should satisfy their children's needs but by providing balanced diet they should create appropriate habits for lifetime. Functioning of organism, especially during intensive growth in childhood and adolescence, is determined primarily by rational nutrition [10, 12]. Since all dietary mistakes from early childhood predispose to obesity, insulin dependent diabetes, arterial hypertension and osteoporosis, thus proper nutritional habits should be mould by home and school from early days. The outcome of epidemiological studies, on which interrelation between diet and risk of disease is based, explicitly shows that beyond nutritional factors combined with dietary mistakes lead to many civilization diseases. However, proper nutritional habits ushered in childhood and continued in youth and adulthood reduce the risk of developing various diseases [13].

### **TOOLS AND METHOD OF RESEARCH**

Diagnostic survey method was used in order to carry out research for this study. According to T. Pilch, diagnostic survey is the most plausible method for learning about structural and functional features attributed to educational phenomena, unable to be located institutionally on the basis of a specially selected group representing general population among which the studied phenomena can be observed [11].

In order to conduct the research, the authors used a well-known technique: a questionnaire for secondary school students. The questionnaire designed for the research needs contains 32 questions assessing students' diet and their knowledge about proper nutrition principles. The questionnaire included information about products and eatables consumed by respondents over the last week.

The study was conducted in late April and early May 2013, among 52 secondary school students from Małopolska Voivodeship. The group of respondents included 26 women and 26 men altogether.

**THE RESULTS**

Most of respondents habitually consume at least 4 meals per day (table 2). More than twice as many men than women declared having 5 meals per day (30,8% and 11,5% respectively). Small percentage of surveyed women (7.7%) eats more than 5 meals per day, while for men the figure is 23%. Respondents who eat less than three meals per day are the smallest group, i.e. 7.7% for both sexes.

Vast majority of male and female respondents (73.1% and 53.8% respectively), believe that it is insignificant for the nutrition to be variegated, as soon as it provides an adequate nutritional and caloric value. In contrast, 23.1% of women and 19.2% of men believe this theory to be wrong. A small group of respondents are uncertain whether the proper nutrition must be varied or is it enough for meals to provide an appropriate nutritional and caloric value. This proportion is 23.1% for women and men 7.7% (Table 3).

More than half of surveyed women, i.e. 57.7%, and 38.4% of men reject the notion that the set and the number of products in meals are insignificant to our health. In contrast, the second largest group of respondents is uncertain of the fact (women 34.6% and men 30.8%). A small group of women (7.7%) and larger group of men (30.8%) confirmed information in the question (Table 4). More than half of male and female respondents always have breakfast, i.e. 53.8%. Unfortunately, 46.2% of women and men only sometimes eat breakfast, which is a disturbing value (Table 5).

**Table 1.** How often do you eat vegetables?

Sex	A few times per day		Once per day		A few times per week		Less than once per week		In total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Woman	8	30,8	6	23	12	46,2	-	-	26	100
Man	6	23,1	6	23,1	11	42,3	3	11,5	26	100

**Table 2.** How many meals per day do you have?

Sex	Less than 3		3		4		5		More than 5		In total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Woman	2	7,7	-	-	18	73,1	3	11,5	2	7,7	26	100
Man	2	7,7	-	-	10	38,5	8	30,8	6	23	26	100

**Table 3.** Proper nutrition does not have to vary, it is only important for it to provide appropriate nutritional and caloric value.

Sex	Yes		No		I don't know		In total	
	No.	%	No.	%	No.	%	No.	%
Woman	14	53,8	6	23,1	6	23,1	26	100
Man	19	73,1	5	19,2	2	7,7	26	100

**Table 4.** The set and number of products in meals have no influence on our health.

Sex	Yes		No		I don't know		In total	
	No.	%	No.	%	No.	%	No.	%
Woman	2	7,7	15	57,7	9	34,6	26	100
Man	8	30,8	10	38,4	8	30,8	26	100

**Table 5.** Do you always eat breakfasts?

Sex	Yes		No		In total	
	No.	%	No.	%	No.	%
Woman	14	53,8	12	46,2	26	100
Man	14	53,8	12	46,2	26	100

The distribution of responses related to consuming specific products in respondents' weekly nutrition varied greatly, however, it indicated only insignificant deviations from normal nutritional standards. Most dietary mistakes committed by secondary school students were in the low consumption of vegetables (Table 6), where 46.2% of women and 42.3% of male respondents declared eating vegetables only a few times per week.

**Table 6.** How often do you eat vegetables?

Sex	A few times per day		Once per day		A few times per week		Less than once per week		In total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Woman	8	30,8	6	23	12	46,2	-	-	26	100
Man	6	23,1	6	23,1	11	42,3	3	11,5	26	100

The subjects indicate alarmingly low consumption of fish (table 7). As the questionnaire clarifies, there are 77% of women and 88.5% of men who have fish less than once per week and 23% of women and 7.7% of men who opt for eating them several times per week. Very few and only male respondents (3.8%) declare eating one fish a day. None of respondents eats fish several times a day. The respondents must be well aware of how harmful "fast food" is, since the vast majority of them only has it from time to time (84,6% of women and 80.8% of men). Although, there is a small group of female respondents (7,7%), resisting this sort of food (Table 2), there is also a small percentage of subjects who admit eating „fast food" once a week (women - 7,7% and men - 11,5%) and another group consuming it two-three times per week (7,7% of men).

As far as danger connected to alcohol is concerned, the respondents confirmed their awareness in answers to the question "Do you drink alcohol?" where 100% of surveyed women claim to be teetotallers. This number for male respondents is 65.4%. The smallest group is of men who only tried alcohol, i.e. 34.6%. There are no students among respondents group who would drink alcohol once a week, 2-3 times a week or on a daily basis (Tab. 8).

**Table 7.** How often do you eat fast food? (hamburgers, chips, pizza etc.).

Sex	I don't eat it at all		Only from time to time		Once per week		2-3 times per week		Every day		In total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Woman	2	7,7	22	84,6	2	7,7	-	-	-	-	26	100
Man	-	-	21	80,8	3	11,5	2	7,7	-	-	26	100

**Table 8.** Do you drink alcohol?

Sex	I don't drink		I have only tried		Once per week		2-3 times per week		Every day		In total	
	No.	%	N	%	No.	%	No.	%	No.	%	No.	%
Woman	26	100	-	-	-	-	-	-	-	-	26	100
Man	17	65,4	9	34,6	-	-	-	-	-	-	26	100

The secondary school subjects also assessed their knowledge about proper nutrition principles. Majority of them defined their knowledge as good, i.e. 50% of women and 73.1% men. The second largest group of female and male respondents perceive their knowledge as very good – 38.5% and 15.4% respectively. A small percentage of surveyed women (11.5%) and men (7.7%) are unable to assess their knowledge about proper nutritional principles and only 3.8% of respondents regard their knowledge as insufficient (table 9).

**Table 9.** Assess your knowledge about proper nutrition principles

Sex	Very good		Good		Bad		I'm not able to assess		In total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Women	10	38,5	13	50	-	-	3	11,5	26	100
Man	4	15,4	19	73,1	1	3,8	2	7,7	26	100

## SUMMARY AND CONCLUSIONS

Collected results showed some nutritional irregularities among students in the analysed group. They were also slightly different depending on the gender. However, the profound analysis of questionnaire reveals that, in conclusion, male and female respondents eat similarly.

Although more than half of the respondents (53.8%) declared consuming fruit, women go for it more often. In contrast, vegetable consumption among men and women is at a similar level. Excessive consumption of sweets by secondary school students is a large problem since as many as 25% of pupils reach for these products on a daily basis. However the problem is slightly more nagging to women.

A significant dietary mistake revealed among women and men is that they include too little fish to their nutrition. The vast majority of subjects, i.e. 82.7%, declared eating it led that once per week. Statistically speaking, over 50% of men and only every fifth woman (19.2%) eats 5 or more meals per day. It is worth emphasizing that only 53.8% of respondents always eat breakfast (10, 12), however as many as 34.6% of men admitted they have tried alcohol and 3.8% of them tried cigarettes as well.

Admittedly, the research has indicated various nutritional behaviours determined with sex, however respondents clearly show more positive rather than negative behaviours.

The vast majority of secondary school students state their knowledge about proper nutrition principles is good or very good, however women were observed to have a slightly better knowledge than men.

The results ascertain that the survey testing students' knowledge about proper nutrition principles went well and that women have a slightly greater knowledge than men. Many questions seemed problematic to students, which presumably resulted from their ignorance on proper nutrition principles. However, these issues ought to be confirmed in a wider study.

## CONCLUSIONS

1. Women were more often convinced to have healthier nutrition habits than men. However, after analysing questionnaire it is clear that men and women nutrition habits are quite similar.
2. Regardless of sex, the vast majority of secondary school students' eat properly.
3. Eating too little fish is a significant mistake made by young men and women.
4. Although more women than men eat vegetables, nevertheless there are not enough vegetables included in respondents' diet anyway.
4. Women assessed their knowledge about proper nutrition principles to be better than men, however test results confirmed it only to some extent.

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